

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

STANDING & SPECIAL REEF FISH, MACKEREL, AND SOCIOECONOMIC
SCIENTIFIC AND STATISTICAL COMMITTEES

Gulf Council Office

Tampa, Florida

September 17-18, 2019

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3 PAGE 100: Motion that the SSC agrees with the assessment
4 conclusion that overfishing is not occurring. The motion
5 carried on page 100.
6
7 PAGE 100: Motion that the SSC agrees with the assessment
8 conclusion that the red grouper population is not overfished.
9 The motion carried on page 101.
10
11 PAGE 124: Motion that the SEDAR 49 update for lane snapper is
12 the best scientific information available. The OFL at 50
13 percent is 603,195 pounds and the ABC at 30 percent is 588,965
14 pounds. The motion carried on page 126.
15
16 PAGE 156: Motion that for Gulf of Mexico red grouper the OFL is
17 5.35 million pounds gutted weight. The OFL is based on the
18 average yield from projections in SEDAR 61 using the current
19 sector allocations (76 percent commercial/24 percent
20 recreational) and assuming the impact of the 2018 red tide is
21 approximately the same as the 2005 red tide on the red grouper
22 stock. The motion carried on page 167.
23
24 PAGE 169: Motion that for Gulf of Mexico red grouper an ABC of
25 4.9 million pounds gutted weight. The motion carried on page
26 171.
27
28 PAGE 183: Motion in Action 1 that the MSY proxy for red drum be
29 that the preferred option be Option 4a. The motion carried on
30 page 184.
31
32 PAGE 184: Motion for Action 2 that the committee recommends
33 Alternative 2. Alternative 2 is, for stock where an MSY proxy
34 has not been defined, set the MFMT equal to the fishing
35 mortality at the MSY proxy for each stock or stock complex as
36 determined in Action 1. The motion carried on page 185.
37
38 PAGE 188: Motion in Action 3 to make Alternative 3 the
39 preferred. Alternative 3 is MSST equals 0.75 times BMSY proxy.
40 The motion carried on page 189.
41
42 PAGE 188: Motion in Action 3 to make Alternative 5 preferred.
43 Alternative 5 is, for stocks assessed across the South Atlantic
44 and Gulf Councils' jurisdictions (goliath grouper, mutton
45 snapper, yellowtail snapper, and black grouper), MSST for these
46 species would use existing definitions of MSST defined by the
47 South Atlantic Council. The motion carried on page 190.
48

1 PAGE 197: Motion in Action 4 that any values in the range
2 presented under Alternative 2 is acceptable. The motion carried
3 on page 203.

4
5 PAGE 230: Motion to use the female weight-length relationship
6 to calculate spawning stock biomass, with use the size at which
7 50 percent of individuals are sexually mature set at 253
8 millimeters fork length as a sensitivity run for maturity in
9 addition to the 300 millimeter fork length size of maturity base
10 case used in SEDAR 51. The motion failed on page 234.

11
12 PAGE 234: Motion to modify the statement of work for gray
13 snapper under Term of Reference number 3 as follows: Consider
14 SEDAR 51 recommendations, and any new information, for
15 reproduction. The motion carried on page 235.

16
17 PAGE 247: Motion to approve the terms of reference for SEDAR 70
18 Gulf of Mexico greater amberjack as modified. The motion
19 carried on page 247.

20
21 PAGE 250: Motion to approve the terms of reference for SEDAR 72
22 gag grouper as modified. The motion carried on page 250.

23
24 PAGE 269: Motion that the SSC recommends an in-person workshop
25 to address MRIP and FES data stream conversions and their
26 calibration with state survey data collections as they relate to
27 inclusion into future stock assessments. The motion carried on
28 page 270.

29
30 - - -
31
32

1 The Standing & Special Reef Fish, Mackerel, and Socioeconomic
2 Scientific and Statistical Committees of the Gulf of Mexico
3 Fishery Management Council convened at the Gulf Council Office
4 on Tuesday morning, September 17, 2019, and was called to order
5 by Chairman Joe Powers.

6

7

INTRODUCTIONS

8

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

14

15 Representing the council is Leann Bosarge, to my right, and
16 council staff in attendance are Ryan Rindone, John Froeschke,
17 Carrie Simmons, Assane Diagne, Matt Freeman, Lisa Hollensead,
18 Jessica Matos, Natasha Mendez-Farrer, and Charlotte Schiaffo.

19

20 Notice of this meeting was provided to the Federal Register.
21 Notice was also sent via email to subscribers of the council's
22 press release email list and was posted on the council's
23 website.

24

25 This is a full agenda, and I'm not going to list every one of
26 them there, and you can see the agenda there, and so we expect
27 that it will take all day tomorrow as well.

28

29 This meeting is open to the public and is being streamed live
30 and recorded. When you wish to speak, please press the talk
31 button on the microphone to activate and state your name each
32 time before commenting. Please deactivate your microphone when
33 you finish speaking. A summary of the meeting, verbatim
34 minutes, and digital recordings will be produced and made
35 available to the public via the council's website. For purposes
36 of voice identification, please state your name, beginning on my
37 left.

38

39 **DR. KAI LORENZEN:** Kai Lorenzen, Standing SSC.

40

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

42

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

44

45 **DR. BENNY GALLAWAY:** Benny Gallaway, Standing SSC.

46

47 **MR. DOUGLAS GREGORY:** Doug Gregory, Standing SSC.

48

1 **MR. HARRY BLANCHET:** Harry Blanchet, Standing SSC.
2
3 **MR. JOHN MARESKA:** John Mareska, Reef Fish and Mackerel SSC.
4
5 **DR. ROBERT LEAF:** Robert Leaf, Standing SSC.
6
7 **DR. STEVEN SCYPHERS:** Steven Scyphers, Standing SSC.
8
9 **DR. JUD CURTIS:** Jud Curtis, Reef Fish SSC.
10
11 **MR. JASON ADRIANCE:** Jason Adriance, Reef Fish and Mackerel SSC.
12
13 **DR. LEE ANDERSON:** Lee Anderson, Standing SSC.
14
15 **DR. JIM TOLAN:** Jim Tolan, Standing SSC.
16
17 **DR. WALTER KEITHLY:** Walter Keithly, Standing SSC.
18
19 **MR. BOB GILL:** Bob Gill, Standing SSC.
20
21 **DR. LUIZ BARBIERI:** Luiz Barbieri, Standing SSC.
22
23 **DR. DAVE CHAGARIS:** Dave Chagaris, Standing SSC.
24
25 **DR. ANDREW ROPICKI:** Andrew Ropicki, Socioeconomic Panel.
26
27 **DR. JACK ISAACS:** Jack Isaacs, also of the Socioeconomic Panel.
28
29 **DR. JEFF ISLEY:** Jeff Isley, Standing SSC.
30
31 **MS. LEANN BOSARGE:** Leann Bosarge, Gulf of Mexico Fishery
32 Management Council.
33
34 **CHAIRMAN POWERS:** This is a small enough group, and why don't we
35 have in the back there identify yourself, voice identify
36 yourself, and do you have a microphone there?
37
38 **EXECUTIVE DIRECTOR CARRIE SIMMONS:** Carrie Simmons, Gulf Council
39 staff.
40
41 **DR. JOHN FROESCHKE:** John Froeschke, Gulf Council staff.
42
43 **DR. SKYLER SAGARESE:** Skyler Sagarese, Southeast Fisheries
44 Science Center.
45
46 **DR. SHANNON CALAY:** Shannon Calay, Southeast Fisheries Science
47 Center.
48

1 MS. JULIE NEER: Julie Neer, SEDAR.

3 **MR. PETER HOOD:** Peter Hood, Southeast Regional Office.

5 MS. SUSAN GERHART: Susan Gerhart, Southeast Regional Office.

7 **MR. BOB ZALES, II:** Bob Zales, II, Southern Offshore Fishing
8 Association.

10 **MR. RICH MALINOWSKI:** Rich Malinowski, Southeast Regional
11 Office.

13 DR. MICHAEL DREXLER: Michael Drexler, Ocean Conservancy.

15 DR. LISA HOLLENSEAD: Lisa Hollensead, council staff.

17 DR. NATASHA MENDEZ-FERRER: Natasha Mendez-Ferrer, Gulf Council
18 staff.

20 MR. COLIN FRANK: Colin Frank, UF student.

22 **MR. KEN DANIELS:** Ken Daniels, bottom longliner, Fishing Vessel
23 Annie Lynn, SOFA.

25 **MS. MOLLY STEVENS:** Molly Stevens, Southeast Fisheries Science
26 Center.

28 **CHAIRMAN POWERS:** Thank you. We also have people on the web,
29 both members and non-members. Can the members identify
30 themselves on the web? Ken, I believe you're on.

32 DR. KEN ROBERTS: Ken Roberts, Standing SSC. Thank you, Mr.
33 Chairman.

ADOPTION OF AGENDA

37 **CHAIRMAN POWERS:** All right. Thank you. The agenda has been
38 published, and the first thing we will do is review the agenda
39 and the adoption of the agenda. Do we have a motion to adopt
40 the agenda?

42 **SSC MEMBER:** So moved, Mr. Chairman.

44 **CHAIRMAN POWERS:** Thank you. Do we have a second?

46 DR. NANCE: I will second it.

48 CHAIRMAN POWERS: Any objections to adopting the agenda as it

1 sits now? All right. Next up is the Approval of the Minutes
2 for the July 30 and 31 Meeting of the Standing Reef Fish,
3 Mackerel, and Socioeconomic Panel Meeting. In the briefing book
4 is the minutes themselves, and are there any wishes to alter the
5 minutes?

APPROVAL OF SSC MINUTES

9 **MR. GREGORY:** Thank you. Not to alter the minutes, but, now
10 that we're getting verbatim minutes as well as a staff written
11 report, maybe we should approve both. This is the first time
12 we've actually seen verbatim minutes. In the past, we have
13 approved the report, and, since we do both -- Most of the time,
14 I don't think the minutes would be available for the council
15 after our meeting, and, if they were, then we didn't need a
16 report, but it seems to me that it would be better to approve
17 both of them.

19 **CHAIRMAN POWERS:** Any other comments? I am ambivalent, I guess.
20 I really hadn't thought about it that much. Can I entertain a
21 motion for one of those options? Bob.

23 **MR. GILL:** Thank you, Mr. Chairman. I move that we approve the
24 verbatim minutes and the meeting summary.

26 **SSC MEMBER:** Second.

**SELECTION OF SSC REPRESENTATIVE AT OCTOBER 21-24, 2019 COUNCIL
MEETING IN GALVESTON, TEXAS**

31 **CHAIRMAN POWERS:** Thank you. Any objections to the motion? If
32 none, the motion carries. Nobody on the web -- Okay. The next
33 agenda item is the Selection of the SSC Representative for the
34 Council Meeting in Galveston in October. Luiz had said he's
35 going to be there and would be available to do that. Did
36 anybody else have any desire to be the representative of the
37 SSC? If not, then, Luiz, thank you very much for your
38 contribution.

40 Now into the meeting. The Agenda Item V is Discussion of
41 Variability in Yield Projections, and we have a discussion
42 leader for this of Bob Gill, and also a presentation by Dr.
43 Drexler, Mike Drexler, and so, Bob, let me turn it over to you,
44 and you can give a little background about where we're going.

DISCUSSION OF VARIABILITY IN YIELD PROJECTIONS FROM STOCK ASSESSMENTS

1 **MR. GILL:** Thank you, Mr. Chairman. The recent history on this
2 subject is that Luiz, at the last meeting, under Other Business,
3 introduced, and in the briefing book were two items, but Luiz
4 introduced some work done by Dr. Mike Drexler of Ocean
5 Conservancy looking at our OFL and ABC recommendations versus
6 landings over time for a wide variety of species, noting a
7 significant difference and raising the issue of our scientific
8 uncertainty.
9

10 The paper he introduced, the Punt et al. paper, which was in the
11 briefing book at the last meeting, suggested an approach for
12 reducing that, and so his presentation, as Joe mentioned, is
13 coming up, but, during that discussion at the last meeting, we
14 also talked about the spike that has been showing up in the
15 yield stream projections from multiple assessments, not
16 uncommon, and we typically accept that as best science and
17 utilize it as the basis for our OFL and ABC recommendations,
18 including the constant catch ABC recommendation.
19

20 As a result of that, we passed a motion and requested the
21 Science Center to look into the spike and advise us, if
22 appropriate, as to recommendations on how we should handle that,
23 and this is particularly pertinent because the red grouper
24 assessment review, which is next on the agenda after this topic,
25 has such a spike, and so I would like to ask Mike to come up and
26 give his presentation first, and then we'll hear from the
27 Science Center on what they found, and then we'll open
28 discussion.
29

30 **DR. DREXLER:** Good morning and thank you. I'm Michael Drexler
31 with Ocean Conservancy, and I'm just reporting back on that
32 document submitted at the last meeting and give you an overview
33 of what I'm been looking at, and this is very much a work in
34 progress. It's really a discussion draft, but I thought, as we
35 relate it to both the yield spikes and look at revising the ABC
36 control rule, we should pause and take a look across all of our
37 stocks and see how we're doing, and so this is just a report out
38 of that.
39

40 The motivation is there have been some large discrepancies
41 between the projected quotas and realized landings for several
42 stocks currently in the Gulf of Mexico, including cobia, greater
43 amberjack and red and gag grouper, and the magnitude of those
44 discrepancies suggest that we're underestimating some form of
45 uncertainty, be it management or scientific, and, obviously,
46 we're here to discuss scientific uncertainty and that process,
47 and that's, as you know, formalized as an ABC reduction from the
48 OFL.

1
2 I wondered if we could provide some perspective on that
3 uncertainty by taking a historical look across all of our
4 assessments for all species, and so that's what the report does,
5 and I will highlight a few of those in this, and then this will
6 be a short presentation.
7

8 Two papers motivated this, and they have been discussed at
9 previous SSC meetings. One is the Punt paper looking at the
10 uncertainty of fish stocks off of southeast Australia, and he
11 basically applies the methods of that second paper, which is the
12 Ralston *Meta-Analytic Approach to Quantifying Scientific*
13 *Uncertainty in Stock Assessments.*

14
15 That is the motivation and the references to sort of the way
16 I've been thinking about this, and they apply this uncertainty
17 meta-analytic approach to biomass, and so here I'm wondering if
18 we can do a similar approach looking at historical OFLs.
19

20 To be clear, this is not a criticism of our stock assessments or
21 assessment scientists. In my view, we apply the results of
22 these assessments with a really unrealistic expectation of
23 certainty, but our assessors are really in an impossible
24 position to never mess up, and so this is looking at if what
25 we've been doing is the right approach or not, and, basically,
26 this is just an empirical look across the history of our
27 assessments.
28

29 What did I do? I basically compiled all of the projections from
30 SEDAR and council documents over time. As you can imagine, this
31 gets a bit messy, and I didn't request all of the Stock
32 Synthesis projection files, and I'm happy to continue to develop
33 this work if it's useful, but this is really compiling the
34 information together from the documents, as you'll see, and you
35 can imagine places where there is virgin control issues and some
36 instances where things don't quite line up, and just note that
37 caveat.
38

39 After doing this, I took a qualitative look at are these spikes
40 happening or are they not and how are our landings performing
41 against these projections and then a semi-quantitative look at
42 trying to scale these historical uncertainties.
43

44 The results are we see strong spikes in the yield streams for
45 some stocks starting around 2015, and possibly as far back as
46 2013, and how you define yield spike is important here, I think,
47 because there is a number of ways that yields are changing over
48 time, and the differences in the OFL projections over time, if

1 you take a purely historical look -- I just want to zoom out of
2 P^* and sigma and just look historically at how, when you stack
3 these OFLs up over time, you find that the projections, the
4 differences in these projections, are much larger in the buffers
5 that we currently apply in our ABC control rule.
6

7 The projected yield spikes, first, the curious case of greater
8 amberjack. Despite everyone's best efforts and intentions, we
9 can't get that stock to rebuild, but, as we go through these
10 graphs, my apologies, but the Y-axis is pounds of fish in all of
11 these. We're talking about pounds of fish and how they relate
12 to yields.
13

14 The dark line in all of these are going to be our actual
15 landings over time, and so this is what was actually, we think,
16 landed in the fishery. The dark red line is going to be the
17 OFL, as extracted from council documents and SEDARs, and then I
18 want you to dial in -- We have sort of a smorgasbord of
19 projections here, but dial in on the red-dashed and dotted
20 lines, which are projections of OFL from the stock assessments
21 over time.
22

23 In the case of greater amberjack, I would say that we haven't
24 seen, over history, a yield spike, per se, but we do see the
25 assessment tending to possibly overestimate productivity and
26 strong increases in the yield stream over time. The magnitude
27 of those increases has decreased sharply over time, and I think
28 we're actually in a much better place with this stock now, but I
29 wanted to start here and explain the graph and point out that
30 how we define spikes in yield streams may be different, whether
31 it's increasing or decreasing or you get a large discrepancy
32 between assessments.
33

34 Moving on to gag grouper, starting around 2015, we see a decline
35 in the actual landings, and this large -- I think how everyone
36 thinks of these spikes between assessments, following the red
37 and purple line here over time, starting around 2015, and you
38 see that large spike as we implement a new projection and then
39 the declining yield stream and that large difference in landings
40 between the projections and the actual landings.
41

42 It's the same thing with gray triggerfish. There's a large jump
43 occurring around 2015 and a decline in landings. Within those
44 lines in recent history is the implementation of a rebuilding
45 plan, and those are projected in the ABCs, and so the purple
46 line, and so that's why you see those large differences there.
47

48 Red grouper, we'll be talking about that later, and this does

1 not include the most recent information, but, again, we see that
2 large spike in estimated OFL and then a declining yield stream
3 concurrently with landings declining, and the same with -- We
4 see this with Spanish mackerel and cobia, and so I'm just
5 walking through these plots, and I included all of the
6 assessments that you reviewed in the report and the tables and
7 numbers associated with those.

8
9 I am certain that some of these yield streams could use slight
10 tweaks, based on virgin control, but all of the information is
11 contained in that report, and I'm happy to discuss those
12 further.

13
14 Walking through all of the assessments, I looked at at least
15 five stocks with recently inflated yield streams relative to
16 landings. What you would call a yield spike I think is
17 important in how we define that. Most of these differences
18 between landings, I think, in the yield streams are due to these
19 spikes, or differences, and I would like to point out that these
20 spikes are certainly interrelated to the issue of estimating
21 uncertainty in the OFL and how we capture that in the ABC
22 control rule, and so I think, dealing with the known unknowns,
23 either we can identify the cause of these spikes or we have to
24 acknowledge them and embrace them, sort of our known unknowns,
25 in our estimation of uncertainty.

26
27 Looking at the semi-quantitative, how have we performed
28 historically in the OFLs, basically, I looked in the documents I
29 had in the overlapping years, where we had projections, limited
30 to a five-year window, and what do those differences look like,
31 and the denominator, in this case, is the most recent year,
32 projection year, landings to historical, and this is just
33 illustrated here by what's the difference between these two red
34 lines and what does that percentage look like and limit that to
35 a five-year projection window.

36
37 When you look at this across all of the stocks I have included
38 here, you see that those differences are quite a bit larger than
39 our current buffers that we use for the ABC control rule.
40 Currently, you see buffers around 2 to 5 percent, when you apply
41 a Tier 1 and work through the P* spreadsheet and all of those
42 things, but what we see here is 20 to 50 percent differences are
43 not uncommon, in some cases even larger, and these larger ones
44 are, obviously, associated with these large spikes.

45
46 Those are differences, but there is one stock that's been
47 performing rather well relative to our stock assessments, and
48 it's probably not surprising to anyone. Talking through these

1 plots with some other people, there is -- I did point out that
2 we did actually see one of these yield spikes around 2013 for
3 red snapper, and you can probably parse that out here. You can
4 see that dotted-red line peaking on the top there.
5

6 That is representative of that spike, but, in the case of red
7 snapper, unlike amberjack, it seems to be more productive every
8 time we take a look at the assessment, and that extra
9 productivity sort of catches up with itself as you move forward
10 in time, but you do see the spike in this as well.
11

12 Caveats, I already talked about the caveats. This is really a
13 discussion document. The proper way to do this, I think, would
14 be to incorporate the overlay five-year projection windows over
15 time directly from the stock assessment, and, if that historical
16 approach is considered, maybe during revising the ABC control
17 rule, I would recommend doing that.
18

19 Conclusions are that we do see these jumps in yield streams for
20 at least five species, beginning somewhere between 2013 or 2015.
21 Current estimates of OFL are likely too small, as we've
22 demonstrated, if you take a historical approach to looking at
23 this, historical and empirical approach looking at this, and the
24 issue of yield stream spikes and uncertainty in the OFL are
25 certainly interrelated, which, if we can identify that there is
26 a problem and identify what the problem is, we can obviously
27 shrink those buffers.
28

29 If we can't, I think we need to acknowledge and embrace them in
30 our estimation of uncertainty and just point out that there are
31 a whole range of options out there to generate ABCs and paint a
32 more realistic picture of the OFL and don't put sort of all the
33 onus on our stock assessments and stock assessors to get this
34 right without error. Any revisions to the ABC control rule, I
35 would argue, should at least be able to capture these historical
36 differences.
37

38 Walking through a couple of recent assessments, red grouper, and
39 I think hogfish was one, even if you apply our P* spreadsheet to
40 the maximum, you can't recreate the actual landings that we have
41 observed in some of these fisheries from that distribution over
42 time, and so I would argue that any revisions should capture
43 those historical observations, and that's all I have. It was
44 quick, and I would be happy to take any questions, and it's a
45 work in progress.
46

47 **MR. GILL:** Thank you, Mike. Any questions from the committee or
48 comments? Quiet group this morning. All right. Thank you,

1 Mike.

2

3 **DR. DREXLER:** Thank you.

4

5 **MR. GILL:** Next we'll take a look at -- We'll hear from Shannon
6 relative to the Science Center response to our request to look
7 at the yield stream spikes -- She is shaking her head no, and
8 this is not a good sign. Shannon, please.

9

10 **DR. CALAY:** Thanks. I was actually -- I just had a comment on
11 the previous presentation, that's all, if I may.

12

13 **MR. GILL:** Please.

14

15 **DR. CALAY:** Thank you. There is a lot going on in that
16 presentation, and so there are reasons -- Let's just put it this
17 way. When we are projecting OFLs, we are projecting at FMSY, or
18 its proxy, and there are a variety of reasons why you might not
19 achieve that catch.

20

21 In some cases, fishermen will overfish, and you will have
22 actually yield higher than the OFL. In other cases, for market
23 reasons or for fishing behavior reasons, they may not fish at
24 the FMSY. They may in fact fish way below, and, in that case,
25 your yield will be far below what we have predicted would be
26 OFL, and then there are other cases where the stock assessment
27 may in fact be at fault, but there is a mixture in that
28 presentation of both scientific uncertainty, which would be when
29 our assessment is in error, or when we've chosen the wrong
30 proxy, for example, and management uncertainty, which is that
31 the fishermen don't fish at FMSY, and so you won't achieve OFL,
32 in most cases, unless the fishermen actually obey FMSY, which is
33 impossible, and so I just wanted to point out that I agree
34 completely with Mike that we underrepresent scientific
35 uncertainty, but that presentation contains a variety of types
36 of uncertainty, which haven't been discriminated.

37

38 **MR. GILL:** Thank you. Any other comments or questions before we
39 move on? Doug.

40

41 **MR. GREGORY:** Shannon, part of this -- Could it be that OFL is
42 estimated from the assessment and let's say the terminal year is
43 2016, but then the projections for 2019 to 2020, when they come
44 to us for the council, are projections that incorporate landings
45 after 2016 and maybe that time lag could be contributing to some
46 of this.

47

48 **DR. CALAY:** There are certainly cases where we may have updated

1 the terminal year, and I don't know that that has routinely
2 occurred. We could certainly work with Mike to continue to test
3 these hypotheses.

4
5 I know, several years ago, when we were developing the ABC
6 control rule, we did actually try to look at the performance of
7 our projections in a historical analysis using an approach
8 similar to the Ralston approach, but which incorporated the
9 projection uncertainty, and that's certainly an area of research
10 that we have been interested in pursuing, and it might be that
11 that's exactly the type of research that Mr. Drexler is trying
12 to do too, and so we would be happy to collaborate to further
13 develop that product.

14
15 **MR. GILL:** Joe.

16
17 **CHAIRMAN POWERS:** One of the things that has always sort of
18 bothered me about doing projections, even when I was doing them
19 myself, is, as Shannon said, you're making some assumption about
20 what the catches are going to be over the next five years, let's
21 say, if it's a five-year projection.

22
23 The actual projection process itself would depend on the stock-
24 recruitment relationship, which is going to be some sort of
25 average and not actual deviations that actually occur, and then,
26 also, the catches that occur during those five years are going
27 to be different from what you assumed when you first started
28 out, and so that -- I mean, that's going to make quite a bit of
29 a difference.

30
31 One of the things that has bothered me though is that, when you
32 do those projections, in some cases, we are actually adjusting
33 the target during that time series based on those original
34 projections, knowing that, in some cases, that the catches
35 didn't reach that, and, as Shannon mentioned, in some cases,
36 there have been some situations where you modify mid-stream, but
37 those are the difficulties. I mean, projections is basically
38 saying this is what would happen if these set of conditions
39 occurred.

40
41 When they don't occur, to me, it's not really a problem of the
42 projection, but it's a problem of not being able to adapt
43 quickly enough to what you know in the changes, but, even with a
44 regular assessment, you have the data -- Let's say the data goes
45 through 2016, and you actually do the assessment in 2018, and so
46 you have to have some sort of projection of what that out year
47 is of 2017, and that too can make a difference, about what you --
48 What affects the overall projection, and so it's really --

1 It's unclear to me what the best standard practice ought to be,
2 but it also says that one should read the presumptions that are
3 made during the projections, read it very carefully, about --
4 For example, if you assume that the actual quota will be reached
5 and issues like that, because they make a difference. Thank
6 you.

7

8 **MR. GILL:** Thank you, Joe. Any other comments or questions?
9 Luiz.

10

11 **DR. BARBIERI:** Thank you. Shannon, a couple of things. One is
12 has there been any discussion within the Center, the assessment
13 team, about going beyond just the basic operational way that we
14 configure projections, and we know that there are limitations
15 there, but one of the concerns that I have here is about
16 estimating productivity of the stock.

17

18 Are we overestimating productivity of the stock and projecting
19 that forward in a way that may not align? If we look at the
20 structure of a stock assessment, and so there's that long
21 retrospective part that builds the history of stock productivity
22 and landings and trends in abundance and everything else, and
23 then there is the cutoff of the stock status determination for
24 the terminal year and then a projection component.

25

26 As we look at a bunch of these assessments, we see that that
27 retrospective part is, by and large, faring pretty well, and so
28 manage to structure those things in a way that they fit well
29 what we already -- But it's 20/20 hindsight, and we have that
30 additional challenge with projections, but I wonder if we are
31 not, despite all those things that Joe said that are true, but,
32 if we are starting from a productivity estimate that's high,
33 that will carry forward in a way that is out of sync with the
34 actual -- Have you guys noticed anything there or discussed
35 this?

36

37 **DR. CALAY:** Yes, of course, and I think that the example that is
38 most familiar to us all is the SEDAR 42 red grouper assessment,
39 which appears to have overestimated, and I think the telltale
40 sign seems to be where we could predict -- I think what will
41 allow us to better observe whether this is potentially happening
42 in a stock assessment is to -- What we can do is essentially use
43 the stock assessment to project essentially the behavior of an
44 index, given catch history.

45

46 We can monitor that index to see if it is performing the way we
47 expected, and, in the case of red grouper, we would have seen
48 that it does not, that, even though we did not achieve the

1 catches that we recommended, the stock continued to decline, and
2 so there were some reasons for that that were not related to
3 fishing, in the case of red grouper.

4
5 There was red tide, but that -- We are investing in the
6 capability to monitor all of our managed stocks in that fashion,
7 and so we hope that there will be an index that we can monitor
8 that is informative for each stock, and you will see that when
9 we talk about the interim analysis that Matt Smith will present,
10 and you will see some of this conversation occur too during the
11 red grouper assessment.

12
13 There are a variety of interrelated things going on here, and
14 the interim assessment will help us detect when we have a
15 problem in the estimate of productivity of a stock, because we
16 will not be able to predict the behavior. We'll see that we
17 can't -- Given the catch history, the performance of the index
18 is contrary to our expectations, and that will be a telltale
19 sign.

20
21 Then, as far as the spikes, I am going to defer commenting on
22 that until you have seen the red grouper presentation, where
23 Skyler spent a great deal of time trying to understand and
24 communicate why those spikes occur.

25
26 **DR. BARBIERI:** Shannon, just the second one then is, last time,
27 having Rick here, and this is when this discussion just started
28 regarding the spikes, and some of us were talking about, well,
29 the way that we are just configuring the projections themselves,
30 and what is coming out -- For the vast majority of our
31 assessments, we do not estimate steepness directly, and we make
32 that assumption of an SPR proxy and how they sort of work around
33 within the assessment model to get the SPR proxy at fixing
34 steepness at a very high level, and then the actual data stream
35 that is used for the average recruitment that is going to be
36 used for those projections, if the two were somehow being
37 connected.

38
39 When we set steepness at 0.99 or something close to that, we
40 couldn't independently -- At some point, and I don't remember
41 how far back, and I remember you and I talking about this, but
42 we couldn't really disconnect that from the actual values of
43 recruitment that are being used in the average -- If you think
44 back about king mackerel, a decade ago or something, and how
45 that was difficult to disconnect. It looks like some of these
46 more recent versions of SS allow those things to be more
47 uncoupled, and can you --

48

1 **DR. CALAY:** There certainly was a time when what we saw with SS
2 was that, if you fixed certain parameters of the spawning-
3 recruit relationship, then the predicted recruitment could be at
4 a level very different from the mean, and so what we were doing
5 in those -- What became common practice is to fix the steepness
6 at one to force the model to use the average recruitment during
7 some time period.

8
9 Now, with our better understanding of Stock Synthesis and some
10 changes to Stock Synthesis code, we can -- The projections are
11 quite flexible, and so we can, essentially, choose to estimate
12 steepness, and we don't see that performance, where the
13 recruitment can be scaled incorrectly, and so, yes, I think we
14 have more flexibility now to estimate steepness, if we choose
15 to, and you can also estimate it within a time period. If you
16 want to just use the last ten years or something, where you
17 think the data is more reliable, there is the flexibility to do
18 that as well.

19
20 **MR. GILL:** Doug.

21
22 **MR. GREGORY:** There is also the human factor, I think. When
23 NMFS first started looking at retrospective patterns, that was
24 the early days, say ten years ago, and I think it was 2010 that
25 we started doing that, and, prior to SEDAR, sometimes one
26 assessment would use this model and the other assessment would
27 use that model, and so you had that variability that you
28 couldn't really make the two assessments comparable.

29
30 With SS, that was attempted to be standardized, and I think we
31 need to look at that more carefully, because SS is so flexible
32 and you can do a lot of different things with it with different
33 assessments, but there's the other factor that shocked me when I
34 saw this about SEDAR 42 for red grouper, is the CIE,
35 recommending that you chop off -- You start your analysis in
36 1986, because that's when landings are being recorded and all
37 that, and that's what we used to do in the early days, but it
38 wasn't that long ago when the red grouper assessment was going
39 back to the 1800s, or the early 1900s, trying to capture all the
40 Cuban landings.

41
42 That was a laudable effort, but it didn't work out as well as
43 expected, but it makes a big difference, from what I've seen,
44 how far back in time you go to start your analysis, because, if
45 you go back far enough, you're almost, invariably, going to
46 assume lower fishing mortality rates in the 1940s and 1950s than
47 now, and so the stock is going to almost automatically look
48 depressed relative to then, but, if you start your stock in

1 1986, we're probably in better shape than we were in 1986, and
2 so that's the other factor, is what changes from assessment to
3 assessment will mess up your attempt to look at the
4 retrospective analyses and make them comparable, but I applaud
5 what's been done, and I think we should pursue it as much as we
6 can, but we've got to remember all the factors that go into
7 these results.

8

9 **MR. GILL:** Seeing no other hands raised, Shannon, a question for
10 you. The next item on the agenda was the Center's response to
11 the request for a spike analysis, and did I understand you
12 correctly that you're deferring that until Skyler gives her red
13 grouper presentation?

14

15 **DR. CALAY:** Yes, and there's a fairly detailed discussion of it
16 in the case of red grouper, and so let's defer until after that,
17 if you would.

18

19 **MR. GILL:** All right. Thank you. In that case, back to you,
20 Mr. Chairman.

21

22 **CHAIRMAN POWERS:** Thank you. We're going to go on to the red
23 grouper presentation with Skyler, and I would also mention that
24 the agenda item right after this is the draft summary, where
25 we're trying to establish a format for the executive summaries.
26 In this particular case, that draft is the executive summary for
27 the red grouper, and so you might want to look at that at the
28 same time. Skyler.

29

30 **STOCK ASSESSMENT REVIEW: SEDAR 61-GULF OF MEXICO RED GROUPER**
31 **PRESENTATION OF MODEL, RESULTS, AND PROJECTIONS**

32

33 **DR. SAGARESE:** Thank you very much, and so I think this is a
34 very timely presentation. We have got a lot of ground to cover,
35 if you've given the presentation a look, with lots of these
36 issues, and I think, with red grouper, we're in a very unique
37 situation, where we had the assessment period, and then, in the
38 first year of projections, we had the potential for a very
39 catastrophic red tide event and how that plays out with the
40 stock, and so let's get started.

41

42 I just wanted to start today with touching on a couple of the
43 major issues with the SEDAR 42 model that came out of that
44 review, and then we'll briefly talk about the data inputs that
45 were available for SEDAR 61, follow through with a brief look at
46 the continuity model, and then really focus most of the
47 presentation on the base model that we have developed, looking
48 at the fits to the data and how they were improvements over the

1 42 model, as well as diagnostics.
2

3 Lastly, we'll look at some sensitivity runs, a subset that were
4 requested, and then the projections. All of this assessment
5 really boils down to how we're going to treat the 2018 red tide
6 and that projection period, but we certainly have quite a bit to
7 cover.
8

9 One of the biggest discussion points at the SEDAR 42 review was
10 the fits to the commercial discards. At the time, the discards
11 were extremely large, and the model was not able to fit the
12 magnitude of the commercial discards, and the model had issues
13 fitting the composition data for the discards, and, at the
14 review workshop, there was a lot of diagnostics and a lot of
15 attempts to try to get better fits to that model.
16

17 One of the major changes was to change the start year, and so,
18 at the review workshop, the assessment model for red grouper in
19 42 started in 1986, and that was primarily when the red grouper
20 landings were thought most consistent, or most reliable, and, at
21 the time, there was some discussion by the review panel, a
22 recommendation, to change the start year to 1993, largely to --
23 Really, that was the data-rich period for the stock. That was
24 when the discard estimates started, and that was also when the
25 video survey started, and so when we really started to have a
26 fishery-independent survey.
27

28 At the review workshop, at the three-day review workshop, there
29 was a decision to change the start date, and that really led to
30 a lot of substantial changes in the model, having to re-process
31 data inputs, and reconfigure the model in a very short
32 timeframe.
33

34 One thing that we did have the luxury is, after SEDAR 42, we had
35 sort of an internal workshop at FWRI with Rick Methot, where we
36 went through a couple of different models, and we really went in
37 detail over that red grouper model, and one of the first
38 recommendations that Rick made was really starting late, like
39 that model did, was not ideal. We really want to start as early
40 as possible, to get as much of that contrast in the data.
41

42 If we start recent, we're really missing a lot of that
43 historical perspective, and, yes, red grouper assessments in the
44 past -- We do have landings back to 1880, but that was one of
45 the decisions made at the review workshop, largely to try to
46 improve the fits within the model, and this -- I am just, here,
47 highlighting -- I am highlighting a slide from the review of
48 SEDAR 42, where the bootstrap analysis kind of hinted that there

1 was a lot of uncertainty in the initial conditions of the model.
2

3 Looking at that plot on the left, it's basically the spawning
4 output from that SEDAR 42 for 300 bootstraps, and what you see,
5 really, is there a very wide range of those initial SSB
6 estimates as well as initial age-zero recruits. It suggested
7 that there was a lot of uncertainty at the time, and it turns
8 out, because at that workshop there was very little time to
9 really thoroughly diagnose the model, that there potentially was
10 an issue that Rick hinted at at this workshop, and, since then,
11 we -- We will revisit this in a couple of slides with more
12 context, but just kind of setting the stage that there were some
13 key issues that led to lots of changes at that review workshop,
14 and, ultimately, we'll see, later on, how that really impacted
15 the outcome of the assessment.

16
17 I just wanted to briefly touch on some of the data inputs that
18 were updated for SEDAR 61, and we had quite a bit of work that
19 was -- Quite a bit of new data that was presented as well as
20 quite a bit of improvements to some of the inputs, and so, for
21 now, I just want to kind of touch on some of the major data
22 streams that were changed and really try to give us time for the
23 modeling aspect.

24
25 For the life history parameters, there were some inputs that
26 were updated for SEDAR 61, namely the age and growth parameters
27 and the natural mortality, which relies on the growth curve to
28 determine the parameters, but we did keep some of the parameters
29 constant, particularly the age at maturity, the age at sexual
30 transition, and fecundity as well, as we'll see in a few slides,
31 was sort of a big topic that was discussed at the workshop, but,
32 for the most part, some of them were the same as SEDAR 42.

33
34 For SEDAR 61, we had quite a few new samples for the younger
35 ages for red grouper, and so it was decided to update the growth
36 curve, and it gave us a better handle on the CVs, and you can
37 see, in the table on the top, the parameters really did not
38 change much, and, on the right, what we're just showing is,
39 because we used the Lorenzen estimator for natural mortality, it
40 was a slight, slight change to that vector, given that the
41 growth parameters had changed, but all of the other inputs that
42 we used were the same. A target natural mortality rate of 0.14
43 was based on the maximum age of twenty-nine, and that was
44 recommended as well for 61, and so, basically, those inputs are
45 very, very similar to what they were.

46
47 A pretty large area of discussion at the data and assessment
48 workshop was the issue of fecundity, and so, for red grouper,

1 for SEDAR 42, it was decided by the data workshop to use batch
2 fecundity, in terms of the metric of SSB, and so incorporate
3 batch fecundity into your metric of SSB, and so, ultimately, in
4 the model, the fecundity at age, and the currency of SSB is
5 essentially the product of the proportion of red grouper that
6 are female times the proportion that are mature times those
7 batch fecundity estimates.

8
9 All of those are based on ages. In this figure, I have
10 highlighted the batch fecundity in red, because there is a
11 pretty large difference, in terms of what was provided for SEDAR
12 42. In that figure, you will notice the black points and the
13 black curve were the relationship of batch fecundity at age for
14 SEDAR 42, and then, for SEDAR 61, with the addition of ten new
15 samples that are in red, it kind of dragged that curve down
16 quite a bit, and so there was a lot of discussion about the
17 sensitivity of that relationship, and there was a recommendation
18 that I will discuss in the next slide, but, just as a reminder
19 for the red grouper model, we have the fecundity vector fixed in
20 the model, and the units of spawning stock biomass for red
21 grouper are essentially relative number of eggs, because it's
22 essentially a proportion of a proportion of the number of eggs,
23 and so SSB is not in absolute terms, in terms of number of eggs.
24

25 As I mentioned, there was a bit of discussion about the
26 fecundity at age, but, when you looked at the fecundity at
27 length relationship from SEDAR 42 to SEDAR 61, it was really
28 consistent, and so the recommendation from the panel was to use
29 that fecundity relationship as a function of length and convert
30 that to ages, using the growth curve, and then use that input
31 into that -- Multiply that by the proportion female, proportion
32 mature, to get your fecundity vector, and the reasoning, really,
33 was it was just a better biological determinant.
34

35 The figure on the bottom right here is just showing you the
36 difference between the fecundity at age vectors that go into the
37 assessment model that is basically the product of those three
38 components, and so you can see, in the red line, that is the
39 relationship that was used for SEDAR 61, and I should note that,
40 early on in the process, we did do quite a few sensitivities,
41 looking at the old vector and looking at the updated vector,
42 but, ultimately, the panel decided this was the more defensible
43 approach, and especially -- This was a standard assessment, and
44 so it really wasn't in the cards, given lots of the other issues
45 as well, to try to look at changing to a male and female
46 combined SSB, really changing the structure of the model, but
47 that's something that we will be certainly pursuing in our first
48 research track coming up.

1
2 The landings, for the most part, are very similar. They are
3 nearly identical to what were produced for SEDAR 42. The
4 commercial landings come from the Accumulated Landings System,
5 and Florida trip tickets were used, because that's considered
6 most reliable for the State of Florida, which is the majority of
7 where red grouper are landed, and, from 2010 on, we used the IFQ
8 landings database to get the landings, since there is more --
9 It's considered more accurate and more representative.

10
11 One thing to note in these figures is the top-left panel is the
12 commercial landings for the vertical line, and the top-right is
13 the commercial longline. The bottom-left is commercial trap,
14 which were prohibited started in 2006, I believe, or 2007, and
15 then just other, and so, for red grouper, the other is less than
16 1 percent of total landings, and so it's not considered in the
17 assessment. Primarily, they are removed from the commercial
18 longline fleet.

19
20 The one take-home with this figure, really, is showing those
21 recent years. Essentially, we have seen declines of landings in
22 the recreational fishery, which we'll see in a minute, as well
23 as commercial, and so nearly all the landings are down from what
24 they used to be.

25
26 For the recreational landings, this, I believe, is the first
27 assessment where we have been using the calibrated MRIP dataset,
28 and so this report that came out recently about the
29 recommendation of which source to use for Gulf of Mexico
30 assessments, we're essentially using Option 1a.

31
32 In this case, we have the fully-calibrated MRIP time series that
33 uses the Fishing Effort Survey, and, also, we have additional
34 information, in terms of the charter estimates have to be
35 calibrated by SEFSC, once they receive the calibrated MRIP data,
36 and so, basically, it's all in the currency of the post-
37 transition MRIP, and it seems to be the recommendation for
38 assessments was to use this option, and so here we are, and
39 we're, I guess, the guinea pigs, in one sense, because we have
40 used all of the updated recreational data, and, as we'll see in
41 a little bit, there were quite a few changes made to many of the
42 data streams.

43
44 To give you some perspective, because there was not enough time
45 for this assessment to produce the recreational data the old
46 way, as well as the new way, here, we're trying to show some
47 context, in terms of how these landings changed, both before the
48 MRIP transition and after the MRIP transition.

1
2 Essentially, on the top, we're showing this is the SEDAR 42
3 estimates of recreational landings that were provided for that
4 assessment, and we're looking at the headboat in red, shore in
5 yellow, private in gray, and charter in blue, and, on the
6 bottom, we're showing the same landings, but this time produced
7 with the updated or calibrated MRIP data for SEDAR 61, and the
8 first thing to note is the Y-axis on the two left panels are the
9 same, and so, essentially, what everyone has been noting is the
10 newest estimates are much, much, much larger than what they
11 were.

12
13 When you look at it in terms of by proportion by mode, what
14 we're still seeing, on the right figure, is the majority of the
15 removals are still from the private component, and charter
16 removes the second amount, whereas headboat tends to remove very
17 few landings of red grouper.

18
19 One thing, also, with this SEDAR 61 is there was this note of
20 this huge spike in 1989 for private, and we looked into that, to
21 make sure that wasn't just a function of maybe an expansion
22 factor, and it's a unique spike to red grouper, and it's because
-- What we assume is there was a size limit that went into place
24 in 1990. Largely, probably because of this huge spike, they put
25 in this management measure to try to bring the landings down,
26 and so that's what we attribute that spike to, and here's just a
27 little more context.

28
29 We were wondering if it was just a spike in the effort estimate,
30 and so, right here, we're showing something that might look
31 familiar to many of you, and that comes out of a slide borrowed
32 from the MRIP slides that just shows the change in the private
33 boat effort, how it has changed. The pre-calibration effort is
34 in the yellow, and the post is in the blue, and so, basically,
35 we don't see a huge spike in that 1989. It seems to be a
36 legitimate estimate of removals for red grouper.

37
38 Then here we're just showing a comparison of the overall
39 recreational landings, because, for the red grouper assessment,
40 the review panel recommended a single recreational fleet,
41 because headboat landings were so minor, and that, again, was a
42 change at the assessment review, that, initially, we had
43 separated charter and private from headboat and had two fleets,
44 but, at the review workshop, it was recommended to just have a
45 single fleet, and so all of those inputs as well needed to be
46 modified for that assessment.

47
48 One of the big areas for improvement for this assessment, and

1 explicitly in the terms of reference, was the commercial
2 discards, and so we're very happy that Fisheries Statistics had
3 quite a bit of time to do some research to try to hone-in on a
4 more appropriate way, what they thought was a more
5 statistically-defensible way to estimate our commercial
6 discards, and this is documented in one of the working papers
7 for this assessment.

8
9 Basically, what they ended up doing is a catch per unit effort
10 expansion that was used to calculate estimated commercial
11 discards by using the catch per unit effort that came out of the
12 observer program and comparing that with total effort from the
13 commercial reef logbooks, and so these two datasets are on
14 different levels of information, and so the observer data we get
15 at a set level, and then the logbook data we get at a trip
16 level, and so the first thing that the analysts wanted to do is
17 compare both of the datasets and see what currency of effort --
18 If it was consistent across datasets.

19
20 Ultimately, what they found with their analysis was that, when
21 looking at the commercial longline trips, that the number of
22 sets was an unbiased representation of effort, and, for the
23 vertical line trips, it was the number of fishing days, which,
24 in this case, that was defined by when the last hook goes out
25 and the first hook comes in per day, summed across days.

26
27 They looked at a variety of different metrics, and then they did
28 some statistical tests to show that those were the unbiased
29 metrics, and so, therefore, we can use that to calculate our
30 discards, but, first, to confirm that they were on the right
31 track, they used the information to estimate landings using that
32 similar approach, and then they compared that to what the
33 landings were from the logbooks, and so, the left-hand figure,
34 we're showing the trends for the vertical lines, and so the
35 green line is going to be the reported landings from the
36 logbook, and the yellow line is basically what they back-
37 calculated using that approach, and so they're pretty similar,
38 and they fit pretty well, as well as, on the right, it's the
39 longline. Again, they're very similar.

40
41 This is the kind of analysis that they are now starting to do on
42 a species-by-species basis, but it seems to be a much more
43 improved approach over what was used for SEDAR 42.

44
45 Then what we get out of this analysis is, here, we're comparing
46 the commercial discards that were provided and used for SEDAR 42
47 in blue, and you can see they are much higher for vertical line
48 on the left and longline on the right, versus the newer,

1 improved estimates that were provided for SEDAR 61 in the red.
2

3 The first thing to note is there is a big change in that
4 magnitude, which, when we look at model fits, we'll see how much
5 it improved the model. The commercial trap estimates, we did
6 not update, since the data period stopped in 2006, and so, for
7 the purposes of this assessment, a big improvement to the
8 methodology was made for commercial discards. Hopefully this
9 approach is now kind of best practices, moving forward with all
10 the other assessments.

11

12 Again, the recreational discards, using the estimates coming out
13 of the updated or calibrated MRIP, we see in the top panel here
14 that we're just comparing the recreational discards from MRIP
15 for the charter and private survey, and so, essentially, the
16 blue line is before this -- Those were the estimates provided
17 for 42, and the red is the estimates provided for 61.

18

19 The first thing to note is they are much higher, and that was
20 really the take-home here, is, given the changes in how effort
21 is now with the survey, that many of these estimates are much
22 higher. Headboat seems to be a minor component when compared to
23 charter and private, and it's made up of different pieces, and
24 so, early on, the estimates come from MRIP.

25

26 Between 1986 and 2006, we used the ratio of the charter to the
27 headboat survey discard proxy, and that's why you see that one
28 spike in 1989. It's using sort of the charter information as
29 well, and then, since 2007, we have self-reported discard
30 information from the headboat survey, and so just showing the
31 different components and then what this looks like. What's
32 going into the model, again, is this single recreational fleet,
33 where we have combined all the information, and so, again, the
34 take-home is, for SEDAR 61, we have much higher recreational
35 discards that have been estimated and provided for the model,
36 given the changes in the MRIP data.

37

38 The indices of abundance, the first thing you will note here is
39 the top two panels are the commercial vertical line and the
40 commercial longline pre-IFQ indices of abundance. Given the
41 large list of things we had to update and analyze for this
42 assessment, we did not have time to extend those indices post-
43 IFQ, and that is a continuing research recommendation, how to
44 handle this, and we do address that issue in sensitivity runs,
45 but, for the most part, we're using those indices as they were
46 used in SEDAR 42, because they do have very important
47 information, particularly for trends of the stock during that
48 2005 red tide event.

1
2 We did end up updating both the headboat index, which is on the
3 bottom left, and then the MRIP charter/private survey on the
4 bottom right, and, for the most part, the take-home is that the
5 trends are very similar.
6

7 When you look at the overlap, in terms of the confidence
8 intervals, there is no major concerning patterns across the
9 updated indices, and they are fairly similar, but, again, one
10 thing to note here, with that bottom-left figure, is, with
11 headboat, we've seen a pretty significant decline in relative
12 abundance from that survey, or based on that index, as well as
13 the MRIP. We've also seen a declining trend for red grouper in
14 the more recent years, with the headboat the lowest on record in
15 2017.
16

17 Moving to our fishery-independent surveys, we do have quite a
18 few indices available, and so the top-left is the NMFS bottom
19 longline survey, and the top right is for the SEAMAP summer
20 groundfish survey, which tends to sample younger juvenile red
21 grouper, and the bottom is basically the combined video survey,
22 and so the first thing to note here is there is really -- They
23 are very similar trends for the bottom longline survey, as well
24 as the SEAMAP groundfish.
25

26 For SEDAR 42, that was a relatively new survey, and so now we've
27 essentially almost doubled the length of the time series. In
28 the bottom panel, there's a lot going on, because another term
29 of reference was how that combined video survey was developed,
30 and so, for SEDAR 42, all three of the different data sources,
31 we have Pascagoula, Panama City, and FWRI each run their own
32 video survey.
33

34 At the time, all the data was essentially lumped together and
35 the model was run. However, since that assessment, there's been
36 quite a bit of work by FWRI and their colleagues and Mary
37 Christman on how to define a more statistical approach to
38 develop an index of abundance, given that each of those surveys
39 sample different types of habitat, different qualities of
40 habitat, and so, for this assessment, we did have the continuity
41 index provided, which is pretty similar to what was used last
42 time, but, in this case, the red line, the red index, really
43 show a much improved way to develop that combined video survey.
44

45 Just some context on this is, in this figure here, we can see
46 that the three different spatial domains of the survey, the
47 green is FWRI, the red is the Panama City, and the blue is
48 essentially the SEAMAP reef fish survey that's offshore, and

1 this is now using a habitat-based approach that does some
2 statistical modeling to account for the different types of
3 habitat and accounts for the different levels of effort as well
4 as good, fair, poor habitat within the surveys, and so,
5 essentially, we're able to account for that within the index of
6 abundance, and that's what is currently being used in this
7 model.

8
9 Another topic to discuss here is that combined video, which
10 often comes up when you combine surveys, and is it -- Can you
11 justify just lumping up the length composition data? For the
12 purpose of red grouper, we reviewed this at the data and
13 assessment workshop, and, after comparing the mean size with the
14 standard errors across the different sources, they were very
15 similar.

16
17 In this figure, we're just showing the solid lines are the mean
18 length for each of the surveys, as well as the confidence
19 intervals, and, for the most part, they fall within the bounds
20 for each of the sources, except I think 2013. The blue line
21 falls outside of the green bounds, but that was also a year
22 where there was a pretty low sample size compared to other
23 years, and so, overall, it seemed justifiable to combine all the
24 data. They seem to be sampling similar sizes of red grouper.

25
26 For red grouper, the combined video index did have quite a bit
27 of modifications to how it was developed, and, really, I think
28 they're doing some great work that's helping sort of get those
29 different surveys, because each of them tells something
30 different, but, if they're able to be combined, if there is
31 similarities across sizes and such and life history stages, then
32 it's a good way to go to combine this index and get a larger
33 spatial domain of the stock.

34
35 For the red grouper assessment, we do have the age composition
36 in the model that is developed with the age data, and we have
37 age composition for each of our fleets, and so the top-left is -
38 - We're just plotting the data for the vertical line.
39 Basically, the size of the circle just -- The larger the circle,
40 the larger the proportion. The top-right we're showing for
41 commercial longline, and the bottom-left is the commercial trap,
42 and the bottom-right is recreational.

43
44 The take-home of -- The commercial data comes from the Trip
45 Interview Program, the recreational data comes from a variety of
46 sources, from GulfFIN, the Headboat Survey, MRIP, MRFSS, and
47 also a few samples from TIP, but the take-home here is, when you
48 plot these data, you can see the circles that kind of get from

1 larger to smaller, and you can essentially follow the cohorts
2 through time within the data, and, with red grouper, we have
3 some pretty interesting information, where we can actually see
4 cohorts moving through the fishery over time, and so, here, the
5 lines are just kind of showing you those trends.
6

7 For example, we can see the strong cohort from 2005 moving
8 through the fishery data, and the trap -- I should note that
9 there's not a lot of samples for that commercial trap. It's
10 kind of sparse, and, again, it's only a subset of the time,
11 given that the traps were prohibited in the mid-2000s.
12

13 One thing I did want to note is, with the changes to all of the
14 MRIP data, we had the availability of additional size
15 information for developing the length compositions. For red
16 grouper, our age compositions are re-weighted by our length
17 compositions, and so we first had to determine how to treat the
18 new MRIP size data, because they now, in addition to providing
19 the observed data, they now provide imputed lengths, and so, if
20 there was a trip and they were able to determine what size that
21 fish probably was, given similarities in area or other fish that
22 were measured, they will try to fill in those gaps and impute
23 those lengths, and so the recommendation from the Office of
24 Science and Technology was to use the complete dataset, when it
25 was available, in addition to using the new information for
26 sampling weights that were given.
27

28 Essentially, we did a lot of in-house analyses to sort of see
29 what the difference was when looking at the observed composition
30 versus observed and imputed, and, for red grouper, again, this
31 really should be done on a species basis. For red grouper, we
32 didn't see any concerns over using both the observed and imputed
33 lengths combined, as well as using the sampling weights, and we
34 do document some of that in the report.
35

36 One thing to note is that, given the new changes in the MRIP
37 length data, that the sampling weights are not provided for
38 other data sources, but, luckily, for red grouper, the majority
39 of our length information came from MRIP, and so, in terms of
40 treating the recreational size information for charter/private,
41 we used the MRIP data, whereas, for the headboat, we used the
42 other data sources, given that headboat is primarily sampled
43 from the headboat survey, and so just one thing to note with
44 some of the issues that came up with all of the new changes to
45 the MRIP data.
46

47 For red grouper, we also have length composition within the
48 model that characterizes the discards from the commercial

1 fishery, and that comes out of the observer program, and it was
2 used for SEDAR 42. In this figure on the left, we're just
3 showing the composition for the vertical line. On the right,
4 it's the longline, and, again, the size of the circle just
5 corresponds to the size of the proportion for each of those
6 years.

7
8 One thing to note here is there has been a change in the size
9 limit, and so you can see that on the figure. It's from twenty
10 inches to eighteen inches. In the first year where that size
11 limit was implemented -- It was implemented in the middle of
12 2009, and so 2010 really is the first year it was consistent
13 across that time series, and so you can see, from these figures,
14 the majority of fish that are discarded are below the size
15 limit, although there are some fish that are discarded that are
16 above the size limit.

17
18 For the recreational discards, we do have composition data from
19 the FWRI at-sea survey, and this sample is -- It's been sampling
20 headboats since 2005, and it's been sampling charter since --
21 The first full year was 2010.

22
23 What this information provides is similar, where we have the
24 composition over time, and we've got a twenty-inch size limit
25 that's been consistent across the time period, and, here again,
26 we show that the majority of discards are below the size limit,
27 and there's a few fish that are discarded that are legal size,
28 but, for the most part, they tend to be below the size limit.

29
30 Then our fishery-independent surveys as well, we do have length
31 composition available, and this figure is -- This slide really
32 just gives you an idea of the different sizes that are sampled
33 by each of the surveys, and so, in the top right is the NMFS
34 bottom longline, and that survey tends to capture the largest
35 individuals, with a mean size of fifty-one centimeters.

36
37 On the left, the combined video also tends to catch the larger
38 red grouper, and, in the bottom, we have the SEAMAP groundfish,
39 which tends to sample the juvenile red grouper, and so about
40 thirty centimeters fork length is the mean size, but they do get
41 a range, and so, for this assessment, given the addition of the
42 length of the time series, we do now have quite a bit of
43 fishery-independent information feeding into the assessment
44 model.

45
46 The issue of the red tide, for SEDAR 42, there was quite a bit
47 of work that was done on how best to incorporate the red tide,
48 and, at the time, there was a lot of work outside of that

1 assessment that was done by John Walter at the Southeast
2 Fisheries Science Center that developed a statistical model of
3 the index -- Essentially, an index of red tide severity over
4 time, using the SeaWiFS satellite data.

5
6 For this assessment, we tried to recreate that same analysis,
7 using the MODIS data, and there is a working paper that we
8 document what changed, but there is quite a bit of work that
9 still needs to be done, in terms of QA and QC with the MODIS
10 data, and so a lot of the processing that we did -- We still
11 feel there's a lot of data issues that we need to address before
12 we have any confidence in what's coming out with this index.
13

14 That is a work in progress, and hopefully it will be available
15 in the near future, because this really is one of the important
16 pieces of information that we had, but, essentially, for SEDAR
17 42, during that assessment, we did have a severe red tide in
18 2005.

19
20 This time around, we've had the red tide in 2005 as well as a
21 fairly severe red tide in 2014, but, as you can see with this
22 updated index in the gray -- Again, we're kind of cautioning
23 that we did develop the index, but there is still some work to
24 be able to determine whether this is statistically valid,
25 whether this is a finding or whether this is an artifact of
26 there being a lot more noise in the data, and therefore less of
27 us being able to detect a signal.
28

29 Just to provide some more context on how could we then treat
30 this 2014 red tide with the combined video survey, they were --
31 Kevin Thompson went back and actually developed these maps,
32 following the data and assessment workshop, to get an idea of
33 what was going on each of the years, given the counts from the
34 survey, and so the top-left figure is for 2012, and so,
35 basically, the larger the circle, the higher the abundance, and
36 this is -- We're kind of highlighting this Big Bend region, and
37 you can see there's a lot of abundance, in this case, for the
38 Florida Middle Grounds.
39

40 Essentially, in 2012, we see lots of larger circles. In 2014,
41 on the top-right, basically we see a big drop in the abundance
42 in that area, and that corresponds to that 2014 red tide that
43 had occurred in the Big Bend region. We've had lots of input
44 from stakeholders really kind of -- They're just saying that
45 they saw many, many, many dead grouper and that the bottom was
46 just black and dead, and there was a lot of concern over what
47 happened, and so it seems like this data supports that there was
48 a big reduction in abundance.

1
2 The bottom-left is showing 2015, and we can still see there is
3 not a lot of those big circles that we would like to see. In
4 2017, on the right, we're kind of starting to see some of the
5 population rebuild.
6

7 Another use for these sorts of maps is we thought that maybe --
8 For example, in 2014, if there was a big red tide and the fish
9 just moved, you would just expect to see overflow outside of
10 that region, but, in this case, we see that the abundance, off
11 of for example Tampa, doesn't necessarily get much larger over
12 time, and so it suggests that there was a bit mortality event in
13 that red tide for 2014.
14

15 For this assessment, one of the new datasets that was provided
16 comes from a lot of the ecosystem work that Dave Chagaris has
17 been doing. Many of you have seen a lot of that modeling. For
18 example, for gag, I know it was brought in when you were trying
19 to determine how to treat 2014, and so, in a nutshell,
20 basically, what Dave is doing is he is using the satellite data
21 to determine where there could be a red tide event, using the
22 cell count data from FWRI to sort of hone-in on where the red
23 tide could be and then using species distribution maps based on
24 habitat variables to try to get at habitat where red grouper
25 would be for each of the age classes, and so, for age-zeroes,
26 ages-one to three, and then ages-four and up, and then sort of
27 modeling the mortality, using a logistic function.
28

29 I know this is a work in progress, and this is an analysis
30 that's being funded by RESTORE, mostly for gag, but it's going
31 to be useful, as you will see, for red grouper, as well as
32 others, but, basically, what this analysis shows is, on the
33 left-hand figure, it's looking at an index of red tide
34 mortality, and so it's essentially calculating the proportion of
35 the biomass that was killed from the red tide after all of the
36 different steps.
37

38 It's looking at different sensitivities as well, in terms of the
39 cell counts, and so what you're seeing is all those lines, and
40 they're just different assumptions about how the red tide is
41 affecting red grouper. On the left, it's sort of a population-
42 level response, and so the first thing you note is that huge
43 spike in 2005, and then, the 2014 through 2017, at the data
44 workshop, we kind of discussed in detail. We don't see as large
45 of an increase as we would have thought, given a lot of the
46 information from stakeholders and other anecdotal information.
47

48 One of the strengths of this analysis is Dave can separate out

1 the different age classes, and so, for example, on the right,
2 you can actually see that, in 2005, nearly all the age classes
3 had just a consistent level of mortality, and it just seemed
4 like that event was extremely bad for all involved, whereas, in
5 some of the other years, you can see that, for example, in 2016,
6 the model actually predicts higher age-zero mortality, and so I
7 think this raises one of those issues that, given all the data
8 we currently have, there are still a lot of questions that
9 remain, in particular how age-zeroes or age-ones are affected.

10
11 We don't have an age-zero recruitment survey for red grouper,
12 which, as we talk through the model, we'll discuss how that
13 impacts our recruitment or our inability to have a lot of
14 confidence in our recruits, but I think this analysis kind of
15 highlights that 2005 was bad. 2014, given the satellite
16 information, does not appear to be as bad, and this analysis, I
17 should mention here, we'll have more time to discuss it when we
18 go to projections, because Dave has updated this through 2018,
19 but this is just some caveats with some of these analyses,
20 especially the other index that relies on satellite data.

21
22 It's from the surface, and there's still a lot of uncertainty,
23 in terms of what's going on underneath the water. Is this a
24 hypoxic event? Does the red tide create hypoxia? I know that's
25 something, at the Center, that we're really interested in trying
26 to pursue, some of these additional hypotheses, and we are
27 actually in the process of bringing a post-doc in, through our
28 IEA program, to try to give us some extra hands to try to look
29 at some of these issues with the red tide and potential hypoxia
30 and just trying to address the many questions that really have
31 come up since the 2018 red tide event.

32
33 The last piece of new data that was provided was from FWRI, the
34 hook-and-line surveys. Two surveys were provided, the vertical
35 line and a repetitive time-drop survey. At the end of the
36 review workshop, we decided to move forward with the repetitive
37 time-drop survey, because it provided both an index of abundance
38 as well as size composition, with much higher sample sizes than
39 just the vertical line, and it is a fairly short time series
40 from 2014 to 2017, but you can see that there's been sort of a
41 decline over time, and the trend was very similar for the other
42 index, and so we just went forward with using the repetitive
43 time drop.

44
45 It is a stratified random sampling design that covers a
46 significant portion of the prime red grouper habitat, and it's
47 stratified by depth, and so we definitely chose to include this
48 information, and this also was one of the terms of reference to

1 consider. That is really kind of, in a nutshell, the major
2 changes to the data within the assessment. Are there any
3 questions on the data portion?

4

5 **MR. GREGORY:** The, I guess 1990, or 1989, spike in the
6 recreational landings, that just seems really odd, and it -- The
7 council implemented the twenty-inch size limit in 1990, and it
8 wasn't based on landings. It was based on size at maturity
9 estimates by Martin Moe from FWRI.

10

11 At the time, all we had were recreational landings through 1986,
12 and I guess there was a long time lag in getting your final
13 answers out of MRFSS in those early years, and the State of
14 Florida, and I think the South Atlantic Council, had earlier
15 implemented an eighteen-inch size limit for red grouper, years
16 earlier, two or three years earlier, and so I don't believe it
17 was in response to a spike in recreational landings.

18

19 The commercial landings those years didn't really spike either,
20 and so did you all do a scenario without that spike? Did you
21 like average the year before and the year after, thinking back
22 to what we've done with some Puerto Rico estimates with lobster,
23 and just see what effect that had, if anything, that one year?

24

25 **DR. SAGARESE:** We did not do that. However, with the newest
26 version of SS that we're using, I think one of the strengths of
27 the new modeling approach is you put in your annual landings
28 estimates, and you can include an annual error estimate as well,
29 and so, in this case, we could certainly run a sensitivity with
30 it.

31

32 I don't think that it would change the model results that much,
33 but you're -- One of the recommendations we have of this
34 assessment is, yes, there's always been this -- We generally
35 start the grouper models more recent, given the concerns over
36 data, but, now that we have the ability to account for that
37 uncertainty when putting the landings in the assessment, we can,
38 over time, incorporate that uncertainty and give the model --
39 Back in the 1880s, we probably are very uncertain, and so we can
40 have a higher error estimate, versus in, for example, the more
41 recent years, when the IFQ went in, and we probably have a very
42 good handle on what the removals are, and so you would want a
43 much lower estimate that goes in.

44

45 We now have the ability to add annual estimates of error within
46 our landings, which I don't think that's ever -- In the past,
47 that hasn't been an option, and so, moving forward with data
48 workshops, it seems like these are the kinds of issues that we

1 could now certainly address at that time, because these spikes --
2 I know that they're not just in red grouper and that there's
3 always one or two spikes that tend to arise with the
4 recreational inputs for many of the species, but, yes, thank you
5 for your comments on that it probably wasn't due to the spike in
6 landings that those size limits were --

7
8 **MR. GREGORY:** If I may just follow-up quickly, maybe they just
9 should be looked at from a more statistical point of view and
10 say this is a potential outlier and it's just not real or
11 representative of what's going on.

12
13 **DR. SAGARESE:** I am not a data expert, but I believe that there
14 is certainly QA and QC that goes into those estimates.

15
16 **DR. CALAY:** I think this is a common problem across a number of
17 assessments, and it's something that I believe the MRIP program
18 themselves are looking into for best practices, and so the most
19 that we can do to -- Skyler already mentioned the data that we
20 receive, to the extent that it's been QA/QC'd with the best
21 available science at that moment, the best we can do is try to
22 incorporate the uncertainty estimates better into the stock
23 assessment, and the new SS 3 models will allow us to use annual
24 estimates of uncertainty, rather than for an entire catch series
25 for an entire fleet, but we can certainly pass on the concern to
26 the MRIP program that they continue to examine these outliers,
27 these spikes, that we see. Sometimes those are caused by rare-
28 event species, and I'm not sure what the cause is in this
29 particular case, but we do see this frequently.

30
31 **MR. GREGORY:** My main point was the size limit was not
32 implemented because of that landings spike. The size limit was
33 implemented because of the estimate of size at maturity, which
34 raises another point. Size at maturity from the 1960s was
35 estimated to be about twenty inches total length, and I don't
36 recall what it was in this last assessment, but I think it went
37 down to eighteen inches at one point, and that helped the
38 council justify lowering the commercial size limit to eighteen
39 inches, and I think I remember the latest estimate is now
40 thirteen inches.

41
42 Those sort of changes should be run as alternative scenarios, to
43 see what affect that has on the results, because that is a
44 dramatic decline in size at maturity for the female, and the
45 study done in the 1960s was very thorough, and nobody has ever
46 questioned that.

47
48 **DR. SAGARESE:** For this assessment, we did use the age at

1 maturity of about -- I think it comes out to 2.8 years, and
2 that's how it's currently being implemented in the model.
3 Certainly, what you're talking about, there has been a shift
4 over time, in terms of the different estimates that come out
5 from the Moe study, for example, over time with a lot of the
6 work that Sue has been doing and that Gary had put together from
7 NMFS, and we do have that information available.

8
9 For the purpose of the standard, we did kind of -- If we could
10 maintain the information and no new information became
11 available, we did follow through with the estimates from SEDAR
12 42, but that's certainly something we can put down with research
13 recommendations, and I know it's come up in the past, about
14 looking at the changes over time. That is, actually, I believe,
15 another capability of the new SS, is you could have different
16 time blocks, and you can actually block some of the parameters
17 as well.

18
19 **CHAIRMAN POWERS:** Jim.

20
21 **DR. NANCE:** Thank you, Mr. Chairman. Has the SEAMAP trawl data
22 moved over to Florida? It seems like, in past years, it hasn't
23 been that far over, but, in recent years, has it gone over
24 there?

25
26 **DR. SAGARESE:** Yes, and that's why we now have it in this
27 assessment, and that's why it starts in, I believe, 2008. It
28 started sampling all of Florida as well, because you're right
29 that before then it never sampled Florida.

30
31 **DR. NANCE:** Is age-zero picked up with that, or is that more
32 plankton?

33
34 **DR. SAGARESE:** I believe, when I looked at the data, it looked
35 like that survey tends to get more like ages-one to three, and
36 so not necessarily age-zero red grouper. I know there is some
37 sparse information in the SEDAR 42 report of where age-zeroes
38 were captured, but, ultimately, there's just -- It's been
39 difficult trying to develop an age-zero survey, even given all
40 the sampling the State of Florida does, and it seems like there
41 is, if it was possible, the need to develop an age-zero survey,
42 because that's really important in providing information to
43 recruitment for the model.

44
45 **DR. NANCE:** Thank you.

46
47 **MS. BOSARGE:** Can I ask a question? I was just wondering, on
48 the commercial discards, and so that actually goes all the way

1 past the implementation of the IFQ, and it looks like there was
2 kind of a CPUE calculation to back into some of those commercial
3 discards, and we've had issues getting a CPUE index on the
4 commercial side post-IFQ.

5
6 I think a lot of that has to do with trying to figure out what
7 is a directed red grouper trip, and so I was wondering -- When
8 you used total effort from the commercial reef logbooks, did you
9 have to make any assumptions or use any specific parameters as
10 to what a red grouper trip was and what constituted a red
11 grouper trip?

12
13 **DR. SAGARESE:** That is certainly -- When developing the CPUE
14 indices, trying to subset the whole dataset based on trips is
15 one of those things that really has, I would say, hindered our
16 ability with developing those CPUE indices. We also have the
17 issue of -- We have had a lot of discussions now with many
18 different stakeholders that really say that there's been a
19 change in fishing behavior, which also really affects our
20 ability to use the logbook data to get our CPUE series, and so
21 that's one of the issues.

22
23 In terms of the discards, with the logbooks, I think, with red
24 grouper, there is certainly a lot more information in there
25 about who has got the IFQ and who is going to be targeting red
26 grouper, and so I believe that may not be that big of an issue,
27 in terms of calculating discards. Shannon, did you want to add
28 anything?

29
30 **DR. CALAY:** I just wanted to jump in, and many of you are
31 probably aware that the commercial discards we estimate using
32 observer program data, and it does appear now that it is
33 possible also to construct indices of abundance from the
34 commercial observer program data, rather than the logbook.

35
36 We feel that that is where we should invest the effort to try to
37 create indices that account for the IFQ program, is from the
38 commercial observer program data, and so that's a project that
39 we're just now embarking upon with some of the red snapper
40 funding that was received from Congress.

41
42 **DR. SAGARESE:** We certainly hope to pursue that with the scamp
43 assessment, to try to -- Since it's a research track, there may
44 be new ways to develop our CPUE indices with the observer
45 information, and so hopefully stay tuned.

46
47 **DR. CHAGARIS:** I have a comment and a question first. Thanks,
48 Doug, for bringing up the size limit thing, and I was wondering

1 what the rationale was for lowering that size limit, because it
2 appears that the stock started declining in 2010 pretty
3 severely, at the same time that that size limit was lowered, and
4 so I would recommend possibly some size limit analyses be done
5 for this stock. Then my question is about the video maps
6 showing the northeast part of the Gulf of Mexico, and you're
7 showing 2012 and 2014, and I'm wondering if we have a map for
8 2013.
9

10 **DR. SAGARESE:** I should have mentioned that there were very low
11 sample sizes in 2013, and so it's really hard to get an idea of
12 -- The spatial area doesn't really match what was done in the
13 other years, and so sort of the before is 2012 and the after is
14 2014/2015, but, yes, that's why 2013 is missing. It's just --
15

16 **DR. CHAGARIS:** All right. Thank you.
17

18 **MR. GREGORY:** To Dave, I think, also, about that time, there was
19 a lot of discussion, particularly from the NGOs, about trying to
20 reduce discard mortality, and, if you lower the commercial size
21 limit, you reduce discard mortality, and that might explain why,
22 even with red snapper, the commercial fishermen have a smaller
23 size limit than recreational, and so that was part of the
24 discussion, but I think having the size at maturity being lower
25 helped to reinforce that.
26

27 **DR. SAGARESE:** Any other data questions? If not, we'll move on
28 to the next part of the presentation, which really is looking at
29 what would be the SEDAR 61 continuity models, and so keeping it
30 as close to what was used for SEDAR 42 as possible, and, again,
31 this is building off of the model that was used for management
32 advice, and that was basically the model that was developed
33 following the review workshop, given the input.
34

35 I am not going to go line-by-line here, but just to highlight
36 some of the differences. In this slide, I am just trying to
37 show basically what was used for the -- What was recommended in
38 the review workshop, the final model, is in the blue, and then
39 bold is just kind of updating what was kind of changed at that
40 review workshop, and so the start year was changed from 1986
41 earlier to 1993, after the review panel recommendation.
42

43 Initially, the model was estimating steepness, but, at the
44 review workshop, the panel recommended fixing steepness at 0.99.
45 The recreational fleet, instead of having separate fleets for
46 the different modes, we had a single recreational fleet, and
47 then there were quite a bit of modifications made to the length-
48 based selectivity as well as retention, to try to improve those

1 fits to some of the size composition and age composition
2 information in the model.

3
4 Basically, the take-home here is that there was a considerable
5 amount of work that was kind of undertaken in just a couple of
6 overnights during that review workshop that were based on some
7 recommendations that led to pretty major changes in the
8 configuration of that model.

9
10 To just give you an idea of all the various inputs that go into
11 the assessment, in this case, for red grouper, we have landings,
12 and we've got discard information, and we've got discard size
13 composition, and we've got CPUE indices, and we've got age
14 composition from the fisheries, and we've got length composition
15 from our surveys.

16
17 This figure, or this slide, is just kind of highlighting all of
18 the data inputs were used, the same approach for SEDAR 42, with
19 the exception of what's in red, and so the recreational data
20 inputs were all provided using the new MRIP data, and there was
21 no real continuity, and the same goes for the commercial
22 discards, given the vast improvements in methodology, and there
23 was not enough time or resources to go back and do the old
24 approach. Basically, this is as close to a continuity run as
25 possible for this assessment.

26
27 In this figure, what I am showing here is basically the
28 comparison of what the spawning stock biomass comes out with
29 this model compared to the continuity 61 model with what was
30 used to provide management advice for SEDAR 42, and so the take-
31 home here is it's fairly similar. There is a slight difference,
32 in terms of the magnitude here, and that's largely a result of
33 the new MRIP data, and so, when I use the old model and just
34 changed the data, you saw this same sort of bump-up in that
35 trend, and so, basically, this is the continuity run, given all
36 the same configuration of the model as the SEDAR 42 model, with
37 as many data inputs updated as possible.

38
39 I kind of hinted to this earlier on in the presentation, but we
40 don't start from the virgin conditions for red grouper. We
41 basically know that we start in a fished state, and so we have
42 to sort of initialize the model. In this case, we imputed a
43 vector of initial equilibrium catches for each of the fleets,
44 and we tried to pinpoint a snapshot of what's being removed from
45 the fishery, so the model can then estimate initial fishing
46 mortality rates, to kind of hone-in on where the stock is.

47
48 The change of the start year during the review workshop from

1 1986 to 1993, a lot of the data inputs had to be revisited,
2 including these initial equilibrium catches, and it turns out
3 that the model that was developed during the review and that was
4 used for management advice actually did have a computational
5 error and that those initial equilibrium catches were much
6 higher than they should have been.

7
8 Basically, the stock was initializing with much higher catches
9 and was expecting higher biomasses, and, essentially, when you
10 see that -- In the report, if you kind of peek through some of
11 the tables in the appendix, you see this big increase in terms
12 of what Stock Synthesis estimates as that MSY, and it
13 essentially doubles the MSY, and that is largely based on this
14 issue with the initial equilibrium catches that was in that
15 model.

16
17 How did we correct that? For the purpose of kind of a
18 continuity, we're not really going to spend much more time,
19 given the concerns with that computational issue, but what we've
20 now done is we call this the SEDAR 61 initial update, and it's
21 essentially the continuity with that correction of using the
22 initial equilibrium catches of what they should have been, and,
23 in this case, we're using an average of the first five years of
24 the time series.

25
26 What we see, the first thing to note in that figure to the left,
27 that's the same plot of the spawning stock biomass. The green
28 line, in this case, is the update trend, and so the trend is not
29 very different, but I do want to highlight that, on the left-
30 hand side of that figure, the initial condition, you can see
31 that that green line -- There is much less variability than what
32 was being shown in the original 42 model as well as the
33 continuity, and so, when we talked about the uncertainty with
34 the bootstrap, there was a lot of uncertainty within that, and a
35 big range of estimates, and there's a lot more variability than
36 there should have been, given that the initial equilibrium
37 catches were much larger than they really should have been.

38
39 Shannon also alluded to the change in the R₀, the unfished
40 recruitment, and so, on the right-hand side, this is basically
41 the distribution of what would come out of the newer model, the
42 initial update. Essentially, our R₀ was -- The log of the R₀
43 was much higher than it should have been, and so, essentially,
44 the stock was larger and more productive, really, than what it
45 was should have been in the assessment.

46
47 I do want to note that this issue -- If you look back at the
48 model that was developed for the assessment workshop, it did not

1 have that issue, and so you can see, in the report, that it
2 recommended an MSY that was similar to seven-million pounds,
3 which is what was expected.

4
5 One other thing with that model is there was a lot of discussion
6 over the sigmaR, and so the estimate of recruitment variability
7 was much larger than generally is seen, and it was over one with
8 that SEDAR 42 model. When we run the initial update, we see a
9 sigmaR that's a bit more in line of about 0.79 for red grouper,
10 and so that issue kind of got resolved with this update to the
11 initial catches.

12
13 That is basically the continuity, which we have presented, and,
14 with this assessment, in addition to that modification to the
15 model, we did make quite a bit of changes to this assessment
16 model. Even though it was a standard, there were some areas
17 that we certainly wanted to improve upon, but, before we move
18 into that, are there any questions or discussion on what we've
19 shown for continuity? Okay.

20
21 Moving on, the rest of this presentation really is going to
22 focus on some of the major changes we made to the configuration
23 and then looking at some of the fits, and so, as I touched on in
24 the data section, we did update quite a few of the data sources,
25 including the video survey and its length comp. The
26 recreational age composition accounts for the new MRIP size
27 information that was available, and also the growth parameters
28 and natural mortality, as well as the fecundity.

29
30 The new data that was incorporated was the FWRI repetitive time-
31 drop survey with the length composition, and one of the big
32 changes we made to the input sample sizes for the composition
33 data was to use the square root of the sample sizes, which, in
34 the past, we have kind of capped. For example, instead of using
35 10,000 samples, you would cap it at 200, so it wouldn't have
36 undue influence.

37
38 This is something that best practices is kind of coming into
39 play now, where we're trying to use some iterative reweighting
40 approaches to get a better handle on what the model should be
41 giving more weight to, and so, in addition to doing the square
42 root of the sample sizes as the inputs to start with, we're also
43 doing the iterative reweighting, which is essentially best
44 practices in SS right now, and that was not conducted for the
45 red grouper previous assessment, and so that's a big change to
46 how the data is handled.

47
48 Ideally, we would want to be using the number of trips as our

1 input sample size, and so that's something we can pursue in the
2 future, but I think, with some of our data sources, it's not
3 that straightforward, and so we'll look into doing that with the
4 upcoming assessment.

5
6 On the left is just kind of a summary of what the model
7 configuration was for our continuity approach, and on the right
8 is basically highlighting the changes that were made during this
9 assessment in the model that we presented as the base, the SEDAR
10 61 proposed base, and so it starts in 1986, and we're using as
11 much of the information at the time as we could, and, again,
12 that's something we could discuss in the future, with the new
13 capabilities of SS, is going back in time, but that takes a
14 considerable amount of work on the data side of things to
15 provide landings as well as uncertainty estimates to go with
16 that.

17
18 The fecundity, as we discussed earlier, that vector was updated
19 for this assessment, and we used the recommended growth
20 parameters, but we did, in this case, end up estimating K, the
21 growth rate coefficient, and also the length at the minimum age
22 of one, and so we wanted to -- Freeing up those parameters to be
23 estimated helped us kind of hone-in on some of the composition
24 trends and we were better able to capture some of the cohort
25 data, some of the cohorts moving through the fishery.

26
27 We also included the FWRI survey. In this case, we -- After a
28 lot of discussion at the workshop, we decided to consider the
29 2014 red tide event as severe enough to model, but we do have a
30 sensitivity that suggests that 2014 -- If it wasn't a big issue,
31 how that would affect the model.

32
33 The selectivity within the assessment, we were using age-based
34 for SEDAR 42, but we have switched now to length-based
35 selectivity, which, again, has really helped us in terms of
36 having more realistic fits to some of our composition data,
37 which we'll see later on, and we also made some small tweaks to
38 how the configurations are for some of the fishery-independent
39 surveys and how length-based selectivity is being modeled as
40 well as the retention, and so, for SEDAR 42, a lot of the
41 parameters were estimated.

42
43 In many cases, there was a lot of uncertainty in some of the
44 decisions from that assessment, because we didn't have enough
45 time to really thoroughly diagnose the model, and that model was
46 fairly unstable, and so some of these modifications we've made
47 really helped us get a better performing model, but, of course,
48 there is always room for improvement.

1
2 Just to give you an idea of the current data inputs are nearly
3 the same as the continuity approach, except, if we could go back
4 further in time, before 1993 we could, and so landings, some of
5 the CPUE, the recreational CPUE indices we could, and the age
6 composition started in 1991, and so we did add a bit more of the
7 information, but, again, we didn't really consider going further
8 back in time with this model, because this was a standard, and
9 we really didn't have a lot of time to thoroughly evaluate all
10 the different time series of landings as well as how the
11 historical recreational landings would change with the changes
12 to MRIP.
13

14 What we're going to do now is kind of just move through the fits
15 of the SEDAR 61 model compared to the fits to the SEDAR 42
16 model. Here on the left, top left, are the fits, and the first
17 and third columns are the SEDAR 61, and the second and fourth
18 columns are the SEDAR 42, and so the blue-dashed lines are
19 essentially the expected landings. The black lines are the
20 observed landings.
21

22 The first thing to note is, generally, with other species, we
23 tend to assume that we know our landings very well, and so you
24 often see that observed equals expected. For red grouper, it
25 was recommended, for SEDAR 42, to have a higher CV, just to
26 account for some of the more uncertainty, and so we do see, in
27 this case, that we're not getting perfect fits with our
28 removals, and so commercial vertical line is the top left, and
29 commercial trap is the top right. Commercial longline is the
30 bottom left, and recreational is the bottom right. For the most
31 part, the model is doing fairly well. We are seeing fits that
32 were, if not similar, slightly better, in some cases, than the
33 SEDAR 42 model.
34

35 The one big improvement that we did notice with the SEDAR 61
36 model was the fit to the commercial discards, and so the top row
37 is the fits from SEDAR 61, and the top left is commercial
38 vertical line, and the middle is commercial longline, and the
39 right is commercial trap, which, again, remained unchanged from
40 SEDAR 42.
41

42 In SEDAR 42, the fit is shown at the bottom, and, again, these
43 are from the model that was used for catch advice. The model
44 that was actually presented during the assessment workshop was
45 severely underestimating all of the commercial discards, and so,
46 at the review workshop, a lot of the tweaks to the model were to
47 try to improve the fits.
48

1 In this case, we see that the SEDAR 42 model underestimated the
2 commercial discards for the commercial vertical line, but, with
3 the current SEDAR 61 model, we see fits that are a bit more in
4 line with what we would expect. In these figures, you're going
5 to see the open circles and the lines are basically the observed
6 data, and then the blue-dashed is what the model is predicting,
7 and so they're fairly close, and, again, the commercial trap was
8 identical, and so, really, the take-home with this figure is the
9 change in that magnitude of the commercial discards that were
10 input in the model and the ability of the SEDAR 61 model to get
11 a better handle and have slightly better fits compared to the
12 SEDAR 42 model.

13

14 Similarly, for the recreational discards, now we have sort of
15 the opposite situation. With SEDAR 61, the estimates of the
16 recreational discards are much higher than what were provided
17 for SEDAR 42, but, in this case, on the left, we're showing,
18 again, the observed versus the predicted fits for SEDAR 61, and
19 on the right is SEDAR 42. There is no real cause for concern,
20 in terms of the fits. It seems to be fitting the recreational
21 discards fairly well, even with the increase in the magnitude of
22 discards for SEDAR 61.

23

24 As I mentioned earlier, we did not update the previous IFQ CPUE
25 indices, but we did include them in the model, since there is
26 some important information. The one thing to note here is these
27 are the -- Again, Columns 1 and 3 are SEDAR 61, the comparison
28 of the observed to the expected prediction, and 42 is the second
29 and fourth. Basically, on the left-hand side, we're showing the
30 fits to the vertical line and the longline index, and,
31 essentially, the trends are the same.

32

33 You might notice, in SEDAR 61, we don't see as strong of a
34 pronounced decline from 2005 to 2006, and there were some tweaks
35 made to that SEDAR 42 model to increase the fit to the indices,
36 namely by upweighting them. Since, in this assessment, we ended
37 up using a different approach for treating the composition data
38 and using the iterative reweighting approach, we see sort of a
39 slight degradation in terms of that fit, but, overall, for the
40 commercial indices, the trends are fairly similar.

41

42 On the right, we're showing the fits to the headboat index on
43 the top and the charter/private/MRIP survey on the bottom.
44 Basically, the red line is just to help orient you to the
45 terminal year for SEDAR 42 is 2013, and so it's to kind of help
46 you with the comparison with those indices.

47

48 What we see here is that, essentially, the headboat, since the

1 terminal year of 2013 for 42, the headboat index has gone down,
2 and the model seems to predict that. The charter/private survey
3 as well, and it's not a great fit, although, when you look at
4 the fit with SEDAR 42 as well, that index tends to have a very
5 large CV, as well as the headboat, and so there is some -- You
6 can just see, by the size of those bars, there is quite a bit of
7 uncertainty within those indices, but, overall, no major
8 differences from the model fits with SEDAR 42, in terms of the
9 indices for the fishery-dependent indices.

10
11 Moving on to the fishery-independent indices, again, it's a
12 similar setup, comparing SEDAR 61 to SEDAR 42. Overall, the
13 fits are relatively similar. For example, with the video survey
14 in the top left, it seems to fit slightly better than the SEDAR
15 42 model, but, overall, the fits are fairly similar.

16
17 There is no real causes for concern, but the one take-home,
18 looking at all the indices that were updated through the
19 terminal year, is the more recent years abundance is
20 consistently low. All of the indices really are showing that
21 recent trends are going down, and we will sort of have a sneak
22 peek at some of the more recent indices later on, when we talk
23 about 2018.

24
25 Here, we're showing the fits to the length composition, and so
26 the gray is basically the observed composition overall, all
27 years combined, for each of the data sources. SEDAR 61 figures
28 are on the left, and SEDAR 42 are on the right, and this was one
29 of the big areas of improvement within this model.

30
31 The first thing to note is looking at the top left is going to
32 be your commercial vertical line discard length comp, and below
33 that is your commercial longline discard length comp, and below
34 that is the recreational discard length comp, and so, those
35 first three panels on the left, you can see that this current
36 SEDAR 61 model, we have a much better fit to what the observed
37 data was. On the right-hand side -- When you looked at the
38 trends from SEDAR 42, there were these kind of outer wings of
39 the distribution that really did not match the observed, and
40 many of these improvements were because of the modifications we
41 did to how we treated length-based selectivity as well as
42 retention.

43
44 Again, we really had more time this time to sort of tweak and
45 kind of explore different parameterizations to get better fits,
46 as well as the change in estimating the growth coefficient
47 within the model, and so one of the improvements we have really
48 seen is much better fits to these discard length compositions,

1 and that was a cause for concern in the SEDAR 42 model.
2

3 Then the other figures here are just showing the fits to the
4 fishery-independent surveys, the video survey, the groundfish
5 survey, the bottom longline, and the FWRI repetitive time-drop
6 survey. They're pretty decent fits overall, compared to the
7 previous model.
8

9 Looking at the residual patterns as well kind of gives us an
10 idea of how each of the models compares. Here, we're going from
11 the commercial vertical line from the top to the commercial
12 longline to recreational to SEAMAP video, SEAMAP groundfish,
13 NMFS bottom longline, and then FWRI at the bottom.
14

15 Basically, the take-home here is, the larger the circle, the
16 larger the residual pattern. In this case, we tend to see
17 smaller residuals within the SEDAR 61 model, a less pronounced
18 pattern for many of the data sources, and there are still some --
19 For example, in the recreational, you can see there are these
20 large circles at the top, but, overall, we see much better
21 residuals for the groundfish survey, the second from the bottom
22 to the right, and, again, it suggests that the configurations we
23 have tweaked kind of get us a little closer to having less
24 residual patterns and a better handle on actually fitting those
25 composition datasets.
26

27 **SSC MEMBER:** Is the scale wrong on your presentation slide,
28 because the scale is to ten in SEDAR 61, but it's only to two in
29 42, and so the residuals are actually larger and not smaller.
30

31 **DR. SAGARESE:** You're correct, in terms of there are
32 inconsistencies across, and so, the left-hand side, the first
33 four are up to ten, and the bottom three are up to two, and
34 then, on the right, it's up to two for those first four, and
35 then it's up to a hundred for SEAMAP groundfish, and so there
36 are some inconsistencies, but the one thing to note is those --
37

38 In SEDAR 61, those big tens, it's hard to, since they're not on
39 the same scale, to have an exact comparison, in terms of what
40 those smaller circles would be. It's likely that those more
41 would be around that two value, and so there are slightly poor
42 residuals, as I mentioned, those bigger circles in the
43 recreational, but, when you look at some of the other sources,
44 there are some improvements.
45

46 Again, there are some that are not quite fitting, and the
47 recreational is one of those that we do see some of those
48 issues, but, then again, looking at the old model, there were

1 also some poor fits, but, again, this is always -- I feel like
2 this is always a work in progress, and no model is 100 percent
3 right, but we're just trying to work towards the improvements
4 that we are seeing within this current model.

5
6 Then, looking at the fits to the overall age composition data, I
7 think the take-home here is that, while we were trying to --
8 There was certainly a tradeoff, in terms of fitting the age
9 comps to fitting the discard length comps. Overall, in this
10 case, for the -- On the left, we're going to see the commercial
11 vertical line. On the top is the commercial longline, and the
12 bottom left is the commercial trap. On the top right, it's
13 recreational and the bottom right.

14
15 The fits are fairly similar across models, suggesting that the
16 changes that we made did not exactly degrade the fits to these
17 different data sources, but, then again, I think this is one of
18 those issues. Moving forward, there is always modifications
19 that we can make in the assessment, but, for now, given the
20 significantly improved fits to those discard length comps, these
21 are fairly similar, and there is really not a lot of cause for
22 concern, in terms of some of the changes.

23
24 In this case, looking at the residuals here, on the left, it
25 looks like the max is two, and, on the right, the max is eight,
26 and so, here, we are seeing overall reduced residuals for the
27 SEDAR 61 model for the various data sources, and, again, we do
28 see those less-pronounced patterns in the current model.

29
30 **CHAIRMAN POWERS:** Skyler, this would be -- I think this would be
31 a good point to take a break for fifteen minutes, because we're
32 shifting more towards the metrics that are used for status, and
33 so let's break for fifteen minutes.

34
35 (Whereupon, a brief recess was taken.)

36
37 **CHAIRMAN POWERS:** All right. Thank you. Skyler, you can
38 proceed again.

39
40 **DR. SAGARESE:** That was a perfect stopping point, and so, moving
41 on now, we're going to start going through some of the model
42 outputs, to see how the trends that this model predicts compared
43 to the SEDAR 42 model, again remembering that that model had the
44 concern over the initial equilibrium catch.

45
46 This figure on the left is the total biomass in metric tons of
47 red grouper that the model is predicting exists versus on the
48 right is the spawning stock biomass. As a reminder, it's not

1 the absolute number of eggs, but it's really just a relative
2 number of eggs, in a sense, and so, in this case, the SEDAR 42
3 is going to be in blue, and SEDAR 61 will be in red.

4
5 What we can see on the right-hand side is you can see that the
6 initial SSB estimate, the dashed lines, is just that uncertainty
7 bound, and you can see how high it was in SEDAR 42, and that's
8 come down quite a bit with the current model. Then again, the
9 change to how SSB -- The change in the batch fecundity, that's
10 why there's such a large difference, but, in terms of a relative
11 scale, when you look at it in terms of relative SSB, it makes a
12 fairly small difference between the two models.

13
14 The total biomass, you can see the large difference, and so the
15 SEDAR 42 model expected much more biomass out there to be able
16 to maintain those initial catches and move forward in time, and
17 so the trends are similar. We see a big decline following 2005,
18 and we also see the big decline following 2014, which we are
19 attributing to that red tide in 2014 and 2005, and we certainly
20 see that within some of the datasets, and the model predicts
21 those declines following the red tides.

22
23 Looking in terms of the recruitment, and so on the left is the
24 model-predicted recruitment with the uncertainty bounds, and on
25 the right is SEDAR 42, and so this is in thousands of age-
26 zeroes, and what we see here is there were some fairly large
27 recruitment events in 2005 and 1998 and some moderate events in
28 -- I think this is 1995, 2001, and also 2013, and so, in 2013,
29 we had a fairly large recruitment that we'll kind of revisit
30 when it comes time to discuss the projections, but, overall, the
31 models both predicted these similar recruitment events.

32
33 One thing that I did note before was, when we talk about the
34 recruitment deviations, we did change -- In this case,
35 initially, for SEDAR 42, we were estimating early recruitment
36 deviations. Going back and looking at that model, one of the
37 reasons for all the instability is many of those recruitment
38 deviations had extremely high CVs, and they were very uncertain.
39 On this figure on the right, you can see that the confidence
40 limit is basically zeroes within there, and so, for the SEDAR 61
41 model, we decided to turn off the early recruitment deviations.

42
43 Because many of our data streams start so much more recent
44 compared to other stocks, we really don't have a lot of
45 information to work back and try to inform those events, and
46 being able to -- The modifications we have made really have
47 helped the stability of this current model and given us -- As we
48 mentioned earlier, looking at some of the composition data, the

1 tweaks that we have made to the model, we have far fewer
2 recruitment deviations that have very high CVs compared to what
3 was used for SEDAR 42.

4

5 **MR. GILL:** For SEDAR 61, it looks like the more recent
6 recruitment deviations are much more uncertain than the
7 previous, for example the last five years or so, than the
8 previous six or seven, and why is that?

9

10 **DR. SAGARESE:** That's a good observation, and so, generally, the
11 more recent years, 2017 and 2016 and 2015, we have very little
12 information in this current model to handle that. One thing I
13 should note with SEDAR 42 is there was another, and it could be
14 behind this issue, is there was a change in how the size
15 composition for the groundfish survey was handled in SEDAR 42,
16 and it used the data for summer and fall, whereas it should have
17 only been the summer survey information for the lengths, and so
18 there was a lot more uncertainty, and so maybe, with those
19 changes, because that length composition from the groundfish is
20 really one of the drivers of what the model is seeing with
21 recruitment.

22

23 It could be that that had an influence on this, but you're
24 right. Looking at the more recent -- In SEDAR 42, the terminal
25 year, the last few years, it seems like those recruitment
26 deviations were little known, and this also could be an artifact
27 of how we changed how we were using length-based selectivity and
28 age-based selectivity, as well as trying to get some of those
29 better fits, and it just leads to more uncertain estimates, but,
30 overall, we generally see the more -- We really have very high
31 CVs.

32

33 **MR. GILL:** I don't know if Shannon wants to get in before my
34 next question, and that is you notice the negative recruitments
35 are much more uncertain than the positive recruitments,
36 consistently, and that seems a little weird as well, and do you
37 have any thoughts on that?

38

39 **DR. SAGARESE:** Not at the moment, but that's certainly something
40 to consider. Both models show that.

41

42 **DR. CALAY:** One thing I wanted to point out is also that the
43 recruitment deviations in SS sum to zero, and so, in SEDAR 42,
44 see those very large initial deviations, and the later ones have
45 to be small, or at least they have to balance. They have to sum
46 to zero, and so it's a constraint of SS that confounds some of
47 the interpretation of the recruitment deviations.

48

1 **DR. SAGARESE:** Looking at the stock-recruitment relationship, on
2 the left is what comes out of SEDAR 61. On the right, it's
3 SEDAR 42. At the review workshop for SEDAR 42, it was
4 recommended to fix steepness at 0.99, and we kind of discussed
5 that earlier, and that was one of the standard practices for how
6 to get around this issue of -- Most of the time, there's not a
7 lot of information to have a very good estimate of the spawning
8 stock-recruitment relationship, which you see here. In this
9 case, we also have a sensitivity, that we'll discuss later on,
10 where we estimate steepness and kind of get at it, but, overall,
11 we followed the recommendation from 42 to just fix steepness at
12 0.99.

13
14 We did do some initial investigations, but, ultimately, we
15 decided to go forward with this recommendation, and we're not --
16 Fixing it at 0.99 does not suggest that there is no
17 relationship. It's just one of the ways to get around and move
18 towards projections for the assessment.

19
20 For the red grouper assessment, the fishing mortality is in
21 terms of an exploitation rate in terms of biomass, and so, the
22 plots you're going to see now, fishing mortality essentially is
23 an output that is quantifying the proportion of biomass that was
24 killed over the total biomass, and so, in this figure on the
25 left, it's the SEDAR 61 time series of the annual fishing
26 mortalities that are estimated. On the right is the SEDAR 42.

27
28 The first thing to note is those big red circles are much
29 higher, because, in these models, red tide was treated as a
30 fishing fleet, and so that total mortality estimate includes the
31 red tide mortality, and so that's why you see these big spikes.

32
33 In terms of more recent trends, you can see, over time, the
34 recruitment -- The fishing mortality in recent years has been
35 fairly low overall, compared to the time series, and, again, we
36 will sort of revisit this issue when we get into the projections
37 and discussing some of the trends that people are interested in,
38 but, overall, essentially, we see some consistency with the
39 model, in terms of the estimates coming out of SS.

40
41 **DR. BARBIERI:** There may be something that I am missing here,
42 and so help me understand. Even though this was handled as a
43 separate fleet, the removals of biomass due to the red tide,
44 previous attempts were to pull that into natural mortality, and
45 that was the way that it was handled here?

46
47 **DR. SAGARESE:** There are other ways to handle the red tide
48 mortality, but, in this model, it was treated as a pseudo

1 fishing fleet, and so, essentially, it's a similar approach,
2 where we're allowing extra mortality, but, rather than having to
3 just have a deviation on natural mortality, we're estimating it
4 as a fishing mortality with the selectivity pattern, assuming
5 that it's constant across ages, because we don't have the
6 information to say otherwise at this point, but it's treated as
7 a fishing mortality.

8
9 In the report, I did remove kind of this peak, to show just the
10 actual trends in F, because it's essentially the fraction of the
11 population that was harvested, and you just exclude the red tide
12 mortality, but, in this case, it is treated as a fishing fleet,
13 and I believe SEDAR 12 included an extra mortality term, and
14 there are other ways that we can do it, and this is one of those
15 topics that, if I were working on it with additional research
16 time, I would simulation test the most appropriate ways to do
17 this, and this is one of those things that we're following
18 forward with what was done with SEDAR 42, but we are just
19 estimating natural mortality in those years where we know that
20 there is a -- Or we suspect that there was a very severe red
21 tide, and then the model is using the information in the indices
22 and the length composition to estimate what that extra mortality
23 was.

24
25 **CHAIRMAN POWERS:** What was the relative red tide mortality
26 compared to M, to natural mortality?

27
28 **DR. SAGARESE:** They're about 0.35, and I think 0.34 for 2005 and
29 about 0.25 for 2014, which, when you look at the proportion of
30 the biomass that was killed, it's, I believe, 29 percent for
31 2005 and about 20 percent for 2014, and so it's knocking out a
32 substantial amount of the biomass, and that's really how it's
33 currently being handled as the extra fishing fleet, and that's
34 why it's in these plots, because these are just the cookie-
35 cutter plots from Stock Synthesis that we are certainly working
36 on improving a customized package that we would have the plots
37 that are really relevant for our area, such as removing those
38 easily in the figures.

39
40 I guess one other thing to note here, and I don't think I
41 mentioned it earlier, is, when SEDAR 42 included the red tide
42 fleet, if you remember, it used an index of fishing effort of
43 zeroes and ones, and so, essentially, there was a one in 2005
44 and zeroes in the remaining years.

45
46 Because during that assessment there was only one, it didn't
47 have an influence, but, for this assessment, we ended up just
48 including extra years, and so, basically, we allowed extra

1 mortality in 2005 and 2014. If we had used that fishing effort
2 driver of one in 2005 and one in 2014, it forced the model to
3 estimate the same magnitude of red tide mortality, which may not
4 be accurate, and so, instead of trying to force that, we just
5 said -- We just essentially told the model that there was extra
6 mortality in 2005 and in 2014, and we used the signals in the
7 data and estimated that, and so that's how we're able to
8 estimate the red tide mortality within those years, and that's
9 really, I think, one of the concerns with 2018, is we don't have
10 all the data sources to be able to get that same sort of
11 understanding of how much of the population do we think died
12 from the red tide, and so just some notes on how it's treated in
13 the model.

14

15 Here, we're showing the same exploitation, in terms of biomass,
16 but, here it's by fleet, and so, on the left, it looks like --
17 You can see the spikes in red tide, and so it's showing that the
18 red tide mortality was estimated in 2005 and 2014. My eyes
19 can't read the axis, but you guys can see it on the screen for
20 each of the fleets, and so, for the most part, we see that the
21 commercial longline is the major source of mortality, and the
22 red tide -- You can see the two spikes, and so, overall, we do
23 see some changes, in terms of the actual magnitude, given the
24 changes to some of the recreational data.

25

26 One thing to note is here is the figures in the report, and they
27 do differ from these figures. This here is showing that
28 exploitation in terms of biomass. The figures that are in the
29 report are showing the apical Fs, and so you see a very high
30 apical fishing mortality for the recreational, just because
31 there is very high vulnerability when they are getting fished,
32 versus this is the more appropriate way to look at, overall, for
33 the proportion of the stock that's being harvested by fleet,
34 this is what we would expect, with commercial longline removing
35 the most individuals compared to the other fleets and the
36 recreational.

37

38 **DR. BARBIERI:** Sorry, Skyler, but this is one of those things
39 that -- Now, I guess, with the calibrated -- With the new MRIP
40 data, actually, the recreational removals seem to be much more
41 comparable, especially relative to what we have had from before.

42

43 If you look at the yellow and the dark-green lines there, they
44 are not equal, but they are, in some situations, fairly similar,
45 and maybe we are not at that part yet to look at the
46 diagnostics, but, in terms of data weighting between the two --
47 Are you going to get to that later?

48

1 **DR. SAGARESE:** I would say hold off, and, when we start looking
2 at some of those -- Let's say to be determined, and I'll make a
3 little note, just in case, but you're right, and so, yes. The
4 one thing I will note with the recreational, and I think I'm
5 getting ahead of myself, but it really -- They harvest a
6 specific snapshot of the age classes, whereas the commercial
7 fleets tend to target others with selectivity, and so, yes, they
8 do remove a lot more red grouper now, but it seems to be those
9 younger age classes, and so, in terms of biomass, it's not huge,
10 but, still, it's a much more significant removal than it was
11 with the previous MRIP data, and so let's keep moving, and I'm
12 sure we will revisit that.
13

14 Looking at the way that the assessment is currently -- As I
15 mentioned, SEDAR 42 used age-based selectivity. It used a
16 random walk, and so, for each age class, it estimated a
17 parameter, and what you're seeing in this figure is the blue
18 lines were basically the estimated selectivity pattern for each
19 of the fleets, commercial vertical line at the top, then
20 commercial longline, commercial trap, and the recreational.
21

22 The first thing to note is there tended to be sort of very spiky
23 patterns, for example the commercial longline especially, and
24 you see that peak at about age-four. One of the concerns, when
25 we revisited some of these model configurations, was switching
26 to a length-based approach to model selectivity, and that was
27 one of the discussions that we did have with Rick Methot when we
28 were seeing feedback and advice on how to make modifications to
29 this model.
30

31 By us being able to switch to the length-based selectivity,
32 because we had all of that discard length composition in the
33 model, it's able to fit that initial increase, and then we're
34 sort of using the age -- We're still fitting to the age
35 composition, in many instances, but, here, trying to compare
36 apples-to-apples, the derived age-based selectivity that the
37 model is using, the red lines, in this case, are what were
38 determined from SEDAR 61 modeling it with length-based
39 selectivity patterns.
40

41 **MR. BLANCHET:** I thought that commercial longline was set to
42 asymptotic.
43

44 **DR. SAGARESE:** In terms of -- Yes, and I should mention here
45 that commercial longline for the fishery was treated as dome-
46 shaped, but the bottom longline, the NMFS bottom longline
47 survey, was considered asymptotic, and it could be that, but,
48 for each of the fisheries, none of them were parameterized as

1 asymptotic for this stock.
2

3 We allow some of that dome-shaped selectivity, and so that's one
4 of the issues that -- The changes we did make to the
5 parameterization really helped us hone-in on the cohort data
6 within the length comp. The age composition, we kind of had
7 better fits to that, and we see lower CVs on a lot of the
8 parameters, but many of the changes that I mentioned earlier in
9 the slide was for the fishery-independent that we did try to --
10 Actually, let me move to the next slide, because that's where
11 we're going with this.

12
13 SEDAR 42 had used the double normal approach, and so basically
14 to allow for an asymptotic or a dome-shaped pattern, and,
15 ultimately, for the combined video and the bottom longline, the
16 trends that were estimated from the 42 model were essentially
17 asymptotic, and so, for this assessment, because of the
18 diagnostics of the SEDAR 42 model, there were a lot of those
19 parameters that were really not well informed.

20
21 We did make the assumption that, if that model is essentially
22 estimating asymptotic, we use the logistic function to estimate
23 that, and there are fewer parameters, and we were able to have a
24 more stable model. The groundfish survey, we also made some
25 modifications, but, overall, the trends were fairly similar
26 across the different assessments.

27
28 We did make quite a few changes to how selectivity was
29 parameterized, just sort of trying to reduce the issue with the
30 SEDAR 42 model at the review, that there was a lot more
31 parameters and a lot of uncertainty, and we took the time this
32 time to -- We were lucky that we had the time to really sort of
33 do some digging and getting some input from Rick Methot on how
34 to move forward with the assessment.

35
36 To kind of synthesize all of the information and how the model
37 is working, what we're showing here is, for the commercial
38 vertical line, basically the terminal year of selectivity --
39 There is a lot going on in this figure, and the X-axis is just
40 over the various length sizes, and the right is just kind of a
41 proportion, and so, for some context, the current size limit is
42 given on the figure as just the dashed-vertical line.

43
44 That red line is essentially how retention is being modeled. We
45 are assuming full retention for larger individuals, and there is
46 some discarding slightly over the size limit. There, you can
47 see the discards is that greyish color on the right-hand side of
48 the size limit.

1
2 Then the bluish curve and the greenish curve are basically what
3 the fishery is selecting in terms of lengths and what is being
4 removed. The solid-yellow line is the discard mortality rate
5 that is being used in the model, and so, basically, we're using
6 length-based selectivity in the assessment, and we're modeling
7 retention, and then the model is estimating how much of the
8 stock is being discarded dead, how much of the stock is being
9 kept, and how much is being retained, and so, overall, you can
10 see here that it's essentially, for the commercial vertical
11 line, we're seeing lots of retention above that size limit, but,
12 again, we're not getting a full asymptotic fishery. There is
13 some dome-shaped behavior to the fishery.
14

15 We sort of see a similar outcome with the commercial longline
16 fishery. It's the same sort of setup. In this case, you will
17 notice the first big difference is we have a much higher discard
18 mortality rate for the longline, about 40 percent for this
19 species, and so, again, the retention in this -- It's kind of
20 covered up, and there's a lot going on in these figures, but,
21 basically, there is some -- There is full retention for the
22 larger sizes, but there is some being discarded above that size
23 limit, and that was a big point of discussion that we had for
24 SEDAR 42, and also during this last assessment, but the way we
25 modeled retention this time around seems to -- There was
26 evidence, in terms of the fits, that we are on the way to --
27 Yes, there is likely some concerns over -- There is always
28 improvements that can be made, but, for the most part, it seemed
29 like the majority of individuals above the size limit were being
30 retained, but I did run sensitivity runs with many of the
31 parameters that we ended up changing, to see what the effect
32 would be, if of any interest.
33

34 Lastly, for the recreational fishery, the first thing to
35 highlight here is that you can note that the red curve, the
36 retention, does not go to full retention, and we know that there
37 are fish being discarded above the size limit for different
38 reasons, for example maybe bag limit caps or other issues, but,
39 for the most part, the recreational fishery tends to target and
40 select for the smaller red grouper, which follows what is within
41 the datasets, and we tend to have a much lower discard mortality
42 rate here. The yellow line is about 10 percent.
43

44 Overall, there are some individuals being discarded above the
45 size limit, and, basically, they are selecting for smaller red
46 grouper than the commercial fleets, which follows what we see in
47 the data.
48

1 **SSC MEMBER:** Can we go back to Slide 54, the stock-recruitment
2 relationship? As far as in 2013, there is a significant change
3 in recruitment there that wasn't picked up in 42 that is showing
4 up in 61, and that has some good implications moving forward,
5 and why did that value change so much?
6

7 **DR. SAGARESE:** 2013 was the terminal year for SEDAR 42, and so,
8 normally, in the terminal year, there is nearly no information
9 informing that last year of recruitment. This time around,
10 since the terminal year is 2017, we have the groundfish survey
11 information in there, and we have a few more years, and so the
12 current model picks up that that was a big recruitment in 2013,
13 because it has more information available, and so, in a couple
14 of years, we might see the same thing with 2017, where this
15 model -- It's non-existent, because there is really no
16 information, because we don't have an age-zero survey, and there
17 is no data informing that, but you are 100 percent right that
18 this is foreshadowing for some of the projection discussions.
19

20 **MR. ADRIANCE:** If we go back to 56, I was just curious, and I
21 don't know if it means anything at all, but there seems to be
22 recreational exploitation spikes the year before a red tide, and
23 is there anything in the model that made that come up, or is
24 that just coincidence?
25

26 **DR. SAGARESE:** That 2004 -- There is a fairly removal in 2004
27 from the recreational fishery, and I believe that corresponds to
28 the recruitment event in 2001. A couple of years into the
29 fishery, they start to pick up that cohort moving through, and
30 it looks like 2013 is similar, and so that could be -- I would
31 have to re-evaluate the data, but it could be that the tail-end
32 of the recruitment -- The recreational fishery that targets the
33 younger individuals, they might be seeing that 2005 recruitment
34 kind of on the downswing, and so, yes, you're definitely right,
35 and the first thing we saw -- We did notice that 2004 spike in
36 recreational exploitation, but it does seem to be based on
37 availability.
38

39 One thing to note is that we didn't have time with this
40 assessment, but, when exploring the recreational data, there
41 certainly seems to be some years that it almost seems like we
42 might want to, in future assessments, consider some sort of
43 time-varying selectivity.
44

45 In some years, you see these huge spikes of like age-fours. In
46 other years, you see a huge spike in age-nine, and I think if I
47 -- You can almost see that, for SEDAR 42, the blue line at the
48 bottom, you see there is almost two peaks at about age-three and

1 age-seven, and that's really different year classes, different
2 cohorts, that were kind of moving through the fishery in
3 different times.

4
5 We did do some exploratory runs looking at time-varying
6 selectivity. In the recreational fishery, it's possible that
7 that might manifest itself, and that might be one of those
8 improvements, in future assessments, that we could look into.
9

10 **MR. ADRIANCE:** In the vertical selectivity, Slide 59, we had the
11 retention is to the left of selectivity after the size limit,
12 and I saw this on one of the webinars, that you guys were going
13 to look into it, and I'm just curious what you guys determined
14 about that.
15

16 **DR. SAGARESE:** I think what we decided was that retention
17 function is really just a scalar, and it doesn't have that big
18 of an issue on the modeling configuration. I don't think -- I
19 think that's kind of where we left off with that. I remember it
20 did come up on the webinar, and I do remember kind of going back
21 and looking at how it's -- We don't think it has a big influence
22 on the outcome of the model, but it's definitely something that
23 we can look into, if it seems to be an issue.
24

25 **MR. ADRIANCE:** It looks like you're fitting the discard size
26 comp fairly well, and I would expect that this would probably
27 lead to an underestimate of discards, but I don't see that in
28 the data, and so it must be all sorting itself out somehow.
29

30 **DR. SAGARESE:** That is certainly something that we can make note
31 of in future -- As we move forward with these kind of models and
32 trying to refine how some of these processes are being modeled,
33 but, yes, we, at this time, did run out of time to kind of tweak
34 different issues, and we spent quite a bit trying to get better
35 fits, and so, for now, I think this is something to put on the
36 list of things to look into for future assessments.
37

38 **MS. BOSARGE:** On Slide 57, and you touched on it, but I just
39 don't think that I absorbed it all, that big difference in
40 selectivity on the commercial longline between SEDAR 42 and 61,
41 can you touch on that again?
42

43 **DR. SAGARESE:** Sure, and so SEDAR 42 -- Essentially, the
44 selectivity was parameterized by different ages, and so each age
45 class would get a parameter, and so, at the end of -- When you
46 run the model, each of those parameters has its own CV, and,
47 when we looked back at each of those age-estimated parameters
48 with the CVs, there were a lot of these parameters that had very

1 high uncertainty.

2

3 What you can see here is it's -- When you're looking at all of
4 the composition over time, there seems to be that peak, and you
5 see it in the recreational as well, where there is almost two
6 peaks, and so it's possible that the model was kind of
7 conflicted between having a huge peak in one cohort at that age-
8 four for commercial, and it really kind of misses where we would
9 expect the peak selectivity, and so I would -- That's why we
10 spent quite a bit of time trying to refine how selectivity was
11 being parameterized.

12

13 The diagnostics for this model, many of these age-specific
14 parameters were really all over the board and led to very
15 different models, in terms of the diagnostics, which we'll see
16 when we get into that section, but, basically, at this point, we
17 would suggest that that model seems to be a bit
18 overparameterized, and it had too many parameters that were very
19 highly uncertain, and so that's why we kind of looked at those
20 trends, and, again, we really, at the time, didn't have that
21 much time to thoroughly evaluate each of those changes that were
22 made and how it affected the model.

23

24 Those ragged patterns, this was also something that Rick Methot
25 had commented, and, when we reviewed this model internally at
26 FWRI, at that workshop, these kinds of patterns are -- You
27 generally don't want to see these very jagged selectivity
28 patterns.

29

30 **SSC MEMBER:** Would you review the recreational discard
31 mortality? Was that about 10 percent?

32

33 **DR. SAGARESE:** I believe it was 10 percent, or maybe 11.9
34 percent, from the FWRI study that was put into place that was
35 recommended from 42, and so that was not updated for this
36 assessment.

37

38 **SSC MEMBER:** Is there new information regarding that? Are you
39 comfortable with that estimate?

40

41 **DR. SAGARESE:** I don't believe there is new information. It
42 wasn't brought up at the time for that data review, and I think
43 there might be some studies ongoing, but, at this point, it's
44 the best information we had available at the time.

45

46 **SSC MEMBER:** I see to recall that it was weighted by the type of
47 study that was done and the type of study that dominated when
48 you had yield at a low discard mortality, which might not be

1 representative of the type of mortality that's being
2 experienced, and it seems really inconsistent with what I see.
3

4 **DR. SAGARESE:** I would have to dig back into the study, and I
5 know this is from Beverly Sauls' work that she's been doing for
6 the FWRI, or FWC, from those studies, but we did not really dig
7 into changing that at this workshop, but it's certainly
8 something, with new information, that could definitely be
9 reconsidered.

10
11 On the note of discard mortality, we generally do run
12 sensitivity runs to see what sort of influence a different
13 discard mortality rate would have on the model, and so that's
14 something that can be done. I did do it for commercial, but I
15 didn't do it for recreational yet, but it's certainly --
16

17 We have reviewed some of the model fits and the outputs, and now
18 to look at the diagnostics. One of the most important things,
19 once the model is developed, is to make sure that the results
20 appear defensible and consistent, and the first thing we'll look
21 at here is called the jitter analysis. Essentially, what we do
22 is we randomly change the starting values within the model by 10
23 percent, and so it randomly jitters each of those starting
24 values, and you run the model. In this case, we ran it 200
25 times on each of those new parameter sets, and you want to see
26 the same model.
27

28 For this model, that's what we saw, a consistent model 200
29 times. All of the parameter values converged at that same
30 estimate. This suggests that we have reached a stable model.
31 The one thing to note here is that, for the SEDAR 42 model, 52
32 percent of those -- At that time, they ran fifty models, and 52
33 percent converged within five negative log likelihood units,
34 which, normally, you would want to see this kind of outcome,
35 where it seems to be a solid model.
36

37 When I talk about instability, what I meant was that SEDAR 42
38 model -- When you slightly change some of the starting
39 parameters, you could potentially land on a different solution,
40 and so that was one of the reasons why we tried to change some
41 of the modifications to how we treated selectivity and
42 retention, to try to get a better, more stable model space, but,
43 of course, with these kinds of changes, we always -- I didn't
44 spend a lot of time in this presentation showing the evolution
45 of the SEDAR 61 model, because I was afraid that we would be
46 here for even more hours, and there's already a ton of content,
47 and so I'm happy to discuss any of those changes more in detail,
48 but it seems like, with this model, we have a pretty stable

1 model to move forward with.

2
3 We also ran a bootstrap analysis, and so, in this case, we
4 randomly sample from the data we have available in the
5 assessment with the uncertainty to account for that, and we re-
6 fit the model, and what I'm showing here are some of the main
7 outputs of the model, and so the top left is looking at the
8 virgin SSB, and the distribution is the red, and so the red bars
9 highlight each of those estimates from each of the bootstrap
10 runs. Here, we did 500.

11
12 The top center is the terminal year, and so 2017 spawning stock
13 biomass, and the top right is the 2017 depletion estimate. The
14 bottom left is virgin recruitment, and the bottom middle is
15 recruitment in 2017, and the bottom right is the harvest rate in
16 2017.

17
18 The way to read these figures is you can see the red is kind of
19 the bootstrapped distribution of what comes out of each of those
20 model runs. The thick-blue line is basically what the SEDAR 61
21 base model was estimating for those parameters, and the dashed
22 lines just kind of highlight the 25th and 75th percentiles, and
23 so, basically, the range of -- What you want to see, in this
24 case, is your blue line is within the range of uncertainty,
25 essentially.

26
27 Most of the estimated outputs from these figures are, except the
28 2017 recruitment, which is not unsurprising, given that we have
29 very little information in the model. The terminal year
30 recruitment is often highly uncertain, and, in past assessments
31 -- This is where the work that Mandy Karnauskas has done with
32 the connectivity modeling, where we kind of provide some sort of
33 insight into that terminal year that could potentially help us
34 try to get a better handle on those recruitment events.

35
36 Here, what we see is kind of what we want to see. Our model is
37 estimating values within the range, and the recruitment, of
38 course, is not unexpected.

39
40 **CHAIRMAN POWERS:** I have a question about nomenclature, and it
41 reminded me about this. The virgin SSB, that's different than
42 spawning output, correct?

43
44 **DR. SAGARESE:** This is basically -- When we show that plot of
45 the initial conditions, there is always that point at the first
46 year, and this is kind of that initial SSB, the virgin SSB,
47 estimate.

48

1 **CHAIRMAN POWERS:** Yes, but the stock-recruitment relationship
2 mentions things like spawning output, and what I'm asking is, is
3 that the same thing?

4
5 **DR. SAGARESE:** This spawning stock output would be by the years,
6 and this would be the initial point estimate, the virgin SSB,
7 yes.

8
9 **CHAIRMAN POWERS:** So it's not really SSB, but it's the spawning
10 output.

11
12 **DR. SAGARESE:** Spawning output, on those figures, is SSB, and so
13 that's another nomenclature of the cookie-cutter SS outputs, is
14 spawning output, and I will make a note of -- We need to
15 customize many of these outputs for our area, and we're working
16 on that. We are, but, yes, the spawning output is SSB.

17
18 Other outputs that are extremely important to look at in this
19 case is we have, on the left-hand side, we're showing the
20 initial fishing mortality estimates for each of the fleets, and
21 so commercial vertical line is the top left, the commercial
22 longline is the bottom left, the commercial trap is top right,
23 and recreational is the bottom right.

24
25 On the right-hand side are the terminal year Fs, and so the
26 first thing to note is the terminal year Fs -- Our solid line,
27 our model estimates, is basically within the range of where we
28 would want. However, looking at those initial Fs, you can see
29 that those blue lines do fall outside of the general
30 bootstrapped area, and so the initial Fs, in this case, do show
31 some variability from the bootstrap analysis.

32
33 One of the potential reasons that we've discussed internally is
34 that, when you conduct these bootstraps, basically, the model is
35 re-sampling. What we're thinking is going on here is when we're
36 re-sampling the age composition information, what's being re-
37 sampled may not necessarily be reflecting the actual reality of
38 the age information we have, and so we're kind of getting a
39 mismatch here.

40
41 I think this is one of the take-homes, for me at least, with
42 this assessment, is, because we start so recently, we're
43 recently missing that historical perspective, and we're putting
44 more of the weight on being able to estimate these initial Fs.
45 If we could potentially work back in time, to where maybe we
46 only had to estimate an initial F for the commercial vertical
47 line, then that's the kind of decisions -- When we start these
48 models later on, we're putting that much more pressure on being

1 able to estimate these initial Fs.

2
3 Again, we don't think this is cause for concern with this model.
4 I think it's just really a reflection of the data that we're
5 regenerating with the bootstrap and what the model is currently
6 fitting. From a more recent perspective, the 2017 estimates are
7 within the ballpark, and so that's at least reassuring.

8
9 Moving on to the retrospective analysis, this analysis,
10 basically we remove one year of data at a time, and what you
11 would want to see is the same model output, and you wouldn't
12 want to see any changes or big deviations, and so on the left is
13 the spawning output, which is going to be our SSB, and so the
14 spawning stock biomass. Again, here is relative number of eggs.

15
16 As we peel each year of data, we see a similar trend, and so
17 there's no cause for concern there. On the right, we are just
18 showing the changes in recruitment, and you can see that, as you
19 peel back the most recent year, in terms of those recruits, as
20 we brought up before, you can see that that 2013, in the blue,
21 and so the blue would be the most recent, you can see, as you
22 peel away more data, that that recruitment event comes lower and
23 lower, and so that kind of brings context, in terms of, as you
24 add more data, the model is better able to capture what's going
25 on, but no cause for concern from this analysis.

26
27 The next analysis that is generally done is where we remove one
28 index at a time, to see how much influence each of those indices
29 has on the model outcome. On the left, again, this is the trend
30 in spawning stock biomass, which we are calling spawning output
31 here.

32
33 On the right is the recruitment, and, essentially, as we remove
34 one index at a time, you can see that, overall, when you look
35 within the confidence intervals, there is very little change in
36 the spawning output, and the recruits as well, and so there's
37 not much of a difference. The model seems to be fairly
38 insensitive to removing one of those indices. When we look
39 through sensitivity runs, we will see sort of another
40 modification, by removing types of indices, as well.

41
42 The next diagnostic that we wanted to look at was looking at the
43 likelihood profiles, and so what we would want to see here is
44 sort of a u-shape with a defined minimum. We ended up doing
45 profiles for -- Here, we're showing the steepness parameter,
46 even though steepness is fixed in the model at 0.99.
47 Traditionally, you want to see whether steepness would be
48 estimable in the current configuration, and so that's the top

1 right.

2
3 The bottom left is the recruitment variability, and so that
4 sigmaR parameter, and on the bottom right is that virgin
5 recruitment estimate, and so age-zeroes. Basically, the tables
6 in each of those panels is showing the model estimate that came
7 out of the base model, and then each of those lines is just
8 showing changes in the negative log likelihood, and so you would
9 want to see a clear defined minimum, and so, for example, that
10 virgin recruitment at the bottom right, we see that huge -- You
11 have u-shaped, where the model is basically converging at the
12 value that's being estimated by the base model, and so it
13 suggests that we have fairly good confidence in that model
14 parameter.

15
16 The sigmaR, the total likelihood, is the darkest blue, or I
17 can't tell if that's black, and I think it's dark blue, very
18 dark blue, but, basically, the model is favoring values above
19 0.8, and then, steepness, we kind of see that there is some sort
20 of minimum between about 0.75 -- It suggests -- It looks like
21 steepness could be estimable, and we did discuss this on some of
22 the webinars and look at potentially trying to estimate
23 steepness, but, ultimately, we did decide to use the
24 recommendation from the SEDAR 42 model, and, when I go into
25 sensitivities, we will revisit this steepness issue and show how
26 the spawner-recruit relationship changed, and so, ultimately,
27 the diagnostics were fairly favorable.

28
29 We also, again, going back to this issue of the importance of
30 initial conditions, we did the likelihood profile for each of
31 the initial Fs for each of the fleets, and, just to sort of
32 summarize here, what we find is that, generally, the minimum
33 that the profile identifies corresponds with the estimate of
34 what the model is estimating, which suggests some support for
35 those model values, giving us an idea that there is some
36 confidence.

37
38 One thing to note too though is you can see the CVs are on the
39 range of about 0.2 for some of these initial Fs, and it's not
40 too high, but there certainly -- Again, trying to, potentially
41 in the future, trying to move this model back in time, because I
42 do know there are landings available, and I think that would
43 potentially help us get around some of these issues of having to
44 really hone-in on the initial Fs, although I think, for this
45 model, that we have shown a considerable amount of evidence to
46 suggest that it is supported by the diagnostics, and it is --
47 Hopefully it's best available science at this point.

48

1 Just to highlight, we did a ton of sensitivity runs throughout
2 this process. For this presentation, I have really just kind of
3 highlighted the ones that were requested with terms of
4 reference, but, again, any issues, please let me know, and I am
5 happy to dig through what we've done or do something new.
6

7 The most important, or I guess one of the most pressing,
8 sensitivities that we did was the potential impact of a red tide
9 event, and so the base model has 2005 and 2014. What if that
10 2014 was not a red tide event, and so we ran a model just for
11 2005, and we ran a model, from the terms of reference, that
12 included a red tide in both 2014 and 2015, and also all three
13 years, and so all three years, two years, and one only.
14

15 One thing that I thought was really important was, when we were
16 at the data and assessment workshop, we had a fair bit of
17 discussion about red tides, but, generally, they related to that
18 2014 event, and I don't believe many of the attendees, or
19 stakeholders, really kind of honed-in on a 2015 red tide event,
20 and so it seems like a lot of the information we had really
21 suggested that 2015 was not necessarily a severe event, but we
22 did pursue that, just to satisfy the terms of reference.
23

24 The table here is showing those estimated red tide mortality
25 estimates coming out of the model, and the figure on the left is
26 just showing -- Here, we're looking at the relative trend in the
27 spawning stock biomass and how that would change with each of
28 these different assumptions about how those red tide events
29 occurred, when they occurred.
30

31 On the right, we're showing the change in the exploitation, and
32 so, here, we're estimating additional mortality, and you see
33 that in those more recent trends in F, and so the take-home here
34 is, when the model -- When you tell the model there was a red
35 tide in both 2014 and 2015, there is not a lot of certainty in
36 when it occurred, and there is very high CVs in this table when
37 you include both of those events, because there is just a lot of
38 -- It's not able to capture a signal for each of those events.
39

40 When you tell the model it occurred in 2005 and 2014, it uses
41 the information, the declines in the indices and the composition
42 data, and it sees those, and we see CVs that are a bit more --
43 They're still fairly high, about 0.3 or 0.4, but the take-home
44 here is that including that extra mortality in 2015 -- Overall,
45 it really doesn't change the trend in the spawning output, as
46 shown on the left.
47

48 This came up during the review of the assessment, and one of the

1 comments was, essentially, what happens with these red tides is
2 it's really a tradeoff. In this case, the model is just
3 estimating higher recruits, or lower recruits, to kind of
4 counteract these red tide events, and so there is a tradeoff in
5 how the model is estimating recruitment, because, again, in
6 these recent years, the recruitment is not very well known, and
7 so it's just kind of playing off, and, if we include red tide,
8 it says, well, there must have been a higher recruitment to
9 account for those removals.

10
11 I think, again, this is one of those topics that, with the
12 research track, I think we'll be able to really dig into some of
13 the different questions, and this certainly is an area for
14 additional improvements, but, for now, there seems to be
15 considerable evidence to account for 2005 and 2014 red tide
16 mortality, and we will, very shortly, get into the doubts of
17 2018.

18
19 Another term of reference -- As I mentioned earlier, we were not
20 able to do post-IFQ CPUE indices, and so what we did, to get an
21 idea of how sensitive the model was to those indices, is we did
22 a sensitivity run, first where we removed the commercial CPUE
23 indices, one where we removed the recreational CPUE indices, and
24 one where we removed all of the fishery-dependent CPUE indices,
25 and then one where we removed the fishery-independent indices,
26 just to see what would happen and how the model would behave.

27
28 Essentially, when you remove those different types of indices,
29 there's not a huge difference, in terms of the model. The
30 spawning output, the trends, are fairly similar. The fishing
31 mortality is fairly similar, and so, overall, it suggests that
32 the model seems to be fairly insensitive to the removal of those
33 indices, and this seems to be one of those outcomes that we've
34 seen in other assessments as well, but I think it's important --
35 As we mentioned here, and I think Shannon mentioned the
36 potential use for the observer data, and I think, moving
37 forward, we're very excited to have the opportunity to try to
38 bring these sort of fishery-dependent indices back since the
39 IFQ, and we hope that the observer data is going to be one of
40 the avenues that will hopefully prove fruitful for that.

41
42 I think the last sensitivity to talk about here is steepness.
43 As I mentioned earlier, the base model fixes it at 0.99.
44 Throughout the process though, we did look into estimating
45 steepness, both within a prior and with a prior, based on the
46 Shertzer and Conn work that's been done for reef fish in the
47 southeast.

48

1 Basically, regardless of whether you give the model a prior or
2 steepness is estimated at about 0.73, 0.72, which is fairly
3 consistent with past assessments, but, when it comes down to --
4 You do see sort of a trend here, as you would expect, in the
5 change in the spawning biomass, because you're accounting for
6 more of that relationship, rather than assuming that it's fixed
7 at 0.99.

8

9 However, when you look at, on the right-hand side, and so here
10 is the spawner-recruitment relationship plot again. On the
11 right, it's -- Steepness here is being estimated with a prior,
12 but we still don't see that -- You would want to see the strong
13 curve, and we still don't see a very strong relationship, which,
14 at this point, seems -- It's part of the reason why we stuck
15 with 0.99, but, certainly, if we could potentially go back in
16 time longer and try to get more contrast, it's possible that
17 this sort of information could be revisited, but, with the
18 current assessment and time constraints, we really just are
19 moving forward with the base model with steepness fixed.

20

21 This did come up on one of the webinars, that it seems that
22 steepness could be estimable, but it just seems like there is
23 just not enough strong support for us to do that in the model.
24 In addition, we would have to do additional work, such as what
25 kind of relationship, and is it a Beverton-Holt, or is it a
26 Ricker function, and it seems like there is additional questions
27 that would have to be addressed. Any questions on
28 sensitivities?

29

30 **CHAIRMAN POWERS:** This is why I asked the question about the
31 spawning output business. If you went ahead and looked at some
32 of the tables later on, the virgin SSB is about 2.5, and so it's
33 way to the right of these things, but take, for example, if you
34 had, on these tables, a spawning output of five times ten to the
35 fifth, that would be relative to 2.5 is 20 percent, and so
36 that's a -- If you drew a diagonal between the origin to
37 crossing the horizontal line at five, that would be equivalent
38 to an SPR of 20 percent, and so that's another way to think of
39 this, is that, if you drew diagonals related to certain SPRs,
40 that puts it in the context of the way we think for other
41 species, in terms of what the appropriate targets are.

42

43 **SSC MEMBER:** Skyler, I assume the equilibrium catch had a pretty
44 large impact, and it sounds like there's been a lot of internal
45 discussions about how to specify that. Would that be subject
46 some sensitivity of interest? I didn't see that, but I know
47 that, when we have run these, depending on the level, it really
48 has a -- Anyway, I will just leave that comment out there.

1
2 **DR. SAGARESE:** The best practices seems to be, looking through
3 some of the other assessments, to generally use that average, so
4 that it's -- You're trying to account for some of the
5 variability there, but it seems like using the first five years
6 -- I did do other runs with like the first three years and such,
7 and so it's an important decision that gets made, but it seems
8 like, currently, the best practices is to use the average,
9 rather than knowing -- Especially with the data we have, so we
10 know that there is some uncertainty within those years, and so
11 that's how we moved forward with that, but you're 100 percent
12 right that that specification in the previous model drove the
13 whole outcome.

14
15 **SSC MEMBER:** Especially, I guess, in this sort of a late start
16 relative to some of the other fish stocks, where there are at
17 least some data that go back tens, many tens, of years, and
18 what's the start date? 1993, is it?

19
20 **DR. SAGARESE:** The current model is 1986. The 42 model was
21 1993, but, in past red grouper assessments, there is landings
22 back to 1880, and there is also other issues, such as the Cuban
23 removals, but it seems like -- I believe, in our snapper
24 assessments, we go back, and then we sort of do a burn-in
25 period, and so it seems like, to me, this is one of those topics
26 where it seems like, the further back we can go and have that
27 contrast in the data, it would be ideal, and so that's perfect
28 for say a research track, and we can account for the
29 uncertainty, and so we don't have to say that we're
30 uncomfortable using these earlier landings. We can account and
31 provide extra uncertainty to emphasize that, but, for this
32 purpose, we did not do the -- We did not present any additional
33 assumptions of how that initial catch would be calculated.

34
35 **SSC MEMBER:** On that Slide 71, where you had the red tide and
36 you talked about how the model can compensate for estimates in
37 2014, I am wondering -- Did you look at like the Z matrices for
38 these scenarios, to see if total mortality actually changed,
39 because that might confirm that, even though you're estimating a
40 mortality term in 2014, that it's either increasing recruitment
41 or pulling back F on another fleet, and so you're still,
42 essentially, not adding any more mortality to the model, and
43 that might be one way to kind of look at that.

44
45 The other thing is that, like in the time series, in the
46 fisheries-independent surveys, there's a really strong signal in
47 2005, and so the model seems to lock in on a red tide mortality
48 estimate for that year, but, if you look at all of those indices

1 of abundance for 2014, some are kind of ticking up and down, and
2 so I think that these estimates of red tide mortality in 2014
3 should be considered in light of the information that's going
4 into the model on that.

5
6 It's true that -- We showed those maps where there might be
7 localized impacts, but, when you look at it over the stock-wide,
8 you don't see a really strong signal, and so the model seems to
9 be a little bit confused about which way to go with those years,
10 and would you agree?

11
12 **DR. SAGARESE:** On the Z matrix, that's something that I didn't
13 look into, but I can definitely put that on my radar, and I
14 think that's a great idea, to go through and see -- Because I
15 did focus on the recruitment issue, and I focused on looking at
16 what parameters changed, and, for the most part, it was those
17 rec devs, but, yes, I would agree that, when you look at the
18 indices, there is a consistent decline, and I think this is
19 where the importance of those commercial indices comes in,
20 because, in that 2005, we had the commercial indices to show
21 that big decline, and that was where we saw the improvements.

22
23 This time around, the fishery-independent indices don't seem to
24 have that same trend, and I was especially very surprised at the
25 bottom longline survey. You didn't see a huge drop in 2014, and
26 you see that drop a year -- I think it drops from 2013, but
27 there was a paper by Driggers that sort of highlighted localized
28 depletion from that 2014 red tide event. They saw very reduced
29 catch rates in the Big Bend area, but, overall, the longline
30 survey does not see that sharp decline, and you're right about
31 that, that it's not as strong as the declines in 2005, which is
32 certainly something to consider, but -- Yes, it's certainly
33 something to look at the different indices, but I do think that
34 having those commercial indices as well would have been very
35 helpful, because the fishermen are out there, and they're
36 catching them.

37
38 One thing to note here, and we'll get into it in the next
39 section, is we have -- Following the issues of the red tide, we
40 have had a lot of recent developments, in terms of stakeholder
41 outreach and oral histories, to hear what they have to say, and
42 even at the workshop.

43
44 It seems like the statistical -- The satellite information that
45 we presented at the workshop doesn't show that 2014 was that big
46 of an event, but, when you look at some of this anecdotal
47 information, in combination with some of the research questions
48 we have about sampling water at depth, which, luckily, there's

1 been a lot of resources now that is going to more monitoring
2 with fishermen.

3
4 There's a fishing alliance that Casey Streeter has been leading
5 up that they're going to be sampling the waters, and there is
6 also some other areas, like the hypoxia issue is -- How these
7 are all interplaying in the mortality in that 2014 event and the
8 2018 event I think is very important to keep in mind, but,
9 unfortunately, we have uncovered, or overturned, every rock we
10 can with the red tide for this assessment, and we have some
11 different data sources to look into, but we don't have a clear -
12 - The model suggests that there was a red tide in 2014, but, as
13 you said, it's sort of a tradeoff with recruitment, and, since
14 we don't have a recruitment index, it's hard to be 100 percent,
15 but that's basically what the model is suggesting, that 2014 --
16 It does see a decline in 2014, and we certainly have seen a
17 decline in the landings in the last few years, to near record
18 lows in landings.
19

20 **DR. BARBIERI:** Again, I don't know if I am getting ahead of
21 myself, and I am trying to go back to data weighting. Just for
22 starters, if we go to Slide 69, and these are initial F values,
23 and so this is like initializing the model in 1986 and having to
24 come up with those initial -- You said that those estimates were
25 based on -- It's a little more data informed.

26
27 When I look at this, and it's just my conceptual expectation of
28 what the red grouper fishery is like, in terms of total removals
29 and the importance of different fleets, but these results kind
30 of surprise me a bit, that the value of fishing mortality --
31 Now, you qualified that with different amounts of biomass
32 perhaps being removed by different fleets, and that's different,
33 but that should be picked up by an apical F-type of approach.
34

35 Here, I mean, if I sum the three commercial fleets, they are
36 around the same value of the recreational fleet, and, knowing
37 this fishery, that surprised me, and so one is how realistic do
38 you think, considering the history of landings for this fishery
39 in general, these estimates are, and, two, how could this have
40 rearranged -- I mean, something in the model is now bringing
41 recreational fisheries landings to have a more significant,
42 proportionally more significant, role in the total removals and
43 the exploitation of this stock than we have ever experienced
44 before. That data weighting has to impact, and I know you did
45 some iterative reweighting and all, but I would like to see how,
46 within the objective function, this turned out to be.
47

48 **DR. SAGARESE:** Going back to the data weighting, for the

1 landings time series, the way we're handling the weighting is
2 the CV of recreational is 30 percent, much higher, and
3 commercial is 15 percent, and so we're kind of telling the model
4 that we're not very certain in those recreational landings, and,
5 the discard information, I believe we've got a CV of about 29
6 percent, and that was just left over from SEDAR 49.

7
8 I think this is where the importance of the annual estimates
9 would really help, where we could actually weight, and so, for
10 example, that spike in 1989, that's something that, at the data
11 workshop, we could say here's an issue, and here's how we're
12 going to move past it, without having to spend too much time on
13 trying to get through it, and I think there might be -- It might
14 be beneficial to have some sort of best practices, given the new
15 changes with some of the recreational data and the new modeling
16 capabilities, to address some of those issues, because, in
17 almost all of the assessments, there's a spike somewhere, one
18 way or another, but, to answer your question, the initial Fs,
19 the recreational fishery appears to be much higher.

20
21 This is one thing that, when I was looking back at some of the
22 historical information, when you look back at the historical
23 recreational landings that have been created, there are just --
24 When you go back in time, they are so high, and there is so much
25 potential for removal, that I think that whole concept of
26 historical removals now has to be reevaluated, because, when I
27 look at, for example -- I don't remember the working paper for
28 SEDAR 42, but it's possible that the recreational really have
29 removed a considerable amount of biomass, and it's just that, as
30 our data procedures catch up, maybe there is a need to shift the
31 paradigm, but, from this assessment, in 1986, we're basically
32 estimating the removals.

33
34 When you look at those apical Fs that are in the report, the
35 recreational is much, much, much higher, compared to -- Because
36 of that high vulnerability of only a specific age class, and
37 they're really -- It's just pulsed through the fishery, but, you
38 know, what you're speaking about here, this certainly suggests
39 that, in the mid-1980s, the recreational fishery was the primary
40 component of removals.

41
42 When we look at those figures of the exploitation rate, when you
43 take into account just the pure biomass, proportion of biomass,
44 that's being removed, we still see that, overall -- You can see
45 that there is that spike, it looks like in 1987, the yellow
46 spike in the first year, and, potentially, if we're using the
47 average of those first five years, recreational is high, whereas
48 the commercials are a bit more consistent, and so I think this

1 is something to keep in mind, moving forward, but, given the
2 updated MRIP data -- What my impression was is I believe we --
3 Especially given the importance of the private removals for red
4 grouper, that it is the primary mode, it's possible that the
5 data have re-shifted, and we're seeing that in the model.
6

7 **CHAIRMAN POWERS:** Dr. Simmons.
8

9 **EXECUTIVE DIRECTOR SIMMONS:** Thank you, Mr. Chair. My question
10 was along the same lines as I guess Luiz was getting at and with
11 the sensitivity runs on trying to get at the changes with MRIP
12 and the FES compared to MRFSS, and I think it's Slide 72, when
13 you say you removed the recreational index, and that's the 61
14 index, which is the MRIP FES index that's combining all of the
15 private and charter and headboat landings, correct?
16

17 **DR. SAGARESE:** That is removing the headboat CPUE index and the
18 MRIP charter/private survey index of abundance, and so that's
19 just talking to the indices of abundance, but the first
20 sensitivity run that we did, and I think I touched on it with
21 the continuity run, is we ran the SEDAR 42 model, and we
22 basically filled in the new MRIP landings and discards, and,
23 when we see that sort of gap in the continuity, it's largely due
24 to the change, and so we just sort of see an uptick in the trend
25 in spawning biomass from the new recreational data, and so we
26 don't have a before and after of this model with and without the
27 changes of that, but we can -- If that's of interest, we can
28 certainly go through the results of using the old model, but
29 then just using the new recreational information.
30

31 **EXECUTIVE DIRECTOR SIMMONS:** Thank you. I just had one more
32 question on the selectivity. Why was the 2017 year used? Was
33 that because that's the terminal year?
34

35 **DR. SAGARESE:** Yes, and so that's just informing how the current
36 selectivity is, and that's the information that's used within
37 the projections, and so we're assuming that those trends will
38 continue.
39

40 **EXECUTIVE DIRECTOR SIMMONS:** If we're using a geometric mean for
41 fishing mortality for the outputs, would it be more appropriate
42 to use multiple years in those selectivities for fishing
43 mortality?
44

45 **DR. SAGARESE:** I should note here that those selectivity
46 patterns are consistent. We're not modeling time-varying
47 selectivity, and so that pattern, while it is for 2017, that
48 also carries through for the whole time series, but, if we did

1 annual selectivity patterns, which we could potentially look
2 into, that sort of information could be brought in in the
3 future, especially the recreational fishery. If we see these
4 cohorts moving, better capturing those changes with the
5 selectivity could be a research recommendation.
6

7 **EXECUTIVE DIRECTOR SIMMONS:** Thank you, and just want to say
8 that I was very happy to see that you guys included the fishery-
9 independent index of the video survey, the Panama City Lab and
10 the Pascagoula Lab. I don't think that was used in the red
11 snapper assessment, and I was happy to see that that is one
12 index that has been incorporated.
13

14 **MS. BOSARGE:** Just a quick question. When you talked about the
15 red tide events, you talked about the utility of the anecdotal
16 data from the fishermen, and I was wondering -- During this
17 assessment, were you all provided with that anecdotal data from
18 the tool that the council created, where we send out that
19 questionnaire to the fishermen to garner that information and
20 compile it for you?
21

22 **DR. SAGARESE:** Yes, and that's coming up in the next section.
23

24 **MS. BOSARGE:** Okay.
25

26 **DR. SAGARESE:** Yes, you're foreshadowing, and I will definitely
27 be touching on that, but, just to follow-up on Carrie's comment,
28 with red grouper, we had the support to use the combined video
29 because they were selecting, or catching, encountering, similar
30 sizes of red grouper, and I know that there's been a lot of
31 work, and I know it has come up in some of the other
32 assessments, but it seems like the combination of that combined
33 video survey really will be a species-for-species basis.
34

35 For red grouper, I was very excited and very grateful for all of
36 the work that Kevin Thompson and Chris Gardner and Matt Campbell
37 -- That everybody put into for that index. I think red grouper
38 is -- Actually, we'll be presenting at the upcoming GoMOSES
39 workshop on the importance of some of the NFWF-funded work
40 that's been done, but stay tuned, and I will be touching on the
41 different sources of the anecdotal information.
42

43 **CHAIRMAN POWERS:** Seeing how lunch is here, would this be a good
44 point to stop? How much longer will the presentation be? We
45 will break for lunch, and it will be forty-five minutes, and so
46 we're coming back at 12:30 then.
47

48 (Whereupon, the meeting recessed for lunch on September 17,

1 2019.)
2
3
4

5 September 17, 2019
6

7 TUESDAY AFTERNOON SESSION
8

10
11 The Standing & Special Reef Fish, Mackerel, and Socioeconomic
12 Scientific and Statistical Committees of the Gulf of Mexico
13 Fishery Management Council reconvened at the Gulf Council Office
14 on Tuesday afternoon, September 17, 2019, and was called to
15 order by Chairman Joe Powers.
16

17 **CHAIRMAN POWERS:** We will proceed on with Skyler and her last
18 twenty-four slides.
19

20 **DR. SAGARESE:** Believe it or not -- I mean, I started this with
21 140, and so I have trimmed this down so much. I am trying to
22 provide enough content, but I know that there's been an enormous
23 amount of issues and new data available.
24

25 We are just going to hear -- We're going to go through the stock
26 status that comes out of the assessment and then focus the rest
27 of the discussion on the projections, including the influence of
28 the 2018 red tide. To give you an idea about this table, we're
29 showing, essentially, the model outputs for SEDAR 61 on the
30 right-most column and SEDAR 42, just for comparison's sake, and
31 so the important take-homes here are, following SEDAR 42, we're
32 using the SPR 30 percent as the proxy, and that was what was
33 recommended from the SEDAR 42 review workshop.
34

35 We're using the same approach, and so we're using a proxy. MSY
36 is not estimable, and we're basing our management advice on
37 that, and so, the top table, we're just kind of going through
38 the different estimates of fishing mortality that come out of --
39 The F current is based on the last three years, and,
40 essentially, looking at the current configuration, the current
41 assumptions, F 30 percent SPR, the stock is not -- Overfishing
42 is currently not occurring for red grouper in 2017.
43

44 In terms of the biomass criteria, I am providing the old
45 approach that was used as well as the new MSST definition that
46 was defined from the Amendment 44, kind of following what the
47 SEDAR 52 for red snapper did, show the continuity and then the
48 new estimates.

1
2 The first thing to note in this table is, based on the old
3 criteria, and so where minimum stock size threshold was defined
4 as one minus M times the spawning stock biomass proxy at 30
5 percent. By that definition, the current -- In 2017, the red
6 grouper stock would be considered overfished, but, given the new
7 change from Amendment 44 of using 50 percent of the SSB at 30
8 percent SPR, the stock is not overfished.
9

10 Just to kind of show that visually, on the left-hand side is the
11 plot from the new MSST definition, and, basically, you want to
12 be on the green. On the right is that old MSST definition, and
13 so, in the old figure, you can see, in the bottom left, you can
14 see that, in 2019, by the old definition of MSST, the stock, in
15 2017, would be considered overfished.
16

17 On the left, you note that, given the change that essentially
18 that target now is -- Really, we're the SSB at the MSY proxy,
19 and we really want to be at that two, and so we want to be
20 basically above that target, and, currently, we're sort of in
21 between the estimate of the minimum stock size threshold that's
22 currently in place and the target, and so we're below the
23 target, but we're above the critical line, given the new
24 definitions.
25

26 One thing to note with the new definition is the stock has not
27 been overfished, by the new definition of MSST, and so it's
28 important to note that -- So above on the right column, where
29 it's yellow, and so, in the early 1990s, the stock was
30 undergoing overfishing, where that ratio was above one, and so
31 we see, earlier in the time period, that overfishing was
32 occurring, but, given the new definition, the red grouper stock
33 has not been overfished throughout the time series from this
34 assessment of 1986 to 2017.
35

36 Now, again, and I'm going to probably say this a lot, but all of
37 these results -- The terminal year was 2017, before that 2018
38 red tide really started to affect the population, and so,
39 basically, this is a snapshot, and the model is giving the
40 status before that 2018 red tide event occurred, and so, by
41 these definitions, by current definitions, the stock is not
42 undergoing overfishing, and the stock is currently not
43 overfished.
44

45 That is really where the model leaves us with stock status, but,
46 then again, the last topic we need to discuss, probably the
47 elephant in the room, is the projections. The way that we've
48 run the projections -- This is a unique situation, where

1 potentially a very catastrophic red tide mortality occurs in the
2 first year of projections.

3
4 First, I want to review basically the projection settings, the
5 settings that we used, the assumptions that we made, and then
6 kind of go through the projections without consideration of a
7 2018 red tide, and then scenarios that I considered were, well,
8 what if the 2018 red tide event did affect red grouper.
9

10 Following some of the discussions earlier, we're using the
11 recent recruitment, and so we're using mean recruitment from the
12 last seven years as our estimate that is feeding into the
13 projections, and so it's the mean recruitment from recent years,
14 and that's something we can now do with SS, is we have the
15 flexibility to define that.
16

17 The selectivity, the retention, the discard mortality from the
18 most recent time block, we're using that to project forward, and
19 so selectivity, as I mentioned earlier, it's not time varying,
20 but we do have time-varying retention in there, where we've got
21 two blocks of retention that match the different size limits,
22 and so there's a period from 2009 on, because it was implemented
23 in 2009, through time, and so we've got two blocks for
24 retention, and we've got selectivity over the timeframe and then
25 the discard mortality.
26

27 We are currently -- All of the results you see here and in the
28 report are based on the allocation of 76 percent commercial to
29 24 percent recreational. The landings from 2018, for both
30 commercial and recreational, are the final estimates that were
31 provided to us from the Science Center, and the 2019 -- When
32 these results were being developed, we were assuming that the
33 fishery would be able to remove when that 2019 ACL came into
34 place with the emergency rule, and we assume that that four-
35 million pounds would be removed from the stock.
36

37 This is something that we can discuss later on, because,
38 currently, the fishery is only about, I think, 46 percent of the
39 commercial quota and 28 percent of the recreational quota after
40 Wave 2, and so we assumed that, in 2019, we would be getting
41 about four-million pounds in the current projections that you're
42 going to see, but this is something that I have prepared on the
43 off chance that you want to assume maybe the 2018 landings are
44 the same as 2019, if that's more realistic, but, again, we can
45 look through this.
46

47 Now we're going to sort of look into the projections. No red
48 tide in 2018 is being considered, and so we're going to get into

1 this issue of this spike that we tend to see, and so, on this
2 figure on the left, we're looking at the projected retained
3 yield, and so the landings that are projected over time.
4

5 On the right is looking at the stock depletion, and so the ratio
6 of the SSB in each of those years to the unfished SSB, and so,
7 basically, we've got four scenarios that were requested from the
8 terms of reference, and so the red line is that F of 30 percent
9 SPR, and so, in equilibrium, we want to achieve 30 percent of
10 our SPR.

11
12 The green line is then the optimum yield, fishing at 75 percent
13 of that, and the thick-black line that sort of peters out,
14 that's based on the 2017 landings, and so, if we maintain 2017
15 landings through time, across the years, that's what that is,
16 and then the blue line is F at zero, if we just drop fishing all
17 the way.

18
19 The first thing to note here is, as we discussed earlier this
20 morning, these projections are based on assumptions, and we have
21 assumed that, in 2018 and 2019, the removals were fixed at those
22 rates we discussed, the final estimates for 2018 and 2019,
23 assuming that the advice that was in place for 2019 would be
24 removed, which, recreational, I think, is given a million pounds
25 and commercial is 3.16 million pounds, and so we assumed that
26 the fisheries would be removing that.

27
28 What we see here, and so the thing that we've noted here is this
29 -- If you use the current control rule and you use the F 30
30 percent projection, you see this big increase in removals, and,
31 basically, it says you could bump the removals up in 2020 to
32 about eight million pounds, and so this is the concern that
33 we're hearing, is everyone -- We've got a lot of information
34 coming in that the fishery is not catching these fish and why
35 would we raise the projections here, and, in terms of the
36 depletion, with these scenarios, you can see, in that right-most
37 figure, that, basically, in 2020, we're just above our target,
38 and so, in that depletion plot, the target is the gray line, the
39 minimum stock size threshold is that red line, and so that's --
40 Essentially, we want to be above that target, and so the current
41 model, with no 2018 red tide considered, basically says we're
42 just above our target in 2020, and so what is the model seeing?

43
44 To try to go through this spike, and, again, this is really
45 specific for red grouper, but we've tried to look into this
46 spike, and so, yes, it makes sense -- You wouldn't expect, if
47 the fishery is in such bad shape -- Why is the model saying that
48 you could catch more?

1
2 If we look at -- This figure is a comparison of -- Here, these
3 are the apical fishing mortality rates for each fleet,
4 commercial vertical line on the top and commercial longline in
5 the middle and recreational on the bottom. The solid-red line
6 is just showing you the average apical F over the whole time
7 series. The green line is the last three years, and the blue is
8 basically the last seven years, and so, basically, the whole
9 historic time period, the model is estimating those fishing
10 mortality rates.

11
12 In 2019 and 2020, we fixed the removals, the landings, in the
13 model. You can see, in this figure, and it's towards the right
14 in each of those areas, you can see these very low apical F
15 values that are going into the model, and so the model is seeing
16 that there's not a lot of red grouper being removed in 2018 and
17 2019, and then in 2020, which is the first year of the
18 projections, and so, when we're projecting the yield, the model
19 is saying that we can bump up our apical Fs back to the levels
20 that were similar to 2017, and that is one of the reasons why
21 we're seeing this big -- The model thinks we can remove more
22 fish than appear to be being caught, given the data.

23
24 Now, why does the model think this? Again, this is without
25 looking at the red tide in 2018 yet, and so what the model is
26 seeing -- In this plot, it's starting in 2018 and 2019 and then
27 moving down into the last -- The bottom panel is basically
28 showing you the biomass at age that we're forecasting, and
29 that's at equilibrium. That's what the population looks like
30 when we achieve that 30 percent SPR.

31
32 Each of those years, those different colors, correspond to
33 different cohorts, and so, in 2018, 2019, and 2020, and so we're
34 focused on that spike in 2020, what the model sees is it's
35 seeing this very large cohort at age-seven, which is an age
36 vulnerable to the recreational fleet as well as the commercial
37 fleets, and it's seeing this big amount of biomass in the
38 seventh cohort as well as some of the remaining 2005 cohort in
39 that darker blue towards the end, and so the model sees that
40 there should be all of these fish available to be caught, and
41 that's why -- Between that and the apical Fs, to achieve
42 equilibrium over time, it's saying we can increase our catches
43 to that sort of level. It's saying those catches would be
44 sustainable.

45
46 Here is where I think the issue now becomes what about what
47 happened with the 2018 red tide. If there was an effect that
48 should be accounted for in the model, you would not get such a

1 strong spike, and that's what we see with some of the
2 projections.

3
4 **MR. GILL:** If you go back to Slide 79, I guess it is, and you
5 look at the yield projection, given all of that, there is still
6 the anomaly that says, at least in my mind, if you look at it
7 from a control system point of view, you overshoot, and then you
8 possibly come back to equilibrium.
9

10 From a perspective of managing the fishery and following --
11 Independent of red tide at this point, from what -- The control
12 that we would impose would be you don't want to exceed
13 equilibrium and then undershoot it to get back to it again.
14

15 In essence, what you really would want is an increased slope.
16 If you've got all those fish available, you can ramp up to
17 equilibrium, at least in my mind, equilibrium faster, and, if
18 you don't have the fish available, you ramp up slower, in some
19 fashion, and so, asymptotically, you get to equilibrium, and
20 it's just the rate of how fast you get there, based on how many
21 fish might be available, but the model is saying, no, what you
22 really need to do -- If we followed our normal MO, independent
23 of red tide again, we would tend to follow the red line for OFL,
24 but, in reality, we don't want to follow the red line for OFL,
25 and so that's where I get all hung up on what the model is
26 telling us, in terms of what the fishery ought to be doing, as
27 opposed to what is possible.
28

29 **DR. SAGARESE:** Yes, you're 100 percent correct about the
30 projections are assuming that we can remove that, that that's
31 sustainable, whereas, in reality, we know we're in a different
32 situation.
33

34 I think these are very good points about in terms of moving
35 forward. You know, these projections are based on the
36 assumptions we've made in these analyses in the past, and it's
37 certainly possible, as we move forward with projections, that we
38 could potentially put limitations on how -- If you want a
39 smoother ramp towards the equilibrium, but, currently, the way
40 they're configured, that's exactly what's happening.
41

42 The model is basically saying we can fish down that cohort. As
43 we fish that cohort down, we're going to see the stock get a
44 little more depleted and then eventually even itself out, and so
45 what the model is seeing is it's saying that -- It's assuming
46 that those fish can be caught, and we know that we're not in
47 that reality, for red grouper especially, at this point.
48

1 **MR. GILL:** Again, ignoring the red tide influence, but we've got
2 it, and so, if we had no red tide, and we had this as the output
3 of the model, what would be your recommendation on what we use
4 for a yield stream basis of OFL and ABC recommendations?
5

6 **DR. SAGARESE:** I mean, I would say that -- I would caution,
7 first of all, that this whole process has been made on the
8 assumptions of not having these events during the projection
9 period, and so, given the assessment, this is the kind of
10 information that would be used.
11

12 Given the results of SEDAR 42, I believe the final OFL was used
13 as the average for one of these reasons, saying that, in that
14 model, when the OFL jumped up, there was some cause for having
15 such a large increase, and so the first five years of the
16 projections was used, but I would just caution that I think
17 these projections highlight the cause for concern over just
18 operating status quo.
19

20 I think the model is -- When we look at the red tide, I think
21 the model is missing some key information, in terms of what's
22 going on, with how these dynamics are being projected. We're
23 assuming that there is no issues, but I think, at the end of the
24 day, I'm not convinced that no 2018 red tide mortality should be
25 the status quo.
26

27 I have a feeling, with this assessment, as we move forward and
28 show the scenarios -- If that 2018 red tide event was severe
29 enough to be included, I do not think that the recommendation --
30 I think the recommendation of the OFL would come from one of
31 those other scenarios, because, in this case, the reality shows
32 something that is a mismatch with what this analysis is doing,
33 but, again, this is based on the lack of removals from the red
34 tide.
35

36 **CHAIRMAN POWERS:** Doug.
37

38 **MR. GREGORY:** Is that spike in 2020 enhanced by the lower
39 landings that we're actually experiencing, and the model is
40 saying we have this surplus built up, in addition to the other
41 topic?
42

43 **DR. SAGARESE:** Yes, that is part of it, because those Fs are so
44 low in 2018 and 2019 that the model is saying, well, there must
45 be all this excess biomass that we can then remove in 2020, but
46 it is all those factors in play, and so, again, it is an
47 assumption based on what we're specifying in the projections,
48 and then the outcomes are dependent upon those decisions, but,

1 just for curiosity's sake, I did all the projections, fixing
2 2019 and 2018, and the results are very similar, and so, even if
3 we lower the landings, the projected landings, in 2019, we still
4 see very similar trends in the projections and fairly similar
5 numbers.

6
7 **CHAIRMAN POWERS:** This issue is exacerbated by the sex change,
8 isn't it, as well?

9
10 **DR. SAGARESE:** That could potentially be in place.

11
12 **CHAIRMAN POWERS:** What I'm getting at is, once they reach a
13 certain age, they are not contributing to the SSB, or to
14 spawning output, and, as you showed in the cohorts, once they
15 get to about six or seven, they're really not contributing.

16
17 **DR. SAGARESE:** Looking at the batch fecundity, once they
18 transition to males -- In this stock, and so this is certainly
19 different from gag, where the sex ratio is so female dominated,
20 for red grouper, I believe the male ratio is 28 percent, and so
21 that is one of those issues that is contingent upon how we
22 modeled SSB in this assessment.

23
24 Ultimately, the removals, essentially, we're assuming that both
25 males and females are being landed, because they are such
26 different life history patterns, where they have those
27 aggregations. They are both being vulnerable to fishery, but
28 another thing to bring up is that the -- I know, with some of
29 the data workshop, that the transition really is very variable
30 for red grouper, that there could be males from -- I believe
31 it's age-zero up to age-twenty, and so there's just a lot of
32 variability.

33
34 **SSC MEMBER:** Skyler, where do you think the model is getting the
35 input for this 2013 year class? It doesn't show up in the age
36 comp, and it doesn't show up in the fishery-independent surveys.
37 The only place I see it showing up is in the recruitment index,
38 but that shouldn't be enough for this strong of a 2013 year
39 class.

40
41 **DR. SAGARESE:** The SEAMAP summer groundfish survey is what that
42 2013 is being informed by, and then that cohort, I believe, is
43 moving its way through the fishery, and so I can't remember
44 offhand what the CV was for that 2013, how well it was
45 estimated, but I believe that's coming out of -- One of the
46 benefits, as I mentioned, is we don't have an age-zero survey,
47 but we do have that juvenile index from the SEAMAP summer
48 groundfish.

1
2 **MR. RINDONE:** Wasn't the coverage for 2013 lower than in the
3 surrounding years though?
4

5 **DR. SAGARESE:** I believe, for the summer groundfish survey, it
6 was consistent. I think the fall data wasn't used, for issues
7 with spatial representation, but I could certainly check on
8 that.
9

10 **MR. BLANCHET:** I understand there is a lot of input into this,
11 but one of the things that we had -- I am not familiar with what
12 this side of the Gulf does with SEAMAP, but certainly, in the
13 western Gulf, we have seen, with red snapper, that a lot of the
14 recruitment signal that we see in some of those summer and fall
15 groundfish surveys works out sometimes and it doesn't work out
16 sometimes.
17

18 I would be kind of cautious about putting an awful lot of eggs
19 in that basket without further validation through either
20 something like a video survey or some other fishery-dependent or
21 independent index to validate that.
22

23 **DR. BARBIERI:** Skyler, can you go back to Slide 81? I am trying
24 to reconcile the results that we have here, that is coming out
25 of this assessment, with the reality that we've been facing for
26 the last several years, in terms of low indices of abundance,
27 the fleet not being able to catch its quota, the council
28 requesting the SSC to provide a much-reduced catch level for
29 management, and so I'm trying to understand how the model could
30 be interpreting this much productivity coming out of this, even
31 if we discount the 2018 red tide.
32

33 The model is actually asking for a doubling of the quota that's
34 in place right now, and we are at 4.1 million pounds right now,
35 and so, if I look at this figure, and I say, okay, there was a
36 slug of fish there, the age-fives, but they were available to
37 the fishery in 2017, as four-year-olds, and in 2016, as three-
38 year-olds, and so were they there?
39

40 **DR. SAGARESE:** One of the -- The online tool that is coming up
41 in one of these other slides, some of the responses we are
42 getting back is that lots of fishermen are seeing lots of
43 undersized red grouper, and they're seeing lots of recruits
44 coming in, and so there is some rumors out there that it seems
45 to be that recruitment is doing fairly well, but, again, I
46 really want to caution that all of these figures really are
47 contingent upon how that 2018 red tide affected the stock.
48

1 When you look at these maps, assuming that mortality was
2 removed, these are not as large as they would be, because I
3 think that's part of the issue, is the assessment thinks that,
4 in 2017, things are not great. We are not above our target, and
5 we're basically in between, and then we had, potentially, this
6 2018 red tide event that may have had a very substantial effect
7 on the stock.

8
9 Coming up, I've got other sources of data that we're going to
10 show to try to provide context in regard to 2018, and then I
11 think we can sort of revisit this discussion, where I -- This
12 whole analysis is based on the assumption that nothing changed
13 and all of these fish were available in 2018, these age-fives
14 and then the age-thirteens, and I think -- Moving forward, I
15 think there is a considerable amount of information to look at,
16 to say that we know this is not what the fishery is reporting,
17 and we're not seeing loads of recreational landings of smaller
18 red grouper. We're not seeing commercial removals.

19
20 In fact, we're hearing observations that it's hard enough to
21 catch a red grouper, that even bringing a red grouper onboard,
22 given all the shark predation, and so there's a lot of different
23 factors at play that I think are -- Taking this as a whole, I
24 just think this is a very complex situation, where we have the
25 assessment, and then we have this potentially devastating impact
26 on the stock that drove it down even further, but I still would
27 argue, in 2017, things weren't great, because, yes, the quota --
28 When you look at the change over time, fewer and fewer fish are
29 being landed, considering what was allowed, and so there's
30 certainly lots of cause for recent declines, but I think what
31 the model is showing is that -- It's saying that 2018 and 2019
32 were lower, and so we can see this bump up, because we think
33 there's all these fish out there and that, ultimately, this
34 might not reflect reality.

35
36 This is just what the model is saying based on the set of
37 projection assumptions that we made, and so I think that's what
38 is currently going on in this assessment, but the idea of
39 potentially ramping up and sort of creating some sorts of
40 constraints -- That's certainly something that can be looked at
41 in the future, to try to limit how these things are going to
42 play, because the fishermen don't want all these jumps up and
43 down. They want more of a consistent -- They want to be able to
44 remove a consistent amount of fish and not worry about the
45 situation that is currently going on, where they can't even
46 bring in the quota that they're allocated.

47
48 Now we're kind of talking about some of the anecdotal

1 information, as well as other data that's been developed since
2 this assessment started, to try to get at this 2018 issue.

3
4 The Somethings' Fishy online tool that was put out was really
5 helpful at the data and assessment workshop, because it helped
6 us sort of synthesize -- Emily was really helpful in
7 synthesizing the observations that the fishermen made, and it
8 was an online tool that basically addressed any recent concerns,
9 what have you been seeing in more recent years, and here's just
10 a synthesis, basically, of some of the major outcomes.

11
12 They're seeing lots of increases in small red grouper in certain
13 areas, and the figures here just give you an idea of the makeup
14 of the survey, of the online tool participants, and it was
15 mostly recreational fishermen, private, but, from all of the
16 different statistical areas, but primarily from the central red
17 grouper area off of Tampa.

18
19 Within the online tool, they also had a question about have you
20 ever seen dead red grouper in any of these red tide events and
21 to kind of talk about what years they had seen it, and then the
22 figure at the bottom is just to try to emphasize that there's
23 been a lot of discussion over declines in abundance and not able
24 to catch what they're allocated, but there were some responses
25 from the different grids about we're seeing improvements in some
26 of the -- Higher recruitments, and we're seeing some of the red
27 grouper coming back, but, overall, I would say the take-home is
28 that a lot of these stakeholders basically agreed that the
29 population, in their eyes, did not recover since that 2014 red
30 tide event, and there was just a lot of really good insight from
31 that, and that, I think, helps give some perspective to sort of
32 just solidify that, recently, there's been some issues that this
33 stock has undergone that have had a negative effect.

34
35 Building on that, and so from that 2018 red tide event, the
36 Center put in quite a few resources, and I've been very grateful
37 to be able to be a part of quite a few of the interviews to
38 collect local ecological knowledge, and so we're going around
39 southwest Florida and doing oral histories with many of the
40 long-time fishermen, to just kind of sit down and pick their
41 brains and start from the earliest red tide they can remember,
42 talk about any observations they've had, what fish they saw,
43 what's their perspective over time when they've seen them, when
44 they were bad, and, basically, currently, we've mostly focused
45 on the southwest Florida region.

46
47 This figure is just showing you an idea of the number of
48 interviewees that have reported a red tide, and so, prior to

1 2003, that's more of the historical period. 2004 and 2005 is
2 the second set of bars, and 2013 to 2015 is the third set, and
3 2017 and 2018 is the more recent.

4
5 Now, of course, you may have this recent bias, because 2018 is
6 the most recent event, and it seems the most severe, but,
7 overall, what these interviews have shown is that fishermen from
8 all different areas really talked about the different
9 implications of each of these red tide events, and, since then,
10 we have actually moved up to the Panhandle as well, and so we're
11 trying to grow this body of knowledge to help address some of
12 these issues with red tide.

13
14 What this analysis allowed is sort of a relative -- A semi-
15 quantitative way to compare how 2018 compared to the previous
16 red tides from the eyes of the fishermen, from their
17 observations.

18
19 Just to give you a quick summary, there's a working paper with
20 more details. The figure on the left, basically, we're just
21 looking at the number of responses the fishermen were asked to
22 score. The way we did this is we went through the interviews
23 and we looked for particular words, and so how many times did a
24 fisherman say that an issue was devastating or major, or, in
25 that working paper, there's an exact identification of which
26 words.

27
28 Basically, the take-home is, from that most recent red tide
29 event, almost all of the fishermen said that this 2018 was
30 nearly devastating, very devastating, or a major impact, and you
31 can see, in this figure, we're comparing it to the previous
32 events, and so, overall, each of the years, the proportion of
33 the respondents that said these red tide events were
34 devastating, if you look at these results, suggests that 2018
35 had a very strong impact.

36
37 Now, we're continuing to collect additional samples, but,
38 mostly, there's no -- There was a statistical test run to see if
39 there was any regional bias, and the results suggest that there
40 is no regional bias here and that, as we move up to the
41 Panhandle, that 2014 red tide event in the Big Bend seems to be
42 a bigger issue. However, from the respondents, and from the
43 data we've collected, it just suggests that 2018 seems to have a
44 very strong impact, and many of these fishermen reported these
45 issues and are very, very concerned by the interactions we've
46 had.

47
48 Also, we're able to now try to get some understanding of the

1 species that they've seen in these fish kills when they're out
2 offshore. One of the biggest gaps we still have, that remains,
3 is how these events interact with the offshore environment and
4 how they interact at depth, and so a lot of these fishermen are
5 saying they have steamed through piles of dead grouper, and
6 they're the ones with that knowledge. They're the ones that are
7 out there. It's harder for us, for our surveys, to try to jump
8 out there and collect samples. The samples decompose by the
9 time you get out there.

10
11 The take-home here is many of these fishermen have been
12 reporting groupers in these fish kills, and it seems like 2018
13 is consistently being documented as overwhelming and a major
14 impact, and, in addition, these red tide events -- It's
15 documented in the working paper, but they seem to be getting
16 longer in time, and so they seem to be lasting longer and
17 having, potentially, more widespread impacts.

18
19 **MR. GILL:** Skyler, I am a little bit perplexed by your comment
20 relative to the spatial effects, or lack thereof. The sampling
21 that we're seeing here on this slide are all southwest Florida,
22 which is the area of the 2018 red tide, and so you would expect
23 a strong response relative to that.

24
25 If, and as you're getting to, you went to the northern Gulf and
26 asked that same question, their impact, unless they are fishing
27 down in southwest Florida, would be a whole lot less, because,
28 up in the northern Gulf, the impact was not as strong and
29 severe, and so I would expect that, relative to this slide, that
30 the -- That you would see some spatial difference, in fact
31 considerable, in terms of the impact of the tide, and so could
32 you comment on that thought?

33
34 **DR. SAGARESE:** I do want to note -- Some of these interviews are
35 from this northern region, and so the fishermen that are going
36 out of the Tampa/St. Pete area, and I believe that's Pinellas
37 County. Those sorts of interviews, they're also going into that
38 2014 event, and so some of these fishermen are fishing all
39 around.

40
41 We have -- I don't think they were added into this paper, and I
42 could be wrong, but we have now collected quite a few interviews
43 from the Panama City area, as well as Port St. Joe and some of
44 these other areas. Even in those kinds of regions, these
45 interviews are coming back and saying 2018 was worse than what
46 they have ever seen, even in those sorts of areas, and so there
47 seems to be potentially that recent bias, because everything
48 that just happened seems the most severe, but it seems that

1 there's been this change in what the fishermen throughout the
2 area really are reporting, and I look forward to seeing this
3 analysis continue to grow, so we can incorporate more of that
4 information, but we thought, when we went up to Panama City,
5 that we were going to hear that only 2014 was our biggest red
6 tide, but, even then, they are starting to -- There is
7 observations all across the board of 2018 -- It might not have
8 been as bad as it was off of Fort Myers, but, still, in their
9 perspective, it was much worse than they had ever seen in the
10 bay area region.

11

12 In this analysis, it's really south Florida heavy, but there are
13 some of those observations from the Big Bend region, and I
14 think, the more samples we collect, the more confidence we'll be
15 able to have in these kinds of analyses, but I think this has
16 been an extremely valuable activity. I know I've learned a ton
17 in talking to some of the fishermen out there, and I really look
18 forward to continuing this.

19

20 **SSC MEMBER:** I am going to plead ignorance on this, but since
21 when is that new for me? What really interests me is all the
22 way to the left, with the prior to 2003, because we have nothing
23 in the assessment talking about red tides prior to 2005, and so
24 what years -- Any perspective there?

25

26 **DR. SAGARESE:** That's a great point, and so the reason why, in
27 the assessments -- The real reason why we don't have more
28 historical information is there is information from the FWRI
29 database on some of these events. These were all lumped into
30 prior, because, in many instances, fishermen couldn't remember
31 the exact year.

32

33 They said, normally, one of the trends we see is there was a big
34 red tide in the 1970s, there was a big red tide in the mid-
35 1990s, but this is why we're trying to do this analysis, is to
36 bring all of that information together and to be able to
37 potentially set up this timeline of when these events occurred
38 and to -- Since we can't quantify this with a statistical index
39 all the way back in time, that's what we're hoping this kind of
40 process will help us, is to pinpoint those different red tides,
41 because you're right that we basically are considering the more
42 recent ones, given that we had the index of red tide severity
43 that John Walter developed as well as Dave's work that kind of
44 starts in the early 2000s, given the satellite data when that
45 started, and so we had the quantitative information to
46 incorporate it, but this certainly will help us go back in time,
47 and that's one of the real objectives of this work, was to try
48 to help us, because, yes, if we -- It's more than likely some of

1 these historical events, if we move the model back in time and
2 we had some way of quantifying when to include the red tides,
3 that that could be done.

4

5 **SSC MEMBER:** I just have a hard time reconciling some of these
6 observations and reports by the fishermen with what we know
7 about where the blooms occurred in certain years. For example,
8 take 2004 and 2005, and you have -- It looks like Pinellas
9 County respondents identify 2005 as a big year, but then why not
10 Manatee County?

11

12 We know the red tide was in Tampa Bay, and then, with the
13 comments you mentioned up in the Panhandle, why are the people
14 in the Panhandle saying that the 2018 bloom -- I am wondering --
15 It's tough to survey people, and I definitely don't know how to
16 do it, but I'm wondering if the media coverage and everything
17 that is so intense to these people -- I mean, are they
18 responding based off of their personal impacts of the red tide
19 bloom or just what their -- It looks like there's a lot just
20 swirling, and then, when you try to go out and gather some
21 actual scientific information, it doesn't necessarily
22 corroborate with these responses.

23

24 **MS. BOSARGE:** Well, I think one thing that you have to keep in
25 mind is, where the fisherman is shown on that map, like his home
26 port, where he docks, where he goes in and out of, we're very
27 transient. That doesn't mean that he's fishing right there in
28 his backyard. He covers a lot of ground.

29

30 In the shrimp fleet, I am ported out of Mississippi. Here in a
31 couple of months, we'll be fishing down in the Keys, and so you
32 can't just say, oh, you interviewed him here, and he said it was
33 bad, but it was way up here.

34

35 Reef fish fishermen don't cover as much ground as the shrimp
36 fleet, but even the reef fish fishermen in the northern Gulf,
37 for example, if you leave out of Mississippi, they will cover
38 ground from Florida all the way to Louisiana, and so they still
39 cover a swath when they go out and they fish, and so just keep
40 that in mind.

41

42 **DR. SAGARESE:** While we're doing these interviews, we have these
43 big charts of the area, and so, in addition to getting what
44 their experience has been, we're asking them to draw on the map
45 where they fished and where they saw certain things, and so this
46 is their home port, but, for example, some of the folks we've
47 spoken to in Panama City, they come all the way down to off of
48 Fort Myers to fish, and so some of the guys in Panama City were

1 telling us about this most recent 2018 red tide event, but we're
2 reporting -- While we're doing these interviews, we're reporting
3 in context where they say, and so that's one thing that we
4 continue to do, is clean up those maps and have that information
5 available, but, yes, really a lot of these guys are all over the
6 board.

7
8 We've had fishermen say that your chart doesn't go far enough
9 into the Gulf to really emphasize where they are fishing, and so
10 that's where, with more time to kind of go through some of these
11 inputs, that's where we think this is going to be really helpful
12 to also pinpoint those areas, and then maybe we can go back with
13 the satellite data and say, well, if the fishermen, during this
14 time -- Do we see that in the satellite data, or FWRI cell
15 counts as well, but one thing to note is, after 2018, there's
16 been a lot of effort -- Casey Streeter, as I mentioned earlier,
17 there's a lot of alliances now that are going out there with
18 water -- Ready to collect water samples from at-depth, because
19 that 2018 red tide event, and this is something that Mandy -- We
20 have discussed it internally, but that 2018 red tide event,
21 there was a very large area of hypoxia off of southwest Florida.
22

23 When you look at the cell count data and the satellite data, you
24 don't pick that up, and so what's going on sub-surface and how
25 are all these pieces interacting, and I think that's part of
26 this big puzzle, and it's not just that we have the answer, but
27 it's all of these pieces intermixing and then trying to quantify
28 first the red tides and then how they affect the red grouper,
29 especially in this instance where we didn't have all the data
30 inputs updated to see how the length comps changed, but we -- As
31 you will see shortly, we do have updated indices.
32

33 It's really -- We have tried to kind of provide as much context
34 with 2018, and we've had a lot of discussions at various levels
35 with different stakeholders throughout to try to get a handle,
36 because everyone has the same concern, is we can't even catch
37 our quota and what's going on, and this assessment -- If you
38 look at that initial projection without the context, you can't
39 raise it that high. They can't even get the catch, and so I
40 think there's a lot of pieces here and that this is not just a
41 simple, straightforward assessment and here's your OFL ready to
42 go. This is a complex paradigm we're in, where these red tide
43 events potentially have a very big impact.
44

45 Unfortunately, now, we're kind of trying to scramble to get more
46 data to help us address these red tides, but we're certainly
47 working on that, and there's a lot of improvements going on
48 right now.

1
2 **CHAIRMAN POWERS:** Bob, did you have a comment, quickly?
3
4 **MR. ZALES:** Since you're talking Panhandle, that's me, and, not
5 from the commercial perspective, but from the recreational, I
6 fish within a fifty-mile radius of Panama City, and we have been
7 fishing there since 1965.
8
9 Now, you've had red tide events forever and a day. I mean, they
10 come and they go, and I would urge caution in trying to
11 determine what event is worse than another, especially when
12 you're dealing with like the 2018 thing. The newer they are,
13 the more they're in your head, and, with the 2018 thing
14 especially, when you saw what happened down around Naples and
15 Sanibel and all those places, that was all over the national
16 media, and it was worldwide. Everybody heard about this.
17
18 When we had the hurricane up there, the haul-away trucks that
19 would come take away all the damaged stuff out of there, a lot
20 of them were taking fish out of the Naples area and that stuff,
21 and they were telling us that, and, when you're talking
22 commercial guys, the commercial guys in Panama City will fish
23 way south. Some of them fish off of Louisiana, and some of this
24 could be confused, and so, when it comes to the total impact of
25 the red tide, you need to be very careful of how to determine
26 one year is worse than another.
27
28 When you're driving out there, when you've got live bait on a
29 boat, you drive through a line of red tide, and it kills
30 everything. Okay, you've got red tide there, and it may be
31 there for two days, and it may be there for a week, and you
32 don't know, and so those are the kinds of things that we have
33 experienced down through there.
34
35 **CHAIRMAN POWERS:** Thank you. Are we finished with the twenty-
36 four slides yet?
37
38 **DR. SAGARESE:** Almost.
39
40 **CHAIRMAN POWERS:** Skyler, proceed along, but we do need to kind
41 of speed up here.
42
43 **DR. SAGARESE:** Okay. We discussed earlier that Dave updated the
44 work he's done to incorporate that 2018 red tide event, and I
45 won't -- I will just kind of breeze through, but, basically,
46 some data improvements were recommended at the workshop, and,
47 ultimately, what this updated analysis shows is that 2005 was
48 extremely severe, and that's what we would expect, and this

1 analysis also picks up on that 2014 event, although it's not as
2 severe, and then 2018 -- From this analysis, and, again, this is
3 an analysis based on assumptions that are described in the
4 working paper, basically, we don't see as large of an effect as
5 we would expect for that 2018 red tide, given this information.
6

7 Again, I think there is some other improvements that we're going
8 to be making in the future, and I think this is an analysis
9 that's very promising to continue to work forward, but, again,
10 looking at the age-specific mortality, I think that's very
11 important to keep in mind.
12

13 **MR. GILL:** Skyler, compared to Slide 55, the impact on Dave's
14 work here in 2014 is considerably less than 2005, whereas Slide
15 55 indicated that it's slightly less and not all that large, but
16 up in the same area, and so relativity -- It's painting a
17 different picture, and have you all talked about the causes and
18 that?
19

20 **DR. SAGARESE:** It is certainly painting a different picture, and
21 I think one thing to keep in mind with the assessment is we're
22 feeding all of the different types of data, and we've got the
23 indices and the length composition and the age composition. We
24 have all of this information feeding into the model, and then
25 the model is using a signal in those inputs to estimate
26 mortality.
27

28 The assessment model suggests that 2014 had a fairly large
29 impact, not as large as 2005, but it did have a substantial
30 impact. One thing to -- With Dave, we've had discussions about
31 this, and it is curious, but I would caution against just
32 discrediting what's coming out of the assessment, because I
33 think the assessment -- It's based on all of the different
34 inputs, where one of the assumptions that we currently are
35 making is that it's constant across age classes.
36

37 This is something that Dave's work eventually could help us
38 tweak out, and so maybe all of the age classes are not treated
39 equally for each red tide, and that's certainly something that
40 can be looked at, but I do think -- Following through with the
41 data workshop, this is an extremely promising analysis, but
42 there is still some potential issues that we would want to look
43 into, and so, for example, the biomass maps that we're comparing
44 for red grouper, it's possible there could be some improvements,
45 and so it's possible that the maps that are currently used, as
46 well as relying on the cell count data, that there could be some
47 -- The whole sub-surface and such, and so there's certainly -- I
48 think that's definitely worth noting, but I think this is a work

1 in progress.
2

3 I think we're going to see, as we move forward, trying to couple
4 these sort of ecosystem approaches with the assessment process,
5 I think we just want to keep in mind that all of these analyses
6 are built on a bazillion more assumptions than the actual
7 assessment model, but certainly very promising and something to
8 look at.
9

10 **SSC MEMBER:** I guess this question is for Dave. The 2013 year
11 class was almost as big as the 2005 year class, but yet we're
12 not seeing any red tide mortality on that 2013 year class in
13 this slide. Was there just a spatial disconnect between where
14 the red tide occurred and where the recruits were?
15

16 **DR. CHAGARIS:** In 2014?

17
18 **SSC MEMBER:** Yes.
19

20 **DR. CHAGARIS:** The 2014 bloom was more offshore, and so that's
21 why you see -- In the plot on the right, you see the tick-up for
22 the green and blue lines, and so the 2014 bloom seemed to,
23 according to this analysis, impact the older ages more than the
24 younger ages, although what I think we should be concerned about
25 also is this persistent increase in red tide mortality on the
26 younger age classes, beginning in about 2012 that shows that
27 there is potentially a higher red tide mortality year after year
28 on these younger age classes as those blooms are intense closer
29 to shore.
30

31 This doesn't actually -- This analysis here doesn't include like
32 any population dynamics, and so there's no like year classes
33 moving through analysis. It's treating the biomass maps as
34 static biomass maps.
35

36 **DR. SAGARESE:** Moving into -- Pascagoula was very gracious to
37 update the fishery-independent surveys we have for bottom
38 longline through 2018 and the groundfish survey through 2019.
39 The take-home here is that the most recent years continue the
40 pattern of what we would expect, that abundance is the lowest on
41 record, that, especially in the groundfish, there are two
42 consistently low years, and so, the more information we piece
43 together, it seems like, in 2018, that something had a very
44 strong impact on the stock, and it seems -- Also, the FWRI
45 update their repetitive time-drop survey, and we're very
46 grateful for everyone with their quick response to provide
47 these.
48

1 Again, we see that 2018 is relatively low compared to the other
2 years, and so the fishery-independent information -- There just
3 seems to be sort of a growing body of evidence that the red tide
4 in 2018 might have played a role in this, and so that's why, in
5 the assessment report, rather than just assume it had no effect,
6 we project forward with different scenarios.
7

8 To determine what scenarios we projected, we used basically the
9 history of what the assessment estimated for red tide mortality
10 in four different other levels, and so assuming that red tide
11 mortality -- Maybe the magnitude was half of what 2014 was
12 estimated was, what 2014 was estimated as, what 2005 was
13 estimated as, and what double 2005 was estimated as.
14

15 Ideally, we would have quantitative data to back up these
16 scenarios, but, given that we really tried to bring what we
17 could to the table, with all of the different inputs, there is
18 still some concerns and some areas we want to recommend
19 additional research, but, basically, this gives you the idea of,
20 if the red tide event was severe, how does this play in with the
21 projections.
22

23 With the F 30 percent projection here, we're seeing that red
24 spike, and remember that's the no red tide in 2018, and then, as
25 you would expect, as you increase the red tide mortality for
26 2018, you see that the projections come down, and so, basically,
27 there is fewer red grouper to be caught out there, the model is
28 picking up on that, and there is a drop in biomass, and the
29 model is projecting lower catches.
30

31 In this case, it seems that the OFL essentially is -- The
32 selection of the OFL is hinged on the assumption of that 2018
33 red tide, and, for that reason -- I am just going to kind of go
34 through.
35

36 We have also provided the projections for the optimum yield, and
37 so we see similar behavior, where, the more red tide mortality,
38 the lower the projected catches get, and the more depleted the
39 stock becomes. For the projections, they show, in that worst-
40 case scenario, basically we would drop below MSST if the red
41 tide mortality was even worse than the one we have on record,
42 which was 2005.
43

44 Current landings fixed at 2017, the projection on the left is
45 basically, regardless of what the red tide mortality was,
46 removals are assumed to be taken each year, based on 2017, and
47 you can see that, over time, a similar pattern. The stock
48 becomes -- From no red tide on, it essentially lowers down,

1 because of the removals of the red tides to the stock, and then
2 it slowly goes up, but, really, to sort of provide as much
3 context as we can, because we can't really suggest one scenario
4 over the other, I think there is a lot of evidence to consider
5 as the SSC makes that determination.

6
7 What we tried to do here is provide the decision table, and so
8 the take-home here is we've got our three projection scenarios.
9 The top row is the F 30 percent SPR projection. The middle row
10 is the optimum yield at the 75 percent projection of F 30
11 percent SPR, and the bottom row is if you were to keep landings
12 fixed at 2017 levels.

13
14 Basically, that first row is each of these plots. In the top
15 left, that 50 percent, basically, it would be the OFL under no
16 red tide in 2018, and so that's the OFL that would come out, by
17 definition, a 50 percent probability of overfishing. As you
18 move over to half of a 2014 red tide magnitude, all the way
19 through to the worst-case scenario, if you were to set that OFL
20 from the left-most graph, and if, in reality, there was a red
21 tide in 2018, and the OFL would then be those distributions that
22 are shaded, you would have a much higher probability of
23 overfishing, given that decision.

24
25 In that table, you see we start at 0.5, because that is the
26 general one, but, if that OFL should have been set under any of
27 those other red tide scenarios, you would have a much higher
28 than 80 percent chance of overfishing with the F 30 percent SPR.

29
30 Interestingly, when you do the same analysis -- If we fished at
31 that top-left, if we fished at the OFL that comes out of that
32 red line, even at 30 percent, at the optimum yield, you still
33 see that those probabilities, as the red tide potentially gets
34 larger, could have a very, very high risk of overfishing if that
35 OFL was used, or ABC, in the case of the FOY, but the important
36 here, and the take-home, is that, if you maintain landings at
37 the current level, under almost all of these potential red tide
38 scenarios in 2018, you would see that you would have a very,
39 very low chance of overfishing if that was the decision that
40 went forward, except under the most severe scenario.

41
42 I think that most-severe scenario is just to give you context,
43 and I think that's just to kind of provide the worst case, and
44 so, basically, what this all boils down to, and I appreciate
45 everybody still sitting here, is how we treat that 2018 red tide
46 in the projections is extremely important in what's going to
47 come out of the advice from this assessment.

48

1 We have, hopefully, provided a growing evidence of -- 2018 might
2 not have been as severe, and it may have been very severe, but
3 there is just still a lot of uncertainty, but, ultimately, when
4 you look at the decision table, that provides the potential risk
5 of, if the catch advice is set using that status quo F 30
6 percent, that we would potentially have a very high risk of
7 overfishing if the red tide was severe, whereas, in this case,
8 say the current landings were maintained in this situation, it
9 seems to be that we would have a much, potentially, lower risk,
10 even under the case where there was a red tide.

11

12 Basically, the next few slides just kind of go through the
13 different red tide scenarios and what the OFL and ABC advice
14 would be coming out of those scenarios, but, again, that's
15 really -- The no 2018 red tide does not seem, given the body of
16 evidence -- It seems like the decision here is how severe was
17 that 2014 event, and then, given the concerns over the change in
18 allocation with the recreational MRIP data, we also have
19 prepared projections using the same approach, but using the new
20 MRIP data, and so we have consulted with SERO, and we used the
21 same time period, and we re-estimated the proportion of
22 landings, and that comes out to about 69 percent commercial,
23 versus 76 percent, and 31 percent commercial, compared to 24
24 percent commercial last time, and so it's not as large as you
25 would expect, but just for some context.

26

27 I think, really, the SSC now kind of -- The decision is how does
28 that 2018 red tide get treated, because it seems -- Or what
29 other recommendations could potentially be made? The current
30 catch levels could potentially be a way to go.

31

32 **CHAIRMAN POWERS:** Are you finished?

33

34 **DR. SAGARESE:** I am finished, and I'm ready for another
35 question.

36

37 **CHAIRMAN POWERS:** I mean are we finished with the presentation?

38

39 **DR. SAGARESE:** Yes, and so that's basically the end of the
40 presentation. Thanks to everybody for their help with the
41 inputs, and this was a huge team effort.

42

43 **CHAIRMAN POWERS:** Thank you. Doug, a comment or a question?

44

45 **MR. GREGORY:** I've got questions. The 2017 landings is what the
46 council implemented by emergency action, and they were still
47 higher than the actual 2018 landings, correct? I can't find the
48 data, but I just wanted to confirm that. Thank you.

1
2 **DR. SAGARESE:** Correct. In the projection, we have the 2018
3 landings there, and that's one slide. In 2019, I believe, it
4 may even be lower, and I know we're not quite full with the
5 year, but, as I mentioned earlier, recreational, I think, is
6 only at 28 percent of the quota, and commercial is at 46 percent
7 of the quota, and so recent landings are even lower. I'm not
8 even -- I mean, the data does not support that they will even be
9 able to take the removals that were allowed in 2019.

10
11 **CHAIRMAN POWERS:** Thank you. All right. Now we need to get
12 down to our discussion and what sort of recommendations we
13 should make, and, if you recall the advice from General
14 Counsel's office about how we make these sorts of motions, they
15 mentioned several different criteria. Instead of having some
16 blanket thing about this is the best available data, that we
17 could address certain issues separately.

18
19 The four things that were mentioned were there comments on
20 the criteria that are being used for status, whether it's
21 overfished or overfishing, and then the projections themselves.
22 I am going to proceed in that way, and so my first point of
23 discussion is going to be the criteria themselves, that the 30
24 percent SPR is the target, how we define this target, and the
25 MSST is half of that, half of F 30 percent SPR.

26
27 Is there any comment that people want to make relative to that,
28 that would suggest something different, or just a general
29 comment or that sort of thing? You will note that -- Remember
30 that the MSST being half rather than one minus M, it actually
31 changes your determination about whether things are overfished
32 or not. Let me open the floor for any comment on that, and we
33 can quickly go through that. Bob.

34
35 **MR. GILL:** Thank you, Mr. Chairman. Are you looking for a
36 separate motion for each of the four?

37
38 **CHAIRMAN POWERS:** Yes, unless we don't really have anything to
39 say about it, in which case we could just -- It is what it is.
40 I just wanted to give people the opportunity to comment on each
41 one of them. Is everybody happy with the SPR business, 30
42 percent SPR, and one-half of that for MSST?

43
44 The reason I brought up -- If you remember looking at those
45 stock-recruitment relationships, the reason I brought up, when
46 we started mentioning diagonals, is basically that the lowest
47 observed SPR was more or less about half of the 30 percent SPR,
48 and so the implication there is that the stock got down to that

1 level and it's still recovering, and so, in some sense, that's a
2 support for the choice of MSST as one-half of the 30 percent
3 SPR. No other comments?

4

5 **SSC MEMBER:** One of the things about the SPR is -- I was looking
6 at it more at the MSST, and I was looking at Slide 77, which is
7 the old and the new MSST. What jumped out at me is that,
8 according to this, the 2017 biomass is as low as we have seen
9 it. To me, it's more a concern of how much biomass you've got
10 in the water rather than the Fs.

11

12 **CHAIRMAN POWERS:** Okay. Well, what I was trying to focus on is
13 the criteria itself, the biomass at 30 percent SPR and MSST as
14 one-half of that, and I was saying -- I guess my argument was
15 that, if you look at the time series, the choice of one-half
16 isn't necessarily so bad, because there was -- In the previous
17 times, it had got down close to there and still recovered, and
18 you're making the argument that, yes, but it's gone down there
19 again, and that's kind of what the assessment -- That's not kind
20 of, but that is what the assessment says. By the fact that we
21 have a definition of MSST as one-half now, it's slightly above
22 that, whereas, if we used the old definition, it would be below
23 that. Doug.

24

25 **MR. GREGORY:** If I may be persnickety with what you just said,
26 2017 is not just above the 50 percent MSST. It's really just
27 below the old one minus M. It's at 96 percent, and so it's only
28 4 percent below, and, if that's the lowest in the time series,
29 that doesn't sound too bad, being right around one minus M, but
30 I am just picking on that phraseology, because I know my first
31 reaction to the change in definition of MSST is like a little
32 bit of alarm, and I know other people have a lot of alarm about
33 it, that we're going to do something dangerous, and so I just
34 wanted to point out that that change in definition hasn't
35 changed a whole lot. We're only 4 percent below the old
36 definition, and hopefully that will give somebody some comfort.
37 What we don't know, our big unknown, is what we're facing with
38 the 2018 red tide.

39

40 Even with all of that, if I may just expound a little bit, I
41 agree with what Luiz said earlier. Given all of that, and the
42 fishermen have been saying for years now, three years, that they
43 can't catch the fish and can't find the fish, we don't see that
44 the in stock assessment.

45

46 I am thinking lionfish, but, no matter what is affecting the
47 population, it should show up in the indices, but what we have
48 are very variable indices. If you do confidence intervals, you

1 could almost say there's not much difference outside the
2 confidence limits, but it is perplexing, and god knows what
3 lionfish is doing out there.

4

5 **CHAIRMAN POWERS:** All right. Luiz.

6

7 **DR. BARBIERI:** Skyler, great job, and I think this is a
8 monumental lot of work, and I think that you pulled together
9 everything that -- It's the gold standard, really, in terms of
10 going above and beyond and exploring this, to the extent
11 possible, and so thank you for that.

12

13 I think, for the SSC, in looking at the assessment itself, and
14 so if we kind of break down our BSIA framework and we look at
15 the stock assessment itself and then the stock status
16 determination and then the projections, I think it would be
17 useful to say that we have concerns, in terms of the outcome of
18 the assessment itself, and not that I would know what is wrong.

19

20 I mean, Doug brought up the lionfish, and there is other
21 ecological and ecosystem or whatever, environmental, impacts
22 that could be impacting things, but I think that, as a
23 recommendation from this committee, that, as we go into a
24 benchmark or a research assessment, that now they are called,
25 that we could evaluate more the combined sexes, stock status
26 determination for a sex changer, and perhaps, at that point, we
27 can be more explicitly incorporating some of these other
28 ecosystem components.

29

30 Something here, in terms of what is estimating the productivity
31 of the stock, given everything that we have seen and the history
32 of landings, more recently, to me don't completely add up. I
33 don't know if I have an idea of why at this point, and I think
34 that you have done a phenomenal job, and the assessment team,
35 throughout this process to get out of this all the information
36 content that could be gotten, given the limitations of a
37 standard assessment, but, going into the future, I think that we
38 need to explore this model and development of new models that
39 are more inclusive to try and account for some of these things
40 that seem not to be properly accounted for here.

41

42 **CHAIRMAN POWERS:** Doug.

43

44 **MR. GREGORY:** Luiz is right. For an update assessment, this is
45 phenomenal. The amount of work you have put into this -- I am
46 glad the Center let you do all the work that you put into this.
47 I mean, we've gotten more information than ever before in an
48 assessment, I think, particularly an update assessment.

1
2 **CHAIRMAN POWERS:** Thank you. I am not hearing any wish to make
3 comment or deviate from the particular criteria we have, and so
4 let me pass that discussion point. The next thing is the
5 determination of overfishing or not. Is there any suggestion
6 for a motion in regard to that? Doug.
7

8 **MR. GREGORY:** I will move that the assessment supports the
9 conclusion that overfishing is not occurring. F current to MFMT
10 is 0.78, 78 percent.
11

12 **CHAIRMAN POWERS:** Can you fill in for how you want to say that?
13

14 **MR. GREGORY:** The assessment concludes that overfishing is not
15 occurring.
16

17 **CHAIRMAN POWERS:** And the SSC agrees with that or something?
18

19 **MR. GREGORY:** Sure. The SSC agrees that the assessment
20 concludes that overfishing is not occurring.
21

22 **CHAIRMAN POWERS:** Agrees with the assessment conclusion that --
23 All right. Is there a second?
24

25 **MR. GILL:** Second.
26

27 **CHAIRMAN POWERS:** There is a second. Is there any other
28 discussion? If not, are there any objections to this motion?
29 None here. Are there any objections on the webinar?
30

31 **DR. ROBERTS:** No objections.
32

33 **CHAIRMAN POWERS:** Then the motion carries. Next is the
34 overfished decision. Doug.
35

36 **MR. GREGORY:** Let's see if I can remember what we wrote. The
37 SSC agrees with the assessment conclusion that the red grouper
38 population is not overfished.
39

40 **CHAIRMAN POWERS:** Is there a second?
41

42 **SSC MEMBER:** Second.
43

44 **CHAIRMAN POWERS:** We have a second. Any further discussion? If
45 not, are there any objections to the motion? None here. Are
46 there any objections on the webinar?
47

48 **DR. ROBERTS:** No objections.

1
2 **CHAIRMAN POWERS:** Thank you. **The motion carries.** The real
3 issue is, of course, the projections, and, as I look at this, I
4 think one of the most important slides that Skyler did, in terms
5 of summarizing these things, is the one with the decision table.
6 I think it's the one previous to this. It's Slide 91.
7

8 I mean, this -- It's fairly detailed, in terms of explaining it
9 to council members, but it provides the basic issue with this
10 2018 red grouper result, and I would like to see this conveyed
11 to the council, in some form or another, because it is
12 important.
13

14 The next few slides actually sort of intimate that perhaps the
15 best way to go is fixing the landings at 2017, and I am not
16 averse to that, but, still, I think this overall decision table
17 would be important to convey, and so what about the projections?
18 How should we proceed with this? Luiz.
19

20 **DR. BARBIERI:** Well, as you mentioned, Mr. Chairman, this
21 decision table really facilitates for us to consider different
22 scenarios and what the outcomes would be, and I should have done
23 this earlier, but I didn't.
24

25 I reached out to the person who heads our center for red tide at
26 the institute and is looking at this on a regular basis, both
27 through satellite imagery and actual samples collected and all
28 of these things that they do, and the bottom line is that the
29 2005 bloom was similar to these last events, the 2018 bloom, in
30 terms of duration, and the first one was about seventeen months,
31 and the 2018 was sixteen months.
32

33 In terms of intensity, she also assessed them as being similar,
34 and there were some differences in the area coverage, and Dave
35 here, next to me, was showing me some of the satellite imagery
36 or the heat maps that were looking at the distribution of the
37 bloom, in terms of intensity, and you can see that this last one
38 was a little further south than the other, the 2005, one.
39

40 Given all of the other factors that Skyler brought up, in terms
41 of low dissolved oxygen cells that are formed and other impacts
42 caused by the red tide, I think that what we have here really
43 suggests that the 2018 event was at least as comparable to 2005,
44 and it may have been stronger, but at least comparable to the
45 2005 event.
46

47 I mean, that would be my perception, my personal choice, is to
48 go with a scenario that assumes that 2018 was comparable to 2005

1 and that our catch -- Our management advice would go along those
2 lines.

3
4 **CHAIRMAN POWERS:** Thank you. Dave.
5

6 **DR. CHAGARIS:** I think we have to be careful with just
7 describing the blooms by themselves without consideration of the
8 areal extent and where they are occurring. The 2005 bloom, you
9 saw the maps, and it was clearly more offshore than the 2018
10 bloom, and so it was likely to have a stronger impact on
11 groupers, and so I just want to make sure that, when we're
12 thinking about comparing these bloom events, you also have to
13 keep in mind where the bloom occurred in relation to the habitat
14 and the spatial distribution of the species, because there are
15 differences there that I think are pretty obvious and are
16 important, and it also shows up in 2014, where you have a bloom
17 that's a little bit more offshore that's going to impact more of
18 the older fish.
19

20 **CHAIRMAN POWERS:** I think what I am looking for is a motion --
21 Theoretically, with Roberts Rules of Order, I can't make
22 motions. However, what I am looking for is a motion that
23 basically says that what the red tide was like in 2018 makes a
24 considerable amount of difference, and the council should be
25 aware of that.
26

27 Secondly, this table provides a quantification of that, and
28 then, thirdly, if the council wants to -- Basically, what some
29 of the argument here is, it's that the red tide, perhaps, is as
30 much as 2005 was, in which case the bottom row of that decision
31 table would probably be the best way to go, but, in large point,
32 that's a question of risk, which really falls to the council,
33 and so -- Like I said, to me, the crux of it is this table, and
34 do we need to send this table to the council in some form or
35 another? Bob.
36

37 **MR. GILL:** Thank you, Mr. Chairman. I agree with those
38 comments, but our role and responsibility here is to provide
39 them with an OFL and ABC yield stream, right?
40

41 **CHAIRMAN POWERS:** Yes.
42

43 **MR. GILL:** That table doesn't do that for us, and, as you
44 correctly pointed out, the ultimate choice of landings target is
45 their responsibility, and that's not ours, but our
46 responsibility is to provide, over some period of time, an OFL
47 and an ABC.
48

1 In my mind, while this table is important, and it conveys a lot
2 of messages, it doesn't fully do the job that we need to do, and
3 that gets to be a little bit of a crux, since the yield streams
4 that we have still have some of that spike influence, and what
5 we're talking about is the near term, and so my thinking is that
6 we do something that's consistent with the observations that
7 have been made, notably that the 2018 red tide impact was
8 severe, on the order of 2005, but we incorporate, in some
9 fashion, our OFL and ABC recommendations consistent with that,
10 noting this table.

11

12 **CHAIRMAN POWERS:** How might we do that?

13

14 **MR. GILL:** Well, I've got an idea, Mr. Chairman, if you want me
15 to proffer it. If you could go back three slides, to Slide 88,
16 the OFL slide, every yield stream, including that for 2005,
17 includes that spike, which, in our discussions, I think the
18 conclusion is that probably is not correct, but, if you look at
19 the slope of the curve for the yield stream for the 2005
20 equivalent impact on the yield stream, you could see an
21 equivalent straight line from the current landings to a target
22 at the equilibrium yield somewhere in the 2032 range or
23 something like that, but, if we did something like that, then
24 that would provide, for 2020 say through 2023, something that
25 eliminates the spike influence on the yield stream and is
26 considerably more conservative, relative to the uncertainty, and
27 so some approach like that, to me, makes sense.

28

29 **CHAIRMAN POWERS:** Is this doable quickly? By quickly, I mean
30 like within the next day or so?

31

32 **DR. SAGARESE:** We can certainly work on that. If I could just
33 maybe reiterate here, and so one think that I wanted to
34 highlight is, for the last time, this similar issue, where there
35 was concern over this huge spike, and so, if you use the average
36 of the first five years of the projections, the tables that I
37 provided at the end of this show what those catch levels would
38 be under the assumption of what if this event was as bad as
39 2005, and so, in those tables, there is five different versions
40 of the catch advice.

41

42 This scenario, this exact scenario, of 2005, if you look at that
43 table, you will see the five values, or the average of those
44 first five years, which brings it down considerably, to maybe
45 about -- I can't tell if that's going to be five million pounds,
46 and so just to keep that in mind, that we did do a lot of these
47 runs, to kind of give that perspective.

48

1 **MR. GILL:** To that point though, those catch advice incorporate
2 that spike, and so my issue is that, if we don't consider the
3 spike representing reality, as we've talked about, then,
4 following these precisely isn't right, and so I'm inclined not
5 to follow those, although they get you in the right ballpark,
6 but they're following a spike.

7

8 In fact, for the years in question, they are all declining, I
9 think, which is even worse, and so my suggestion is we do
10 something different, a straight-line approach, and, to my way of
11 thinking, if we say that -- If the goal here is equilibrium
12 yield in year X, and we straight-line it between 2019 and year X
13 and then pick as many years of those on the frontend as we like
14 for OFL, and ABC would just be some year later than that, we
15 could achieve that and even be more conservative than this catch
16 advice.

17

18 **MR. GREGORY:** What if we adopted the OFL stream for 2005 red
19 tide equivalency but then said, based on the uncertainty that we
20 see in the effect of the 2018 red tide and the decline in
21 landings in 2018, that our ABC recommendation would be the
22 poundage at 2017, and it would be a big percent, because that's
23 about four-million versus five or something, 5.7, and so we've
24 got an OFL and an ABC, and then the council can set it lower if
25 they want to, and then we need to emphasize that we need to come
26 back to this fishery in two or three years with an interim
27 analysis, maybe even next year, to take a second look at the
28 effect, if the effects can be determined from the indices.

29

30 I mean, if they don't show up in the indices, we really don't
31 know what effect it has, but I am comfortable adopting the OFL
32 stream and then recommending an ABC, and the council cannot go
33 above our ABC recommendations, and so we need to be careful that
34 we're comfortable with that, but they can certainly go below.

35

36 **SSC MEMBER:** To be even more persnickety, if you take that yield
37 stream with the 2005 and then reduce it in that initial year,
38 aren't you double-counting, a double-whammy, because you're
39 saying it's reduced already by the impact of a kill equivalent
40 to 2005, and then you're discounting it again, and so you need
41 to have a different rationale for your second discount, and is
42 that just you're trying to exclude the spike?

43

44 **MR. GREGORY:** I see your point. The other approach could be
45 that we adopt both the OFL and ABC and then recommend that the
46 council set an ACL no greater than the 2017 landings, and that's
47 really up to them. That's their risk policy. I don't know if
48 we would be comfortable recommending an ABC that's 1.3 million

1 pounds above the 2017 current quota, given the circumstances,
2 but that's doable, I mean, technically.

3
4 That way, it gets us off the hook of setting such a low ABC that
5 binds the council, but we're recommending that they set an ACL
6 that's that low, and we're just basically throwing the ball in
7 their court.

8
9 **CHAIRMAN POWERS:** One of the things we can do, if we're getting
10 bogged down here, is to have a quick discussion about how we
11 might approach it and then revisit it in the morning, in terms
12 of actual motions and that sort of thing, but let's proceed a
13 little bit, but we do need to move ahead quickly. Luiz.

14
15 **DR. BARBIERI:** Thank you, Mr. Chairman. A couple of things.
16 One in terms of the risk assessment, so there is risk assessment
17 associated with this, of course, but remember that the SSC is
18 supposed to be providing management advice, scientific advice,
19 to the council, but that is based on the best scientific
20 information available and within some parameters of preventing
21 overfishing.

22
23 I think that the information that Skyler provided in that
24 decision table, you have the PDFs of OFL, if we can get to that
25 slide. You can see there the probability of overfishing, and
26 we're going to be applying our ABC control rule or not, but, one
27 way or the other -- Usually, our OFL recommendation is supposed
28 to be risk neutral and to have a 50 percent probability of
29 overfishing. The ABC is less, according to whatever P^* is
30 determined from our ABC control rule, but I think that the
31 scenarios that she presented in there, given the scientific
32 uncertainty about -- This is how I'm interpreting it.

33
34 Given the scientific uncertainty about the intensity and impact
35 of the 2018 red tide, that will impact our advice will have
36 different probabilities of overfishing, and so, even though this
37 is really to recommend OFL and ABC, it is tied to the way that
38 we structure our catch advice to the council.

39
40 The council can incorporate additional measures there that are
41 risk-averse or not, if they decide to do so for the ACL, but, in
42 this case, it's basically tied to acceptable probabilities of
43 overfishing and not catch advice to the council, given the
44 results of this assessment plus the uncertainty associated with
45 the different outcomes of the projections, and so I just wanted
46 to bring this up, because, in this case, whether we go with the
47 OFL, yield stream of OFL, that is associated with the 2005 red
48 tide, if you assume the 2018 was equal to the 2005 or not, or if

1 we do something different, but that ties into what we perceive
2 as our advice, in terms of probability of overfishing.
3

4 Then, later on, for the ABC, we can decide whether we adopt and
5 use our ABC control rule, or there's a provision there in NS 2
6 that allows us to not apply our ABC control rule if we can
7 provide a proper justification for why this particular
8 assessment, or this particular situation, doesn't really fit
9 into the parameters of our ABC control rule, and we have done
10 that in the past and provided advice, an ABC, that is different.
11

12 I think this is part of what Doug was saying, in terms of
13 saying, okay, for OFL, we can go with a certain yield stream of
14 OFL, given the 2005 level, assuming the 2005 level impact of the
15 red tide, but then, in terms of ABC, we can either apply a plain
16 P* procedure or we can recommend constant catch or catch at a
17 certain level, but we have to provide some justification, in
18 terms of departing from applying an ABC control rule.
19

20 **CHAIRMAN POWERS:** Thank you.

21
22 **MR. GREGORY:** How was the ABC yield streams calculated here?

23
24 **DR. SAGARESE:** This was using the same spreadsheet that they had
25 used last time for red grouper, and so I think the ABC is 0.427
26 of that distribution, and so I just provided the OFL and the
27 ABC, given the decisions that were used last time, and so that
28 can easily be changed.
29

30 **CHAIRMAN POWERS:** Carrie.
31

32 **EXECUTIVE DIRECTOR SIMMONS:** We had a question, Skyler, back
33 here about the landings fixed at the 2017 value. You have 4.3
34 million there, and so, on the books, we currently have 4.16, and
35 what's the difference there of the 145,000?
36

37 **DR. SAGARESE:** That's likely -- In the assessment, we put in the
38 input numbers for the recreational fleet as the numbers of fish,
39 and so that's just probably -- As the model is estimating, it's
40 using the length-weight relationship, and it's giving us the
41 levels that were used to project forward in time, and so we're
42 putting in numbers for recreational, and then we're putting in
43 weights for commercial, and so that's probably just a slight
44 difference, in terms of how the model is -- How it's feeding in.
45

46 **EXECUTIVE DIRECTOR SIMMONS:** Now I'm really confused. It says
47 mean catch in pounds.
48

1 **DR. SAGARESE:** Okay, and so we're inputting 2017 catches from
2 the assessment, and the commercial inputs are going in as the
3 removals, in terms of metric tons, and the removals of
4 recreational are going in as numbers of fish, but what's coming
5 out of the assessment here is it's estimating -- In 2017, it's
6 estimating the removals for the recreational in terms of weight
7 and the commercial in terms of weight, and so the data is going
8 in as numbers and weights, and the data is coming out as all
9 weights, and so there is some conversions that are being done in
10 the model, and so the expected -- This is when we talked about --
11 We showed the fits to the landings, and, the expected
12 landings, what the model is predicting is slightly different
13 than the observed, in some cases, and so this is where that's
14 coming into place, and so we're converting the numbers to the
15 weights within the assessment model and getting the 2017
16 landings all in terms of weights, in the same currency, for the
17 model.

18
19 **CHAIRMAN POWERS:** That depends on the size frequencies and what
20 size frequencies you use and that sort of thing.

21
22 **DR. SAGARESE:** Correct, and one thing to note here is these are
23 using the recreational MRIP FES -- Even in the projections, Ryan
24 mentioned too that I should highlight that all of this is using
25 the new MRIP currency of -- But, again, we're inputting it as
26 numbers, and the model is using some of the information and
27 allocating them to weights, and that's why this number might
28 differ slightly than all of the removals in total pounds of the
29 2017 landings.

30
31 **DR. FROESCHKE:** I am trying to understand this. The numbers,
32 they do reflect the higher effort estimate in the FES relative
33 to the MRIP, and I was just looking at the white paper, and I
34 forget what page, but it says, in terms of management, it needs
35 to be back-calibrated if we're going to use it in management,
36 and I guess I wasn't clear that we were using the FES numbers
37 for quota monitoring, and so that's not clear to me, because it
38 matters when you do the allocation and all of that stuff, but it
39 just seems like the numbers that we were using, fixed levels,
40 the 2017 levels, it just seems like that's in a different
41 currency, because it's not that different than what we actually
42 have when we were using the MRIP APAIS numbers.

43
44 Maybe I am mistaken, but those numbers don't seem very
45 different, but, when you look at the difference between the
46 private mode and the SEDAR 42 versus the private mode in SEDAR
47 61, there is a very big difference in those numbers, and so I
48 would expect that the recreational part would be much higher in

1 the FES.
2

3 **DR. SAGARESE:** Again, just to note, the numbers of fish going
4 into the model, we're outputting the recreational and commercial
5 as the pounds, and so recreational tends to catch the smaller
6 individuals, and so lots of fish landed by number may not
7 necessarily equate to lots of removals, in terms of weight, and
8 so this is something we mentioned earlier with the selectivity.
9

10 I mean, I certainly think we need to clarify with the currency
11 issue, but this assessment, as far as I'm aware, is the first to
12 use all of the MRIP-calibrated data throughout all of the data -
13 - Through 2017 for the inputs, as well as the projection period,
14 and so, as far as if there's anything else that we need to look
15 into, we can certainly look into that, but, currently, all of
16 the data here is the FES-adjusted, the new MRIP-calibrated,
17 data.

18
19 **CHAIRMAN POWERS:** We are sort of drifting off into a different
20 subject here, and we can return to this, I think, but I still
21 want to know how to proceed, in terms of the OFL timestream and
22 any other recommendations we make relative to the projections.
23

24 **DR. NANCE:** Joe, I would like to think about it. There's a lot
25 to take in, and maybe we could come back first thing in the
26 morning and make those recommendations.
27

28 **CHAIRMAN POWERS:** That's kind of one of the things that I was
29 thinking about, and the argument that I've heard is that we can
30 follow the control rule, but not necessarily pick -- We don't
31 have to pick the left-hand column, the one that says no 2018,
32 and, in essence, we can make a recommendation that the most
33 appropriate assessment is assuming 2018 is like 2014 or like
34 2005 or so on. Then we can base everything on that, and so
35 that's kind of, I think, where we're going, but the details of
36 how we express that -- Perhaps it would be better to wait until
37 the morning. Doug.
38

39 **MR. GREGORY:** I would like to ask Skyler if she could tell us
40 what the probability of overfishing would be if we were fishing
41 at that 5.190, or 5.348, level, which is the average catch,
42 assuming the 2005 red tide being equivalent to 2018.
43

44 This table is a bit misleading, in that respect, because you've
45 got two things going on. You've got the assumption of a 2005
46 being equal to 2018 red tide, but then you've got particular
47 landings in 2017, but what if we used the landings that your
48 table tells us is the average?

1
2 Instead of being at 11 percent, would it be 15 or 20? We would
3 have then an 80 percent chance of overfishing versus a 90
4 percent chance. I don't think it would make a whole lot of
5 difference, but it might, because what you have here in this
6 table is halfway between those two, the optimum and the 2017,
7 and so it could give us some comfort that this is cautious, but
8 not overly cautious. Does that make sense? I'm sorry.
9

10 **DR. SAGARESE:** Basically, the top-left square here is going to
11 be that -- The baseline value is going to be 5.38, and is that
12 what I'm hearing, and then calculate how much of those
13 distributions would be basically above that level?

14
15 **MR. GREGORY:** Right. The 5.3 and the 5.19. Do both of them, if
16 you could. That gives us a better starting point, because I
17 think we have a consensus that we are concerned about the
18 magnitude of red tide, and it could be up to the equivalent of
19 2005. Now, I know it was offshore, but it was also inshore in
20 2005, and I was in Tampa Bay and seeing lots of grouper floating
21 around.

22
23 **CHAIRMAN POWERS:** All right. Is there something that is
24 required of Skyler to do tonight? Just that?

25
26 **DR. SAGARESE:** I can provide that tomorrow morning.

27
28 **CHAIRMAN POWERS:** All right. With that then, I think we have a
29 consensus that we should revisit this in the morning, with the
30 expectation that we'll have some draft motions to address this.
31 Again, I would reiterate that I think this table, or this slide
32 itself, conveys so much, and it should be transferred on to the
33 council. Doug.

34
35 **MR. GREGORY:** The thing that is -- I don't know if we need to
36 discuss it or not, but the next slide talks about allocation
37 changes, and I don't know if that's gone through or if that's
38 what -- Apparently the catches, the yield streams that are
39 projected, depend on the allocation between commercial and
40 recreational. Has that changed, and then using the new MRIP
41 numbers, and go to the second-to-the-last slide, or third-to-
42 the-last slide, and that's what caught my attention. We haven't
43 gone this far yet. I am just asking if we need to consider this
44 and then the following table.

45
46 **CHAIRMAN POWERS:** That allocation is on the books, is it not?

47
48 **MR. RINDONE:** No, the allocation that's on the books is from

1 Amendment 30B, which was 76 percent commercial and 24 percent
2 recreational. What's being shown here is what -- Based on the
3 landings history, it's showing from 1986 through 2005, and it's
4 incorporating the new MRIP data, the new allocation, based on
5 the same years that were used to get our current allocation, and
6 the new allocation would be 68.75 percent commercial and 31.25
7 percent recreational. That's what this is showing, but that is
8 not our current allocation.
9

10 **CHAIRMAN POWERS:** But the existing allocation is 24/76, and the
11 assessment uses whatever actually occurred, and so, from an
12 assessment standpoint, it doesn't matter, but it does change, in
13 terms of projections and that sort of thing, but that 24/76 is
14 what it is.
15

16 **MS. BOSARGE:** I have a question for Skyler. I can imagine one
17 of the questions the council will have is -- First off, when I
18 see like where the stock is at, based on this stock assessment,
19 it doesn't match, in my mind, where I thought it was going to
20 come out. I didn't think this was going to come out rosy.
21

22 The fishermen started screaming at us in 2015, when we
23 implemented that last stock assessment advice, that, hey, this
24 stock is not in good condition. At this point, they have a
25 bullhorn, and they are screaming in our ear that you've got to
26 do something and this stock is not -- This is an unhealthy
27 stock, and so I'm surprised that we're -- Even in 2017, and
28 isn't that your terminal year, that we're not overfished or
29 undergoing overfishing, even with the new definitions.
30

31 One question, in my mind, is -- One of the major changes was
32 some of the landings data, and what effect did that have on the
33 stock itself, on how the model interprets that biomass and
34 what's a sustainable catch level, based on what total biomass
35 is? Did you run anything that showed the old MRIP numbers and
36 what the biomass looked like, stock status and things like that,
37 versus the new FES numbers and what the outcome of the stock
38 assessment was, as far as biomass and stock status?
39

40 **DR. SAGARESE:** I did allude to that earlier, where I ran the
41 SEDAR 42 model that was used, but I swapped out all the
42 recreational landings and discards using the new estimates, and
43 there is some change in that, as we showed with that spawning
44 stock biomass curve, and so it seems like there's a slight
45 increase in productivity, given the newer numbers.
46

47 I do have those slides, if the SSC would like to see more of a
48 detailed comparison about what those differences did, and I can

1 prepare those slides, definitely, if there is interest, but,
2 overall, it does slightly change the spawning stock biomass
3 trajectory, but, overall, what we showed with that continuity
4 comparison -- You can see that same trend, and so the trends in
5 spawning stock biomass are slightly different, but, overall, it
6 didn't have a huge, much, much larger effect, than we thought,
7 but it does sort of bump up the spawning stock biomass a bit.
8

9 **MS. BOSARGE:** So it has the same slope, but the line is moved
10 up, and that's what I have been wondering, if that is what would
11 happen in our assessments when we got these recreational data
12 that are pretty much, across-the-board, higher, no matter what
13 species you have.

14
15 Is it going to show that that biomass is actually larger, and,
16 therefore, you get these higher catch level recommendations out
17 of there, which don't jive with what our fishermen have been
18 saying since 2015, and this is 2019. I just thought that, at
19 least historically, there would be some, I don't know, more
20 realistic picture of what we're hearing.

21
22 **CHAIRMAN POWERS:** Thank you. We need to move on. We will
23 revisit this first thing in the morning, when we come back, and
24 so I would like to delay any other discussion on this agenda
25 item until then, and so we're moving on to the executive
26 summary. This is put together as a proposal of how the
27 executive summaries ought to look, using our red grouper, I
28 think, as an example. Was there somebody giving a discussion
29 associated with this?

30
31 **DRAFT FORMAT OF EXECUTIVE SUMMARY USING SEDAR 61 AS AN EXAMPLE**

32
33 **DR. SAGARESE:** I can just quickly -- It's the eight-page
34 example, and so this is kind of a work in progress. The first
35 draft that we presented, I think, is about twelve or thirteen
36 pages, and we ended up going with the -- The council had put out
37 a request of what type of information they would like to see in
38 an executive summary, and so we kind of started, knowing that
39 there's a lot more information.

40
41 Often some of these inputs have both a table and a figure, but
42 what would be sort of the preferences? Is the goal of this
43 executive summary to provide the public background on just some
44 of the key aspects? Would this executive summary be for the
45 SSC, just to sort of have a concise place to go to for a lot of
46 the input?

47
48 We kind of started big, and we're certainly open to kind of

1 going back and forth. With some discussions with Carrie, we've
2 already trimmed this down to about eight pages, which I'm not
3 sure if it's in the folder, but, basically, it's just going
4 through the different components of the assessment and deciding
5 who the audience would be.

6
7 I know there was a target of four pages, and so, if we wanted to
8 get down to four pages, some of the tables -- We might have to
9 just put -- One way we can envision the executive summary is
10 four pages of text and then have like an appendix table right at
11 the end, and so, if people want to look through the couple of
12 pages of text and then go into the table of landings, for
13 example, as requested.

14
15 It's really just a work in progress, and we're excited to get
16 any feedback. I know Molly is here, and she's been helping us
17 kind of work towards this draft, and so if we just want to
18 scroll through quickly.

19
20 Just general information on the stock and the source of the
21 landings, the request for the landings by table. One thing to
22 note with this assessment is, because the recreational fleet is
23 treated as a single fleet for red grouper, we don't have the
24 landings broken out by mode, because that's not how the model is
25 handling it, but, if that were certainly a deal-breaker, we
26 could include those types of information from the data section
27 and have that in here, but it's basically just to summarize the
28 key figures, the key stock status, and then the important -- For
29 example, the projections and the red tide, and it's just an area
30 to highlight some of the key findings as well as emphasize --
31 For example, here, the consideration of the red tide is an
32 ecosystem consideration that's sort of unique to the groupers
33 for the assessments.

34
35 I don't know if anyone had a chance to look at the executive
36 summary and if there's any thoughts. We're certainly happy to
37 keep working towards a draft.

38
39 **CHAIRMAN POWERS:** I think one of my reactions is, as you just
40 mentioned, you're sort of serving two masters here, the council
41 and us as the SSC. I would probably reverse the order of some
42 of these things, and, in terms of -- The first master would be
43 the council, in terms of the status tables and key graphs about
44 the catches and a graph about the recruitment and a graph about
45 the spawning stock biomass, but the status table is up front.
46 Then some of the more detailed things about how the assessment
47 was done would be later on, and it's just a question of how I
48 perceive other people will read this, more than anything else.

1 Bob.

2

3 **MR. GILL:** Thank you, Mr. Chairman. I basically agree. I think
4 the executive summary ought to be focused on the council and the
5 general stakeholder community and not on the SSC. We can deal
6 with the details and the intricacies of the science, but it's
7 important for the non-science folks to be able to quickly
8 understand what's going on, and that, to me, is the purpose of
9 this document.

10

11 **CHAIRMAN POWERS:** I don't mind having some of the biological
12 stuff and how the modeling is done in the same document, but
13 just not upfront, because, even for us, it's always convenient
14 to know where to look to begin with, without having to go
15 through a 400-page PDF of a SEDAR document. Jim.

16

17 **DR. NANCE:** When I was looking at this earlier in the week, it
18 was -- I like the format, and I like the detail, the amount of
19 detail, that's in it, and I don't mind having different changes.
20 I think as long as the assessments all have that same order, and
21 I think that was the intent, and so, whether it's snapper or
22 whether it's grouper or whatever, we know where to find the
23 sections that we're interested in, and I think that's the key.

24

25 **MR. GREGORY:** I think it's great, and I've heard Ryan talk about
26 wanting to do something like this for years, and it's a long
27 time coming. Hopefully all the SEDAR final reports are
28 searchable, because, if they're not searchable, you can't find
29 what you're looking for.

30

31 It's a document written by three committees, at a minimum, and
32 what I'm finding, trying to go through and find stuff, is one
33 committee will have page numbers for its document, and the next
34 committee won't, and so one thing you've got to learn is that
35 there could be three page 20 in the document and stuff, and so
36 it's not easy to find stuff in the current SEDAR final reports.

37

38 You really have got to understand it very well, and so it
39 certainly would be a difficult task for the public, and so I
40 love this executive report, and I love the approach to it.
41 That's great.

42

43 **MR. RINDONE:** All the PDFs for all the stock assessments are
44 searchable PDFs, and so you can just control-F and look for
45 whatever it is using key words, and that's how I've navigated
46 them for about nine years now, and you're right in that
47 sometimes the order of things can be a little bit different, but
48 the Center has talked for a while about coming up with a

1 standardized report based on assessment type for everything, and
2 so, as the analyses are done, the report is automatically
3 generated, similar to the approach that the folks in the
4 Atlantic are using.

5
6 **CHAIRMAN POWERS:** My experience with these sorts of executive
7 summaries in other forums, like ICCAT, is there's a tendency for
8 scientists and the people that write these to want to add more
9 to it as the years go by, and so my advice is be brutal about
10 not letting that happen, but I think -- Go ahead.

11
12 **DR. LORENZEN:** I wanted to re-emphasize the idea of starting
13 with the results, because it's a standard idea in science
14 communication that we think about the methods and the data and
15 what comes out, but the other people just want to know what the
16 result is, and so the question is so what, and so I think it
17 would be good to also say how this assessment changes or doesn't
18 change our view on where we are relative to the last assessment.
19 That's all. Thank you.

20
21 **CHAIRMAN POWERS:** Okay. In terms of -- That's a useful set of
22 recommendations to move on from for this?

23
24 **MR. RINDONE:** That does give us good input, and, unfortunately,
25 like you guys were talking about, there are multiple masters to
26 be served with this, and it isn't actually just the council, but
27 it's also council staff and SERO staff that frequently look for
28 certain things with the assessment, like the meristics table for
29 being able to transition between different length and weight
30 estimates and length and weight at age, and so there's a lot of
31 information in here that we look at regularly for amendment
32 development, and so we'll continue to take swipes at this and
33 try to find ways to abbreviate it without sacrificing the
34 content too much.

35
36 **CHAIRMAN POWERS:** Again, I don't think anybody was particularly
37 upset about including that information, but it's just the kind
38 of reordering it and stuff like that, and I think the biggest
39 thing, and I forgot who mentioned it, was be consistent between
40 stocks, about how it's structured.

41
42 **DR. NANCE:** It depends on how you ask. You're going to get a
43 different scenario depending on who it's -- What I would say is
44 like I said before, and it's just to be consistent in how it's
45 presented, because some may say to do this first, and some may
46 say to do this first, and I don't know if that matters as much
47 as what's in it, the content that's in it, and then be
48 consistent in the order.

1
2 **SSC MEMBER:** One small comment, thinking about particularly this
3 stock assessment, is I think it's awesome how much time was put
4 into digging up social science resources and the interviews and
5 those types of things, and a real small section on that might be
6 nice, just to summarize what was available, like the ecosystem
7 considerations for the assessments that have that kind of
8 information, and I know they all might not have it.
9

10 **DR. SAGARESE:** If I could just follow-up, we're happy to chat
11 about this offline, too. Please, if you have recommendations on
12 what to cut, please let us know, because, as we trim it down,
13 any recommendations, we're certainly willing to -- As you said,
14 the science generally includes more information, and it's hard
15 for me to tell what's going to be important and what the public
16 really is going to want to see, and so please -- This is
17 certainly an iterative process, and let us know.
18

19 **DR. LORENZEN:** If we're doing things for several masters, maybe
20 they have to be different documents.
21

22 **DR. BARBIERI:** I was just going to say, Kai, that I feel that
23 what is here now is very useful, and it's something that, a
24 couple of years from now, I can go back to and find a lot of
25 this information. I would hate to see this turned into
26 something much, much shorter or simpler. Now, it doesn't mean
27 that another document cannot be developed for that purpose for a
28 different audience, but I think this core would be very useful
29 to a lot of people.
30

31 **DR. NANCE:** The assessment document itself is always going to be
32 there. If you want the 900-page one, it's always there. This,
33 to me, is just to summarize that down.
34

35 **CHAIRMAN POWERS:** Okay. Thank you. Moving on to the next
36 agenda item, it's Agenda Item VIII, lane snapper.
37

38 **UPDATE OF ITARGET MODEL AND PROJECTIONS FOR GULF LANE SNAPPER**
39 **INCLUDING OFL AND ABC RECOMMENDATIONS**
40

41 **DR. SAGARESE:** This is work that Nancie has been doing back at
42 the Center, but, since I'm here, she asked me to present, and so
43 I will try to do my due diligence. Nancie is on the webinar,
44 and so, if she wants to chime-in at any point, she's certainly
45 welcome to do so.
46

47 We were asked, at the Center, to update the lane snapper catch
48 advice that was developed with SEDAR 49, and so, basically, this

1 presentation -- I am just going to give you an idea. This is a
2 pretty short presentation. I will just go over some of the
3 background of SEDAR 49. Those of you that were part of it
4 remember that it was quite a different ordeal, in terms of stock
5 assessment, than the normal data-rich assessments.
6

7 We are going to look at the updated headboat index, which was
8 used with the data-limited approach that was recommended, and
9 then we'll show the updated catch advice that would come out of
10 that method, and so I'm not going to really go line-by-line, but
11 just some context.
12

13 SEDAR 49 was one of the first, most recent data-limited stock
14 assessments that was conducted, and we used the DLM Tool, which
15 is a package in R that kind of consolidates many different
16 available data-limited approaches.
17

18 Because we were using those types of approaches, it was sort of
19 a three-step process, where, first, we looked at the available
20 data we had, and we determined what types of methods could be
21 feasible, given the information, and then we used sort of a
22 simulation testing of those performance measures, which is
23 considered an MSE, but it's really not a true management
24 strategy evaluation. It's really a simulation approach to test
25 how these methods would perform, and then, given the methods
26 that were chosen from that approach, we determined catch advice
27 from the methods that were recommended that performed well in
28 simulation.
29

30 One of the take-homes from that assessment was we tried to
31 emphasize what those methods would add, rather than just
32 sticking with the status quo, which was the mean landings during
33 the reference period.
34

35 For lane snapper, the reference period that was selected was
36 1999 through 2008, and that was from that -- I think it was the
37 generic ACL document in 2011, and so a lot of those decisions we
38 kind of carried through that assessment, and we just confirmed
39 that they were still good assumptions, and so, basically, data-
40 limited approach, really kind of basic methodology that was used
41 at the end, but, ultimately, some of these approaches -- They
42 don't get us to MSY, but they can help us adjust the catch
43 advice, given trends in data.
44

45 Just, specifically to lane snapper, for that assessment, we had
46 the time series of removals from both the recreational and the
47 commercial fisheries, and the approach needed all of the
48 removals, in terms of weight, and so we had a time series of

1 removals, and we had abundance information from the headboat
2 fishery, and so the headboat index was recommended for use in
3 that assessment, and that was largely a result of it had a
4 fairly good quality score, and it had a relatively low CV, and
5 there was a lot of different information that was available,
6 but, at the end of the day, the headboat index was recommended,
7 and an index-based approach was selected, although there were
8 other approaches, but, for now, I just want to focus on what was
9 used.

10
11 Again, it was sort of a multi-step process, but, in the end, the
12 approach that was selected is the method called Itarget, and
13 it's essentially a CPUE target approach, and that, at the
14 review, was suggested -- That type of approach was suggested,
15 and it's very useful for providing management advice. The
16 analyses we conducted also verified that it performed fairly
17 well, and the benefit of using these types of approaches, rather
18 than just stick with mean catch, is we have some signal in the
19 available data to sort of track the abundance index, and so
20 thinking back to -- It's sort of more real time. If we can
21 develop these kinds of approaches, we can track what's going on
22 in the index, and this is the perfect example for lane snapper,
23 as we'll see, in how this method would have worked.

24
25 I am just going to -- For Nancie, I'm going to cover the work
26 she's done in the last few months, or weeks, and it's updating
27 the index from the headboat survey, which was used, and,
28 basically, we have four more years of data. The terminal year
29 for SEDAR 49 was 2014, and so we've got additional years, and
30 then I'll show the results of the application of the Itarget
31 approach and then what the actual updated catch advice would be,
32 given the methodology and how it works.

33
34 I am not going to really spend a lot of time. Nancie has
35 provided some very useful documents with more details, but,
36 basically, the headboat survey -- The index is from the headboat
37 dataset, and we used Stephens and MacCall's approach to subset
38 the trips that were likely targeting lane snapper, and the CPUE
39 was estimated in the same way it was provided for SEDAR 49, and
40 so, basically, we used a generalized linear model to develop the
41 index of abundance, and so everything was consistent from that
42 assessment to what is produced. The only thing that has changed
43 is we have updated the data, and we ran the analyses and
44 developed a new index.

45
46 This figure here, we're showing the change in the proportion
47 positive within the headboat data, and so you can see, in the
48 future, that, basically, there seems to be this increase in the

1 proportion of trips that have lane snapper in them. In this
2 case, the lane snapper occurred in about 30 to 68 percent of the
3 trips, and so they tend to be -- The trip selection approach
4 tends to select trips that have similar species composition to
5 lane snapper, and, overall, we see sort of that general increase
6 in the trend, and so the index is, ultimately, this proportion
7 positive model combined with a lognormal model of the catches
8 only, and so of the positives, and you develop a single index of
9 abundance.

10
11 What we see here is, in this figure, looking at the orange line,
12 is the index that was provided for SEDAR 49, and so the orange
13 is 49, and it ends in 2014. The updated index, the updated
14 standardized index, I should say, is in that grayish or brown
15 line, and the updated just nominal, and so just strict catch per
16 effort, is that blue line.

17
18 What this index is showing is that, in the last few years, the
19 relative abundance is much higher than what was in the terminal
20 year for the SEDAR 49, and so, basically, this index supports
21 that there has been an increase in relative abundance in the
22 recent years, and there is also additional information in the
23 paper, if you're interested in more details, but, basically,
24 what we see is that we're at a much higher level.

25
26 Now, one thing to keep in mind here, and when we talk -- Another
27 thing we wanted to compare was just the trend in the annual
28 headboat effort as well as the effort that was used for lane
29 snapper, and so you can see that, overall, the relative trend in
30 this figure is fairly similar.

31
32 We have seen sort of an increase in recent effort for lane
33 snapper, which matches what we've heard, and especially when we
34 look at the landings, but, overall, it's fairly similar to the
35 total headboat effort, in this case.

36
37 Looking at the updated lane snapper landings here, and removals
38 are primarily from the recreational fishery. There is some
39 commercial landings, but you can see, in 2017, the landings were
40 much higher, although, within the whole time period -- The very
41 large recreational landings back in the 1980s, and so landings
42 have ranged from 117,000 pounds up to about 820,000 pounds.

43
44 This all is using the -- I believe this is using the MRFSS data.
45 This is what was provided with SEDAR 49, which was before all of
46 the updated calibrated FES MRIP data was developed, and so I
47 believe Nancie has updated all of this information with the
48 newest data available, but it's not in this current

1 presentation, and so I would like to, I think, follow through
2 with this presentation, and then we can discuss the new paper.
3 Basically, the OFL advice that came out of SEDAR 49 was about
4 364 million pounds. That's what came out of that assessment.

5

6 **CHAIRMAN POWERS:** You said million.

7

8 **DR. SAGARESE:** 364,000 pounds. Just some technical details on
9 how the approach works. If we go back to this -- This is just
10 showing the trend in the index. The way this Itarget method
11 works is, basically, we take the average landings during that
12 reference period, and so the reference catch period that was
13 determined by the SSC, years ago, of being representative for
14 setting the Tier 3a catch advice at that time, and we take that
15 mean catch, and, during that same time, we have an index of
16 abundance, and so we get a mean CPUE and index value during that
17 reference period, and so that's basically a target that we're
18 trying to get towards.

19

20 Then we compare the recent five-year average of the index of
21 abundance, to see if it's above, and, if it's above, you would
22 expect a bump-up in your catch advice. If it's below, you would
23 expect a decline, and so how this equation is operating is
24 basically we have -- We looked at some different parameters, and
25 this 0.5 refers to the smoothing parameter, the 0.7 refers to
26 basically the Izero scaler, and the one refers to the Itarget
27 scalar, and so there was a lot of work during 49.

28

29 The SSC presentations kind of go into detail, but, basically, we
30 simulation tested the different configurations. That 1.0
31 basically is saying that, during that reference period, we think
32 the stock was near MSY, and that was how Tier 3a was designed,
33 that there was really no concern, and so, basically, we're
34 trying to hit that target CPUE during that reference period.

35

36 What we're doing here is we're setting that limit. When it's
37 about 70 percent -- If our recent mean CPUE is below 70 percent
38 of that target, we're going to see a quadratic drop in catches,
39 and we're not in good shape, and, if it's above, we're actually
40 going to see an increase as a function of the index.

41

42 I should highlight here that this is one of those data-limited
43 approaches that's been developed by Helena Geromont and Doug
44 Butterworth that we modified within SEDAR 49, and it's one of
45 the freely-available methods, but I would caution that data-
46 limited doesn't necessarily mean easy and quick, as many of you
47 were involved -- Remember that "data limited" really means
48 assumption-rich, and there's a lot at play, but, ultimately,

1 what we seem when we update the headboat index and update the
2 catch advice, is, in this figure, the solid thick line is
3 basically that 364,000 pounds that was the recommended OFL from
4 SEDAR 49, but the new distribution, accounting for the new
5 headboat, the new trends in headboat index, we see a very large
6 increase in what the method is projecting for catch advice.
7

8 We are not changing that reference period catch, and that's the
9 same as it was for SEDAR 49. That bump up is based on the trend
10 in the recent CPUE. The recent mean CPUE is much higher than
11 what it was for SEDAR 49, and that's why we're seeing this
12 increase, and so the method suggests that the catch advice could
13 be increased, in this case, following the review of SEDAR 49, we
14 designed the 50th percentile of that distribution as the OFL, and
15 the ABC, at that point, was defined as the 30th percentile of the
16 distribution.

17
18 That was based on the assumption that we thought the stock,
19 during the reference period, was about at MSY, and so those
20 decisions were made at the last meeting. This is following
21 through with a similar thought process and also showing how the
22 new catch advice compares to the old catch advice.
23

24 It suggests that the current catches can be higher, and this
25 sort of follows with the more recent landings of going over what
26 was on the books, but I guess one of the strengths to highlight
27 here is these approaches are very fluid. If you have the data
28 available, they can be applied more frequently, and so you would
29 see, in this case, if we set this -- If we saw behavior we would
30 expect, if our index is going up, the catch goes up.
31

32 Now, for example, if you saw the opposite, if your index started
33 doing down, you see the catch advice would sort of follow the
34 trend, and so this is what the update suggests could be --
35 Again, these are still in the landings units of the SEDAR 49
36 assessment, and this is not using the new MRIP calibrated data.
37 This is using the same data that was used for SEDAR 49. With
38 that, Nancie is very grateful to Jeff and Shannon and John for
39 lots of feedback and all of the data providers and analysts that
40 helped throughout the whole process.
41

42 **CHAIRMAN POWERS:** Thank you. Can you switch back to the
43 previous slide? What we're being asked to do is, like any
44 stock, the OFL and ABC sorts of issues. In this case, it's
45 simply an update -- Not simply, but it is an update of the
46 methodology that we agreed to before, I believe, but updated
47 based on the CPUE index.
48

1 Using the same sort of discussion points we had before, I am
2 really asking does somebody object to the method, the method
3 itself? Is that something we want to discuss or modify, think
4 about modifying, or recommendations relative to it, at this
5 point in time? John.

6

7 **MR. MARESKA:** Looking at the landing estimates there and looking
8 at the projections that are here, the ABC and OFL are way above
9 a lot of the peaks, and those peaks aren't very sustainable, and
10 so, by selecting that smoothing parameter, that W value of 0.5,
11 we were basically saying that this stock is underexploited, and
12 so I think if we did it -- Skyler is going to have to remind me,
13 but, the first time we did it, I think that smoothing parameter
14 was set at 0.7, which said we were basically at MSY, and I think
15 we're there.

16

17 I don't see a justification of changing that smoothing parameter
18 down to that 0.5 value, and I think that's something that is
19 going to be unsustainable. I looked at the landings for lane
20 snapper, and, of course, most of this is being driven by the
21 headboat fishery, and we don't see the equal increase in just
22 the recreational landings or the commercial aspects of lane
23 snapper, and so it may be a targeted fishery that's not going to
24 last very long. Those are my thoughts.

25

26 **DR. SAGARESE:** We added a couple of extra slides just to refresh
27 the SSC about what those parameters are, and I did mention the
28 Itarget, and so we're talking about the 0.7. That really just
29 determines, in this case, the treatment of, when you're at that
30 point, how much is that catch advice going to change, and so you
31 can see, in this figure, when you're below -- This example is
32 just 0.8, and that was given a different assumption about the
33 condition.

34

35 You're right in that when we discussed this last time, we made
36 these assumptions assuming that the stock was near MSY, and so
37 we had a scalar of 0.7 here, and you can see that you see that
38 quadratic decline in catch below that and an increase above
39 that, and so, unless there is reason to revisit some of those
40 assumptions, these are the same scalars that were discussed in,
41 I remember, in detail in SEDAR 49 and ultimately selected for
42 lane snapper.

43

44 **CHAIRMAN POWERS:** Thank you. I am not hearing any reasons to
45 deviate from that 0.7, the initial assumption that was done
46 originally for SEDAR 49. Jim.

47

48 **DR. NANCE:** Skyler, if you look at -- I'm just having a hard

1 time rectifying something, but total landings. If you look at
2 CPUE from 1998 through 2018, it's going up consistently. When
3 you look at effort, it's going up consistently from that point,
4 and, yet, landings are not following that same trend, and I'm
5 just trying to rectify why that is.
6

7 **DR. SAGARESE:** This index of abundance, is this what you're
8 talking about?
9

10 **DR. NANCE:** Yes, that with the effort, yes. It looks like
11 effort is going up from 1998 to 2018, and it's going up
12 consistently, and CPUE is going up consistently also during
13 that, and, yet, landings are flat or going down, and I don't
14 understand that trend.
15

16 **DR. SAGARESE:** The headboat index of abundance is coming from
17 the Southeast Region Headboat Survey Program, and so it's coming
18 from -- I believe it's a -- Is it a census? Is headboat a
19 census? Basically, we're able to provide a standardized index
20 from that data source, and we're standardizing it and accounting
21 for some of the variables that could affect that, and we're also
22 using that trip selection, assuming trip targeting over time
23 hasn't changed.
24

25 Looking at the total fishery effort, I see sort of a -- There's
26 been a recent increase, but that standardized index of abundance
27 is really looking at the catch per unit of effort, which is
28 number of anglers times hours, from that dataset, and so it's
29 really trying to provide a -- With this method, we're assuming
30 that it's capturing the change in stock abundance, that it's
31 representative of what is happening.
32

33 **CHAIRMAN POWERS:** Looking at this slide though, if we say that
34 the effort has gone up recently, well, recent relative to the
35 SEDAR 49, which 2014, has been pretty flat.
36

37 **DR. NANCE:** Yes. I was just looking at that general trend from
38 1998.
39

40 **CHAIRMAN POWERS:** If you have a flat effort and an index going
41 up, you would expect the catch levels to want to increase. All
42 right. Going back to that table, the next-to-the-last -- That
43 one. Okay. We're focusing in, I think, on the 0.7 level.
44

45 **MR. GILL:** A question. We do not have a yield stream that we're
46 following, and so we're being asked here to specify a point OFL,
47 and so, in essence, once we do that, that continues until it's
48 otherwise changed, right?

1
2 **CHAIRMAN POWERS:** Yes, and, to me, the yield stream is going to
3 be a constant level until the next time you revisit this. All
4 right. I am entertaining motions to address this.
5

6 **SSC MEMBER:** Mr. Chairman, I'm not going to put a motion, but
7 John alluded to the -- If you look at the catch series, it's
8 very high, approaching these levels here, back in the late
9 1980s, and, Skyler, you had mentioned that you had bench-tested
10 this and run this with a number of simulations, and maybe you
11 could talk about the robustness of the change of the parameters
12 to -- How these values might have changed under those and if you
13 had talked about this previously, the SSC had talked about this
14 previously, I apologize, but I think it's relevant here, because
15 I think John makes a good point.
16

17 **DR. SAGARESE:** With SEDAR 49, if I remember correctly, we did
18 different sensitivity runs with each of those scalars, and what
19 turns out to be the most important is that scalar on I_{target} ,
20 because you're essentially making that assumption of what the
21 stock status was.
22

23 This, actually -- Because we were learning this process, we had
24 a considerable amount of a learning curve. When we initially
25 ran some of these runs, we were using the default with these
26 methods, which assumes a scalar of 1.5, and so, essentially,
27 when you're assuming such a large target, you are thinking that
28 your stock is overexploited.
29

30 That parameterization for that target scalar had the most
31 impact. When we showed the different runs for the other
32 parameters in the simulation, it really did not change the
33 performance very much. It was mostly that scalar on the target
34 that really led to a change, but, then again, we tested a
35 variety of different combinations of those scalars, and we
36 tested other methods, but this I_{target} method tended to, in the
37 simulation, lead to the lowest probabilities of overfishing in
38 the simulation as well as some of the relatively higher
39 probabilities of having long-term yields and short-term yields.
40

41 I am not sure if those slides are around, but, from SEDAR 49, we
42 did a pretty thorough investigation with lane snapper, looking
43 at those kinds of issues in the simulations, but, yes, the
44 different ranges, and I can pull those slides as well, if that
45 would help. I just have to turn my computer on.
46

47 **CHAIRMAN POWERS:** Thank you. I always mention, when we're
48 talking about data-limited, that there's a reason they are

1 called data-limited, and it's because you don't know, and so you
2 have to, at some point, recognize that you're going to be wrong
3 a fair number of times, and so the key point is being able to
4 adapt to being wrong, which implies don't let these things not
5 be revisited for five years or something like that, and perhaps
6 every two or three years, and particularly in a situation where
7 it doesn't take a whole lot of work to revise it.
8

9 With that in mind, the recommendation that we made in 2017 was
10 that the OFL and ABC were defined as the 50th and 30th percentiles
11 of the OFL distribution, and that is given in the table above.
12 Is there any disagreement with this approach at this point in
13 time? If not, then come up with a different motion, or come up
14 with a motion either way, I think. Doug.
15

16 **MR. GREGORY:** This seems like a very conservative approach, to
17 me, and I think it's one of the reasons we went to standard
18 deviations with our Tier 3 or Tier 2. 2017 landings exceeded
19 the OFL. Was the fishery closed? What are the accountability
20 measures? What was the effect of that?
21

22 **MR. RINDONE:** The accountability measures are that, if it
23 exceeds the recommended catch limit, then, the next year, the
24 landings will be monitored, and the season will be closed when
25 the ABC or ACL, whichever is used for monitoring, is projected
26 to be reached. This year, based on the previous landings, NMFS
27 was estimating that they might need to close lane snapper
28 sometime in the late fall, and Sue is nodding yes, and so I
29 think I got that right. Just a reminder that this is a stock
30 ACL, and so we don't have sector allocations between the
31 commercial and recreational sectors here.
32

33 **CHAIRMAN POWERS:** Thank you. I am looking for some progress
34 here, a motion, which, given the discussion thus far, nobody has
35 come up with anything better than the first row of that table
36 there. We should move that the overfishing limit should be 50
37 percent -- The 50th percentile, which is equivalent with the
38 updated assessment of 603,195 pounds.
39

40 **DR. NANCE:** So moved.
41

42 **MR. RINDONE:** (Mr. Rindone's comment is not audible on the
43 recording.)
44

45 **CHAIRMAN POWERS:** We can approach it that way. It was suggested
46 that the motion ought to say that, basically, this is the best
47 scientific advice available, and the implications of that are
48 the OFL is -- What was the --

1
2 **DR. NANCE:** 603,195. The ABC at 30 percent is 588,965, and, at
3 40 percent, it's 596,349.
4

5 **CHAIRMAN POWERS:** Okay. When you say the -- Once you mention
6 that 40 percent, you're implying that it could be one or the
7 other.
8

9 **DR. NANCE:** Okay, and so we need to choose one of those.
10

11 **CHAIRMAN POWERS:** Yes.
12

13 **DR. NANCE:** I say go with the 30 -- Well, if we're looking at
14 the landings, I think the 30 percent, the 588,965, is a good
15 recommendation. **ABC at 30 percent, which is 588,965. That
16 would be the motion.**
17

18 **MR. GILL:** Seconded.
19

20 **CHAIRMAN POWERS:** So we would take the --
21

22 **MR. NANCE:** We would take the 40 percent out, yes.
23

24 **CHAIRMAN POWERS:** There was a second by Bob Gill. The
25 implication of this is that the OFL yield stream would be this
26 number until such a time as it gets revised.
27

28 **DR. SAGARESE:** Just to comment. I believe, when we reviewed
29 SEDAR 49, it was recommended to revisit it maybe every three
30 years, if I remember correctly, to -- Because this is an
31 approach that's really -- It does not take a lot of time, and it
32 could potentially be revisited every few years, to make sure
33 we're tracking what we think we're tracking.
34

35 **MS. GERHART:** Can I just confirm what units this is? Is this
36 FES or is this -- What are we looking at? Also, when you're
37 showing the 49 numbers, are those converted as well? I am
38 asking because we've been monitoring in MRFSS numbers up until
39 now, and our MRFSS OFL is a different number than what you have
40 for the OFL there, and I'm just trying to clarify that. Thank
41 you.
42

43 **DR. SAGARESE:** The recreational data that was provided for SEDAR
44 49, I believe that's going to be the MRIP data with the FES
45 adjustment, but it's not the -- After this whole calibration,
46 that was designed, but there should be more details in the
47 report, and I can certainly go back and confirm and make sure,
48 but I believe this is the MRIP with the FES adjustment in there

1 and that it also accounted for that survey design in 2013.
2

3 **CHAIRMAN POWERS:** Back to the motion. **Is there any objections**
4 **to this motion?** John.

5
6 **MR. MARESKA:** Yes, and it's just purely based on the calculation
7 that used that smoothing parameter of 0.5, which said the stock
8 is underexploited, and so I still feel like the stock is near
9 MSY.

10
11 **CHAIRMAN POWERS:** **Is there any other objections on the webinar?**

12 **DR. ROBERTS:** No objection on the webinar.

13
14
15 **CHAIRMAN POWERS:** **The motion carries with one nay.** Thank you.
16 I think we sacrificed our -- We need to move quickly, and so, if
17 we're going to take a break, now is a convenient time, but let's
18 keep it to ten minutes. Thank you.

19
20 (Whereupon, a brief recess was taken.)

21
22 **CHAIRMAN POWERS:** We are on Agenda Item IX, review of the key
23 stocks analysis by the SEFSC. Who might that be?

24
25 **DR. CALAY:** He's on the webinar. It's Matt Smith.

26
27 **CHAIRMAN POWERS:** Okay. The presentation is in the distribution
28 materials.

29
30 **REVIEW OF SEFSC KEY STOCKS ANALYSIS**

31
32 **MR. MATT SMITH:** This is, like was introduced, a review of the
33 key species in the Gulf of Mexico and their suitability for
34 management via the interim assessment process. I think a lot of
35 us, and the SSC members and council members, are familiar with
36 the interim, but, if there's people on the webinar who aren't,
37 or people who just haven't been around for the last couple of
38 years, the interim assessment is, essentially, one of the three
39 prongs of new assessment paradigm that we're shifting into, with
40 the two main ones being the research track assessment, which is
41 replacing essentially the benchmark assessment, the operational
42 assessment, that is going to replace the standard and update
43 assessment, and the interim assessment, which is a new addition.

44
45 The goals of the interim assessment are basically to allow us a
46 way to adjust our ACLs between stock assessments using some form
47 of current data, whether that be index or compositional data
48 that we believe tracks trends in abundance, and is therefore

1 informative in determining whether we should increase or
2 decrease catch recommendations for a stock.

3
4 For this to be useful, we have to have two main pieces of
5 information and tools. We have to have that index or
6 compositional data, and we have to have a management procedure
7 that uses that index or composition data to address the catch
8 limits while accounting for uncertainty in the index or
9 compositional data.

10
11 Quang Huynh out of the University of British Columbia has been
12 doing some work on this, as have we at the Southeast Center, and
13 we were somewhat involved with this paper that was distributed
14 as part of the background material for this presentation, and so
15 you should have it available to you, which should be in press
16 shortly, and it's in a later stage of the reviews, but,
17 essentially, instead of doing some of the MSE testing of these
18 management procedures, it's using the DLM Toolkit from Caruthers
19 and others, and what it does it take these MPs, which are
20 essentially relatively simple rules, when you look at them, and
21 some can be more complex than others.

22
23 The ones that Quang investigated in his paper were relatively
24 straightforward, and I have one of them shown here on the screen
25 that essentially says TAC or ACL or ABC, whatever you're going
26 to call your catch advice, in Year Y-plus-one is equal to
27 whatever the assessment says it's supposed to be, if you just
28 had an assessment year, and, if you're not in an assessment
29 year, then you take that catch advice from your assessment and
30 you increase it or decrease it by the ratio of the index, and so
31 you see the I_y over I reference there, in the part of the
32 equation, and the beta sigma terms on there are the part of that
33 equation that account for uncertainty in the index.

34
35 Over on the right side of the screen is an image from Quang's
36 paper that shows some of the MPs that he tested in that paper.
37 On the bottom panel is the buffered index, which is what you
38 would get from the equation that's shown on the screen.
39 Essentially, in both of these panels of that figure, the black
40 dots are the index, the standardized index value, and the red
41 line is the model fit to that index before the assessment, which
42 is shown by the vertical-dashed line, and everything after that
43 is what's being used to guide adjusting of that TAC information
44 from the last assessment.

45
46 With the buffered index, you see basically that the smaller beta
47 value results in a little bit more uncertainty being allowed,
48 and it doesn't track the index quite as well. It's a little bit

1 smoother, and, the higher you make that beta value, the smoother
2 the index that would guide your adjustment of the ACL becomes.
3

4 The other one he looked at was just using the average, a three-
5 year average of the index, or a five-year average, and it's a
6 similar result there. The more years you average, the smoother
7 it gets, and the less uncertainty is incorporated into your TAC
8 adjustment. These are just four of many, if you count the
9 different variations in how many years of index of the buffer,
10 four possible MPs, and there are a lot of possible MPs that you
11 can come up with to do this type of work.
12

13 Part of the struggle, and part of what has slowed this interim
14 assessment process down in delivering the full MSE-tested
15 interim assessment that we've been promising, is getting the MSE
16 developed so that we can test all of these different MP
17 possibilities, because, without that MSE-derived performance
18 metrics, you are relying on basically a gut check and a gut
19 decision when selecting an MP, and there's no quantitative way
20 to distinguish which one is better at managing your stock in the
21 long run, and so, on this slide, again, is an image that Quang
22 let me use from his paper, and it's showing some of the results
23 that he got.
24

25 Here, we're looking at the median F over FMSY, and so a measure
26 of overfishing for three different stocks. He's got the
27 capelin, vermillion snapper, and the Pacific ocean perch, which
28 represent three sort of different life history strategies, with
29 capelin being the highly-productive, short-lived, to the Pacific
30 ocean perch being the lesser-productive, longer-lived species,
31 and he did his simulations under three different scenarios of
32 base sort of standard scenario, a scenario where the index used
33 to adjust the TAC was hyper-stable, and a scenario where the
34 stock started out very depleted.
35

36 We're not here to cast judgment on Quang's paper, and I used
37 this directly, but it gives a great example of how variable the
38 performance of these different MPs can be across species and
39 across different index scenarios.
40

41 Part of what we need to do with this type of work is do an MSE
42 study to get these results, and we also have to determine what
43 matters most to us as a scientific body and also to the fishing
44 community and other stakeholders that are interested in all of
45 our stocks that we use as the criteria to sort of select an MP
46 when that time comes.
47

48 Things to consider are overfishing, like we see here, as well as

1 overfished status, rebuilding targets, and yield stability, and
2 what matters the most is going to depend on the user group, in a
3 large part, and, in some cases, it may not matter. The same MP
4 may achieve all of these the best, but, in some cases, different
5 management procedures and index combinations might perform
6 better for different performance matrices, and we'll have to
7 determine, at that time, how to proceed.

8
9 I know this has been something that's been going on for years
10 now, and it's been much anticipated by SSC members and council
11 members alike, as well as by the Southeast Fisheries Science
12 Center. We would like to see it up and running as well, and the
13 current timeline for the interim assessment implementation --
14 You see it laid out here. We have three basic phases of
15 development that we're working on right now.

16
17 The first is what we're talking about today, just going through
18 species in the Gulf FMP and trying to just qualitatively
19 identify ones that are suitable for interim assessment, based on
20 whether or not they have indices that seem like they might be
21 functional to put into the MSE and use to adjust ACL.

22
23 The second phase in this development is to use what I have
24 deemed as a sub-optimal but available MSE capability to do some
25 initial simulation testing for select index/MP options for
26 certain species, and that, we're hoping, can be up and running
27 by the spring of 2020.

28
29 I used sub-optimal here because there are packages out there
30 available, such as the DLM Toolkit and Fisheries Library in R,
31 that have MSE capabilities in them, and the FL R package also
32 has ways to pull information out of the SS 3 models, but,
33 because of the complexity of the Southeast SS 3 models, there
34 currently doesn't exist a way to extract all of the information
35 and complexity out of our models and put them into these MSEs.

36
37 To implement these, probably in the FL R framework, to try and
38 get some initial simulation testing done, we're going to have to
39 kind of dumb down our models a little bit, and so it won't
40 capture the full dynamics in the operating model of our stock
41 assessments, but we should be able to get, hopefully, 70 or 80
42 percent of the way there and get some meaningful results out of
43 this, to keep the conversation moving on interim assessments,
44 earlier than later.

45
46 Then the third leg is grant-funded projects to develop SS 3's
47 MSE capabilities, which, when completed, will allow us, at the
48 end of a stock assessment, to basically just turn that approved

1 assessment into the operating model of the MSE and run right
2 through and test our index MP combinations and come up with the
3 interim assessment advice for the next stock assessment period,
4 and, hopefully, eighteen to twenty-four months from now, this
5 will be reaching its culmination, and we're hoping that it will
6 be successful.

7
8 We have Rick Methot and his team on the project, as well as
9 software developers and stock assessment scientists at the
10 Southeast Center working on it as well, and so we're very
11 hopefully that, in the relatively short term, we'll be able to
12 fully implement this process through the SS 3 framework.
13

14 For this presentation, like I said, we're just going to focus on
15 the kind of qualitative look through the stocks in the Gulf FMP,
16 and, of the species that I looked at for this presentation,
17 listed on the left side of your screen, I have identified three
18 in red, which we're going to look at some specific slides for
19 today, rather than all of them, because it kind of drags on if
20 you look at all the indices for all of these species.
21

22 The first is going to be red snapper, because I am contractually
23 obligated to talk about red snapper every time I give a
24 presentation, and so we're going to look at some of that, and
25 then red grouper, because it seems timely, given Skyler's
26 presentation, as well as the fact that this species seems like
27 one that is just perfectly suited for an interim-assessment-type
28 approach to management, and then, finally, we'll look at gray
29 trigger, which is a species that, at present, doesn't appear to
30 be very well suited for this process.
31

32 With the qualitative assessment of our stocks, I looked
33 primarily at trying to find a fishery-independent indices, when
34 available. Fishery-dependent indices were considered if no or
35 few fishery-independent indices were available, and we
36 quantified variability and auto-correlation based on the
37 residual deviance in the stock assessment model, to get a sense
38 of how variable and how patterned the indices were, as a general
39 way to assess the quality, in terms of being suitable for
40 interim assessments.
41

42 Then the final bullet point here is just to reiterate, before we
43 get into this, that the final index/index combination and
44 management procedure for long-term usage here can only really be
45 determined through that MSE simulation testing, and so what
46 we're doing today is just kind of getting an overview of what
47 these indices look like and what looks like it has the potential
48 to be useful.

1
2 First off is red snapper. All of these slides are going to look
3 the same. They are going to have the index, and, in this case,
4 it's the bottom longline survey for red snapper, and the fit to
5 that index from the most recent stock assessment is in the top-
6 left panel. The deviations, the model fit deviations, are
7 showing in the bottom left, and then a root mean squared error,
8 to kind of summarize the overall variability of the model fit to
9 the index, and then, on the right-lower panel, is auto-
10 correlation with the one-year time lag and two-year time lag
11 shown. We didn't want to go too much further than that, because
12 it becomes somewhat uninformative.
13
14 When we're looking at these auto-correlation plots, there is
15 some different -- The 95 percent confidence interval is here,
16 shown in these dashed-blue lines. In this case, you have a
17 large negative correlation of the one-year time lag, as you can
18 see, reflected in the residuals, and what that essentially means
19 is that, if this residual here is high, next it will be low, and
20 the next year it will be opposite of that, and so on and so
21 forth.
22
23 That's a pretty good signal. It indicates that the model is
24 kind of fitting right between your data points, rather than
25 having large discrepancies above and below.
26
27 The second-year lag is a little bit less informative, but, if
28 you had -- We will see some of these later, but, if you have a
29 scenario where you've got a large positive one-year lag and a
30 large positive second-year lag, that would imply that your model
31 is mis-fitting for a decent chunk of time, and we'll see some of
32 those as we go along.
33
34 In this case with red snapper, this is the eastern Gulf bottom
35 longline survey, and the variability is somewhat high, but, in
36 terms of auto-correlation, it seems to fit the data quite well.
37 This is an example of an index that would certainly be
38 considered and fed into the MSE process, when I get to that.
39
40 The same thing for the west Gulf bottom longline survey, and I
41 will add, while I'm getting into this, before I get too far,
42 that, in the supplementary material that was put out, and it
43 came kind of late, but it should be available to everybody, is a
44 complete PDF of all of the indices for all of the stocks that I
45 listed on that previous slide, and so, for people who want to
46 dig deeper, who want to see all of the red snapper fishery-
47 dependent indices, or all of the gag grouper indices or whatever
48 it is you're interested in, those are all available to you, and

1 you can find them in that supplemental document.
2

3 Eastern Gulf video survey, it's basically one of those
4 situations, with the auto-correlation, where you have a large
5 positive correlation with the one-year lag as well as a positive
6 correlation on the two-year lag, and you can see that reflected
7 in the model fit, in terms of the model sort of mis-fitting
8 large chunks, and it's almost this whole span here, where the
9 model is mis-fitting the observed video survey, and so this is
10 an example, for red snapper, of a fishery-independent index
11 which is probably good enough to be fed into the MSE process,
12 but, in terms of qualitatively, if we had to make a decision on
13 red snapper right now, and we were going to try and use an
14 index, this is one that would not meet the highest criteria, as
15 compared to some of the other ones that are available for red
16 snapper. In the western Gulf video survey, it's a similar
17 result to the eastern Gulf for that as well.
18

19 Again, these are not terrible indices. They seem to track,
20 generally speaking, track the data, and the model seems to fit
21 the data fairly well, and they seem to be informative, at least
22 in terms of the model.
23

24 Moving on to red grouper, we'll start with one that's not that
25 great. The recreational survey for red grouper, these come out
26 of the assessment that Skyler just presented, with a terminal
27 year of 2017. Here, you see there is large correlation
28 problems. It's a poor fit, and there is reasonably high
29 variability. This is an example of a fishery-dependent index
30 that is not one that we would recommend to be used for red
31 grouper.
32

33 Moving on to ones that are more likely to be of value for red
34 grouper, the bottom longline survey, there is a good residual
35 pattern, almost no auto-correlation, and there is reasonably low
36 variability. This seems to be one that could potentially
37 perform quite well.
38

39 The SEAMAP groundfish survey is also one that seems like it
40 could potentially perform quite well as a shorter index, but
41 that's not a huge mark against it, and then the video survey is
42 also one that has potential to work for red grouper. It's got
43 relatively low variability, and there is some correlation, but
44 not extreme. However, the bottom longline appears to be
45 probably the most preferred red grouper index. If we were asked
46 to make advice using the interim assessment approach, it would
47 likely come from the bottom longline survey for red grouper.
48

1 Finally, on to gray triggerfish. Here, we see high variability
2 in the fit, a relatively poor fit of the model to the data, and
3 there is positive auto-correlation, both in the one and two-year
4 lag, and, again, you see that kind of lumping of deviations
5 above and below the zero line. This is the video survey for
6 gray trigger. It's not ideal.

7
8 The same thing with the trawl survey. It's highly variable,
9 and, again, you've got to keep in mind, when you're looking at
10 these plots, the points that you would be using to make ACL
11 changes, decisions, are these blue points, and not from the red
12 line, and so you would be potentially taking something that
13 comes in way up here from a highly-variable survey and using
14 that to inform your ACL or ACT advice.

15
16 Eastern Gulf MRIP, again, it's highly patterned. There are mis-
17 fits in large areas and high variability. West Gulf MRIP,
18 again, it's highly patterned, and there is high variability, and
19 so that's just a quick run-through of a couple of them and the
20 things that we're looking at.

21
22 This is sort of a summary table. What you're looking at here
23 is, again, all of the stocks that I listed on the earlier slide
24 and the indices that are available for MSE, and so, for red
25 snapper, all know that there is more than one fishery-dependent
26 index for red snapper. However, a bunch of those, the
27 commercial indices, stopped in 2006, due to the IFQ truncation,
28 and that comes into play for a bunch of our stocks.

29
30 There was also issues with SEDAR 52 and the recreational
31 fishery-dependent indices, with a lot of them needing to be
32 truncated because the species association -- The Stephens and
33 MacCall protocol that we use for those seems to be breaking down
34 for a number of our stocks, where there seems to be shifts in
35 association that we haven't fully been able to accommodate in
36 the current standardization procedure, and so all of those
37 truncated indices haven't been included in this table, just the
38 ones that made it through the terminal year of the most recent
39 assessment.

40
41 Then, finally, for the qualitative recommendations, our
42 qualitatively-plausible indices, I have listed the ones that we
43 at the Science Center identified as candidates for interim
44 assessment, and certainly candidates to be fed into the MSE,
45 when that becomes available, and, for most of our stocks, there
46 are at least one fishery-independent index that we think is a
47 decent candidate. However, we do have a couple, gray trigger
48 and king mackerel, where none of them appear to be suitable at

1 this point in time.
2

3 It is important to note, and I will reiterate this later in the
4 conclusions, that the gray trigger assessment -- There is a new
5 one coming out and one that is completed, and I believe the fits
6 the indices have improved quite a bit, due to changes in the
7 modeling structure for that stock assessment, and so it's highly
8 possible that, when the new gray trigger assessment is
9 finalized, there will be indices that appear to be much more
10 informative than the ones we have now, and the same may hold
11 true for king mackerel. I just don't know where that's at, in
12 terms of its development.

13
14 General conclusions are that selecting an index, or multiple
15 indices, is not entirely straightforward. They can't be too
16 noisy, or we don't want them to be too noisy. Otherwise, we're
17 going to be adjusting our catch advice based on just noise. We
18 don't want them to have strong residual patterns, or you run the
19 risk of just missing the signal in abundance, and, ideally, they
20 want to track the biomass that is vulnerable to your fishery or
21 be appropriately time-referenced, and so you've got make sure
22 you're using the data point from when that cohort is going to
23 introduce into the fishery, and so it may need to be four or
24 five years lag for an index like that.

25
26 Selection of the management procedure is based, in part, on the
27 selection of the index, because they sort of work as a team, and
28 it needs to be made on a stock-by-stock basis. We're not going
29 to be able to do this once and have that apply for all of our
30 stocks. We have to do it for every stock, when it comes time to
31 evaluate them.

32
33 Then the final thing is this sort of evaluation of those MPs and
34 indices, and it's going to be eventually done through the MSE,
35 whether that be in the FL R package in the short-term or through
36 the new SS 3 MSE capabilities in the long-term, and,
37 essentially, what we're going to be doing is turning this
38 operating model box, which is the big hang-up right now, is
39 getting our stock assessments into a functioning operating
40 model.

41
42 We will generate data and use that data, and this is just going
43 to be like a forecasted index value to feed into our harvest
44 control rule, which is one of those MPs, and then we'll use that
45 to adjust our catch and run this loop over and over again and
46 output those performance statistics, which we'll have to agree
47 upon as a collective, and use those to make decisions, similar
48 to what we saw in that plot from Quang's paper back in Slide 3,

1 I believe it was. We'll use those to make decisions about
2 whether or not we can do an interim assessment for a stock, and,
3 if we can, what the MP and index combination is that gets us the
4 results we want.

5
6 The final conclusions are that the selection of the index and MP
7 really has to be done in the MSE simulation. The MP and the
8 index selection that we make will need to be, and definitely
9 should be, reevaluated with each new assessment, and that's
10 going to tie into what I mentioned previously from gray trigger.
11 You can have situations where we adjust data weighting in an
12 assessment and you get new pieces of information and things fit
13 differently from assessment to assessment, as we develop our
14 knowledge of how to conduct stock assessments and the quality of
15 our data changes and improves, and so we'll need to reevaluate
16 these things on a regular basis.

17
18 That seems like a big ask, considering how long the development
19 of this process has taken, but we are very hopefully that, once
20 we get that SS 3 MSE capability, that this reevaluation is not
21 going to be as daunting as it seems.

22
23 Then, finally, we at the Science Center are acutely aware of the
24 desire to get this up and running, especially for stocks like
25 red grouper, where it seems that annual management is
26 desperately needed. We are working on it, on multiple fronts,
27 and we hope to get much more quantitatively-backed processes
28 available for select species in the near future.

29
30 That being said, qualitatively, from this analysis, we can say
31 that, for some select species, we appear to have indices that
32 are informative. Also, there are MPs that exist and have been
33 tested, under simplified simulation conditions, but, during that
34 process, they were shown to perform well, certainly better than
35 a fixed TAC approach, and somewhat similar to the annual
36 assessment that Quang tested in his paper.

37
38 In the near-term, the interim assessment process could be used
39 to inform ACL/ACT decisions in limited situations. We don't
40 want to let the cat out of the bag and start doing this for
41 everything, because we strongly believe that this quantitative
42 process needs to happen before we move ahead, but then sort of
43 emergency situations, especially with stuff like red grouper,
44 where we've got this potential red tide in 2018 that is not
45 fully accounted for, but we could use the index information to
46 help guide the discussions of where that ACL/ACT should be.

47
48 This process could be used, and we'll have to make some gut

1 decisions about the index, the MP, and the level of uncertainty
2 that we're going to accommodate in there, but this could be used
3 to certainly help guide the discussion of where to set ACL and
4 ACT relative to ABC recommendations for something like red
5 grouper.

6
7 Then, long-term, once we get the MSE process complete, we
8 anticipate interim assessments being used annually for all of
9 the stocks, and how that is delivered, or what form it comes in,
10 has yet to be determined, but we're seeing up a way to very
11 easily and quickly be able to update our indices of abundance
12 for all of our stocks.

13
14 It may be that, at some point in the not too distant future, the
15 SSC receives kind of an annual update on stock status for every
16 species under management that is not undergoing a stock
17 assessment in that year, which gives you the interim assessment
18 advice for that stock, and then decisions can be made at that
19 time whether to adjust ACL/ACT, or, if the results of the
20 analysis suggest that something is going wrong, if the index is
21 dropping off, maybe that information is used to adjust the stock
22 assessment schedule and move a certain species up and down the
23 priority list.

24
25 All of that is yet to be determined, but we fully anticipate
26 this, when it's completely implemented, becoming something that
27 we see annually for species in the Gulf of Mexico and as well as
28 other places. That is the end of my presentation, and I'm happy
29 to take any questions and help out with discussion, if there is
30 any. Thank you.

31
32 **CHAIRMAN POWERS:** Thank you, Matt. In terms of the scope of
33 work for this, this is basically an educational process and some
34 recommendations and that sort of thing. It's interesting to me
35 that we have just used a management procedure for the data-
36 limited, and the difference, of course, is how much testing goes
37 in, and, in this case, in Matt's presentation here, you're
38 trying to scale it to an actual assessment, whereas, the data-
39 limited, you're scaling it to an assumption, essentially. Are
40 there any questions or comments about this?

41
42 **DR. NANCE:** Certainly it's important for everyone to buy into
43 this process. A lot of these species are controversial, and, if
44 you base it on a couple of indices -- Everybody has to
45 understand what the process is and things.

46
47 **CHAIRMAN POWERS:** That's a good point, and it's my experience,
48 in seeing how these are done around the world, that the MSE

1 process -- Not so much the management -- Well, both, I guess,
2 but you want to have user input, constituent input, because how
3 you choose those tuning variables for indices and such depends
4 on whether you want to have wildly different catches from year
5 to year versus very stable catches, and, if you're willing to
6 sacrifice a little bit, in terms of overall yield, in order to
7 have stable catches, then those are the kind of tradeoffs. To
8 me, that's the important part of a management strategy
9 evaluation, is elucidating those sorts of tradeoffs to the
10 people that are actually involved.

11

12 **MR. SMITH:** I can definitely see that conversation taking place
13 at the SSC. I can also see it happening as part of the data and
14 assessment workshop during a stock assessment cycle, because,
15 oftentimes, we have members from the recreational and commercial
16 industries at those workshops, where they could have their voice
17 and participate in the discussion around these different
18 performance metrics that we use to develop the performance and
19 then use to select an MP from the MSE situation.

20

21 We may also have other stakeholder outreach workshops associated
22 with this, and I don't want to speak to that, because I don't
23 know if that is in the plans or not, but there are avenues that
24 we could already incorporate it into things we're doing anyway,
25 for sure, and I anticipate that discussion starting to happen as
26 we get closer to rolling these out.

27

28 **CHAIRMAN POWERS:** Okay. Thank you. Any other comments? Good.
29 Thank you.

30

31 **MR. SMITH:** All right. Thank you.

32

33 **CHAIRMAN POWERS:** We're on to Agenda Item X, and this is Luiz.
34 Now, Luiz has promised to do this, and he also promised to lead
35 the first agenda item for tomorrow, but he's bailing out, in
36 terms of physically being here, but you can be available on the
37 webinar?

38

39 **DR. BARBIERI:** Yes.

40

41 **CHAIRMAN POWERS:** Now, the question I have for all the SSC
42 people is we said we would revisit the red grouper first thing
43 in the morning. Will that upset your schedule?

44

45 **DR. BARBIERI:** No, that should be fine.

46

47 **CHAIRMAN POWERS:** Okay, and so you're flexible either way. All
48 right. We will begin them with Agenda Item X, which is getting

1 into the South Atlantic approach to MRIP and that sort of
2 things. Luiz.

3

4 **REVIEW OF SOUTH ATLANTIC COUNCIL SSC RECOMMENDATIONS FOR MRIP**
5 **APAIS/FES SURVEY METHODS**

6

7 **DR. BARBIERI:** In terms of background, this is something that we
8 discussed here before ourselves, and you may remember, I think
9 it was last year sometime, or perhaps it was the year before,
10 that we were considering a number of assessments, and I believe
11 there were like three or four, that we were calling MRIP Lite
12 assessments that basically were turn-of-the-crank-type updates
13 of our assessments, incorporating the newly-calibrated MRIP
14 data.

15

16 Basically, it was we had stock status determination and
17 management advice already provided by those assessments, but,
18 because there was an expectation that the new MRIP data was
19 going to be released, what would be the impact of this new data
20 and new results into those assessments, and so remember that we
21 had that discussion here, and we made a decision to actually not
22 go forward with those assessments, because, at the time, the
23 conditions for the assessments to be done were that it would be
24 very simple, and the only data series to be changed in those
25 assessments, the only thing to be changed, would be the new
26 recreational survey results, and so just that data would be
27 changing, and so the age composition and size composition and
28 all the other parameters would be the same.

29

30 We felt, at that time, that that was not really desirable and
31 that there were too many questions going on and that there would
32 be unknown impacts on the assessment and that the best thing,
33 perhaps, for us to do is wait and have those assessments
34 revisited later, as we went through a formal, more complete
35 SEDAR process.

36

37 The South Atlantic Council, at the same time, was considering
38 similar kind of things. For their assessments, there were four
39 stocks that were being considered, and I don't remember what
40 they are now, off the top of my head, but they should be here in
41 the Agenda Item X background document.

42

43 Those assessments were to be conducted, and, there, they
44 actually had the ability to change a few more things, like to
45 update the age composition and some other parameters in the
46 model, but it was still a limited amount of data review and a
47 limited amount of potential changes to be done with those
48 assessments.

1
2 There, the assessments went forward, and they actually were
3 completed, and, last fall, they came before the SSC, and,
4 actually, I think it was earlier this year, because of the
5 federal government shutdown, but they were back in January or
6 early February when the assessments were presented to the SSC.
7

8 At that time, the SSC realized that there were some stock status
9 changes that were caused by those updates and that, given the
10 fact that it really didn't have a whole lot of data review
11 associated with it, that we rejected those assessments to
12 provide updated stock status determination and provide
13 management advice.

14
15 Then, after that, and this is the background of this whole
16 thing. After that, then the idea was to have a workshop, an
17 MRIP workshop, that would look into the types of changes that
18 had really taken place with the new FES-calibrated -- The new
19 recreational fishing data with the FES-calibrated results and
20 how those -- Have a better understanding of those data, those
21 changes, and potential impacts on the assessments to then decide
22 on how to proceed.

23
24 If you look, and I didn't put a presentation together, and I'm
25 sorry, but, if you look at -- There is a PDF of the SSC workshop
26 report, and this workshop was held last month, mid to late
27 August, in Charleston, and the idea was to evaluate, really have
28 a better understanding, of the differences between recreational
29 fishing data that had been conducted under the Coastal Household
30 Telephone Survey and the new FES estimates and then look at what
31 potential impacts these changes could have on the outputs and
32 the new estimates of recreational data that are going into
33 assessments.

34
35 To some extent, that SSC was asking questions not very different
36 than the questions that we've been asking and that we were
37 asking Skyler today and that we have been asking about what's
38 the impact of those changes on these assessments that are
39 perhaps causing different stock status determinations and
40 potential management advice.

41
42 This is one thing that was the objective of this workshop, and
43 then another was, as you may have noticed, the new FES-
44 calibrated data seemed to have a little more jagged sort of
45 distributions over time, and it was not as smooth as before, and
46 so with that came some questions, again, of the impacts of this
47 new time series on the assessments.

48

1 Then, for some stocks, how do we actually evaluate what would be
2 outliers? I was thinking about this when Doug, earlier today,
3 was asking Skyler about this. As we look at the series, for red
4 grouper, there was -- I think it was 1989 that there was a big
5 spike there in the recreational fishing data. Is that a valid
6 point, and should it be included in the assessment, or does that
7 represent -- What represents an outlier and how those decisions
8 are made?
9

10 At the end of this whole thing, the MRIP Office of Science and
11 Technology folks came to the meeting and gave -- This was a
12 three-day-long workshop, and they gave a number of presentations
13 and really presented a thorough review of the methodology for
14 the APAIS survey and for the FES survey and talked about all of
15 the calibration procedures that took place and discussed the
16 calibration models and methodologies, and they had some of the
17 statistical consultants that had been working with them for a
18 decade now in trying to address all of this come and present all
19 of this and address a number of questions.
20

21 I think that the SSC was very appreciative of receiving those
22 presentations. Obviously, they were very informative, and they
23 kind of helped us understand a lot more of what was going on
24 behind the scenes, but there is still some questions about how
25 does that translate into selection of data, the process for
26 selection of data, that goes out of an MRIP estimate into an
27 assessment, but those were some questions that were being asked.
28

29 Right now, the Science Center staff, even the data folks, and
30 Skyler alluded to this earlier, really don't have the ability,
31 for all of the assessments that they have to conduct, to go in
32 and do a very detailed analysis of each one of those data series
33 and specific data points in there to see what sticks and what
34 doesn't. They really have to rely on a lot of the process that
35 is undertaken by the MRIP staff.
36

37 That is a concern, because, for some stocks, especially the ones
38 that are not very well represented in the recreational
39 fisheries, and therefore are not properly sampled by the MRIP
40 program, or are having lower uncertainty estimates by the MRIP
41 survey, what are the impacts of those as we conduct our
42 assessments?
43

44 There is things that can go from gag and red snapper, where we
45 have a fairly high recreational fishery, and you have a certain
46 level of confidence in the estimates, and you can swing to the
47 other side, to something like greater amberjack and some of the
48 species that are not as common in the catch and are more rare-

1 event-type species. and what would be the impacts of those
2 things. Ryan, help me see if I actually addressed everything
3 that was discussed.

4

5 **MR. RINDONE:** I think you gave a good verbal summary of it. It
6 was definitely the most -- It was the single-most informative
7 discussion of the underpinnings of the APAIS and FES adjustments
8 to MRIP that I have ever been present for. I applaud them for
9 the considerable body of work and time and effort that they put
10 into putting this workshop together, and it was really good.
11 There were still a lot of other questions and concerns that were
12 expressed.

13

14 We're using these new methodologies, and we're still using quite
15 -- It's a storied improvement, but still quite dated methods for
16 underpinning some of these calibrations and the ability to
17 simulation test the accuracy and/or precision, I mean even just
18 going one direction or another, for the way that the calibration
19 functions and how close it is to reality is something that
20 doesn't appear to be easily testable, because you can,
21 essentially, bias your own results through whatever artificial
22 environment you are creating to do your simulation testing, and
23 so it's hard to know exactly how precise or accurate the
24 estimates truly are against whatever reality you are trying to
25 measure, and so that remains an outstanding concern.

26

27 **DR. BARBIERI:** Jim, before you go there, just to finish
28 something that I had forgotten. Another issue that came up was,
29 even though most of the discussion was really focused on trying
30 to understand some of the data issues, the uncertainties, the
31 spikes, the outliers, or potential problems that would be
32 influencing stock assessments for species that are being
33 assessed by quantitative models, the results of our discussion
34 about how do we handle the new FES data, and we just saw this
35 issue for lane snapper, and others are going to come along the
36 way for stocks that are data-poor and for which we apply
37 different lower tiers of our ABC control rule that are based on
38 landings only.

39

40 At that point, we couldn't really address what those -- Get to
41 any meaningful discussion of how to address it, and so the ABC
42 control rule -- There is a working group that is being put
43 together to address some of these issues and kind of put a
44 little more thought into this discussion.

45

46 **DR. NANCE:** Would this be something that would be beneficial for
47 us, a presentation or a workshop-type of situation for this
48 data?

1
2 **DR. BARBIERI:** Well, I hate to put the MRIP folks on the spot
3 for this. I mean, I think it was quite a bit of work for them
4 to kind of put all of that together, and, obviously, for us, it
5 would be very helpful, Jim.
6

7 They went into a lot of detail just describing, for the APAIS
8 and the FES, describing really the entire methodology for those
9 surveys, but, also, discussing some of the adjustments, and so
10 this is a design-based estimation procedure that applies a lot
11 of weighting into the data to actually come up -- Adjust
12 estimates to more what they should be when you expand your
13 estimates, and so they discussed this in more detail, and, also,
14 they had sort of case studies for different stocks in the
15 southeast that had either high spikes or very jagged
16 distributions, time series, or very, very large uncertainty
17 bars.
18

19 Another result that came out of the new FES is that estimates,
20 MRIP estimates, may be better representing the amount of
21 uncertainty, but the uncertainty is actually higher now than it
22 used to be, and they are less precise than they used to be under
23 the previous survey. Yes, it would be very helpful, and whether
24 it would be realistic to expect them to come and present to us
25 is a different thing.
26

27 **MR. GREGORY:** I have been waiting, for I guess a couple of
28 years, to get a presentation or a summary of what changed, and
29 it has surprised me that you get hit with it in an assessment
30 first thing, and I don't know if we need to repeat that
31 workshop, and I noticed that, in the past, we had a number of
32 stock assessment slots that were taken up with these MRIP Lites
33 that were supposed to be done, and, if I heard you right,
34 they're not going to be done.
35

36 **DR. BARBIERI:** Ours were not.
37

38 **MR. GREGORY:** So we've lost a couple of years of not having
39 assessments done, because of that, and I, at a minimum, would
40 like to see us look at -- Have somebody come and present what
41 are the old catch string from 1983 or 1984, wherever it started,
42 and what are the new ones and have a discussion on that for the
43 species that the Gulf Council manages, and I assume that -- For
44 the red grouper one, we're talking about 1989, and somebody has
45 evaluated that.
46

47 I mean, we just can't throw numbers in and not look at them
48 closely, and so I'm a little concerned, and I would assume that

1 most of the people around here are familiar with the fisheries,
2 and so we could raise questions with certain things, and, if we
3 do raise questions, will it be addressed by somebody?
4

5 I don't know, and I would leave it to staff to try to figure out
6 what's the best way to go, but I fully expect that, at some
7 point, to have a major presentation of what changed with MRIP,
8 what changed with APAIS, and the potential impact this might
9 have, but I guess we won't know the impact until an assessment
10 is done, because we're not getting the lite assessments, but at
11 least we could see the changes and have some discussion and
12 review of it, and where do we go from here
13

14 **DR. NANCE:** How did the South Atlantic Council be able to manage
15 this, and it seems difficult if we would like the same thing.
16

17 **DR. BARBIERI:** The South Atlantic Council is meeting this week,
18 and so they -- I don't know if this is on their agenda for
19 discussion, and this was a presentation to the SSC, and there is
20 a report that is being presented to the council, and it's one of
21 those things. That is the recreational fisheries data that is
22 available with the methodology that exists, and it's just a
23 matter, I guess, of us understanding how do we learn a little
24 more, to try and adjust some of this in a process that is not
25 disruptive to our assessment process and management advice.
26

27 **CHAIRMAN POWERS:** I have a suggestion for the rest of the day.
28 Why don't we spend the next forty-five minutes to go ahead to
29 the next agenda item, which is more or less the same subject,
30 and then we'll kind of return to this discussion at the close of
31 that.
32

33 That way, we can perhaps get a little ahead on the agenda, but
34 where we go with this -- Really, we need other input as well,
35 and so let's go on to the next agenda item, which is the MRIP
36 people's recommendations about where we stand with this, and,
37 Luiz, you had said you can do this, and, this way, you can avoid
38 the webinar, if you want to.
39

40 **MR. GILL:** He doesn't want to.
41

42 **DR. BARBIERI:** No, of course not.
43

44 **MR. GREGORY:** This is a different subject, isn't it? This isn't
45 MRIP. This is the state surveys, or is it related?
46

47 **DR. BARBIERI:** Yes.
48

1 **MR. GREGORY:** Okay.
2

3 **REVIEW OF RECOMMENDED USE OF THE CURRENT GULF OF MEXICO SURVEYS**
4 **OF MARINE RECREATIONAL FISHING IN STOCK ASSESSMENTS**
5

6 **DR. BARBIERI:** This is really discussion of a white paper that
7 was put together by NMFS. It integrates the surveys that have
8 been developed by the states, working collaboratively with the
9 MRIP Program and the Office of Science and Technology and their
10 statistical consultants over the last six years, when this whole
11 thing started way back when, when we were first discussing red
12 snapper management in the Gulf and the potential for regional
13 management was eventually realized by Amendment 50 for snapper.
14

15 At the time, different states were looking into developing more
16 state-specific and more time-sensitive types of their own
17 surveys for quota monitoring, because, if states are delegated
18 quotas, and this was before this actually happened, being
19 delegated quotas, then you have to monitor your own quota, to
20 make sure that you don't overfish or exceed your ACL.
21

22 Those things started back in 2013, those discussions, and the
23 states developed a number of annual basic workshops, and
24 different state representatives and Science Center and SERO and
25 council and Gulf States Commission -- This was all sponsored and
26 organized under the umbrella of the Gulf States Marine Fisheries
27 Commission, under the GulfFIN program. We ended up with a
28 number of surveys. Basically, we have five Gulf states with
29 five different surveys, because each one of the states developed
30 its own.
31

32 Throughout that process, there was also an interest, as
33 different states engaged into this process, of getting those
34 state surveys, supplemental surveys, certified by MRIP, with the
35 understanding that MRIP certification would actually provide
36 this underpinning of scientific and statistical robustness and
37 make the surveys eligible for funding, if available, and also
38 eligible for use in stock assessments and management.
39

40 This paper basically summarizes some recommendations that came
41 out of the last workshop, and so remember this started six years
42 ago, and the last workshop was held in New Orleans last
43 September, and several of you here, including Leann, were there
44 for that, and there was a lot in discussion in trying to see,
45 okay, how can we try and bring these surveys together and find a
46 way to develop some sort of calibration amongst the surveys, so
47 we have a broader geographic coverage for the survey, but also
48 trying to see how we can do this over time.

1
2 At the end of that workshop, really, nothing major got resolved.
3 I think that the main conclusion was we couldn't really
4 reconcile -- Nobody, including the statistical consultants that
5 were there, could reconcile the different currencies that are
6 coming out of these different state surveys, or supplemental
7 MRIP surveys, and that data was provided, back in January, to
8 NMFS for the statistical consultants to start looking into this
9 and make some additional evaluation and recommendations towards
10 a way forward.

11
12 To date, we haven't received actually a full report of what the
13 outcome of that analysis by the consultants actually arrived at,
14 and this white paper basically recommends that, since we don't
15 have calibration amongst the different state surveys, and
16 because there is no calibration between the MRFSS MRIP and the
17 supplemental state surveys, there is no way for these state
18 surveys to be used for assessment and management, and so there
19 is different options.

20
21 This paper discusses all the potential problems and biases with
22 all surveys, including MRIP, trying to summarize what those
23 issues are, and they make some recommendations. At least four
24 different options have been proposed for the assessment and
25 management of Gulf fisheries.

26
27 This Option 1 is use a time series of catch estimates fully
28 calibrated to ensure comparability across years and amongst
29 states. Option 1a would be use the current fully-calibrated
30 MRIP time series, because that's the only time series that is
31 calibrated across the necessary time scale. Harry.

32
33 **MR. BLANCHET:** Is there a reason why this time series ends in
34 2017?

35
36 **DR. BARBIERI:** Not that I know of, no. Then Option 1b is use
37 the common currency in Option 1a for assessment purposes, but,
38 for management purposes, convert assessment-based annual catch
39 limits into the currencies used by the alternative general
40 surveys, and so this would be LA Creel in Louisiana, and the
41 supplemental surveys, which are Tails 'n Scales in Mississippi,
42 Snapper Check in Alabama, or the Gulf Reef Fish Survey in
43 Florida.

44
45 **MR. RINDONE:** Luiz, can I interrupt?

46
47 **DR. BARBIERI:** Sure.

1 **MR. RINDONE:** Before we stray too far from Harry's question, I
2 actually can answer that. 2015 to 2017 refers to the
3 benchmarking period between LA Creel and the FES-adjusted MRIP
4 survey.

5
6 **MR. BLANCHET:** After 2017, are we just going to write off
7 Louisiana or what?

8
9 **MR. RINDONE:** No, and so that benchmarking period, where they
10 were running both surveys in Louisiana side-by-side is 2015 to
11 2017, and there are no data actually for MRIP in Louisiana in
12 2014, which was when LA Creel began. The benchmarking period
13 didn't actually start until into 2015, and I don't recall
14 exactly what wave it was, but that's when that benchmarking
15 period to compare the two and try to develop a calibration
16 between the two was conducted.

17
18 **MR. BLANCHET:** Where I was going was, in the first line, they
19 are talking about using this from 1981 through 2017, and I am
20 just wondering why they're not moving that forward.

21
22 **DR. FROESCHKE:** I think it's the 2018 and beyond comes in FES
23 units, and so it's not necessary to calibrate it, but the MRIP
24 numbers are just being collected only, and those are not being
25 collected -- They weren't collected in one thing and converted
26 to something else.

27
28 **MR. RINDONE:** At this point, they are using the calibration
29 method between MRIP and LA Creel that was derived from that
30 benchmarking period that ended in 2017 to calibrate everything
31 2018 and beyond for Louisiana data.

32
33 **DR. BARBIERI:** Continuing then, Option 1c would be to develop an
34 integrated estimate that would integrate, and this was one of
35 the main goals, remember, of the September 2018 workshop in New
36 Orleans, was to start looking into this and seeing a way to
37 integrate these estimates of MRIP as a general survey with some
38 of these supplemental either red snapper or reef fish or
39 everything, in the case of LA Creel, surveys. There is
40 something that is integrated, and then try and create some sort
41 of integrated or calibrated time series and spatial coverage of
42 the Gulf if we want to be using this for assessment and
43 management.

44
45 It so happens that -- I mean, we are not at this stage as yet,
46 or, in this paper, they feel that we are not at this stage and
47 this approach will not be possible until final decisions are
48 made on integrated estimation methods, which are to be taking

1 place in 2021, and calibrations are approved for use in
2 Mississippi, Alabama, and Florida.

3
4 Based on that, this paper recommends the use of Option 1a that
5 basically is the outcome that we saw for the red grouper
6 assessment and which I believe will be the case for all
7 forthcoming assessments, is that you just use the FES-calibrated
8 MRIP survey as a way to provide recreational fishing data for
9 assessment and management.

10
11 Before I go forward, Mr. Chairman, this white paper really -- A
12 lot of the folks were involved in this whole process across the
13 six years, and definitely since last September at that meeting
14 in New Orleans, and a lot of these folks are not really provided
15 an opportunity to comment, edit, or contribute to this document,
16 and so one of the things that we noticed, right off the bat, is
17 that some of the surveys there --- That there are descriptions
18 of issues, problems, limitations, or even main points about how
19 the survey is set up and is implemented, that are either
20 incomplete or incorrect, and so, to that point, we submitted a
21 little document, a white paper, response white paper, on
22 September -- I don't remember what the title is that you gave,
23 Ryan. The response to white paper is the link on our website,
24 and this is something that Bev Sauls primarily -- I helped a
25 little bit, but, primarily -- Beverly Sauls is here in the
26 audience, and she heads our fishery-dependent monitoring
27 program.

28
29 She has been a major leader in our recreational fisheries
30 statistics program, and, basically, she was directly involved in
31 developing the Gulf Reef Fish Survey, and she is very familiar
32 with that process, and she has been working for several years
33 with the MRIP folks, staff as well as the statistical
34 consultants, and so, basically, in this little response to the
35 white paper, we kind of wanted to just lay out some of the
36 issues that were either incomplete or misrepresented about the
37 Gulf Reef Fish Survey in the white paper, and it's just
38 basically to set the record straight and make sure that folks
39 understand what the components of the survey actually are, and I
40 will stop there, Mr. Chairman, to see if there are any comments
41 or questions. I have a few other points that I want to make at
42 some point.

43
44 **CHAIRMAN POWERS:** Reading this, it's kind of like you can either
45 pick one or the other or combine them, and that's basically all
46 they're saying, and, of course, combining them, having some
47 reason to combine them, would be better.

48

1 At the end of this is some tables that, over the 2015 to 2017
2 period, there are some comparisons, which don't directly get to
3 what Doug was talking about, because it isn't done and go back
4 to the long history, but, still, you can see that there are some
5 real differences there, and we have to deal with that. Carrie.
6

7 **EXECUTIVE DIRECTOR SIMMONS:** Thank you, Mr. Chairman. I just
8 wanted to provide a little bit of background I guess about how
9 this document came about a little bit more, from a staff
10 perspective, perhaps.

11 This was rolled out during a special SEDAR Steering Committee
12 meeting, and I think it was like August 26 or something like
13 that, and we had a special meeting, and it was done by webinar,
14 and Dr. Clay Porch went through this with the Steering
15 Committee, and, really, it just laid out the fact that Option 1a
16 is really the only defensible option that we can go with at this
17 time, based on these other outstanding items that we need to
18 work through with the supplemental state surveys. That's how
19 this came about.

20
21 Now, this is something that has been on the horizon for a long
22 time now, and we've gotten several presentations, I think, from
23 Richard Cody and others at Science and Technology about these
24 differences due to the FES estimates, and I feel like this body
25 and the council has had those presentations, and we can go back
26 and be sure of that, and it was originally on our stock
27 assessment schedule for many years to do these MRIP Lites, but I
28 think we came to you, when we finally got that information, and
29 decided, because there had been so many years that had elapsed
30 between many of the assessments and these large changes and not
31 having the size composition and selectivity information
32 available and unable to be incorporated in those MRIP Lites, we
33 decided to wait on moving forward with those, I believe. Ryan
34 or somebody else can correct me if I'm not getting that right,
35 but I think that's what we decided to do.

36
37 This is now the first time we've seen it in these two
38 assessments this morning, and so I guess red grouper this
39 afternoon and lane snapper, and actually how these numbers are
40 being inputted into the assessments and seeing the results.

41
42 Keeping that in mind, as we move forward to Option 1b and 1c in
43 the coming years, there is potentially going to be many more
44 changes, or many changes, or some changes, or a change, in that
45 index, however that plays out based on the various programs the
46 states have set up.

47
48

1 As that goes through the council process, and us thinking about
2 that from the staff perspective, I've got a really big headache,
3 because we're looking at these changing indices and how they're
4 moving through the management, and so how big or small this is
5 going to be -- Right now, to me, it's a large hurdle that we're
6 going to have to work through assessment-by-assessment.

7

8 **MS. BOSARGE:** Luiz, I was in that meeting, and, if I remember
9 correctly, we had MRIP, and that's one survey, and now we have
10 FES estimates. For the sake of argument, say that's a second
11 survey. Now we also have five -- For at least red snapper, the
12 elephant in the room, we have five state surveys, and so we have
13 seven estimates, essentially, of what that effort and landings -
14 -- What that looks like, what that recreational picture looks
15 like.

16

17 If you sum the five state surveys together and get a total
18 landings picture, or a total effort picture, however you want to
19 look at it, and you compare that to the old MRIP data, the sum
20 of those five surveys was fairly close, on average, to what MRIP
21 used to show us, and is that correct, versus the FES survey,
22 which shows vastly-inflated data compared to these other six
23 surveys, and so it's almost the outlier. If you add seven
24 surveys, that one is the outlier.

25

26 I guess the part that has always worried me, from the management
27 perspective, and it was the question that I asked earlier. If
28 you use the outlier, if you were to plug that into a red snapper
29 assessment right now, and you tell that model that we have been
30 catching, on average, much higher levels of red snapper for
31 thirty-some-odd years now, I don't see how else the model can
32 interpret that but to say there is a larger stock of red snapper
33 out there than we thought, and we can fish this thing harder,
34 right, and so we're going to get increased catch levels, which I
35 saw in the red grouper assessment this morning that we've got a
36 stock that's doing this, and, even if you take the peak out for
37 that recruitment spike, even if you take that out, we have a
38 catch level recommendation that is much higher than what we
39 currently have that we're not even filling, and so how do you
40 bring all of that together and defend using the higher numbers?

41

42 It always worries me, from a management perspective, that we
43 will do something that will fish a population down, because we
44 were using inflated numbers, and we finally get all of this
45 together, and, three or five years later, we go back and change
46 them back to close to what they were, but the damage is done,
47 and I guess that's what worries me.

48

1 **CHAIRMAN POWERS:** Luiz, can you answer that?
2

3 **DR. BARBIERI:** No, Mr. Chairman, but I can provide some
4 thoughts. I mean, I think, Leann, this is in line with some of
5 what Carrie brought up, that it's a lot more instability into
6 this whole system, and we've got to go forward with assessments
7 and management, but we have a lot more instability put into
8 this, because -- To some extent, this is what is disappointing
9 to me, is there was a lack of vision here of six years ago, when
10 we started this process, to really identify where do you want to
11 end and is this going to be the best type of recommendation, or
12 solution, to help with our assessment and management process.
13

14 To some extent, I feel like -- I was telling somebody this, that
15 it's like you sign up and you go to college and you pay your
16 stuff and you go to classes and, at the end, they say, listen,
17 I'm sorry, but we are not certified to allow you to get a job,
18 and you learned a lot, and you should be happy with that.
19

20 There is no real intention, and I think that the MRIP staff,
21 Science and Technology staff, tried to engage with states and
22 Gulf States Commission and the councils and the SSCs with the
23 intention of helping bring something together, and they provided
24 a lot of their time and effort into this, and they made their
25 suite of statistical, high-end, best-in-the-world, consultants
26 available.
27

28 All of this is commendable, and they were extremely helpful in
29 helping us move forward with development of the Gulf Reef Fish
30 Survey, but, to some extent, I think we failed, and I'm trying
31 to reevaluate all of this, and this is one of my statements to
32 the SEDAR Steering Committee.
33

34 We failed to take more direct responsibility about the direction
35 of this, and I think we inadvertently delegate that
36 responsibility to the MRIP Program or the NMFS Office of Science
37 and Technology, and we did not take care of our own destinies
38 here. The idea here, and this is what I think is important for
39 this committee and for the council, is MRIP is a general survey.
40

41 I mean, it's a very good survey, and it's very complex, and I
42 know that survey very well, and I can tell you, unequivocally,
43 that I do, and it's very well put together, but, given the
44 magnitude of species that we have to deal with, and, I mean, we
45 just saw Matt Smith go over different indices just for some
46 specific area, a suite of species, and how variable those things
47 can be and how much variability you can have right there.
48

1 In this case, MRIP, especially for some of these reef fisheries
2 that represent, in some cases, 5 to 10 percent of the total
3 number of saltwater fishing trips that actually happen, and
4 people don't realize that about 90 to 95 percent of the total
5 number of saltwater fishing trips that take place are really for
6 inshore species, that are either shore-based or near-shore or
7 estuarine, the seatrout and red drum and all the other stuff
8 that we catch inshore, and only a small proportion, really, of
9 those trips are focused on reef fisheries, and so the idea here
10 was to develop something where you treat that stratum,
11 statistical strata, separately, where you apply a survey that is
12 directed towards those 15 percent of trips, or 10 percent or 5
13 percent, whatever they might be.

14

15 You increase your precision there by developing that
16 supplemental survey, and so you can have the general survey that
17 is applied across-the-board, and, on top of that, you can apply
18 a supplemental survey that is focused on that stratum and that
19 you can have your entire sampling, by design, set up to focus on
20 sites, for example, where you have a higher likelihood of
21 originating offshore reef fish trips, and so your efficiency
22 there is much higher, and, in some cases, you apply your
23 recreational effort survey, also directed at an already pre-
24 defined license-based frame, so you have a much higher
25 efficiency there, instead of just a complete random sampling
26 that you apply across-the-board.

27

28 The idea was we see the level of variability that we have in
29 recreational fishing survey results, data, that comes out, and
30 some species are better than others, but, by and large, we have
31 quite a bit of variability.

32

33 I mean, Skyler was saying we actually apply a larger CV to the
34 recreational landings than we did to the commercial landings,
35 for no other reason than we know, inherently, that that type of
36 data is much more uncertain, and so the idea here was for us to
37 work together with them and develop something that could be
38 added on top of the general survey to more effectively and
39 efficiently generate recreational fishing estimates for that
40 part of the fishery, and that greatly impacts the assessment,
41 and it allows for better monitoring for management purposes.

42

43 **CHAIRMAN POWERS:** Thank you. I think what we're leading to,
44 really, is you have all these different sources of data, but we
45 as the Gulf of Mexico, we representing the data collection in
46 the Gulf of Mexico, kind of have to do it ourselves, is
47 essentially what you're saying, that, yes, the MRIP -- I mean,
48 that data is useful, but the actual getting down to the nitty-

1 gritty of how you combine it and that sort of thing, we'll have
2 to do it ourselves, and, when I say ourselves, I mean
3 collectively. It's not going to be all of us here on the SSC,
4 and a lot of that would have to come from the Center as well,
5 and I'm not sure what sort of resources there is to do that sort
6 of thing.

7

8 **DR. NANCE:** The states in collaboration with the Center.
9

10 **CHAIRMAN POWERS:** Yes, but, I mean, it's not something that the
11 SSC does itself.
12

13 **DR. BARBIERI:** Right, and the discussion is really in terms of
14 how we look at the analytical products that come in front of us.
15 We just saw a major stock assessment, now with a different stock
16 status determination and quite a big change in management
17 advice, and so how do we integrate all of this?
18

19 **SSC MEMBER:** We haven't given any management advice yet.
20

21 **DR. BARBIERI:** Right, but we are expected to produce one, and so
22 how do we get this? I was discussing with my compadre here, who
23 is writing a motion already for the red grouper for tomorrow
24 morning, and that is what units are we talking about? Like the
25 units that came out of the assessment are the currency that came
26 out of the assessment, and how does that compare with the
27 previous units for what exists there, in terms of the quota that
28 we have in place right now and how all of this is being
29 monitored?
30

31 **CHAIRMAN POWERS:** Which kind of goes back to Doug's original
32 comment, is we really need some sort of comparison of what are
33 the -- What has been used in an assessment with MRIP versus what
34 would be used with MRIP now.
35

36 **MR. BLANCHET:** My struggle with all of this has been the --
37 Because I tend to look at this in a very Louisiana-centric way,
38 the approach on the calibration has been based on a changing
39 that by state, so that it's not like you can multiply everything
40 by four from the MRIP and get FES. Some states get multiplied
41 by 1.5, and some states get multiplied by four.
42

43 Four management purposes, when you're starting to talk about
44 that scale, that's going to make a huge difference, in terms of
45 some of the management things that the council currently has in
46 place.
47

48 **CHAIRMAN POWERS:** I think, at this point, all we can do is kind

1 of make recommendations about directions we think we ought to
2 go, we collectively the scientific community ought to go, and I
3 tend to agree with Doug that we really need to have a better
4 understanding of the basis of what these comparisons are.
5

6 **DR. BARBIERI:** Right, and that's one thing, and I think that's
7 the basic information that we need to have. I also think that
8 we need to make some decisions about what do we want to do going
9 forward. We already have now -- If you think about this, the
10 western Gulf no longer conducts the MRIP survey, and so neither
11 Texas nor Louisiana, and that's the center of abundance of the
12 elephant in the room, red snapper.
13

14 That's the thing, is it's like how can we get a common thread of
15 understanding of everything that we're trying to understand, in
16 terms of recreational catch and effort for Gulf-wide assessed
17 and managed stocks, and make all these different currencies talk
18 to each other, and so this is another thing, and so one is
19 understanding, and another one is perhaps engaging the
20 discussion, and I think that, if this committee makes some
21 recommendation to that extent, you will have a huge weight --
22 Some of us are trying to reach out to the Gulf States Commission
23 and to the state directors from each one of the five states and
24 try and organize a meeting at the next Gulf Council meeting, and
25 this will be an on-the-side sort of informal thing, to basically
26 try and identify what is the willingness of states to basically
27 work together and try to address this.
28

29 I mean, obviously, LA Creel -- I am familiar with LA Creel, to
30 some extent, and it does a great job for a lot of species in
31 Louisiana. GRFS, and I'm very familiar with GRFS, I think does a
32 great job for a lot of stocks that are more common in Florida,
33 and it's more precise, and I believe that it's more accurate as
34 well, estimates of catch and effort.
35

36 What we're talking about, assessing stocks across broad
37 geographic scales, and I was talking about this translates into
38 reference points and all sorts of things, and I think that there
39 is an interest in developing something that can be more cohesive
40 across that geographic scale.
41

42 I would like to hear from the committee if this is something
43 that would be desirable. Obviously, funding and implementing
44 all of this is a different story, sure, but I think, if we can
45 come up with a game plan of some sort, then the next step is to
46 obtain funding for it, but start that discussion going that way.
47

48 **CHAIRMAN POWERS:** Also, I mean, most of the recreational fishing

1 occurs in the Gulf of Mexico, as compared to other regions, and
2 so it's kind of incumbent on us to go to -- Not go it alone, and
3 it's not really -- Because you're still using the data from
4 whatever sources you have, but rather how this gets integrated
5 in, and it's largely going to come to us, I guess. Doug.
6

7 **MR. GREGORY:** I guess, with some patience, what my main concern
8 was earlier can be addressed through the upcoming stock
9 assessments. I have noticed, in the two terms of reference that
10 we've got here for gag and greater amberjack, there's a section
11 that says document changes in MRIP data, both pre and post-
12 recalibration, in terms of the magnitude of changes to catch and
13 effort. We can elaborate on that and say annually or state-
14 wide, just to make sure that somebody does it.
15

16 It doesn't get at what you're talking about, but it is one way
17 to kind of see the big picture. I was expecting to see a suite
18 of species provided and all that, but this gets at it one at a
19 time over a period of years.
20

21 **DR. NANCE:** It seems like, when we first started this process,
22 we had all those species that we were going to do assessments
23 for, but we were worried about incorporating everything in, and
24 so we were waiting to have everything done and have the same
25 currency for each, so we could then incorporate them into the
26 assessments. Basically, what's happening is we're taking them
27 one at a time and incorporating each of those for the species of
28 concern.
29

30 Some may not get done, and some of these surveys may not be
31 incorporated, because we can't figure out common currency, but,
32 basically, it's saying use the ones that we have with common
33 currency to be able to run those assessments.
34

35 **MS. BOSARGE:** So, Luiz, was there any discussion, when this red
36 grouper assessment was undertaken, and we had to wait on FES, I
37 remember, but, I mean, it's very Florida-centric, and was there
38 any discussion about using the Florida survey versus FES and
39 looking at the differences in -- If there are differences, and
40 they might be just the same, and I don't know, but trying to
41 explain that and figure which is the best path, or was there no
42 discussion and we just took it for what it was?
43

44 **DR. BARBIERI:** No, there were discussions, and there was a
45 discussion to that effect. Now, granted, as you conduct stock
46 assessments, you have to have some way to calibrate the last
47 four years or so that we have of the Gulf Reef Fish Survey, if
48 that's what we're going to use, and calibrate that with the MRIP

1 and MRFSS going back, so we could actually generate a long
2 enough time series of data to then have this done. This is part
3 of what's missing.

4
5 We had discussed it, and remember when Rich Cody was here at the
6 last SSC meeting, and he gave a presentation, and the MRIP
7 office has been reaching out to different states to have
8 individual meetings with different states to discuss these
9 comparisons between MRIP FES and the state surveys and how the
10 things could be used to develop some calibration.

11
12 We actually decided to postpone that meeting until later,
13 comparing the two, until we can actually kind of put some effort
14 into, one, seeing what's the willingness from other states to
15 kind of develop something that's more cohesive, and, two, for us
16 to start putting effort into developing those calibrations,
17 because, if we get to Option 1c, we need to get those
18 calibrations done.

19
20 **CHAIRMAN POWERS:** All right. I would -- If we want to continue
21 this discussion in the morning, I'm amenable to it, but,
22 basically, what I would like captured in the summary of this
23 session is that we're going to have to deal with it, and it
24 probably won't be done by Science and Technology. It's
25 basically going to be our problem, and I like Doug's idea, as a
26 starting point, to just make sure it's written into the terms of
27 reference for assessments, as a starting point.

28
29 Also, you know, this should be conveyed to the council, and also
30 the Steering Committee for SEDAR as well, which is more of the
31 councils, by and large, but it's -- You know, it's not something
32 that is going to be done by somebody else, is basically what
33 we're getting to, and, inevitably, if we're doing it on a stock-
34 by-stock basis, it's going to take more time, and there's going
35 to be some glitches in you interpreting one stock with this and
36 if there is -- With ecosystem-based fisheries management, you
37 have one stock you're measuring one way and another stock
38 another way, and there could be some problems, but we have to
39 begin, take a first step.

40
41 **DR. NANCE:** It sounds like, Luiz, that Option 1a is the default,
42 that it will be used unless there is a need to use Option 1b,
43 and that's the progression forward, is 1b and then 1c, but 1a
44 will be used unless we have other means. Okay.

45
46 **CHAIRMAN POWERS:** Okay. I am done for the day. If you want to
47 continue this in the morning, this particular subject, I will
48 entertain that, come tomorrow morning, but, at this point, I

1 think we need to adjourn for the day and come back at 8:30
2 tomorrow morning with our red grouper motions. With that, thank
3 you. See you at 8:30.

4

5 (Whereupon, the meeting recessed on September 17, 2019.)

6

7 - - -

8

9 September 18, 2019

10

11 WEDNESDAY MORNING SESSION

12

13 - - -

14

15 The Standing & Special Reef Fish, Mackerel, and Socioeconomic
16 Scientific and Statistical Committees of the Gulf of Mexico
17 Fishery Management Council reconvened at the Gulf Council Office
18 on Wednesday morning, September 18, 2019, and was called to
19 order by Chairman Joe Powers.

20

21 **CHAIRMAN POWERS:** If you would take your seats, we're going to
22 reconvene, and the subject matter we left in abeyance was red
23 grouper, and, to that end, I recognize Bob Gill.

24

25 **SEDAR ASSESSMENT REVIEW: SEDAR 61 - GULF OF MEXICO RED GROUPER**
26 **(CONTINUED)**

27

28 **MR. GILL:** Thank you, Mr. Chairman. While Jessica puts up a
29 motion, I would like to comment about it. Number one, it's a
30 strawman. Number two, when you see it, we have two different
31 currencies for OFL and ABC, and, if I understand this correctly,
32 and Skyler will correct me if I'm wrong, at this point, they are
33 not reconcilable, and so the OFL is in the FES currency, the
34 catch advice from Slide 93, and the ABC is the 2017 landings
35 target, and it's in the MRIP CHTS currency. **Unfortunately, we**
36 **haven't got a way to reconcile those, and so they're not -- We**
37 **have apples to oranges, but it is what it is, and so I offer**
38 **this up for consideration.**

39

40 **CHAIRMAN POWERS:** Is there a second? All right. There is the
41 issue that Bob just talked about, but the gist of this is
42 basically saying that the advice is more or less on the basis of
43 that the red tide in 2018 was somewhat like, or perhaps somewhat
44 like, 2005, and so that's sort of the gist of what's going on
45 here. Doug, did you have a comment?

46

47 **MR. GREGORY:** Yes, I have a question. Is the 5.07 -- I don't
48 have my stuff up yet. Is that the average of the five years for

1 the tables at the end of the presentation?

2

3 **MR. GILL:** No, sir. The 5.07 comes from Slide 93, and it's the
4 2005 red tide portion, and it is the lowest OFL number in that
5 sequence, and the reason for that is, as you may have already
6 discerned, I have a distaste for the spike, and, unfortunately,
7 the tables contain spike influence, and so my rationale was, to
8 minimize the impact of that spike, I chose as the OFL the lowest
9 OFL in the catch advice on Slide 93.

10

11 **MR. GREGORY:** Could I ask Skyler to -- I asked her yesterday, in
12 a round-about way, and I'm sorry that it wasn't a simpler
13 question, but what is the probability of overfishing if you take
14 the average of those five years? It's going to be more than 11
15 percent, but I don't know how much higher, and she did that last
16 night, and that was the average of the five years, and so that
17 average is higher than 5.07, and so that will give us an upper
18 bound as to the probability of overfishing with the OFL.

19

20 **DR. SAGARESE:** I did prepare just a couple of extra slides for
21 context, and the first bit of it does address Doug's issue, but
22 I also wanted to briefly touch on the spike as well, and so if I
23 could just send -- Ryan, I just sent you a couple of new slides,
24 if you could just forward them off. It's just to kind of come
25 full circle and reevaluate. We did do some work last night to
26 try to look further into this spike issue, in terms of how the
27 recruitments are influencing projections.

28

29 **CHAIRMAN POWERS:** Who has these extra graphs?

30

31 **MR. RINDONE:** I am sending them to Jess.

32

33 **CHAIRMAN POWERS:** Thank you.

34

35 **DR. NANCE:** Bob, and so the ABC is coming from where? Is it
36 that table, also?

37

38 **MR. GILL:** No, the ABC is the 2017 targeted landings, in the
39 CHTS currency. I should mention that part of the rationale for
40 that motion is, given all the uncertainties and the complexities
41 we've got going on, my rationale was simpler is better, and so
42 it was a flat OFL, and it was a flat ABC, and, given the current
43 state of the fishery, it doesn't look like either one is a
44 problem, and so it made a lot of sense, but I did not get to the
45 figuring out the probability of overfishing. It's got to be
46 really low, but, nevertheless, it's a point.

47

48 **CHAIRMAN POWERS:** Thank you. Skyler.

1
2 **DR. SAGARESE:** To address Doug's question, if I understood my
3 homework correctly, it was, using those numbers in the 2005
4 scenario, to redetermine that decision table, assuming we would
5 be fishing at that OFL level as well as the other level, which
6 was about 5.19.

7
8 The two catch levels that were requested, if we set the catch
9 advice from those numbers, this is what comes out with the
10 different red tide scenarios. Under a 2005 red tide event,
11 there would be a 50 percent probability of overfishing. By
12 definition, that's what the OFL would be in that situation if
13 the 2018 red tide mortality was similar to 2005.

14
15 If it's less than that, you will see that your probability drops
16 below. The lower catch level, the 5.19, is essentially under
17 the P* of what was used for red grouper for SEDAR 42, and so
18 this is what that decision table becomes when you would set the
19 catches from these estimates that come from that table.

20
21 **MR. GREGORY:** I am surprised the probability of overfishing is
22 that high, but I'm glad we did this.

23
24 **CHAIRMAN POWERS:** You said you also had something on the spike?

25
26 **DR. SAGARESE:** Yes. Yesterday, we went through and, again, had
27 the discussion -- In this case, we see a spike in 2020 in the
28 projections stream, and so what we did last night was we re-ran
29 the projections, but, here, we turned off the recruitment
30 deviations from 2011 to 2017, since, when we looked at the
31 patterns, essentially, there's a lot of uncertainty, and so
32 they're, essentially, no different than zero, with the exception
33 of that 2013, which what we saw yesterday was that was primarily
34 the cohort driving the increase in the fishing mortality, and it
35 was suggesting that there was a lot more biomass out there.

36
37 We turned off those recreational deviations. On the left-hand
38 slide, we're just looking at the red tide scenarios that we saw
39 yesterday for the F 30 percent SPR projection. On the right,
40 what we're looking at is the same projections, but with no
41 recreational deviations in the recent period, and so the first
42 thing to note is you don't see that big spike.

43
44 However, you still see a jump from -- The first year of the
45 projection is 2020, but, again, I just want to highlight here
46 that the way the projections are operating is, in both 2018 and
47 2018, the current fishing mortality rates are much lower than
48 what the model is jumping up to, and so it's jumping up to that

1 F 30 percent SPR rate, and it's essentially just jumping up, and
2 you're seeing this increase in catch.

3
4 You don't see that huge spike, but, ultimately, removing the
5 recreational deviations, we still see that the magnitude of the
6 projected yields that could be removed, based on what the model
7 is saying, is still within the same ballpark, essentially. Just
8 to give you an idea of essentially what the new table looks
9 like, you can see that the averages are slightly similar, if not
10 slightly higher, because they're a bit more consistent, and so,
11 essentially, the influence of those recruitment deviations on
12 the projections -- It's still resulting in similar catch advice.

13
14 **CHAIRMAN POWERS:** Shannon.

15
16 **DR. CALAY:** Thank you. I just wanted to add a little bit of
17 insight into the spike. When we changed the MSST level to 50
18 percent of SSB at MSY, we did not adjust -- This SSC did not
19 adjust the harvest control rule, and so one thing that is
20 happening now is you can see, on this slide, that the red
21 grouper stock is below SSB at MSY, but it is not below MSST, and
22 so the harvest control rule that we're using, the ABC control
23 rule, says that we can fish -- OFL equals fishing at FMSY, the F
24 that produces FMSY, and so, even though we're below the SSB that
25 produces FMSY, our control rule allows us to jump right up to
26 FMSY. There is no recovery plan built into that.

27
28 You're going to see this more and more often, now that we have
29 changed the MSST definition. You're going to see these spikes
30 occur more frequently, because nothing is preventing the model
31 from jumping straight up to fish at FMSY and take all the yield
32 you can, and so I think it's further evidence that we need to
33 reconsider the ABC control rule for these cases where stocks are
34 below SSB at MSY, but not below MSST.

35
36 **CHAIRMAN POWERS:** All right. With that guidance, returning to
37 the original motion, Bob, is there any adjustments that you wish
38 to make?

39
40 **MR. GILL:** Thank you, Mr. Chairman. No, sir. I think I am
41 inclined to leave it the way it is. Relative to the current
42 state of the fishery, the assessment is pretty optimistic, and
43 so the new information that was just provided is, if anything,
44 greater than the numbers there, and so I think this is the more
45 conservative approach, and, given the state of the fishery,
46 better, and so, no, sir. I would like to leave it.

47
48 **CHAIRMAN POWERS:** Doug.

1
2 **MR. GREGORY:** To me, it seems that OFL is a subjective choice,
3 taking one number out of five, and the ABC, which is basically
4 status quo, is very restrictive, coming from us to the council,
5 knowing that the council cannot exceed ABC, and, given what was
6 provided this morning, that, if you take the average of those
7 five years, of the 2005 equivalent red tide, the OFL was 50
8 percent probability of overfishing, and now that fits perfectly
9 with our paradigm, and then the ABC, the 5.19, which I agree is
10 higher than we probably want the fishery to expand to, is at a
11 42 or 43 percent probability of overfishing, and that fits our
12 P* control rule almost perfectly without applying it.
13

14 To me, that is more objective, and then we can follow that up
15 with a recommendation to the council to consider the four-
16 million pounds as their ACL and give the council the flexibility
17 to do that. That's just my preferences on that. I am not going
18 to offer a substitute motion, but, here, we're really holding
19 the council's feet to the fire.
20

21 Now, I suspect, in the end, that the council would go with
22 something like that, because they just implemented an emergency
23 rule to that effect, but I would hate for us just to be picking
24 and choosing numbers like that.
25

26 **DR. NANCE:** I agree. To pick one number out of five just gives
27 us the lowest, and I would rather see us use the average,
28 because we know where that's coming from, and I think it's a
29 better value, and I agree with Doug. As far as -- I don't have
30 the table up there, but I think it's that 5.1 OFL, because it
31 doesn't get us to -- **I think it's conservative, and so that's**
what I would propose, to substitute that I think it's five-
point-one-something million pounds as the OFL.
34

35 **CHAIRMAN POWERS:** What you're suggesting is that last table that
36 Skyler showed.
37

38 **DR. NANCE:** Yes.
39

40 **CHAIRMAN POWERS:** Substitute those numbers in there for the OFL
41 and the --
42

43 **DR. NANCE:** For the OFL.
44 .

45 **CHAIRMAN POWERS:** And the ABC.
46

47 **DR. NANCE:** I think the ABC also.
48

1 **CHAIRMAN POWERS:** The table she had there.
2

3 **DR. NANCE:** So it's 5.19 for the ABC.
4

5 **CHAIRMAN POWERS:** 5.35 for the -- You are basically saying a
6 substitute motion.
7

8 **DR. NANCE:** Yes.
9

10 **MR. GREGORY:** I will second that too.
11

12 **CHAIRMAN POWERS:** So this would be the same motion, except that,
13 instead of 5.07, it's 5.35. The ABC is the 5.19.
14

15 **MR. GILL:** But the rationale has to be changed in the motion,
16 because it's different rationale for those numbers.
17

18 **CHAIRMAN POWERS:** Bob, can you repeat yourself?
19

20 **MR. GILL:** The rationale that is up there is for different
21 numbers for different reasons, and so the rationale has to be
22 changed.
23

24 **MR. GREGORY:** I think, if this passes, we should also give
25 guidance to the council that we realize this is what came out of
26 the stock assessment and that we realize that a lower level of
27 harvest, given the condition of the fishery and given the
28 concerns expressed by the industry, is appropriate, and the
29 council is going to have a Reef Fish AP meeting next month, and
30 there should be information that reinforces that.
31

32 Fortunately, I had dinner last night with about four longliners,
33 and that's my anecdotal data, but they were comfortable with
34 status quo. It's like most fishermen, and they say, well, if we
35 had a little more, we would have some room to maneuver, but
36 they're generally comfortable with status quo.
37

38 Then you get to the question about why are landings going down
39 and what -- Forget about the industry, but why is your landings
40 going down, and it was personal reasons, that I'm older, I got
41 married, I don't spend as much time at-sea, and so it's kind of
42 interesting. We don't know why the landings are going down, and
43 they did talk about those one or two young, gung-ho people out
44 there whose landings are going up, but, in general, they were
45 concerned about the fishery, and they were comfortable with
46 status quo, and so, if we can couch something as a message to
47 the council to that effect, and encourage the council to set an
48 ACL that's less than our ABC, I think it would be appropriate.

1
2 **CHAIRMAN POWERS:** We also should mention -- Again, what Doug is
3 suggesting, I don't necessarily think that it needs to be put in
4 a motion or anything like that, but rather some sort of
5 recommendation that is carried through in the summary of the
6 meeting, but I think we also should mention the fact that it's
7 not overfished is relative also to the change in what we call
8 being overfished, and the MSST being changed to 0.5 rather than
9 one minus M, and so to remind them that that status -- That
10 change in how you measure the status has some significance here.
11 Jeff and then --

12
13 **DR. ISLEY:** We also need to put the units in here, that these
14 are in FES units, so that it's clear for --
15

16 **CHAIRMAN POWERS:** Okay. Where, and then you have to define what
17 the FES -- At the end, we can put something.
18

19 **DR. ISLEY:** I am not sure how to state it, but the --
20

21 **MR. GILL:** Mr. Chairman, the way I read the substitute motion,
22 that's implied in the second sentence, and that's what we're
23 taking it from, and that's the currency of the assessment, and
24 so it's there, and I don't think you need to re-state it. That
25 would be redundant.
26

27 **CHAIRMAN POWERS:** Okay. That would make it simpler, but let's
28 remember to mention this in the summary. The person giving the
29 summary will be Luiz, and let me recognize Luiz.
30

31 **DR. BARBIERI:** Thank you, Mr. Chairman. Actually, if I may, I
32 was just trying to add some additional discussion to this
33 motion, if possible.
34

35 **CHAIRMAN POWERS:** Sure. Go ahead.
36

37 **DR. BARBIERI:** Well, I understand Doug's points, Doug and Jim's
38 points, and the proposal to provide this substitute motion and
39 the figures that are listed there, but I have to say that I feel
40 uncomfortable with us going with this option, really going with
41 a 40 percent probability of overfishing of the ABC. I mean, I
42 don't think that, considering everything that we've been hearing
43 about the condition of the stock and considering what we've
44 discussed about the magnitude and the 2018 red tide event, I
45 don't see that aligning with this recommendation.
46

47 I think status quo, as Bob has suggested, staying at the 4.1
48 million pounds, would be preferable, in my view. That would be

1 actually using a departure from the straight application of our
2 ABC control rule, because, if we're going to pick an ABC yield
3 stream, I think we will have to put this -- I mean, an ABC yield
4 stream that associates with a probability of overfishing, then I
5 think we would have to go through our control rule to come up
6 with a P^* of this new assessment, and I don't know why we would
7 have to stick with the last P^* that was chosen, when we actually
8 had estimated, at that point, that the biomass of the stock was
9 way above BMSY, and I know that was an error that had to be
10 corrected, but, one way or the other, that was our perception of
11 the condition of the stock, and, in that case, a 40 percent P^*
12 was reasonable.

13

14 In the situation that we are now, I would feel, personally, more
15 comfortable stepping aside, and this is a special situation,
16 where we have an assessment that hasn't really been able to, for
17 a number of data limitations, a number of issues that are beyond
18 our control, for an assessment that hasn't been able to really
19 properly capture all the uncertainty that we are dealing with,
20 plus us not having full information on the impact of the 2018
21 red tide. I mean, what we have here is a rationale that we are
22 developing, but we don't actually know what those impacts are.

23

24 I, personally, would feel more comfortable going with the OFL
25 yield stream that came out, and I guess this is Doug's and Jim's
26 recommendation, and I guess that's the 5.35 million pounds for
27 the OFL that is coming out of the assessment, and that has about
28 a 50 percent probability of overfishing, as designed by NS 1,
29 but that, for the ABC, we actually step aside and depart from
30 using our straight-up ABC control rule and we make a
31 recommendation for an exception that we can justify, based on
32 all of the uncertainties, all of the issues, that we discussed
33 yesterday in going through Skyler's presentation and everything
34 that we discussed yesterday. I would go with the yield stream
35 OFL that is listed there and the ABC of status quo. That would
36 be my recommendation, Mr. Chairman.

37

38 **CHAIRMAN POWERS:** Thank you. At this point, let's not get into
39 substitute versus everything. Let's have a discussion first,
40 and first up will be Harry, but just a second. One of the
41 things we can consider is we may end up, just for the mechanics
42 of doing these motions and things, is dealing with the OFL first
43 and then the ABC separately, but let's continue the discussion.
44 Harry.

45

46 **MR. BLANCHET:** My point was more to the ABC, because I -- To
47 Luiz's request that we change that ABC, what we really don't
48 have yet, I believe, is what would be the lowest, or the

1 greatest, reduction that we could within our direction from the
2 council, which would be basically the 30 percent probability of
3 overfishing, and is that not our limit, in terms of how we can
4 apply that control rule? I thought it had to be -- There was a
5 certain probability that we were given instructions that we
6 could set ABC below 50 and no lower than a certain probability
7 of overfishing.

8

9 **CHAIRMAN POWERS:** Ryan.

10

11 **MR. RINDONE:** The ABC control rule is designed with a lower
12 bound at 30 percent probability of overfishing, and so the
13 control rule itself will not allow you to go below that point.

14

15 **MR. BLANCHET:** So we don't have that value, and so I don't know
16 that we could recommend a status quo, because I think that that
17 might be a lower probability of overfishing than what we have
18 with our control rule.

19

20 **CHAIRMAN POWERS:** To that point, Shannon.

21

22 **DR. CALAY:** Skyler has that value, if you want to see it.

23

24 **DR. SAGARESE:** I can certainly provide the catch level that
25 would equate to the 30 percent probability of overfishing for
26 the 2005 scenario, and I have a range of any percentage that you
27 would want to see, basically.

28

29 **CHAIRMAN POWERS:** We are going to need to see that, but first,
30 Doug.

31

32 **MR. GREGORY:** We need to know the equivalent conversion of these
33 numbers into the pre-FES if we're going to equate it to the
34 four-point -- I mean, we're mixing apples and oranges if we
35 don't. I mean, this 5.1 million pounds might be not that much
36 different than the 4.3 in the old recreational currency, and so
37 I would ask Skyler if we can convert some of these numbers back
38 and forth, and I realize that recreational is only 24 percent of
39 the quota, but they did go up with the -- We need, somehow, to
40 be able to convert back and forth, if we're going to use
41 different numbers in our discussion.

42

43 **CHAIRMAN POWERS:** Kai.

44

45 **DR. LORENZEN:** I just wanted to sort of come back to that -- Of
46 course, when we have these probabilities of overfishing, and
47 this refers -- This is conditional on the assumption that we
48 have a fairly big red tide effect, and so we've already factored

1 that in, and so, although there is uncertainty, we are not
2 starting off from assuming that the red tide effect was minimal,
3 but this is assuming that there was quite a major effect, and
4 then, given that, we're at this OFL corresponds to the 50
5 percent probability of overfishing, given that, and that makes
6 me feel reasonably comfortable about it.

7

8 **CHAIRMAN POWERS:** We are sort of bouncing around here. First, I
9 think the best thing for us to do is get the OFL out of the way,
10 and so my suggestion is that we have some sort of motion that
11 deals specifically with the OFL, and that suggestion is that we
12 take this substitute motion and just deal with the OFL part of
13 it, to begin with, but, Harry, you might have a different point.

14

15 **MR. BLANCHET:** I think we're on the same page here, but I am
16 struggling with the OFL, because we say it's in the new
17 currency, but we're using sector allocations of 46 and 24
18 percent. Because the --

19

20 **MR. RINDONE:** It's 76 and 24 percent.

21

22 **MR. BLANCHET:** Yes, and that's not consistent with the history
23 of the fishery under this new FES scenario, and so the way that
24 the assessment was run has a different -- You have a different
25 selectivity at age than what we are talking about here with
26 this, and I guess the problem I have is the 76/24 is a relic of
27 the last currency, and this is that apples and oranges thing
28 again.

29

30 **CHAIRMAN POWERS:** Well, in some sense, you don't know that,
31 because the council voted on it. Why did they vote on it? The
32 argument, as I remember, was, yes, it was based on the history,
33 but, once they make a decision, I think we live with it, in
34 terms of that allocation. I think certainly what we suggest is
35 that historical values have changed, will change, and so that
36 ratio will change.

37

38 **MR. BLANCHET:** So I guess this is like we have an assessment
39 that is in -- Not to be politically incorrect or anything, but
40 it's in Euros and British pounds, and now the pound just got
41 devalued, but you're still using the old exchange rate.

42

43 **CHAIRMAN POWERS:** I don't buy that analogy, but, anyway,
44 Shannon.

45

46 **DR. CALAY:** Just to clarify though, the allocation of 76/24 is
47 applied to the projections and not to the stock assessment
48 results. It's applied to the projections, and, if the council

1 chose to modify that allocation, invariably, they would ask us
2 to update the projections, and so we assumed that -- We ran
3 these projections using the current regulation.
4

5 **DR. SAGARESE:** Just to suggest that the last two slides that I
6 showed was if I -- As I mention in the slide, if we follow the
7 procedure that was used last time with the new recreational
8 landings, and, granted, it's just a preliminary analysis that
9 the allocation would change to 68.75 percent commercial and
10 31.25 percent recreational, based on the removals in gutted
11 weight, and so, for red grouper, all of these numbers are in
12 gutted weight for the projections for the assessment, but,
13 basically, using the predicted landings from the assessment,
14 given that we're accounting for the uncertainty, that's what the
15 preliminary allocation would be with the new -- I understand the
16 council would have to finalize all of these recommendations, but
17 we did prepare another scenario assuming that the allocations in
18 the projections were changed, based on the newer ratio that we
19 preliminarily identified.
20

21 **CHAIRMAN POWERS:** I am just trying to avoid getting into
22 discussions about what allocations might be from the council,
23 and this is what we have, 76/24, and it isn't -- Given the new
24 look at the data, it isn't what the history is, but,
25 nevertheless, this is what 76/24 -- It's what it is, and then,
26 secondly, the council is fully capable of changing this, if they
27 wish. Again, we need to move quickly now. Bob.
28

29 **MR. GILL:** Thank you, Mr. Chairman. Getting back to your desire
30 to treat OFL first, and it's simply done. **We can just remove**
31 **the "and the ABC is 5.19 million pounds" from the motion, and**
32 **that's dealing specifically with OFL, and then we can deal with**
33 **ABC separately.**
34

35 **CHAIRMAN POWERS:** All right. Whoever had the substitute motion,
36 would you --
37

38 **DR. NANCE:** Can we deal with change the number -- Just vote on
39 OFL and keep it --
40

41 **CHAIRMAN POWERS:** That's what we're trying to do.
42

43 **DR. NANCE:** But then you don't have to change the sentence.
44 Then we can change -- If the ABC changes, you can change that in
45 there.
46

47 **CHAIRMAN POWERS:** No, let's just do it separately. All right.
48 What's shaded there, take it out. All right. Is there a second

1 to this?

2

3 **DR. LORENZEN:** Second.

4

5 **CHAIRMAN POWERS:** Second by Kai. Do we need any further

6 discussion about the OFL? Carrie.

7

8 **EXECUTIVE DIRECTOR SIMMONS:** Thank you. Could you just add

9 "gutted weight" to the motion, please, so it's clear?

10

11 **CHAIRMAN POWERS:** Okay.

12

13 **MR. RINDONE:** I have noted in the summary that it's FES.

14

15 **CHAIRMAN POWERS:** Okay. Thank you. Any more discussion? All

16 those in favor of the motion, raise your hand. On the webinar.

17

18 **DR. SEAN POWERS:** I am for the substitute motion.

19

20 **DR. BARBIERI:** I am for the substitute motion as well.

21

22 **DR. ROBERTS:** I am for the substitute motion.

23

24 **DR. WILL PATTERSON:** I vote for it as well.

25

26 **CHAIRMAN POWERS:** All those opposed.

27

28 **MR. RINDONE:** Six. It's fifteen to six.

29

30 **CHAIRMAN POWERS:** All right. The motion carries. Now we're

31 returning to the ABC. Doug.

32

33 **MR. GREGORY:** How much trouble is it to get the currency

34 equivalent, because we may not be talking about much difference

35 in the end. I mean, it looks like a large difference now.

36

37 **CHAIRMAN POWERS:** Shannon and Skyler mentioned that you have

38 tables with various probabilities and things like that.

39

40 **MR. GREGORY:** What I'm talking about is the 5.19 million pounds

41 in the FES recreational equivalency, and what is that if you

42 were using the old non-FES numbers, because what I am curious to

43 see is how close is this 5.19 to the four-million pounds that my

44 esteemed colleague across the wall proposed.

45

46 **CHAIRMAN POWERS:** That's a rhetorical question to the SSC and

47 not to be.

48

1 **DR. CALAY:** If the question is how easy is it to convert from
2 FES units to the Coastal Household Telephone Survey units, or
3 APAIS, the answer is I don't think it's complicated. We have
4 not yet formally established a procedure. My recommendation was
5 going to be to just make sure you are clear on what units you
6 are using here and allow us to make those calibrations prior to
7 the council meeting.

8
9 If it's important to your discussions to understand the
10 calibration, I can probably get you a quick-and-dirty
11 calibration during this meeting, if that's what you want, but it
12 wouldn't be vetted by the Science Center, and so I would prefer
13 to wait until we have a vetted calibration, and that can happen
14 prior to the council meeting. What I could give you is a back-
15 of-the-envelope approximation in a few hours, maybe after lunch.

16
17 **CHAIRMAN POWERS:** What is the will of the SSC? Bob.

18
19 **MR. GILL:** I will speak up. I think that, at this point, in
20 terms of the discussion, we don't really need that number. It
21 would be nice to know, but we don't need it, and so I would vote
22 for moving on.

23
24 **CHAIRMAN POWERS:** So the implication of that is, if there needs
25 to be some sort of adjustment, post this meeting and before the
26 council meeting, the Center would deal with that. Doug.

27
28 **MR. GREGORY:** My only concern is, if we do recommend an ABC, we
29 don't know how it equates to status quo, and do we need to know
30 that or not? That would be my only concern. That was what I
31 was trying to get at.

32
33 **CHAIRMAN POWERS:** Well, in terms of our marching orders, status
34 quo isn't in the marching orders.

35
36 **MR. GILL:** I agree with Doug that, from the stakeholders' point
37 of view, that's important, because the status quo of the 4.16
38 number is what the mindset of fishermen and the stakeholders
39 are. If we come up with some other number that's higher, then
40 it looks like we're recommending an increase in catch
41 capability, and so that perception is important, and so having
42 that difference would be important for the council meeting, in
43 my opinion, to get that point across, and we probably ought to
44 make the same comment in the summary.

45
46 **CHAIRMAN POWERS:** I don't disagree with that. All right. Is
47 there a motion for the ABC? Jeff.

48

1 DR. ISLEY: I would move that we have it as it was in there, the
2 five-point-one whatever it was. Not that one, but the
3 substitute motion that we deleted.

4
5 MR. RINDONE: 5.19.
6

7 DR. ISLEY: 5.19. It's still based on the P*. If we want to
8 change the P*, we can go lower than that, but I think, if we go
9 with the status quo, then we may be violating that 30 percent
10 minimum. Luiz suggested a P* of 30 percent, which they have the
11 values for, and so I'm not tied into that number, but I think it
12 ought to be based on a P* instead of status quo.
13

14 CHAIRMAN POWERS: All right. That's the motion you stated?
15

16 DR. ISLEY: Right.
17

18 CHAIRMAN POWERS: Okay. Is there a second?
19

20 DR. NANCE: I will second it.
21

22 CHAIRMAN POWERS: Okay. We have a second. All right. Dave.
23

24 DR. CHAGARIS: I would support this motion, thinking back to
25 what Kai said. I mean, if we're always comfortable operating
26 with a probability of overfishing at 50 percent, regardless of
27 red tides, we have accepted that level of risk and this P*.
28

29 We have adjusted the OFL probability for this 2005 red tide, and
30 so I don't see the -- I think, because we've done that, we can
31 stick with the original P* and follow those guidelines, and so I
32 would support this, and, also, the issue of the status quo and
33 the ABC being higher than the status quo, that's not necessarily
34 a bad thing, and it sounds like there is reasons that catch is
35 going down that are not related to stock status at all, and so I
36 think it would be -- It's not necessarily a bad thing to try to
37 get that catch back up, if the stock is in a good enough
38 condition to do so.
39

40 CHAIRMAN POWERS: Any other comments? Bob and then Doug and
41 then Luiz.
42

43 MR. GILL: Thank you, Mr. Chairman. I would argue that we don't
44 know the cause of the decline in landings, and there are many
45 theories and many possibilities, but we don't know. All we know
46 is the landings are down, and the likelihood of getting much
47 over two-million pounds on the commercial side this year is
48 unlikely, and so there's something going on, multiple somethings

1 going on most likely, but we don't have the answer, and so it's
2 an unknown, and therefore an uncertainty.

3
4 **CHAIRMAN POWERS:** Doug.
5

6 **MR. GREGORY:** This number gives us a 43 percent probability of
7 overfishing, and why don't we look at a 40 percent probability
8 and 30 percent before we make a decision? I mean, I heard those
9 numbers are available.

10
11 **CHAIRMAN POWERS:** Okay. Luiz, let's have your comment before we
12 actually look at those numbers.
13

14 **DR. BARBIERI:** A couple of things. One, I understand, and I
15 don't necessarily disagree, with the points that Kai and Dave
16 made about the probability of overfishing and the fact that this
17 is already accounted for in the red tide model.
18

19 However, considering the amount of uncertainty, the recreational
20 deviations there for the last several years of the assessment,
21 all of the uncertainties that we have going into this, that we
22 know are not really accounted for, I think -- This is sort of an
23 illusion of greater certainty simply because we have a model in
24 place that can put forth an algorithm that comes up with figures
25 that I don't think we really know what those probabilities are
26 with that level of certainty, and so going to 40, or a little
27 higher than 40 percent, to me, is a risk that is not really
28 worth taking, in my opinion.
29

30 Number two, I agree with Doug that seeing what the other P^* are,
31 and, also, we never actually worked through -- If we're going to
32 apply a P^* procedure here to coming up with an ABC yield stream,
33 I think our ABC control rule needs to be applied, and we need to
34 go through it and come up with a P^* value, because the last red
35 grouper assessment was actually -- We arrived at that P^* of 40
36 percent, first, having a different definition of MSST, and, two,
37 being based on results that we now know, unfortunately, were not
38 correct.
39

40 That is how the probability of overfishing that we felt
41 confident with came up, when we applied our ABC control rule,
42 relative to stock status and everything else, and so I would
43 like to see what lower probabilities of overfishing would be
44 relative to those others that we have there. My justification
45 for going with a lower one would be all of these other issues
46 that I just mentioned. Thank you.
47

48 **CHAIRMAN POWERS:** Thank you. Now, Shannon and Skyler, you had

1 those tables?

2

3 **DR. SAGARESE:** I had sent the 30 percent about ten minutes ago,
4 and I'm just trying to send now the 40 percent as well, but my
5 limited email connectivity, but I can certainly tell you the
6 number until that slide gets updated.

7

8 The 30 percent probability, in 2005, is 4.9 million pounds of
9 gutted weight, and what I am currently trying to send is the 40
10 percent probability, in 2005, in 5.13 million pounds.

11

12 **CHAIRMAN POWERS:** Thank you. All right. Returning to the
13 original motion, is there any further discussion? Then we're
14 going to vote on it. Doug.

15

16 **MR. GREGORY:** I would like to make a substitute motion. Given
17 the numbers we were just provided and the argument we heard from
18 Dr. Barbieri, I recommend an ABC of 4.9 million pounds. That
19 gives us a 30 percent probability of overfishing.

20

21 **DR. BARBIERI:** Second.

22

23 **CHAIRMAN POWERS:** Okay. We have a second from Luiz. We will
24 certainly mention in our discussion the 30 percent, and you
25 don't have to put it in the motion, but that it relates to 30
26 percent. All right. Any other discussion about this substitute
27 motion?

28

29 **MR. BLANCHET:** I still have issues with -- Never mind.

30

31 **CHAIRMAN POWERS:** All right. Those in favor of this substitute
32 motion, raise your hand. Luiz.

33

34 **DR. BARBIERI:** I vote yes, Mr. Chairman.

35

36 **CHAIRMAN POWERS:** Ken.

37

38 **DR. ROBERTS:** Yes.

39

40 **CHAIRMAN POWERS:** Will.

41

42 **DR. PATTERSON:** I abstain from this one.

43

44 **CHAIRMAN POWERS:** Sean.

45

46 **DR. POWERS:** Yes.

47

48 **CHAIRMAN POWERS:** All those opposed.

1
2 **MR. RINDONE:** It's fifteen to five. It carries. One
3 abstention.
4

5 **CHAIRMAN POWERS:** All right. Then we also, implicitly, agreed
6 to, in terms of the summary, to mention several things about the
7 risk and the fact that MSST has changed and, if we were using
8 the old criteria, it would be classified as overfished.
9

10 **MR. RINDONE:** I think that I've captured all of those things,
11 and you guys will have the opportunity to review the summary
12 before it goes to the council and the Reef Fish AP, but I've
13 made an effort to capture all of that.
14

15 **CHAIRMAN POWERS:** Thank you. I think we have finished with red
16 grouper, thank god. We are moving on to Agenda Item XII, the
17 council research priorities, and John implicitly agreed to lead
18 this, and I thank you very much for that.
19

20 **MR. RINDONE:** The last vote for the ABC passed fifteen to five
21 with one absent and one abstention.
22

23 **DISCUSSION OF COUNCIL RESEARCH AND MONITORING PRIORITIES FOR**
24 **2020-2024**

25
26 **MR. MARESKA:** We reviewed this last time, and we sent comments
27 to the council, and they did make, I would say, somewhat
28 significant changes, and so all the changes are highlighted for
29 your review.
30

31 I guess the most notable thing is under the priorities
32 associated with individual species and research topics.
33 Previously, there were more than a dozen species listed there,
34 and now that's down to just three species listed, and so I
35 really don't have a lot more discussions or recommendations for
36 changes with this, and so I would just open it to the floor, if
37 anybody else has comments about it.
38

39 **MR. RINDONE:** Just to clarify that we deleted all of the
40 individual species items that were also duplicated in the SEDAR
41 research recommendations, so as not to retain the same thing in
42 two places. The things that remain are in addition to those
43 research recommendations.
44

45 **MR. MARESKA:** Looking at our statement of work, it doesn't look
46 like we need to actually take any actions on this, and we have
47 no further recommendations.
48

1 **MR. RINDONE:** These recommendations that you guys have worked
2 on, these will go to the council, and then the council will
3 approve them, with any additional edits that they may have, at
4 their October meeting, and then they will be sent on to NMFS
5 from there. Carrie, do you want them to have a motion on it or
6 anything, or you don't think that's necessary? I don't think
7 it's necessary either.

8
9 **MR. MARESKA:** That concludes it, Mr. Chairman.

10
11 **CHAIRMAN POWERS:** Perfect. Agenda Item XIII is update to
12 revisions of status determination criteria amendment, and John
13 is making the presentation, and Doug has agreed to be the --
14 Well, go ahead and start the presentation.

15
16 **UPDATE TO REVISIONS OF STATUS DETERMINATION CRITERIA AMENDMENT**

17
18 **DR. FROESCHKE:** Good morning, everyone. It's hard to follow
19 that exciting red grouper discussion, but I will give it a go.
20 If you recall, at the last meeting, we discussed the status
21 determination criteria document, which has been in development
22 for a very long time.

23
24 We provided you a document, and we also provided that same draft
25 of the document to the council. In general, the feedback that
26 we received from both groups was to make it simpler, and we have
27 tried to do that in a revised version. The reason we have a
28 presentation, rather than a document, is that, every time we
29 rearrange the chairs on this thing, there's a lot of writing
30 that has to happen, and so I'm hoping that we can get some
31 feedback on we like the way this is organized before we update
32 the document, and so, if you don't like the way it's organized,
33 there is no harm and no foul.

34
35 I have just kind of tried to update you on this primer on this
36 what are they and why are they used. They are to determine the
37 status of the fishery, which we have just discussed at length,
38 and they are important to the council, because we're required to
39 do this.

40
41 MSY is the largest long-term average catch or yield that can be
42 taken from a stock. As we often discuss, maximum is rarely
43 known, for a variety of reasons, the least of which is the
44 landings can be difficult to determine with certainty, the
45 spawner-recruit relationships are often not known, and, in a
46 theoretical sense, in order to calculate MSY, you need to know
47 the stock-recruitment relationship, which we usually don't do,
48 and so we use proxies.

1
2 There are four actions in the document, if you recall. Action
3 1, which establishes the MSY for several stocks, contains three
4 sub-actions. We have greatly revised the structure of this
5 action, and I will just go through this, and so, before, we had
6 three sub-actions. 1.1 dealt with the four stocks that had
7 stock assessments, and we have collapsed that. Sub-Action 1.2
8 dealt with the stock complexes and the Tier 3a data-poor stocks
9 that were in there, and then as well as we had red drum and
10 goliath grouper.

11
12 We have collapsed all of those into a single action. The idea
13 is to have fewer decision points, meaning selecting an SPR
14 proxy, or MSY proxy, that applies to stocks and complexes, as
15 appropriate, and we retained the use of stock complexes, but not
16 indicators, and goliath grouper and red drum are addressed as
17 alternatives within this action.

18
19 The remaining stocks in the offshore units, and we'll get to
20 that, but those are separate alternatives that could be selected
21 as preferred in addition to the other alternatives. Then we did
22 provide some additional information about red drum escapement
23 rate last time, and Harry correctly identified that the way that
24 we had characterized that, with regard to escapement rates and
25 the approximate SPR equivalent was incorrect, and so we have
26 corrected that here, and we can talk about that.

27
28 For Action 1, in this table, I have tried to summarize the
29 alternatives, and so there are three action alternatives, 2, 3,
30 and 4, and then the complexes, if there are complexes, are
31 characterized in the middle column, and so we would retain all
32 of those complexes, and then the stocks within them are noted on
33 the right column, and so, the stocks that are within a complex,
34 we don't address those individually. We would just set an MSY
35 proxy for the complex, but it would encompass those species.

36
37 The cubera and lane snapper, again, are single stocks, and they
38 are not part of a complex, but whatever we would set -- Based on
39 the guidance we received last time, we would -- An MSY proxy
40 would be selected for Alternative 2, either 20, 30, or 40
41 percent, or the options that we have, and it would apply to all
42 of those stocks.

43
44 Goliath grouper is its own alternative, because the biology and
45 the management of that is much different, and so we have options
46 of 30, 40, and 50 percent SPR, and then, for red drum, we retain
47 the two alternatives of managing based on a 30 percent
48 escapement rate or a 30 percent SPR, noting that the 30 percent

1 escapement rate is approximately equivalent to a 20 percent SPR.
2

3 These are the alternatives, again, that would apply to the bulk
4 of those stocks and stock complexes, 2a, 2b, and 2c, and so 20
5 percent, 30 percent, and 40 percent SPR, and so, if you were to
6 give guidance on a preferred option, again, it would apply to
7 all of those stocks. I will stop there for questions.
8

9 Last time, you did provide guidance that 30 percent SPR was the
10 recommendation for these groups, and so this isn't necessary to
11 change that, if you don't wish, but we did try to reorganize it.
12 The last motion was the SSC recommends, in Sub-Action 1.2 for
13 Alternatives 2 through 8, an FMSY proxy of 30 percent. In
14 Alternative 9, an MSY proxy of 40 percent, and so this would
15 encompass all of the stocks and stock complexes, which were
16 previously Alternatives 2 through 8, and that's now Alternative
17 2. Alternative 9 was the goliath grouper one, which is either --
18 I think it's Alternative 3 now.
19

20 Then, for red drum, I don't think we made a motion on red drum,
21 because the -- There was no motion on the red drum, and so we
22 did have the discussion that there was ambiguity in the
23 rationale for the alternatives, and we have corrected that in
24 the presentation now.
25

26 These, again, are the goliath grouper, and, the last time, you
27 made this for Alternative 9, which is essentially this
28 equivalent now of Option 3b, 40 percent. In Alternative 4, this
29 is the one that you didn't make a recommendation on yet, and so,
30 for red drum, the yield that provides an escapement rate of
31 juvenile fish equivalent to 30 percent of those that would have
32 escaped had there been no inshore fishery, and that text down at
33 the bottom, based on Red Drum Amendment 2, assume that a 30
34 percent escapement was approximately equivalent to F 20 percent
35 SPR, and, admittedly, that relationship between escapement and
36 SPR is not well defined, and then Option 4b would be a 30
37 percent SPR, similar to the rest of the stocks, and Alternative
38 2, except for goliath in Alternative 3.
39

40 I think that was all of what we did for Action 1, and so my
41 questions are do you have a recommendation on Alternative 3,
42 and, more importantly, are you satisfied with the structure of
43 this action?
44

45 **CHAIRMAN POWERS:** Is there any comment? Harry.
46

47 **MR. BLANCHET:** At this point, this is not making a
48 recommendation one way or another. It's just providing comments

1 for this to go to public hearing, and is that right?
2

3 **CHAIRMAN POWERS:** You are welcome to comment on anything you
4 want.
5

6 **MR. BLANCHET:** Then I think that, for this one, we -- I don't
7 know that we have any reason to move from 4a, which is the
8 existing status quo.
9

10 **CHAIRMAN POWERS:** Thank you.
11

12 **DR. FROESCHKE:** What this would do is it would codify, if you
13 will -- It doesn't actually codify, but it would make that
14 current management strategy equal to the MSY, and so that's our
15 current management strategy. However, it's not defined as our
16 MSY proxy. That's what we would, essentially, declare if we did
17 this.
18

19 **CHAIRMAN POWERS:** Okay. I think we're moving on.
20

21 **MR. GREGORY:** Are we assuming that that was a motion and that
22 was accepted by consensus?
23

24 **CHAIRMAN POWERS:** There was no motion.
25

26 **MR. GREGORY:** Because I think what staff is looking for, and the
27 council, is for us to make recommendations.
28

29 **CHAIRMAN POWERS:** Go ahead and lead the discussion then.
30

31 **MR. GREGORY:** These are highly-technical concepts, and some of
32 the council members are looking to us to provide guidance for
33 them to consider, and, if we can do that, we should. I mean,
34 this document has been kicked around for a number of years now.
35

36 **DR. BARBIERI:** I just want to ask John, perhaps with the help of
37 Carrie and Ryan, to kind of refresh my memory. I am trying to
38 remember here, and I gave this report, this portion of the SSC
39 report, to the council, and there was a lot of discussion, and I
40 think the vast majority of the council was looking for something
41 similar to what Doug just described, some more direct
42 recommendations from the SSC, but there were some voices that
43 felt that they wanted to hear technical commentary regarding the
44 meaning of some of these recommendations, but that the SSC
45 should leave it up to the council itself to make choices on some
46 of these options.
47

48 In the particular case of red drum, John, I don't remember much,

1 and I know that it was not an easy, simple hear about this and
2 we go forward, kind of like it was with the more general reef
3 fish recommendation, and this had a bit more discussion, and I
4 am just not remembering what their main questions or issues
5 were, and so that's why I am reaching out, to see if they can
6 help us clarify, Mr. Chairman. Thank you.

7

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

9

10 **MR. RINDONE:** Thank you, Mr. Chairman. Luiz is right, and, at
11 the last meeting, Harry had brought up that the 30 percent
12 escapement corresponded to the 20 percent SPR, which is noted
13 there for Red Drum Amendment 2, and so the thing that makes red
14 drum a little bit more hairy, like Luiz alluded to, than some of
15 the reef fish proxies is that each of the states is responsible
16 for maintaining that 30 percent escapement rate, or better, and
17 each of the states has a different way of calculating that 30
18 percent escapement rate.

19

20 Unfortunately, those methods are not comparable, directly
21 comparable, to one another, and we had worked this out, and I
22 think it was like 2013 or 2014, in a red drum working group that
23 we had at the old council office. It is a little bit more
24 difficult for red drum than it would be for reef fish stocks
25 like we typically have been dealing with, and so that's just
26 some background for you guys to consider.

27

28 When you are thinking of ways to provide this input to the
29 council, just keep in mind that all of your discussions -- We
30 try to characterize that is the summary as well, which the
31 council can read, and so, even if it's not something that's a
32 direct motion to do this and not that, your general musings will
33 be captured within the summary as well.

34

35 **CHAIRMAN POWERS:** Who has the muse? Do you have a comment?

36

37 **MS. BOSARGE:** This is all good discussion, because we did want
38 more information from the scientific perspective before we start
39 jumping in and defining MSY proxies for all these different
40 stocks, and it's fine to hone-in on red drum, even though it's
41 been closed since the 1980s, and so that's fine, but I think
42 it's going to be very helpful if we could eventually back up a
43 slide or so, and that Alternative 2 in there -- That actually
44 covers -- This is where we need a lot of help.

45

46 It covers scamp, black, yellowmouth, yellowfin, yellowedge,
47 warsaw, snowy, speckled, golden, on and on and on, and so we
48 need some help there. That's a pretty big decision that covers

1 a lot of species, and red drum is fine, but please don't forget
2 all the others.

3

4 **DR. LORENZEN:** We already made a recommendation on that, right?

5

6 **MR. GREGORY:** At the last meeting.

7

8 **DR. LORENZEN:** I was going to suggest can we delegate the red
9 drum to the Special Red Drum SSC?

10

11 **CHAIRMAN POWERS:** I am not sure where we are here. We were
12 dealing with the red drum, and let's go back to that. Ryan.

13

14 **MR. RINDONE:** Ms. Bosarge made I think an important comment for
15 the previous slide, and so the recommendation that you guys made
16 here was back when there were stock complexes that were listed,
17 and that has since been revised to be a little bit more of a
18 holistic and simple approach with indicator species, and so,
19 like for the shallow-water grouper complex, it was -- We don't
20 have them anymore, but, back when the SSC had made a
21 recommendation, those indicator species were still part of the
22 document, and so this is in fact a different action than you saw
23 before, that you made a recommendation on.

24

25 **CHAIRMAN POWERS:** John.

26

27 **DR. FROESCHKE:** Can you just back up to that table? Last time
28 we discussed this, you made a recommendation that it would apply
29 to the assessed stocks and the complexes as well as cubera
30 snapper and lane snapper for SPR 30. What this table does is
31 sort of summarizes the range of options, and the cells that are
32 in black are not applicable to that particular alternative.

33

34 For goliath grouper, I think it was SPR 40. For red drum, you
35 did not make a recommendation, based on the discussion that the
36 rationale for the alternatives wasn't clear, and so we have
37 tried to clarify that here. The SPR 20 is roughly equivalent to
38 the 30 percent escapement, or at least that's the rationale we
39 have, and the other alternative is the SPR 30, and so, really,
40 if you wanted to provide some specific guidance to the council
41 on the Alternative 4, that would be helpful. The other ones,
42 you have provided guidance, but it's just really a restructuring
43 of how it's organized. I mean, if you wanted updated or
44 different guidance, you certainly could, but that's where we're
45 at.

46

47 **CHAIRMAN POWERS:** Doug.

48

1 **MR. GREGORY:** I think we made a decision on that at the last
2 meeting, and we didn't specify indicator species. I am looking
3 at the document that was written immediately after the SSC
4 meeting, and we didn't specify indicator species. We just
5 recommended 30 percent SPR for alternatives under Sub-Action 1.2
6 of 2 through 9, I think, with the exception of 8, or something
7 like that, and we excluded goliath and red drum, and so we've
8 done that, and I don't see any reason to re-address that. The
9 council asked staff to take all of those different alternatives
10 and just lump them into one, and that's what was done here.
11

12 **CHAIRMAN POWERS:** Jason.
13

14 **MR. ADRIANCE:** Thank you, Mr. Chairman. To go along with what
15 Doug said, I think we also had some issues with some of the
16 indicator species, and so I think it's probably a good thing
17 that they may have pulled some of this.
18

19 **CHAIRMAN POWERS:** I think we need to re-group here for a second,
20 and so why don't we take a ten-minute break, and then we'll come
21 back and reconvene. This is our morning break. Thank you.
22

23 (Whereupon, a brief recess was taken.)
24

25 **CHAIRMAN POWERS:** Let's regroup here. The suggestion was made
26 to have John go through the complete document, and then we'll
27 drop back, and Doug has agreed to kind of lead the discussion as
28 we go through each individual item later on, but John will give
29 an overview of the whole document then. Thank you.
30

31 **DR. FROESCHKE:** This table, again, summarizes sort of the
32 decision points before you in Action 1, the stocks and
33 complexes, and you have already provided guidance for the SPR 30
34 percent for Alternative 2, all the stocks and the stock
35 complexes within those groups as well as goliath grouper, and we
36 need some guidance on a preferred alternative for Alternative 4.
37 We can come back to that.
38

39 Action 2 defines the maximum fishing mortality threshold, and we
40 talked about this last meeting, and most of the discussion
41 focused on Alternative 3, but, just briefly, Alternative 2
42 essentially would set the maximum fishing mortality threshold
43 equivalent to the MSY proxy for each stock or stock complex, and
44 there's a long history of doing this, and it makes a lot of
45 sense. It doesn't make much sense to do something other than
46 that.
47

48 However, Alternative 3, we have language in there that, if a

1 stock is in rebuilding plan, it would set the MFMT equal to the
2 F rebuild, and the discussion that we had last time was that
3 this is more conservative than what is required, and it's really
4 not what it is done in practice, and so this may not be
5 something that is necessary, based on how we've done things in
6 the past, and so, for this action, you certainly could provide
7 guidance -- If, for example, we prefer Alternative 2, and
8 Alternative 3 is there, and I have some diagrams, and I will try
9 to explain that, but you aren't obligated, obviously, to select
10 something if you don't think that's appropriate.

11

12 This is a diagram that tries to explain a little bit better how
13 this would work for the Alternatives 2 and 3, and so,
14 essentially, what this OFL in the middle there -- It's this
15 color gradient that you, theoretically, would correspond to
16 increasing catches as you go up toward the ABC and then the OFL.

17

18 The panel on the left, sort of in that green box, is,
19 essentially, in the situation where you have a stock assessment
20 or some reason that you feel the stock is not overfished, the
21 MFMT would correspond to the yield at the FMSY proxy. That's
22 how we do it now.

23

24 Then, under Alternative 2, if the stock were overfished and
25 rebuilding, the MFMT yield would continue to be the yield at the
26 MSY proxy, which would correspond to the OFL, and that's how we
27 do it now, and that's my understanding, and the ABC would be
28 below that and correspond to a rebuilding schedule. This is
29 Alternative 2, and this is how we currently do it, in practice.

30

31 Alternative 3, again, this is something that is in a situation
32 where if a stock is in a rebuilding plan, and so, if it's not
33 overfished, it would be the same. If it were overfished, and so
34 this would be on the right side, where you will see that red
35 box, which would be undefined, if you will, and, essentially, we
36 would establish the MFMT at the ABC level, which would be much
37 more conservative than what is done in practice and what is
38 necessarily required by the Magnuson-Stevens.

39

40 Again, the Science Center has conveyed that this isn't how they
41 do it in practice, and so it isn't something that you're
42 necessarily obligated to support, and it is in there. If you
43 felt like it's just something that shouldn't be in there, and
44 you want to recommend that we remove it, that would certainly be
45 a recommendation that you could make.

46

47 Action 3 is defining the minimum spawning stock threshold, and
48 you reviewed this action last time, and you did make a

1 recommendation. The recommendation that you made -- At the
2 time, there were two alternatives that dealt with the MSST
3 equals the 50 percent times the BMSY proxy, and you all
4 recommended that the alternatives at the 50 percent level not be
5 considered, and that would correspond to the Alternative 4 now.
6

7 The reason there were two last time is this bottom part that is
8 now a stand-alone Alternative 5 deals with the stocks that are
9 already -- They are jointly-managed stocks. They are goliath,
10 mutton, yellowtail, and black grouper, and these have already
11 been defined by the South Atlantic Council, as they are jointly
12 managed, and we would continue to maintain -- We would maintain
13 those existing MSST definitions for those stocks, and those are
14 essentially 75 percent, and so they would be equivalent to
15 Alternative 3.
16

17 If you wanted to provide a preferred alternative for these,
18 either Alternative 2 or 3, since you have sort of passed on
19 Alternative 4 in the past, that would be great advice to have,
20 and then just a comment on Alternative 5.
21

22 At the last meeting, we also had some discussion, when you guys
23 were discussing the MSST equals the 50 percent, and the Science
24 Center has previously done some analysis, and the results of
25 their analysis, their simulations, showed that it was
26 probabilistically unlikely to go below 75 -- Much below that 75
27 percent of BMSY based on environmental variability or without
28 some effect of fishing, and so that was part of the rationale of
29 why you guys went with that approach.
30

31 Action 4 is the last action in this document, and it deals with
32 the optimum yield. Again, the guidance that we received from
33 last time was to make it simpler. The way we had it in the
34 previous iteration of the document is each stock or stock
35 complex was its own alternative, and it essentially contained
36 the options that you see here on the board, the 50, 75, or 90
37 percent FMSY proxy.
38

39 The guidance that we received from you all and the council is
40 that there were too many decision points, and so what we've
41 tried to do is we have three different organizations of this
42 action that we would like to receive some input, and so the
43 first iteration of this, and I will go through it, is there are
44 four alternatives.
45

46 Alternative 1 in each one of these would be the same, and,
47 essentially, it would be the no action, do not define OY. Then
48 there are three action alternatives in this one, and so

1 Alternative 2 is essentially similar to the Alternative 2 in the
2 Action 1, where, for the reef fish stocks where the OY is
3 undefined, except for goliath, we would set it at one of the
4 three options of 50 percent, 75 percent, or 90 percent, and so
5 this would apply to the stocks and the stock complexes.
6 Alternative 3 would apply to goliath grouper, and then
7 Alternative 4 would apply to red drum, and so that's one option
8 of how this could work.
9

10 A second option is even simpler than that, and, for all stocks,
11 you could just select an option for an OY, either the 50, the
12 75, or the 90 percent, and so that's even simpler, and a third
13 option is a little bit different. In long-ago iterations of
14 this, we had landings-based, or biomass-based, estimates of OY,
15 and even MSY, and we have talked about those kinds of things.
16

17 What we did here is a little bit of background, and we kind of,
18 at the IPT meeting, just talked about a formula approach, where
19 we took, for these stocks, the ACL and divided it by the OFL,
20 and then, in theory, you would multiply that by the FMSY proxy,
21 but, if you just take the first part of that and divide the ACL
22 by the OFL, you can kind of get a percentage range of how those
23 work in practice, and it ranges from 55 to about 91 percent on
24 the stocks that we have, and so that's sort -- I found that
25 interesting, in terms of looking at the range of options that we
26 currently have of the 50 to 75 and 90, and it sort of indicates
27 that we're roughly in that ballpark, I think, for most of the
28 stocks now.
29

30 If we wanted to do more of a formulaic approach, we could,
31 although it seems to me that the caveat would be that we don't
32 have a numerical-based FMSY proxy, and so I don't know that we
33 could arrive at a specific poundage number for OY using this.
34

35 The other complications of this are, in the shallow-water
36 grouper, we don't have an OFL defined, because black grouper
37 doesn't have an OFL, and then the goliath and red drum -- We
38 also don't have OFLs or ACLs, and they are essentially equal to
39 zero, and so, using that sort of formula, you would set an OY of
40 zero, and that may not be the will of the SSC or the council.
41

42 That's what I have, in terms of what we've done next, and so
43 what we're looking to you all is to get some guidance on
44 preferred alternatives, if you have that. If you're satisfied
45 with the structure of the actions within them, or if there are
46 alternatives that you feel need to be added or perhaps removed,
47 that would be great.
48

1 I would like to take that to the council meeting. If you're
2 fairly satisfied with the structure of it, that we could try to
3 morph this into a document for the council meeting. If it's
4 more of a do-over, then we'll probably bring an updated
5 presentation, but, essentially, from this point, it would
6 hopefully put us on a path to completion of this document over
7 the next several meetings. I will stop there, if you have
8 questions and you want to go back through the particular
9 actions.

10

11 **MR. GREGORY:** All right. I agreed to be the discussion leader
12 for this, and, at the last meeting, we stopped at red drum. We
13 did recommend 30 percent SPRs for all the different species in
14 the complexes and the assessed species that we had, with the
15 exception of goliath grouper, and we recommended 40 percent, and
16 so that was done at our last meeting.

17

18 We skipped over red drum, and, if we can do that, fine. Someone
19 suggested, earlier today, to maybe incorporate the Red Drum SSC,
20 to get a recommendation from them, and that would put it off
21 until January to make that decision, but that's the only thing
22 that is left hanging with the MSY proxies.

23

24 Early on -- I mean, again, this document has been around for a
25 number of years, and there's been a lot of different iterations.
26 At one time, the average catches were attempted to be used as
27 MSY proxies for these unassessed species, and the Center did not
28 -- They were not comfortable with that, because it was hard to
29 say that an average catch is an MSY proxy.

30

31 What we're trying to do is comply with the National Standard
32 Guidelines that say that all species are supposed to have these
33 status determination criteria, and the conundrum we're running
34 into is we can't make them all measurable on an annual basis if
35 we don't have a stock assessment, and, if we can't use average
36 catches -- We still have average catches as our OFL, and so it's
37 not like these assessed species and these complexes are not
38 being monitored. They are being monitored based on the OFLs we
39 set probably eight or nine years ago.

40

41 What we're trying to do here is get formal status determination
42 criteria measures, and so what I would like to do, unless
43 somebody wants to make a motion with red drum, is skip that for
44 the time being. Harry.

45

46 **MR. BLANCHET:** I would be glad to make a motion for red drum,
47 but I'm not sure that I'm at Bob's skill level at making
48 motions. **Motion that the MSY proxy for red drum be -- That the**

1 **preferred option be Option 4a.**
2

3 **MR. GILL:** Seconded.
4

5 **MR. BLANCHET:** The rationale for that being that that is what
6 the existing -- The existing management framework was intended
7 to provide essentially what's characterized in 4a, and so, until
8 we have a new assessment, I don't see any reason to change from
9 what that 1990, give or take, management action provided.
10

11 **CHAIRMAN POWERS:** Is there any other discussion on this? Do we
12 care to vote on it? **Is there any objection to this? Any
13 objection on the webinar? Then the motion carries unanimously.**
14

15 **MR. GREGORY:** The next topic is Action 2, defining maximum
16 fishing mortality threshold. **I think, in light of the
17 discussion we had at the last meeting regarding rebuilding plans
18 and MFMT and ABCs and OFLs, it appears to me that Alternative 2
19 would be the most logical alternative to recommend. I would
20 suggest that for the body to consider as a motion.**
21

22 **MR. BLANCHET:** It doesn't seem to me that Alternative 2 and
23 Alternative 3 are exclusive. You can have both Alternative 2
24 and Alternative 3, depending upon where your stock is.
25

26 **DR. FROESCHKE:** Yes, you could select both Alternative 2 and
27 Alternative 3 as preferred, if you would like.
28

29 **CHAIRMAN POWERS:** Doug, you go ahead and --
30

31 **MR. GREGORY:** Mr. Atran.
32

33 **MR. STEVEN ATRAN:** Just a quick note that Alternative 3 is
34 Alternative 2 with a little bit extra, and so you wouldn't want
35 to adopt both of them, because Alternative 3 does incorporate
36 Alternative 2 into it.
37

38 **MR. GILL:** Just to move things along, I will make a motion that,
39 for Action 2, the committee recommends Alternative 2.
40

41 **MR. GREGORY:** Is there a second?
42

43 **MR. MARESKA:** Second.
44

45 **MR. GREGORY:** Second by John Mareska. Is there discussion or
46 concerns?
47

48 **DR. NANCE:** My only concern is, if we do Alternative 2, we don't

1 have any mechanism if the stock is in a rebuilding plan. I
2 think Alternative 3 should be the preferred, for the fact that,
3 if it's in a rebuilding plan, you do the first part. If it's
4 not, that last sentence takes it where it's a go back to what
5 Alternative 2 is.

6

7 **DR. FROESCHKE:** We talked about this last time. Alternative 2,
8 if we were in a rebuilding plan, we would still have an F
9 rebuild that would be below the OFL, and so you would still
10 reduce fishing mortality below that, and it would just allow --
11 If the fishing mortality was slightly higher than that, it could
12 still remain below the OFL without triggering the overfishing
13 definition, and so this is currently how we do this. When you
14 come back with a stock that is overfished, we do develop a
15 rebuilding plan and projections based on the F rebuild.

16

17 **DR. NANCE:** But isn't that what Alternative 3 is doing?

18

19 **DR. FROESCHKE:** Alternative 3 would establish that, if you
20 exceeded F rebuild, you would essentially trigger an overfishing
21 -- You would exceed the maximum fishing mortality threshold.
22 The way that the Science Center has done this in practice is
23 that the MFMT has typically remained at the FMSY level, and then
24 F rebuild has been established below that, roughly equivalent,
25 and so, essentially, they've been setting F rebuild equivalent
26 to the ABC, and, if we were to do Alternative 3, you would set
27 the MFMT equal to approximately the ABC, and so, if you actually
28 hit the ABC, you would be overfishing, or if you exceeded it,
29 which is, again, more conservative than what is required.

30

31 **MR. GREGORY:** My understanding is that we typically have done an
32 ABC and established a buffer below F rebuild in a rebuilding
33 plan, and so it's possible that we are rebuilding some species
34 more rapidly than the actual rebuilding program says, and, if
35 that does happen, and, at some point in the future, the council,
36 for some reason, wants to raise fishing mortality, they would be
37 restricted by Alternative 3 to whatever F rebuild was originally
38 calculated to be, rather than say at a new F rebuild that might
39 be higher, because of us being more conservative early on, and
40 so it just seems to be more restrictive in dealing with future
41 events. **Are there any objections to this motion? Hearing no**
42 **objections, the motion is passed.**

43

44 The next action is defining minimum stock size threshold. At
45 the last meeting, we recommended to the council that they do not
46 accept or use the 50 percent BMSY proxy as their threshold. The
47 council has chosen that level, starting with red snapper and now
48 with some other species, and we do have analysis from the Center

1 that shows that 75 percent of BMSY as a threshold is workable,
2 and the South Atlantic Council has chosen that for a number of
3 its species, and, in fact, in Alternative 5, if we accept that,
4 those would be 75 percent of BMSY.

5
6 The thing that we haven't discussed much, and haven't conveyed
7 to the council, are the ramifications of having an MSST as low
8 as one-half of the biomass at MSY, and we need to develop that
9 in the future, because, basically, if you're fishing at MSY, you
10 have already fished the virgin population down by half, and so,
11 if you're at half of that, you've got the total population down
12 by three-quarters, and, in my understanding of the origin of
13 this and how it got into the Magnuson Act, is it was used in the
14 North Pacific, I think most commonly.

15
16 When you get to that level, you're at a severe point, where
17 there's a potential for population collapse, and the discussion
18 should include closing the fishery at that point, and this is
19 not just another reference point floating around out there.
20 This is a serious point, and, in my mind, this was equivalent to
21 the way we initially used 20 percent SPR. That was developed
22 out of the New England area, based on some empirical data that
23 says, when these fisheries got down to about 20 percent SPR,
24 there was a real risk of collapse, and so that became our
25 threshold in the SPR world, and it should be reminded that
26 that's a threshold and not a target.

27
28 In going forward, I think we also should tell the council, where
29 they have adopted the 50 percent BMSY, and even if we go to 75
30 percent, we should have a control rule in place that kind of
31 ramps down fishing mortality, similar to F rebuild, but not a
32 rebuilding program, per se, but something that will reduce
33 fishing mortality so the population will get back to MSY in a
34 fairly reasonable time.

35
36 That's where we are, and we have recommended that the council
37 can choose Alternative 2 or 3 without any qualms from us, and so
38 we have a recommendation on the books for that, and I don't
39 remember if we addressed Alternative 5 at the last meeting, and
40 so I think we probably should do a motion on that, for sure.

41
42 **SSC MEMBER:** I thought that we just finished talking about the
43 red grouper assessment, and the estimate of the population
44 reduction due to red tide was on the order of a 30 percent
45 reduction, and so, if you were at BMSY, and you had a red tide,
46 you're now below MSST, if you're at 75 percent, and so I would
47 say that the comment that natural variation should not bring you
48 below 75 percent is a simplification.

1
2 **MR. GREGORY:** Any other comments? I mean, we do have that
3 analysis from the Center, and it's a number of years ago.
4 Shannon.
5

6 **DR. CALAY:** Certainly what was considered in that analysis were
7 deviations in natural mortality and recruitment, and red tide
8 being a particularly large deviation in natural mortality, and I
9 don't recall, offhand, how large deviations we allowed in M, but
10 we certainly could look at the results of the red grouper
11 assessment and reconsider those results, and so I can't tell you
12 what deviation we applied at this moment, but it's possible that
13 the red tide impact on natural mortality is even higher than we
14 modeled, simulated.
15

16 **MR. GREGORY:** Bob.
17

18 **MR. GILL:** Thank you, Doug. My question is we have basically
19 said that Alternative 2 or 3 is acceptable and 4 is not, but, in
20 so doing, we could therefore not respond to Alternative 5,
21 because it would then fall under the previous guidance of
22 Alternative 2 or 3, and so the only reason we would specify 5,
23 in my mind, would be because we wanted to differentiate our
24 previous recommendation, correct?
25

26 **MR. GREGORY:** Possibly. What happened in the document that we
27 reviewed in July is Alternative 5 had the sentence before what
28 you see here, and the sentence said 50 percent BMSY except for
29 the stocks assessed jointly with the South Atlantic Council.
30 That's why our recommendation was to reject 4 and 5, but now
31 that's been taken out of 5, so I understand it to mean what
32 you're saying, but -- Again, these are recommendations to the
33 council. The council has the final authority to set these
34 criteria, and the discussion is what the council is looking for.
35

36 What is the scientific basis for one or the other, and I would
37 surmise that our reluctance to support Alternative 4 is because
38 it just seems to be a very much more risky approach to managing
39 the fisheries, even though MFMT should be regulating all of our
40 fisheries, and we should not ever have fishing mortality rates
41 that drive the population down from that. Joe.
42

43 **CHAIRMAN POWERS:** In relation to Alternative 5, I guess my
44 feeling is that -- I mean, these are stocks that are basically
45 the Florida Keys, where there is joint sort of actions on them,
46 and what you don't want is to have different definitions for the
47 same stock, depending on whether it's the Gulf side or the
48 Atlantic side, and so I'm not sure what the definitions of the

1 South Atlantic Council were, but, whatever they were, I don't
2 think it's a good idea to have different definitions.
3

4 **MR. GREGORY:** The South Atlantic did adopt the 75 percent, based
5 on the Center's analysis a number of years ago. Bob.
6

7 **MR. GILL:** Thank you, Doug, and so I think Joe brings up a good
8 point. **With that, I will make a motion that, for Action 3, the**
9 **committee recommends Alternative 3 and Alternative 5.**
10

11 **MR. GREGORY:** Do we have a second?
12

13 **CHAIRMAN POWERS:** I will second it.
14

15 **MR. GREGORY:** Joe seconds. Is there discussion?
16

17 **DR. NANCE:** So Alternative 5 says that the MSST for these
18 species would use existing definitions defined by the South
19 Atlantic Council, and so are we to assume then that the South
20 Atlantic is using 0.75? Maybe we ought to say that there in
21 that alternative, because, basically, if we say we're liking
22 Alternative 5, it's whatever the South Atlantic Council says,
23 and they may go to 0.25 and say, well -- Basically, that's
24 saying that we accept that.
25

26 **SSC MEMBER:** Because it's existing.
27

28 **DR. NANCE:** Well, are the existing definitions 0.75?
29

30 **MR. GREGORY:** They are 0.75 for mutton, yellowtail, and black
31 grouper. They are one minus M for goliath grouper, according to
32 the document presented to the council in August. Bob.
33

34 **MR. GILL:** I agree with Jim that it would help, for clarity in
35 both Action 3 and our motion, if they were spelled out, so that
36 there is no question in either the motion or the action as to
37 what's intended.
38

39 **DR. FROESCHKE:** We have a table that we can bring up in the
40 previous iteration of this.
41

42 **MR. GREGORY:** So the motion would say 75 percent of BMSY for the
43 snapper and grouper species, but one minus M BMSY for goliath
44 grouper.
45

46 **MR. GILL:** I would recommend that also within the action itself.
47

48 **MR. GREGORY:** That that alternative be re-written to include
49

1 those specifics?

2

3 **MR. GILL:** Correct, yes. Could you insert that table in the
4 motion? You can delete the allocation one, but the left two
5 columns as part of the motion? Thank you.

6

7 **MR. GREGORY:** Harry.

8

9 **MR. BLANCHET:** Just because I'm going to vote against the motion
10 as it currently is, is there a reason that we're addressing both
11 Alternatives 3 and 5 at the same time? I still have the concern
12 that, in terms of what is the possible variation due to variable
13 M with some of our stocks, such as some of the groupers that are
14 exposed to things like red tides, and we really haven't talked
15 about other types of environmental permutations, but I believe
16 they're out there.

17

18 **MR. GREGORY:** Would the maker of the motion be willing to
19 separate the two?

20

21 **MR. GILL:** Yes, sir.

22

23 **MR. GREGORY:** So let's take Alternative 3 first, or let's take
24 the MSST without Alternative 5 first, and so, basically, we'll
25 be looking at status quo, which is one minus M, 75 percent, or
26 50 percent. The motion is to go with 75 percent. Any more
27 discussion?

28

29 **CHAIRMAN POWERS:** The table wouldn't be part of this motion,
30 correct?

31

32 **MR. GREGORY:** Right. Okay. Let's vote on this. Are there any
33 -- Let's raise hands. **All in favor of this motion, raise your
34 hand.**

35

36 **DR. BARBIERI:** I support the motion, Mr. Chairman.

37

38 **MR. RINDONE:** Sean.

39

40 **DR. POWERS:** Yes.

41

42 **MR. RINDONE:** Ken.

43

44 **DR. ROBERTS:** Yes.

45

46 **MR. RINDONE:** Will. Absent. **It's fifteen in favor; opposed.
47 It's fifteen in favor, three opposed, one absent.**

1 **MR. GREGORY:** With that, let's go back to the second part of
2 that.

3
4 **DR. PATTERSON:** Doug, this is Will.

5
6 **MR. GREGORY:** Go ahead.

7
8 **DR. PATTERSON:** I was trying to talk earlier, but, for some
9 reason, my mic wouldn't work. I vote yes for this motion, the
10 previous one.

11
12 **MR. GREGORY:** Okay. **The motion passes sixteen to three.** The
13 next part of this was to adopt Alternative 5 with specifics as
14 to what the MSST is for each species, with the inclusion of that
15 table.

16
17 **SSC MEMBER:** I suggest removing "the" for preferred.

18
19 **MR. GREGORY:** Any more discussion on this? **Is there any**
20 **opposition to this motion? The motion carries.**

21
22 The next topic is optimum yield, Action 4. I love that it's
23 optimum yield simplified, and what we're looking at is, again,
24 for all species in Alternative 2 and 1. Alternative 3 is for
25 goliath grouper, and Alternative 4 is for red drum.

26
27 Now, a little background on this is that what the SSC has
28 recommended in the past and has been accepted by the council is
29 for five different species, gag, red grouper, red snapper,
30 vermillion snapper, and gray triggerfish. OY has been
31 recommended to be the yield at 75 percent of F of MSY or F of
32 MSY proxy. For greater amberjack, it was recommended to be the
33 yield at F of 40 percent SPR. For gray snapper, I don't think
34 this was an SSC recommendation, but it was a council decision to
35 make OY the yield at 90 percent of F of MSY. For hogfish and
36 other reef fish, I haven't mentioned it dates back to the late
37 1980s, where it was established at 20 percent SPR.

38
39 Clearly, with our understanding and knowledge of how all these
40 reference points go together, 20 percent SPR is not an
41 appropriate level for optimum yield that is supposed to be at a
42 lower fishing mortality rate than MSY, and our prevailing
43 attitude is MSY fishing mortality rate is anywhere between 26
44 and 40 percent, in general. Then we have that as background.

45
46 At our last meeting, it was pointed out that I guess the
47 National Standard Guidelines -- Not guidelines, but some
48 technical guidelines that Restrepo et al. -- That one of the

1 authors of that document had done some equilibrium SPR analysis
2 and concluded that, when fishing at 75 percent of F of MSY, you
3 will capture about 95 percent of the total yield in equilibrium.
4

5 Clearly, if you go from an MSY to 75 percent in that first few
6 years, you have reduced everything by 25 percent, or 10 percent
7 or 50 percent, depending on where you go, but, in equilibrium,
8 the yields come back up at some lower fishing mortality rate,
9 and so is there a preference from the SSC for one of the options
10 under Alternative 2?

11
12 **CHAIRMAN POWERS:** Just a comment. You brought up the argument
13 that, if you reduce it to, and I have forgotten the percentage,
14 but you only reduce the yield so much, but, from a fisheries
15 optimization standpoint, from the fishery, you reduce F and it's
16 tantamount to reducing employment and things like that, and so a
17 5 percent difference in yield may be perceived one way, but a 25
18 percent difference in employment might be received another way,
19 and so you've got to be a little careful about those arguments,
20 and particularly when you're talking about optimum yield.

21
22 **MR. GREGORY:** I think that's probably why the council went with
23 90 percent for the latest stock assessment with gray snapper,
24 and I don't believe that we addressed it during the review of
25 the assessment. I don't recall. Any other comments? Andrew.
26

27 **DR. ROPICKI:** Looking everything on optimum yield, it always
28 sounds like a good idea, until you realize that we don't really
29 have the data to make these social and economic considerations.
30 There is just nothing out there, and, in fact, it was one of the
31 discussion points in the council research and monitoring
32 priorities, is to get that longitudinal socioeconomic data, and
33 so, without it, there's not a lot we can do, in terms of
34 actually -- I mean, we use the term "implicitly accounting for
35 relevant economic, social, and ecological factors", but we're
36 kind of just throwing our hands in the air, and we don't have
37 anything we can do.
38

39 I was looking, and I don't know if we can add another option,
40 but in the Code of Federal Regulations, it goes into some detail
41 about different things you can consider and how you can set it,
42 and there's nothing that says that it has to be a single point,
43 50 percent of FMSY. You could say 50 to 90 percent, if you
44 wanted to. I mean, it actually says a range is okay. If we're
45 not really sure, does that give us more flexibility?
46

47 **MR. GREGORY:** I think we have the option of adding other
48 alternatives or options to this. We're not tied to this.

1 You're right, and this is why OY has really never been
2 explicitly addressed, because, to get the economic, social, and
3 now ecological impacts built into this quantitatively has been a
4 challenge, and, even when the Magnuson Act was implemented,
5 there was a conference, workshop, at some point, and there was
6 an American Fisheries Society publication on optimum yield.
7

8 Basically, they concluded that each one of us has our own
9 optimum yield, and so they couldn't, even in the beginnings of
10 modern management, really come to grasp with how to quantify
11 this or implement this, and so we have, most of us being
12 biologists, kicked back to this approach, so that we did have an
13 optimum yield, and we're being asked to provide optimum yield
14 criteria, because the Act asks for it.
15

16 **SSC MEMBER:** You know, when I first mentioned this matter of
17 optimum yield to some of my colleagues here, I think I had a sad
18 testament to some of the relative differences in intellectual
19 and professional thought from myself compared to them, and Kari
20 mentioned something about her work with the South Atlantic
21 Council, and Dr. Keithly mentioned something about the charter
22 for the commission, and Dr. Ropicki here mentioned something
23 about the National Standards.
24

25 What I thought of was Robo Cop 2. Maybe you haven't seen it in
26 twenty-five years, but you kind of remember the basic premise of
27 the movie, and Peter Weller is reanimated as a robotic cop, and
28 he's given three simple rules for being a police officer, and
29 he's able to go around a dystopian Dallas punishing the bad guys
30 and bringing criminals to justice. In the sequel, if I remember
31 this, he is captured by somebody who reprograms him, with the
32 best of intention, and gives him 300 directives, and he is
33 rendered completely inoperative as a result.
34

35 That's what I think of when I come to optimum yield. You just
36 throw in all of these little higry-pigry goals that would be
37 nice to achieve, and it's so much -- I really don't know how we
38 could ever actually achieve it, and so this looks at something
39 that just kind of tips its hand, tips its hat, at that idea and
40 kind of respecting it, I guess, in general, but then it's just
41 getting on with the program.
42

43 **CHAIRMAN POWERS:** John.
44

45 **DR. FROESCHKE:** Just to sort of pile on there, the annual catch
46 limits and things will still continue to constrain the harvest
47 of each stock on an annual basis, and so the OY is meant to be
48 an equilibrium long-term value, just as MSY is, and so,

1 regardless of if you were to select 50 or 90 percent, or some
2 value in between, the annual catch limit would still continue to
3 be specified.

4
5 It was sort of part of the reason that we looked at those ACL
6 divided by the OFL values, just to see, in practice, where we
7 are, and it was sort of in that 55 to 90th percentile of the OFL,
8 and so it does seem that, in practice, that's the range that
9 we're trying to achieve.

10
11 **CHAIRMAN POWERS:** Ms. Bosarge.
12

13 **MS. BOSARGE:** John, refresh my memory. I have something in the
14 back of my mind saying that, if you exceed OY for two years, it
15 triggers the council to look at something or do something, and
16 are there any triggers if we exceed it?

17
18 **DR. FROESCHKE:** Not OY. The accountability measures are tied to
19 the annual catch limits and/or the annual catch targets, and so,
20 for example, just thinking of gray snapper, one of those, the
21 way that the accountability measure -- If you exceed the annual
22 catch limit in a given year, the following year, we're required
23 to track the stock in-season, and, if we exceed it again, we're
24 required to close it when we think that it's projected to be
25 met, but there is no accountability measure for any stock that
26 I'm aware of that are tied specifically to the OY, because,
27 again, it's a long-term metric, and the annual catch limits are
28 annual.

29
30 **MR. GREGORY:** A little more background. The OY was given some
31 teeth back in the 1996 reauthorization of the Magnuson Act, and
32 it made it explicit that OY was a level of fishing mortality
33 less than MSY. Now, a lot of us take that for granted, but,
34 back in those days, the Gulf Council was using the term
35 "optimum" -- Again, it's getting back to everybody has their own
36 optimum yield, but the Gulf Council was saying, well, okay,
37 biologists, you tell us this what the quota is, a million
38 pounds, and we're going to go with 1.2 million pounds, because
39 of the social and economic impact on the industry, and that's
40 our optimum yield.

41
42 It took a while to get that idea that optimum yield was not
43 something less restrictive, but rather more restrictive. What
44 did not happen after the 1996 reauthorization is that National
45 Marine Fisheries Service did not really hold the council's feet
46 to the fire to manage according to optimum yield, and some
47 people express concern.

48

1 They read this, and they go, well, optimum yield should be our
2 target and not MSY, and so, at some point in the future, that
3 will evolve, and it really wasn't emphasized in the 2006
4 reauthorization. That's where we got OFLs and ABCs and ACLs,
5 and I thought the 2006, in my naïve way, was going to fix what
6 didn't get fixed in 1996, that OFL would become MSY and OY would
7 become ABC. To me, it was that simple, but, no, we had to do
8 all this other stuff.
9

10 I think, eventually, and I think Dr. Patterson has talked to the
11 council about this, suggesting that OY be equivalent to like
12 ABC, and so it is something more conservative, and I think a
13 range would be something to recommend to the council if you want
14 a 50 to 90, or 75 to 90, if that's more comfortable, and we all
15 know, and we all recognize, that we're just doing the best we
16 can here.
17

18 **DR. BARBIERI:** Doug, if I may.
19

20 **MR. GREGORY:** Go ahead, Luiz.
21

22 **DR. BARBIERI:** Thank you. I just want to point out that this
23 was another point during the SSC report at the last council
24 meeting that was very contentious, but in a good way. It just
25 generated a lot of discussion and a number of questions from the
26 council. Mostly, they had questions trying to really understand
27 the reasoning behind those percentage points there, fractions of
28 yield in that FMSY proxy, and not really understanding the
29 explicit rationale behind it.
30

31 I really couldn't explain a whole lot about that, because, as we
32 have been discussing, this is, right now, just kind of proxy
33 values put there to try us get us moving forward a little bit,
34 but without too much underpinning reasoning.
35

36 One thing is I happened to be talking to Mandy Karnauskas from
37 the Science Center, and she is the lead ecosystem assessment
38 person at the Science Center, and I was talking to her about the
39 results, the outcomes, of a number of workshops they have been
40 holding along Florida's Gulf coast to basically conduct -- It's
41 like a stakeholder engagement workshop format type of thing to
42 collect public input on the value of ecosystem and ecological
43 components and try and understand a lot of the issues of how
44 people value the use of these parameters, or the role of these
45 parameters, in fisheries management and to what they do.
46

47 She was reporting back to me, and I had to do with some issues
48 that are associated with Florida inshore state-managed

1 fisheries, but, one way or the other, I thought that the
2 discussion was really very helpful, and, in my mind, it kind of
3 hit this issue here of the social, economic, and ecological
4 factors that I believe actually the group from the Science
5 Center that is going around -- Skyler may have been involved,
6 and she showed some results yesterday related to the impact of
7 the red tide that came out of some of these workshops, but it
8 also involves economists and other socioeconomic folks,
9 scientists, from the Science Center.

10
11 After that conversation with Mandy and having heard the
12 questions that I heard at the council meeting, I reached out to
13 Clay and Shannon and asked if it would be possible for Mandy to
14 come to this coming council meeting and give a brief
15 presentation, a very summarized, high-level presentation, of the
16 outcome of those workshops, because I thought that she was
17 hitting on points that really have a lot to do with ecosystem
18 factors and also optimum yield, and we're assessing how people
19 value these things and what they consider important factors and
20 how to integrate those parameters into fisheries management.

21
22 It turns out that she's not going to be able to -- Clay and
23 Shannon were very supportive of her attendance, but Mandy has a
24 conflict, and she will not be able to come to this coming
25 council meeting, but Clay said that she probably would be able
26 to come to a future one, perhaps the next one, and so I am
27 wondering, while we are still in this early stage of discussion
28 with the council regarding this amendment, if it wouldn't be
29 helpful, perhaps, to punt on this topic specifically, in terms
30 of SSC documentation, and hopefully have Mandy prepare a
31 presentation to the council discussing some of these issues and
32 then sort of re-engage after we hear that feedback or we get
33 more information from them on this. Thank you.

34
35 **MR. GREGORY:** Thank you. I don't think that would get us any
36 closer. I will read something that's from the Sustainable
37 Fisheries Committee minutes of the last council, and this is
38 NOAA General Counsel talking, and this is on the subject of
39 optimum yield, where they were talking about this and that, and
40 Dr. Barbieri was trying to explain why the SSC didn't take a
41 stand on this at this point, and the NOAA General Council says:
42 I mean, the Act is very clear that we need it, and the
43 guidelines are very clear that, even if you don't have a whole
44 lot of information, you still need to have some specification of
45 it, based on the best you have, and so I don't want the
46 discussion to keep being that we don't know enough and so we're
47 just going to keep punting it down the road. I would like us to
48 be able to move forward on this one.

1
2 That's pretty strong, and so that's what I am trying to push
3 here, and I think we all know it's not adequate, and it's not
4 ideal, from the theoretical standpoint.
5

6 **DR. BARBIERI:** Doug, if I may, to that point.
7

8 **MR. GREGORY:** Go ahead.
9

10 **DR. BARBIERI:** I don't disagree with you. I mean, this has been
11 going around. This discussion has been going on for quite a
12 while, and I agree with you that this -- We need to make a
13 decision, but keep in mind that, when we look at the broad
14 framework that has governed, really, our fishery management
15 reference points, limit and target reference points, the way
16 that we look at this, what comes out of the SSC and our
17 recommendations that are strongly based on what comes out of
18 stock assessments, that the optimum yield integrates a number of
19 other types of issues that really require the council to be a
20 bit more engaged and have a better understanding of where they
21 want to go with this.
22

23 I am not disagreeing with you, Doug, but I'm just thinking that,
24 after I talked to Mandy, I felt -- Maybe we can make a
25 recommendation now to have Mandy come and talk to the council
26 and we continue this discussion with them, but I think that
27 they're going to need to see a more comprehensive discussion of
28 OY and a more comprehensive discussion of these parameters
29 before they will be able to say that they can adopt one of these
30 and get a full understanding of it.
31

32 **MR. GREGORY:** Another concern that was -- Go ahead, Joe.
33

34 **CHAIRMAN POWERS:** Basically, my viewpoint is, the way things
35 stand now, and you sort of alluded to this as well, the council
36 process of making decisions really comes down to the annual
37 catch limit is a definition of optimum yield, and that's what
38 they chose. They haven't called it optimum yield, but,
39 effectively, that's it. Now, maybe they are making those
40 decisions with a vacuum of information, but that's the level of
41 economic and social information they have.
42

43 My feeling is that Alternative 2, and Andrew brought this up,
44 but any one of those options is okay, 2a, 2b, or 2c, and I would
45 also say that, if you get into this management strategy
46 evaluation process, typically, you start looking at economic
47 indicators, or socioeconomic indicators, and that would help
48 guide people's choice about management procedures, but, in this

1 particular context, I feel like ACL is more or less what optimum
2 yield is and that any percentage there that we chose is fine
3 with me personally as an SSC member. **To speed things along, I**
4 **will make the motion that any option under Alternative 2 is**
5 **acceptable.**

6

7 **MR. GREGORY:** Andrew.

8

9 **DR. ROPICKI:** Just one last thing I came across, looking at the
10 Code of Federal Regulations, is, under specifying OY, it says,
11 if the estimates of MFMT in current biomass are known with a
12 high level of certainty and management controls can accurately
13 limit catch, then OY can be set very close to MSY, assuming no
14 other reductions are necessary for social, economic, or
15 ecological factors.

16

17 To the degree that such MSY estimates and management controls
18 are lacking or unavailable, OY should be set farther from MSY,
19 and so it might be something to consider with regard to what we
20 know about these stocks.

21

22 **CHAIRMAN POWERS:** Bob.

23

24 **MR. GILL:** Thank you, Doug, and so my question, Joe, is which
25 Alternative 2 are you talking about? Are you talking
26 Alternative 2 on the simplified OY or the even simpler option
27 OY?

28

29 **CHAIRMAN POWERS:** I was talking about this one.

30

31 **MR. GREGORY:** Did we get a second for that? I will second it.
32 At the council meeting, there was also a discussion and a
33 concern, because, even though the Act says should be managing at
34 OY, in practice, we're not doing that, and so the concern was,
35 that if something like Option 2a was chosen, that seems more
36 conservative, or is more conservative, we might run into the
37 conundrum that we would be recommending an ABC that violated the
38 OY definition, and then where is the council with that? I mean,
39 how do you get out of that?

40

41 If OY was clearly the target for all management purposes, you
42 wouldn't have that potential conflict, and so I think there was
43 a reluctance from some of the council members to go with
44 anything more conservative, so they didn't get caught in this
45 trap, so to speak. Is there any more discussion?

46

47 **DR. ROPICKI:** Would a range fix that?

48

1 **CHAIRMAN POWERS:** From an SSC standpoint, what I was really
2 alluding to is, to me, 2a, 2b, and 2c, it's saying one or the
3 other, which isn't really what I was thinking of. I was
4 thinking of it more in terms of any range in here would be fine,
5 and that's not the way that I stated it, I agree, but --
6

7 **MR. GREGORY:** Any other discussion? John.
8

9 **DR. FROESCHKE:** On that line of thought, if you went with --
10 Like if you were to add Option 2d and say anywhere between 50
11 and 90 percent of the FMSY proxy, and go with that, then you
12 could probably go with the OY even simpler action, and you
13 wouldn't require the Alternatives 3 and 4.
14

15 **MR. GREGORY:** Okay, and so, if this passes, that's something you
16 could do in presenting to the council? I would really hope
17 that, Carrie, if we can try to get the minutes of this meeting
18 available to the council before the council meeting, and I don't
19 know how much of a challenge that would be, but this discussion
20 would be very helpful for them. Harry.
21

22 **MR. BLANCHET:** Joe, in terms of amending your motion, is it
23 possible to say that any of the values in the range presented
24 under Alternative 2 is acceptable?
25

26 **CHAIRMAN POWERS:** Yes, and so if you can construct that. Yes, I
27 agree with that.
28

29 **DR. GALLAWAY:** I think I'm going to abstain from voting on this
30 motion, because I really don't understand the consequences or
31 the likelihood of accepting one of these values and then it
32 being in conflict with the ACL, and so I am uncomfortable saying
33 anything would be okay within this range, because I don't truly
34 understand the consequences, and I will try to be better
35 prepared next time.
36

37 **MR. GREGORY:** John.
38

39 **DR. FROESCHKE:** For better or worse, there isn't a direct
40 linkage between the ACLs and the OY. The OY, as we've always
41 thought of it as a long-term equilibrium value, but, in fact,
42 the landings for any particular stock are controlled on an
43 annual basis by the ACL, and so, again, whether 50 percent or 90
44 percent were selected for a particular stock, on a year-by-year
45 basis, the landings would be established by the ACL.
46

47 **DR. GALLAWAY:** And the NOAA counsel would agree with that?
48

1 **MR. GREGORY:** Okay. Any objection to taking a vote and raising
2 our hands? John.

3
4 **MR. MARESKA:** Just one final comment to John Froeschke's thought
5 is, given that I would vote for this, looking at goliath grouper
6 and red drum, I would vote for the same thing, and so maybe we
7 just change this to the even simpler approach, and this would
8 apply to goliath and red drum as well. Joe, do you have any
9 objections to switching that over, or do you feel like you have
10 some other input that would come up with a different value for
11 goliath grouper or red drum?

12
13 **CHAIRMAN POWERS:** I am not sure that I understand what you're
14 getting at.

15
16 **DR. NANCE:** You've just go to change Alternative 2 to
17 Alternative 2, 3, and 4.

18
19 **MR. MARESKA:** Bob's question originally was, under Action 4,
20 there is an OY even simpler option, and so it would include all
21 of the fish discussed, and so, if we vote on this, then we will
22 have to do a separate one for goliath grouper and a separate
23 motion for red drum.

24
25 **CHAIRMAN POWERS:** Okay. Yes, I understand. **Yes, I would go**
26 **along with that.**

27
28 **MR. GREGORY:** So John will buy you lunch for that.

29
30 **DR. FROESCHKE:** Yes.

31
32 **MR. GREGORY:** Okay. On this motion that's on the board, the
33 alternative that's on the board, the even simpler alternative --
34 The motion has been changed to that. John.

35
36 **DR. FROESCHKE:** Could we at least just note, under the motion,
37 if it passes, that it's recommended for the even simpler
38 approach, or something to that effect, just so it's clear that
39 we don't lose track of that?

40
41 **MR. GREGORY:** Right. Dave.

42
43 **DR. CHAGARIS:** Just a quick comment. I mean, I'm sort of in the
44 camp with Benny, where I just don't feel like we have enough
45 information. I mean, we're sort of pulling numbers out of thin
46 air here. If OY is -- If you have like a highly-consolidated
47 industrial fishery, then OY would be MEY, maximum economic
48 yield, but, in the Gulf, we're like on the other end of the

1 spectrum on that, and so it's like just pick one, I guess, and I
2 don't know, and I think we need to be transparent about this
3 lack of information and this decision, and I'm not saying that
4 we're punting, but, I mean, there could be some -- It doesn't
5 have to complicated bioeconomic modeling, but something that
6 could get us somewhere, some information, to help us make this
7 decision better. That's all.

8

9 **DR. PATTERSON:** This discussion partly feels like the discussion
10 we had at that last meeting, where we were going through
11 amendment -- I forget which one from the council, but, in that
12 one, there was a bit of wordsmithing going on, and we were
13 talking about language and how to do this and how to do that,
14 and this has a similar feel to it, not quite with the
15 wordsmithing aspect, but I think what Dave just said kind of
16 sums up my thoughts on this.

17

18 We're not really discussing the science of the feasibility or
19 plausibility of any of these numbers. We are basically saying
20 we don't have any information, socioeconomic information, to
21 evaluate whether any of these percentages are a realistic
22 approximation of OY across the range of species that are being
23 considered.

24

25 This doesn't really feel like a science discussion to me, and,
26 in general, I really hope that we don't end up spending quite a
27 bit of time in subsequent meetings going through council
28 amendments when there is no real science being discussed and
29 it's just an exercise of reading through the amendment and
30 checking of the box here or there.

31

32 I mean, as far as the science of this, we could say, yes, all of
33 these are within the plausible range of what may be the
34 approximation of OY. However, other than that, nothing has been
35 presented, from a scientific perspective, to evaluate it.

36

37 **MR. GREGORY:** That's why I think this discussion is very
38 important to be before the council, so they can understand the
39 difficulty we've had with this.

40

41 **DR. ROBERTS:** I think there is -- I appreciate Dave's comments,
42 and I just don't like the words "implicitly accounting". That
43 means, to me, there's something in the closet, and it's dark,
44 and we know it's there, but we're not going to open the door and
45 be responsible for quantifying things.

46

47 I don't think "explicitly accounting for relevant economic,
48 social, and ecological factors" means quantification, but I do

1 think "explicitly" means that you are directed to address it
2 very clearly for the record, and it can be qualitative
3 information, and it can be information from advisory panels, and
4 it can be information from public testimony about the
5 distribution of the economic impacts between a particular port
6 or area or different groups of recreational fishermen and
7 commercial fishermen, and so I have a distaste for the word
8 "implicitly", because I think it's unnecessary, and that may not
9 change anybody's vote on this particular motion, but I think
10 it's something that we should put in the record for the council
11 to read about. Thank you, Doug.
12

13 **MR. GREGORY:** Ken, are you recommending that that phrase be
14 removed from the alternative, the phrase that says "implicitly
15 accounting for relevant economic, social, or ecological
16 factors"?

17
18 **DR. ROBERTS:** I am not recommending that as a change in the
19 motion, but I am simply trying to make some points that the
20 council will read when they -- You brought up the point of let's
21 have this discussion broad, so that the council will have a
22 means to know what our feelings are, and I just don't want
23 anybody to think that "implicit" should carry the day when you
24 can do things explicitly, which means very visibly addressing
25 the dark room behind the door, without quantification.
26

27 There can be a lot of qualitative information that comes from
28 APs and public hearings and personal experiences and whatnot,
29 and I think there is some concern about "explicitly addressing"
30 in these things, because there's a point at which optimum yield
31 is there for -- I am just speaking to myself, but there is
32 explicit treatment of a particular quantity of fish, whether
33 it's F 75 percent or what, but you can have a number of
34 different answers to it, as to how it fleshes out economically
35 the distributional aspects, and there is near-term and long-
36 term, and there is sociological aspects between distributions
37 between certain ethnic areas or groups of people, and so I just
38 wanted to get that in the record, Doug.
39

40 I don't want to change it. If somebody feels strongly enough in
41 the future, but I don't think it needs to be changed, but I
42 think that, if the council has that kind of understanding in the
43 future, they may be wanting to things more explicitly. Thank
44 you, Doug.
45

46 **MR. GREGORY:** Thank you, Ken. Bob.
47

48 **MR. GILL:** Thank you, Doug. For clarification, the discussion

1 that John Mareska brought up a moment ago, what we're voting on
2 is the simplified OY and not the even simpler one currently, and
3 is that the intent of what -- That is not the even simpler,
4 Alternative 2, and so I'm a little confused as to what the
5 intent is that we are looking to vote on, and I guess John wants
6 to comment.

7

8 **DR. FROESCHKE:** Yes, agreed, and we were just discussing that
9 the language in the even simpler is a little different, in that
10 the reference to goliath grouper is not included in there, and
11 so to get it all on the same page, and the intent of it is the
12 same, but it's just that it would roll it all into that single
13 alternative.

14

15 **MR. GREGORY:** So we just need to add "goliath grouper and red
16 drum" after "reef fish stocks".

17

18 **SSC MEMBER:** It's in there.

19

20 **MR. GREGORY:** I don't see goliath grouper in there.

21

22 **SSC MEMBER:** It's a reef fish.

23

24 **MR. GREGORY:** Okay. Any other discussion on this?

25

26 **DR. NANCE:** Do we need to change that to say presented under
27 Alternatives 2, 3, and 4? No?

28

29 **MR. GREGORY:** Not anymore, no, not by including red drum in
30 this.

31

32 **DR. NANCE:** Okay.

33

34 **MR. GREGORY:** Okay. Let's take a hand vote. **Everybody in favor
35 of this motion, please raise your hand, if you're in the room.**

36

37 **MR. RINDONE:** I have fifteen. On the webinar, Sean. Sean is
38 out for the next hour. I forgot. Luiz.

39

40 **DR. BARBIERI:** Yes.

41

42 **MR. RINDONE:** That's sixteen. Will.

43

44 **DR. PATTERSON:** No.

45

46 **MR. RINDONE:** Okay. It's sixteen to one. Ken.

47

48 **DR. ROBERTS:** Yes.

1
2 **MR. RINDONE:** It's seventeen to one with one absent.
3
4 **MR. GREGORY:** Okay. **Anyone in the room voting against the**
5 **motion?**
6
7 **MR. RINDONE:** Okay. **It's seventeen to two with one absent and**
8 **one abstention.**
9
10 **MR. GREGORY:** That concludes this document. I would thank
11 everybody.
12
13 **DR. NANCE:** Good job, Doug.
14
15 **CHAIRMAN POWERS:** Thank you very much, Doug. That was really
16 helpful for me. Lunch is here. Let's go ahead and do that, and
17 then we'll come back to a series of relatively short things.
18 What I want to make sure is that -- Relatively early in the
19 afternoon, I want to get to the allocation discussion, because
20 that could be fairly lengthy, and it's also more economics
21 oriented, and I want to make sure all of the economists are here
22 and that they don't run off, because there were some
23 difficulties, I think, with flights or something.
24
25 Actually, I would suggest then that, right after lunch, we go
26 ahead with that discussion item, the allocation review, which is
27 Item XVIII, and let's do that right after lunch then, if that's
28 all right. All right. Forty-five minutes for lunch, and come
29 back at 12:15.
30
31 (Whereupon, the meeting recessed for lunch on September 18,
32 2019.)
33
34 - - -
35
36 September 18, 2019
37
38 WEDNESDAY AFTERNOON SESSION
39
40 - - -
41
42 The Standing & Special Reef Fish, Mackerel, and Socioeconomic
43 Scientific and Statistical Committees of the Gulf of Mexico
44 Fishery Management Council reconvened at the Gulf Council Office
45 on Wednesday afternoon, September 18, 2019, and was called to
46 order by Chairman Joe Powers.
47
48 **CHAIRMAN POWERS:** I believe this starts with -- There is three

1 documents on the website that covers this, but, also, a
2 presentation is being given by Assane, and so I will transfer it
3 over to him.

4

5 DISCUSSION OF ALLOCATION REVIEW

6

7 **DR. ASSANE DIAGNE:** Thank you, Mr. Chair. Today, we want to
8 discuss, briefly, I hope, with you guys allocation review, and
9 the presentation will be part review of some of the things that
10 we brought before you previously and part a progress report of
11 sorts, to tell you where the council is, and hopefully look at
12 what we anticipate to come next.

13 Before we start, I would like to just make sure and define these
14 terms, because, even for us, allocation review may mean
15 something different at times. When we say allocation review, we
16 would mean the evaluation that would lead to the decision as to
17 whether the council would proceed and develop an amendment or
18 not, and that is what we are used to, and that would be the
19 second bullet here. The second bullet essentially is what
20 happens in an FMP amendment, when the council has options and
21 alternatives and they are picking one of those as preferred down
22 the line.

23

24 The fishery allocation review policy, we brought that before you
25 a few meetings ago and discussed it at length, and this is just
26 a quick reminder to say that the policy -- It's a NMFS policy,
27 and it recommends the use of adaptive management, and, by that,
28 what is meant is an ongoing process of evaluating if the
29 management objectives have been met and adjusting them, if need
30 be.

31

32 This process, of course, includes then a periodic revaluation
33 and updating of the goals and objectives of the FMP, to make
34 sure that they are relevant and current. For example, the
35 council has recently, I guess not too recently, about a year
36 ago, initiated a reallocation amendment for red snapper, and the
37 first part of this exercise was to review and update, if you
38 would, the objectives of the Reef Fish FMP.

39

40 You have seen this graph before. Essentially, these are the
41 steps, as recommended by the policy, and the first step would be
42 looking at the allocation review trigger, and we will say more
43 about those on the next slide, and the second one, second step
44 that is, looks at the allocation review, and, here, we have
45 really three fundamental questions, or issues, if you would.

46

47 Number one is the review of the FMP objectives and their

1 revisions, if warranted. Number two is checking to see whether
2 those objectives are being met, and, finally, asking the
3 question as to whether other relevant factors changed, and, if
4 those changed, if they would impact allocations. Really, that
5 is the central emphasis, if you would, of what we are interested
6 in right now.

7

8 The allocation review trigger, as a review, these are the
9 criteria for initiating allocation reviews, and, as we discussed
10 in a previous presentation, the policy essentially introduced
11 three types of criteria, time-based criteria, which would be
12 fairly straightforward and simple, which would essentially have
13 allocations reviewed at regular time intervals, public-interest-
14 based criteria, which is you can consider it as being part of
15 the council process, because our process really offers frequent
16 opportunities for public comment. Of course, the policy
17 introduces various, I guess, opportunities or avenues for
18 public-interest-based, but the council process is one of those
19 avenues.

20

21 Finally, the third set of criteria would be indicator-based
22 criteria, and these are relatively burdensome, and we say that
23 because they would require the selection of particular
24 indicators, the establishment of a tracking process, as well as
25 the setting of thresholds, and, if those thresholds were to be
26 met, then you would automatically have to proceed with an
27 allocation review. By some estimation, indicator-based criteria
28 could result in processes that are more onerous and time
29 consuming than the allocation review they are meant to support.

30

31 All of that being said, the council decided to choose, as its
32 allocation review triggers, time-based triggers as the primary
33 trigger, and, in addition to that, use the council's open public
34 comment process as the secondary trigger.

35

36 This is, essentially, what most of the councils around the
37 country have done, with some modifications, of course, and two
38 observations here. The selection of these review triggers would
39 not preclude the council from initiating additional reviews any
40 time they see fit, essentially. These are just, essentially,
41 minimum requirements. I mean, time, for example, by which, if
42 nothing has happened, the council would have to initiate a
43 review, but the council could do this as they see fit. For
44 example, when new information is available, data calibration, or
45 recalibration, being a big one, the council may certainly think
46 that it's appropriate to have allocations reviewed.

47

48 This also is, by way of review, to just remind everyone of the

1 types of allocations that we have in the Gulf of Mexico, and we
2 have several types. We have allocations between the sectors, of
3 course, and we have allocations within a particular sector,
4 let's say within the recreational sector, and the example there
5 would be the allocation of red snapper between the for-hire and
6 the private anglers that we have here.

7
8 We have allocations between the different zones and gear types,
9 and, here, king mackerel will come to mind, and we have
10 allocations between the councils, meaning between us and the
11 South Atlantic Council, and, finally, thanks to Amendment 50,
12 recently, I guess, approved by the council, we now have
13 allocations between the five states in the Gulf, and that would
14 be also for private anglers, the red snapper resource, as you
15 know.

16
17 Now, I guess, part of our roadmap, based on the allocation
18 review triggers that we have selected, and we did mention that
19 the council selected time-based triggers as our primary
20 allocation review criterion, if you would, and this is what we
21 are looking at, in terms of time intervals and the specific
22 allocations that would be reviewed when the time comes, and the
23 last column here indicates the expected start of the first
24 review.

25
26 In four years, I guess in April of 2023, the recreational red
27 snapper allocation between the private anglers and the for-hire
28 operators, that would be the first allocation to be reviewed by
29 this council, and we have the timelines for all of them, and I
30 guess we will note here that the commercial and recreational
31 allocation of all IFQ species, red snapper, the gag and red
32 grouper, the shallow-water and deepwater and tilefish
33 aggregates, will be reviewed at the seven-year mark, and this
34 was, essentially, the anchor when it came to selecting these
35 time intervals, because, as you know, the Act recommends -- Not
36 recommends, but requires that IFQ programs be initially reviewed
37 at the five-year mark and subsequently no later than seven
38 years, and so meaning that all of our subsequent reviews would
39 be at the seven-year mark, and so, essentially, we draw in the
40 allocation reviews with the IFQ program reviews.

41
42 The final one, the seven years, were selected after discussions
43 with the South Atlantic, because these, essentially, concern the
44 stocks that are allocated between the two councils, and we
45 selected the other years to hopefully not have all of the
46 allocation reviews fall in a particular year and hopefully save
47 some time and resources there. I will stop, and I see a
48 question.

1
2 **DR. NANCE:** Assane, if it's between councils, does the South
3 Atlantic have to agree to that same period of time? You've got
4 a time interval of seven years, and so I'm assuming the South
5 Atlantic also has to agree to that same time period.
6

7 **DR. DIAGNE:** Yes, that's a good assumption, and, in fact, we
8 originally had a different time period, and I believe it was ten
9 years, but, at their council meeting, the South Atlantic came
10 back to our council and suggested a seven-year time interval,
11 and our council concurred.
12

13 After the council selected its review triggers, time-based and
14 the council open process, the council passed a motion, and the
15 motion is here on this slide, essentially directing us to
16 contact SERO and the Science Center staff and establish a
17 working group, or a workgroup, if you would, to identify
18 criteria that would be appropriate for the species listed,
19 essentially those species in the table that we are going to
20 review the corresponding allocations for, and these are the
21 members of the workgroup that was set up, and, as directed by
22 the motion, it includes our staff here as well as Science Center
23 and NMFS staff from the Southeast Region.
24

25 We have had the opportunity of meeting twice, once in June and
26 once in July, and we discussed two major issues. The first one
27 had to do with the allocation review procedures and what would
28 be some of the steps to be considered during the review process,
29 because this is fairly new, since the directive was published.
30

31 Without any particular order, these were some of the, I guess,
32 procedures, or steps, that one would have to consider. At some
33 point, we, or the council, would have to publish a notice
34 indicating that a particular species, or group of species, will
35 be reviewed, or their allocations would be reviewed, and there
36 is a question-mark here as to who should conduct the allocation
37 review, how many folks should be on such a panel, would it be a
38 mix of expertise or belonging to different organizations, and I
39 am going to say that, here, and, of course, you are thinking
40 about it, but, hopefully, after this presentation, we'll take
41 your recommendations and bring it to the council for any one of
42 these items, of course, and additional items that you may want
43 to add to this.
44

45 At some point, we will have to come up with an allocation review
46 template, essentially, a general framework, saying that it
47 should include A, B, C, and D, and some of those elements we'll
48 discuss on an upcoming slide.

1
2 The council will have to provide input as to how it sees the
3 particular review completed, what are its requirements, what are
4 some of the things they would want to include, and so forth,
5 and, of course, when an allocation is reviewed, it will have to
6 rely on, at some point, on the SSC's, as well as the
7 Socioeconomic SSC's, recommendation, as well as the relevant
8 advisory bodies, and, by that, I mean the AP, and the council
9 will have the last word and discuss and decide whether they
10 would need to proceed and develop an FMP amendment or
11 essentially be satisfied with the state of the current
12 allocation and move on. These are some of the, if you would,
13 steps or issues that we have identified at the workgroup so far,
14 at that level.

15
16 The second thing we talked about has to do with the criteria
17 themselves, essentially, what are some of the metrics that will
18 be included in the review to help the council answer the
19 fundamental question as to whether an FMP amendment would be
20 required, essentially, to consider the allocation options.

21
22 The first one of these is an obvious one, if you would, and it
23 is looking at the FMP goals and objectives. This is explicitly
24 listed in the allocation review policy, and so it will have to
25 be there, and the rest of these are the criteria that the
26 workgroup came up with.

27
28 One would have to do, in general, with the regulatory structure
29 for the stock in question, what are the seasons, what are the
30 bag limits, do we have closures and so on and so forth. The
31 ABCs and ACLs and levels of quotas would also have to be
32 included as well as the quota utilization rates would have to be
33 considered by the council, and, essentially, it's looking at
34 whether a particular sector, for example, underutilizes its
35 quota or if someone is fishing above their allocated ACL, and
36 those would be considerations that the council would be
37 interested in, as well as, of course, the landing histories by
38 relevant user groups, and, here, if we are looking at an
39 allocation between the commercial and recreational sector, it
40 seems to me that then the landings history would be provided,
41 according to those two sectors, to help the council make its
42 decision.

43
44 Along the same lines, the discards, as well as the discard
45 mortality rate, by user groups, if available, would also be
46 considered, or may also be considered. The group indicated that
47 the level of bycatch, when it comes to protected species, could
48 also be included and help the council make its decision.

1
2 The accountability measures, in terms of paybacks and so forth,
3 the status of the stock, based on the most recent stock
4 assessment, is it overfished, is overfishing going on and that
5 sort of thing, and a category here, which I guess we call here
6 participation and effort trends, and, over there, we would mean
7 the number of permits, number of vessels, as well as trips,
8 commercial trips, if relevant, as well as the number of for-hire
9 trips and anglers days and that sort of thing, if applicable.
10

11 The impacts on the habitat and, I guess, relevant environmental
12 events, and the example that would come to mind here would be
13 red tide in the Gulf of Mexico. If we have episodes, that is
14 something that the council may be interested in knowing, and
15 that may explain a portion of the landing histories, if you
16 would, in some cases, as well as maybe have some impact on the
17 status of the stocks.
18

19 A general category here is economic efficiency considerations,
20 and, under that umbrella, we would include consumer surplus,
21 producer surplus by user groups, and, if we are referring to an
22 IFQ species, we would look at the allocation transfer price,
23 and, with that, we will also look at the potential
24 distributional effects, and, over there, it's things such as
25 economic impacts, demographic trends, and community engagement
26 and reliance, as well as vulnerability indices may be provided,
27 if available. These are some of the, if you would, criteria or
28 elements that the council may consider for inclusions in review,
29 subsequent review.
30

31 Before we finish, additional ideas that were discussed by the
32 social scientists during a recent meeting is the question was
33 asked as to whether tiered allocation reviews would be
34 warranted, meaning reviews of a varying level of complexity.
35 For example, if one is looking at something for which limited
36 data are available, then, obviously, the review may be extremely
37 simple. It's still an open question-mark as to how many tiers
38 would such an allocation that has steps or tiers would have,
39 and, finally, the level of information that we may consider to
40 include in each one of the tiers also has to be determined at a
41 future date.
42

43 In essence, I think that's what we have, and we will try to
44 answer questions, if you have any, and we welcome your
45 recommendations and suggestions to essentially add to the
46 criteria to present to the council. Thank you.
47

48 **CHAIRMAN POWERS:** Thank you. We will start off then with

1 Walter.

2

3 **DR. KEITHLY:** Thank you, Mr. Chairman. Assane, I am a little
4 confused by this tiered system, and could you go into a little
5 bit more detail on what is meant by that?

6

7 **DR. DIAGNE:** Yes, and, essentially, this is, for the time being,
8 a suggestion, and, essentially, there would be, let's say for an
9 arbitrary number, three tiers. Let's say we could start with
10 the obvious things from that list, meaning landings history,
11 quota utilization rate, status of the stock, to give an example,
12 and, of course, with the FMP objectives.

13

14 Should the council look at that and feel that the data provided
15 would answer all of the questions they have to make a decision,
16 that will be the end of the story, and we will say, well, for
17 the particular stock, we are satisfied, and we are not going to
18 initiate an amendment, and we would stop, but the council could
19 decide to go to Tier 2 and say, well, we would like to see some
20 of the distributional effects and what are the demographic
21 trends and what are the vulnerability indices, et cetera? If
22 they are not satisfied, because the hypothetical example that we
23 just built had three tiers, they could then move to the third
24 tier and look at, for example, discards and so on and so forth.

25

26 That is, at least for now, I guess the shape of the idea, but
27 the number of tiers remains to be determined, as well as the
28 contents, if you would, of each one of those.

29

30 **CHAIRMAN POWERS:** Lee.

31

32 **DR. ANDERSON:** Thank you, Assane. Could you go back about three
33 slides, where you listed some of the -- Go forward one. Here is
34 the things that you said you would be looking at, and there were
35 some other ones too, but I am just not sure -- I am a cynic, and
36 I know it, and I will start out with it from the start.

37

38 We know that these are going to happen, because there is
39 political pressure, and that's why it's going to happen, and so
40 whoever pushes the political pressure, and this is a good
41 process, because it asks you to say, all right, we've got to
42 have some reasoning for it, but I am not quite sure what we're
43 going to see here that means people are good actors or bad
44 actors.

45

46 If we see certain things in an accountability measure, what is
47 that going to say? Is it going to say, okay, that means we
48 don't need to do one or what are the bad ones? I don't know the

1 answer to that myself, and so I'm asking. This is the kind of
2 list that I would come up with, but I don't know what I would
3 look for for good scores or bad scores within those.

4

5 **DR. DIAGNE:** Two things. One, by asking me to go back to these
6 slides, now I have to admit that, at the workgroup level, really
7 what we, essentially, did was adopt the kitchen-sink approach in
8 the beginning, because, at some point, we decided to put in all
9 of the, if you would, criteria that we can come up with, and,
10 hopefully, we will narrow this down as we progress.

11

12 We are not really looking at let's say assigning, if you would,
13 grades or good or bad, but this is, essentially, just -- For
14 example, this particular one, the accountability measures, it
15 will be to paint a more complete picture when it comes to the
16 management of a particular stock for which the allocation is
17 being reviewed, and so let's say, if you have payback, the
18 council ought to know -- If you have varying seasonal closures,
19 the council ought to know before making its decision, in terms
20 of has anything changed that would warrant, for example, us to
21 review allocation.

22

23 **DR. ANDERSON:** But, on an accountability measure, would you say
24 that these guys didn't meet their quota, and they were over, and
25 this sector was over all the time, and is that -- Would that be
26 an indication? Well, I am going to assume that that probably
27 would, that the people who were arguing would say that these
28 guys are bad actors, and so we need an allocation, and give it
29 to us and we'll be good actors.

30

31 **DR. DIAGNE:** There is different ways of answering that, but I
32 am, I guess, going to steer clear of part of it, and what I am
33 going to say is, once we present that portion of it, at the end
34 of the day, it will be up to the council for them to decide how
35 it is that they want to use this criteria to make their
36 decision, moving forward.

37

38 It is possible that someone could say, well, overages are an
39 indication of an insufficient allocation to begin with, and, I
40 mean, it could be viewed differently, but that is, really, at
41 the appreciation of the council, if you would, and we will
42 present this, and where they want to take it -- We will let them
43 be, I guess, the decider for that.

44

45 **DR. KARI MACLAUCHLIN-BUCK:** I wanted to -- Going over some of
46 this and thinking about the reviews, I do feel like it's very
47 broad, but I think that might be good, because there is some
48 flexibility for the workgroup or the review panel when it's time

1 to do this, and what I kind of see it is as is, when there's an
2 allocation review, especially if they're not getting really
3 specific about if they want to know if the allocations are
4 helping to meet a management goal or something, it's that you
5 were to give them the information, and they review it, and,
6 especially with at first, with the first few reviews that are
7 scheduled, it's just kind of a basic overview baseline
8 information of how the sectors are performing.
9

10 Then, at the very least, when there's another review, they have
11 that baseline from the first review every single time that they
12 can compare it to and then maybe make decisions.
13

14 I think, at the very least, it will probably be good to kind of
15 have those snapshots of the fishery and the sector performance
16 at kind of regular intervals. The one thing that I caution,
17 because this looks like a lot of work for staff, is to be sure
18 that you're just doing the analysis and providing the
19 information that is really important, and I think that tier
20 system is going to be huge for that, because you don't want to
21 do all of this for every single review, when maybe the council
22 and the public don't really need all of that information, and so
23 definitely I'm onboard with the tiered system, and I think
24 that's going to be really helpful for the council and for
25 resources.
26

27 I did have a question for Assane about -- I mean, did they talk
28 about, for the review, and maybe you did cover this, about
29 having the public participate, and I'm thinking kind of how the
30 SEDAR workshops work, where there is public -- The different
31 folks that participate in the workshops, or they can sit in on
32 the workshops, and I know you guys are probably working that
33 out, but I think that would be helpful, for sure, at least like
34 AP representatives.
35

36 **DR. KEITHLY:** Assane, if I'm not mistaken, the GAO is preparing
37 a document of some sort on allocation, aren't they? If so, how
38 does it fit into what the Gulf is proposing?
39

40 **DR. DIAGNE:** Yes, Dr. Keithly, but, before that, I'm going to
41 just go ahead and briefly address the points that Dr. Buck made.
42 Those are very good points, Kari, and I agree the baseline that
43 would be provided is going to be really critical as we move
44 forward, and, in discussing these criteria, what I should have
45 said also is that, for example, for status of the stock, in an
46 allocation review, we are -- We will have to look at this from
47 the perspective of change, has the status of the stock changed
48 since the last time you have done this, et cetera, for

1 accountability measures and so on and so forth.
2

3 That would be one of the things that we will have to emphasize,
4 essentially, how these variables, if you would, have evolved and
5 changed over time.
6

7 As far as public participation, so far, what we have included
8 was, in the procedures, inputs from the relevant advisory
9 bodies, and, by that, we mean advisory panels, and those
10 meetings would be open to the public, and I don't know if you
11 are looking for additional public participation beyond that
12 point or just having the AP review what the council has done
13 with, of course, meetings open to the public, if that would be
14 sufficient.
15

16 **CHAIRMAN POWERS:** Thank you. Walter, can you repeat your
17 question?
18

19 **DR. KEITHLY:** I'm sorry, Mr. Chairman. Assane, somewhere, and
20 it may have been at the meeting we had a couple of weeks ago, I
21 heard that the GAO is preparing a document on allocation, and I
22 guess Congress mandated GAO, and I'm not sure how it came about,
23 but, if I'm correct there, how will the Gulf allocation
24 decisions be incorporated into that document, or vice versa?
25

26 **DR. DIAGNE:** Essentially, yes, Walter, you are correct. This
27 report came about thanks to the Modernizing Recreational Fishing
28 Act, or something like that, of 2018, and that's the name of the
29 act, and, in that act, essentially, Congress mandates, requires,
30 that the GAO prepares a study addressing several things, and
31 some of those things, essentially, have to do with discussing or
32 recommending criteria for allocation reviews as well as items to
33 consider when one reallocates a resource.
34

35 How would our work fit in that, we got started because our
36 council, and let me put it this way, is proactive, and that's
37 what I can say, but we are not going to have a final, I guess,
38 report, or however you want to call it, before having had the
39 opportunity of reviewing the GAO's report, because, at the end
40 of the day, these are recommendations that they will make, and
41 this study was mandated by Congress, and so, whatever it is that
42 we do between now and December 31, which is the official date by
43 which this report has to be, I guess, available, our work will
44 be considered as a draft until we can review what the GAO
45 produces and, if need be, reconcile what we have and certainly
46 include their recommendations in what it is that we are going to
47 take before our council.
48

1 **DR. KEITHLY:** Thank you.

2

3 **DR. ANDERSON:** Do you know when that report is due?

4

5 **DR. DIAGNE:** Yes, and the Act says no later than a year from the
6 publication of this Act, and so it should be available by
7 December 31 of this year.

8

9 **CHAIRMAN POWERS:** Thank you. Andrew.

10

11 **DR. ROPICKI:** Can you go back to Slide 4, and that's the flow
12 chart. Step 1a, will public inputs required to go to that step
13 be explicitly defined, or will there be benchmarks that need to
14 be met, or is it kind of play-it-by-ear, or we don't know yet?

15

16 **DR. DIAGNE:** Essentially, the Step 1a -- For now, what we have
17 is our primary allocation review set of criteria is based on
18 time, essentially, and it's a time-based trigger. That is what
19 is going to drive the bus. The public input, and not solicited,
20 but just ongoing, as a part of the councils open process, is a
21 secondary trigger, but, here, essentially, because it's a
22 secondary trigger, our council has the flexibility of, if you
23 would, being the judge of the amount of public comment that it
24 has received as well as, essentially, considering this Step 1a.
25 It's what additional information do we need to judge it
26 sufficient for us to trigger a review.

27

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

29

30 **DR. ANDERSON:** I just saw something -- Could you go back to that
31 flow chart again? My question is -- I said why are you putting
32 all this information up, and the thing that they're mandated to
33 do is to review the objectives and revise if necessary, are the
34 objectives being met, and then have other relevant factors
35 changed that would impact allocation, and so I guess that list
36 that you were saying to go through could give information about
37 relative factors that have changed that could affect allocation
38 and how you want to allocate.

39

40 **DR. DIAGNE:** Yes, exactly, and we would provide that
41 information, or a subset of it, to help the council essentially
42 answer that portion there.

43

44 **DR. ANDERSON:** The problem is what's a good effect and what's a
45 bad effect.

46

47 **DR. DIAGNE:** Yes, and that's always a problem that I can see in
48 the details.

1
2 **CHAIRMAN POWERS:** Thank you. I think I agree with Kari, in the
3 sense that I think it's a good idea to, in general, have the
4 things that would trigger the special -- Well, let me skip ahead
5 to one of the next slides, and can you go ahead?
6

7 These sorts of things, in my mind, I think are important to
8 consider, because, basically, if it's explicit to the public
9 that you are considering these things, it kind of makes the
10 allocation process -- At least they have to address what the
11 consequences are for each one of these things, and so I think
12 what might trigger an allocation review, looking at these
13 individual items, I think is a really good thing.
14

15 When they get to the process of actually making those
16 allocations, it kind of puts the onus on the councils to justify
17 it based on these sorts of things, and so, if they are ignoring
18 one, it becomes a little more transparent, I think. It's also
19 kind of a -- It provides what I refer to as a red-faced test.
20 It kind of is saying the criteria that one needs to address, in
21 terms of developing allocations, and, if you don't address
22 these, then you have to suffer the consequences, and so, all in
23 all, I'm very supportive of this sort of thing as an information
24 process, as much as anything else. Are there any other comments
25 or suggestions that can be contributed to this? Jim.
26

27 **DR. TOLAN:** Just more of a mechanistic question, having been
28 involved in a number of the SEDARS from start to finish, but
29 what's the review panel envisioning right now to the time period
30 that it would take to do one of these?
31

32 **DR. DIAGNE:** That is also, at this point, something that we
33 don't know, because, essentially, depending on how involved the
34 allocation review is, or is expected to be, that would really
35 put, essentially -- It would give us an idea in terms of the
36 time required to completed it.
37

38 At this point, it could be a very, very short thing, or it could
39 be a fairly lengthy process, but, to the extent that we have
40 enough gaps between reviews, that would really depend on,
41 essentially, the contents, one, and, two, if the council says,
42 well, we want all of this, but we want it by this date certain,
43 then we will have to find a way to have it by then.
44

45 **CHAIRMAN POWERS:** Harry.
46

47 **MR. BLANCHET:** In being picky again, a suggestion to move your
48 bullet about habitat impacts immediately after status of the

1 stocks, because those are the two things that I think you might
2 want to be considering in conjunction with each other, in terms
3 of, yes, this is the status and this is why it's at that status,
4 so that you're kind of collecting some of these related topics.
5

6 **DR. DIAGNE:** Thank you for the suggestion. That will be done.
7

8 **CHAIRMAN POWERS:** Walter.
9

10 **DR. KEITHLY:** Thank you. Just a point of clarification, and I'm
11 a little confused. Assuming there is some agreement on the
12 recalibration of the MRIP numbers and so forth, would there be -
13 - Potentially, could the council request reallocation for say
14 gag grouper or red grouper or any of these prior to the April
15 2026 expected start date of when you start doing your regular
16 intervals?
17

18 **DR. DIAGNE:** Yes, and, essentially, the council -- The policy,
19 when it was published, set, I guess, requirements for the
20 council to set thresholds by which reviews would have to happen,
21 but the example that you referred to of the recalibration of the
22 data, and that's one of the examples that we use here, the
23 council could use that to initiate a supplemental or additional
24 review any time they see fit, and I suspect that, if those new
25 datasets were made available and became final, somebody is going
26 to perhaps begin reconsidering that existing allocation, which,
27 as you know, were all based on historical time series, and some
28 of them are as far as like 1979 to 1987 and that sort of thing.
29

30 Yes, the short answer is yes. If you change the dataset, it
31 seems to me that someone is going to reconsider the allocations
32 which were based on historical landings using those data.
33

34 **DR. KEITHLY:** Just a follow-up, and so it's not really the
35 expected -- Well, I guess it's the expected start date that you
36 have of 2026, assuming the council, in this case, doesn't come
37 forward and say could we look at reallocation prior to that
38 date, because we have these new numbers.
39

40 **DR. DIAGNE:** Yes, and I guess that's exactly what I am saying.
41 The council can, tomorrow, say that we would like to review, to
42 use it as an example, the red grouper allocation and initiate --
43 At the end of that review, initiate an FMP amendment to
44 reallocate the resource without waiting for whichever year red
45 grouper is an IFQ species, and so it will come in seven years,
46 without waiting for the April of 2026.
47

48 If additional information is made available to the council, or,

1 if the council, as a body, deems it necessary for them to review
2 an allocation, at any moment, any point in time, they can start
3 it. Let's say, if we were to take the first one, April of 2023,
4 it simply says that, if you haven't done anything by then, you
5 are compelled to at least have one at that time.
6

7 **CHAIRMAN POWERS:** Thank you. Harry.
8

9 **MR. BLANCHET:** That kind of gives me a bit of confusion here,
10 because I think that -- I see a difference between a
11 recalibration and a reallocation, and so, if a -- If the MRIP
12 time series has changed, but you have an allocation based upon
13 some annual framework of years, of harvest, by sector, and you
14 give new numerical values to that distribution within those
15 years, that is not necessarily -- That's not a change of
16 allocation. That's just changing your numbers.
17

18 Now, you may need to go through an amendment to do that, but I
19 don't see that as an allocation change. That's just changing
20 numbers of what your new perception of that distribution is.
21 This seems like this is something that is actually taking a
22 change from that historical distribution and -- Am I right, or
23 is it the same thing?
24

25 **DR. DIAGNE:** In terms of saying that a recalibration, just
26 changing the dataset, is not, per se, a reallocation exercise,
27 or an allocation review exercise, because we are talking about
28 the review here, in the same fashion as these, that's absolutely
29 correct, but, at the end of the day, if you were to change,
30 let's say, the metric that you use to allocate a resource, the
31 practical result of that would be a change in allocation, which
32 would require, of course, an FMP amendment, but, within that FMP
33 amendment, we don't know what the council may or may not want to
34 do.
35

36 It doesn't say that it is going to be a one-to-one and it's
37 recalibration increase or it's a sector's historical landing by
38 50 percent and then the allocation would shift in kind. In that
39 process, the council will have to evaluate the economic and
40 biological and ecological and social, I guess, consequences of
41 the proposed action and so on and so forth, and so, even though
42 what started it may not be the same thing, by the time you go to
43 the FMP amendment, if you get there, that will essentially
44 result in something similar, and you would have to then
45 potentially shift allocation and consider a suite of factors to
46 be able to do that within an amendment.
47

48 **CHAIRMAN POWERS:** Yes, and you already mentioned that the first

1 trigger is the time limit, but the other trigger is the more
2 practical if somebody is griping about it, public input, and
3 that might well be one that would generate that sort of public
4 input. Is there any other comments or any other suggestions to
5 provide to Assane?

6

7 **DR. ROBERTS:** Assane, I think, when you made your comments, you
8 said that it was unsettled who, between NOAA and the council
9 staff, would do this kind of analysis, have the leadership, I
10 should say, and is that a correct summarization of what you
11 said?

12

13 **DR. DIAGNE:** Yes, Dr. Roberts. What I was referring to has to
14 do with the membership of the allocation review panel itself,
15 because, in my understanding, and I believe our understanding,
16 the council has, I guess, leadership and is responsible for the
17 review of its allocation, although, I guess, the workgroup that
18 we have includes NMFS and Science Center staff, and they may
19 help us during the review process, and I don't think that is in
20 question.

21

22 The council has leadership, and I guess ownership, of the review
23 of its own allocations, but who the council would choose to
24 include in the allocation review panel is at their discretion,
25 and that is something that they will have an opportunity to
26 discuss in October, if they decide to do so.

27

28 **DR. ROBERTS:** Okay, and, expanding on that, it seems to me that
29 these kinds of analyses are not going to be fulfilled by a lot
30 of off-the-shelf information that's already available in the
31 systems, and so the question is, is the council, if they're
32 going to have the lead, are they prepared to go out and do
33 original work that generates new data and uses new data from
34 which to make conclusions?

35

36 **DR. DIAGNE:** What I can offer is the council will discuss this
37 in more detail starting from October, but, I mean, if need be, I
38 guess -- I mean, as usual, the council can lean on and, if you
39 would, request information from our, one, SSC, and, two, Science
40 Center, and, three, Southeast Region, and those have been, I
41 guess, traditionally, the places where the council has come to
42 get the scientific advice and information and conduct studies,
43 and so I don't see this as being very different.

44

45 **DR. ROBERTS:** I want to go on record as saying that I see it as
46 far different, because I don't think, in terms of things like
47 consumer surplus and economic impact models on the geographic
48 areas and other things like that, that is off-the-shelf that you

1 can pull into species-specific determinations, and so I don't
2 want to be argumentative, but I think you're a long way away
3 from having credible information by pulling things from other
4 studies and other areas of the country and off the shelf.

5
6 I mean, there's a lot of new data that has to be collected, and
7 it takes time to collect and verify it and analyses done, and so
8 I know you're going to speak to the process and whatnot, and
9 that's fine, but, somewhere, there has got to be some new
10 information for these kinds of decisions, and I know you all can
11 do it.

12
13 The point is I want to make sure that the council understands
14 that this is not a simple process of talking to the SSC or
15 pulling things, like I say, off the shelf and adapting them to
16 what they need to have. It's just a little bit troubling to me
17 that -- You know, it's going to take some money, and it's going
18 to take some focus, and, if you put it in new data collection
19 and analysis and whatnot, you're talking about years to get
20 definitive answers. That's number one.

21
22 The second point that I want to make is on -- I think it's your
23 second-to-last slide that has the bullets about distributional
24 effects. I think there is something in that last that might be
25 worth you considering having, and I'm not sure, since this is
26 the first time that I've looked at it, but that is that there's
27 an implementation period, implementation techniques, where
28 things are going to be phased-in for those and there will be
29 compensation to people who are losing shares, and that sort of
30 thing, I think, needs to be in some sort of allocation review,
31 because it's not a distributional effect, necessarily, and it's
32 not an economic efficiency issue, but it is an implementation
33 aspect of any kind of allocation change that I think needs to
34 have some data on it, and I know you will do a good job, Assane,
35 and I have great faith in you guys, and, with that, I will end
36 my comments. Thank you all very much.

37
38 **CHAIRMAN POWERS:** Thank you.

39
40 **DR. MACLAUCHLIN-BUCK:** I want to follow-up. One thing, to Ken's
41 comments, is that I -- I mean, I know that a lot of data are
42 available and collected, and probably all the data that you
43 probably need to do, lots of different analyses and modeling,
44 and it's just a matter of you have a limited number of
45 economists and social scientists available.

46
47 However, these are -- The first one is set in 2023, and, I mean,
48 if there is something that is going to take a longer time or

1 will need to be contracted out to a university or something like
2 that, I mean, you have four years. That may be something that
3 can go in two years or three years ahead of the scheduled start
4 of the review, and the council has a conversation and gets
5 public input and AP input of what do we need and when do we need
6 it and do we need all that time.

7

8 If there are additional data collection efforts that need to
9 happen, I mean, I think that this is a great opportunity to take
10 advantage of the fact that it's four years down the road, but,
11 really, I think it's just a matter of the agency and the Science
12 Center and council staff being -- Especially the economists and
13 the social scientists being stretched pretty thin.

14

15 **DR. ROBERTS:** Kari, I don't disagree with those comments, and
16 one of the things you've got to be aware of is that these are
17 species-specific allocations, and, consequently, the data and
18 the analyses have got to be matching those species descriptions,
19 and so I'm glad you all are thinking about working on them, but
20 I just know, from my experience at three universities, that it
21 takes a year or two to get an RFP out and respond to them and
22 graduate students lined up and data collected and harvested and
23 whatnot, and so as long as the council is aware of those kind of
24 things, that they're just not going to pull things from other
25 studies and walk into this without enticing some people who are
26 going to take legal action if you're not really well covered,
27 and that's all I'm suggesting. Thank you.

28

29 **CHAIRMAN POWERS:** Thank you. Assane, can you address -- There
30 were two things there. One was Ken's comments about
31 implementation issues, and then the other is just a warning
32 about the resources available and the timing associated with
33 that. Assane.

34

35 **DR. DIAGNE:** Thank you very much. I will start with, I guess,
36 the resource, and I appreciate Dr. Roberts recognizing how time-
37 consuming, and I guess resource-heavy, this would be, and that
38 is one of the reasons why I guess we are very interested in,
39 when the time comes, seeing the GAO report, because some of the
40 things to be included in the report would have to include the
41 identification of the source of information that could
42 reasonably support the criteria for allocation decisions, and
43 that's one, and, two, the budgetary requirements for these
44 periodic allocation reviews, and so where are we going to get
45 the information from and how, I guess, this can be paid for, or
46 at least how much that would cost. Definitely, yes, it's very
47 time-consuming, and it would be costly.

48

1 A lot of this would have to be species-specific, but,
2 oftentimes, I guess let's say, for example, to take something
3 like a consumer surplus or something like that, some studies are
4 available by which one could reasonably rely on a consumer
5 surplus for a group of species, for example, and not for
6 individual groupers, but let's say for groupers as an aggregate
7 in general.

8
9 That is not as perfect as having a metric for the particular
10 species, but, if need be, perhaps that is going to be what would
11 have to be done, but, keeping this in mind, hopefully the
12 council will pare down the criteria or the issues to be
13 discussed in reviews to be able to stay within, quote, unquote,
14 our means, if you would, in terms of resources available and
15 time.

16
17 As far as the second issue that Dr. Roberts mentioned, he talked
18 about a phased implementation, I believe, and the potential, I
19 guess, compensation to the losers, thinking ahead of, I guess,
20 some type of optimality and that sort of thing, but this is just
21 an allocation review, and that's the thing.

22
23 Here, there are no options to reallocate or consider
24 reallocation of a resource. That is done in an FMP amendment,
25 and, if we go -- If the council decides, after review, to start
26 an amendment, those implementation issues could be considered
27 and discussed. Let's say, if I were to shift allocation from
28 this sector to that, how do I make sure that no one,
29 essentially, loses, if you would, by compensating those from
30 which the allocation has been shifted and so forth, and that's
31 all I have, and I hope I have begun to answer Dr. Roberts'
32 questions.

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

35
36 **DR. ANDERSON:** I think it's also important to determine, if you
37 make reallocations, if compensation is required or even allowed,
38 and, in some way, that compensation hasn't even been mentioned.
39 You know, you play the game, and you do a reallocation, and
40 there are winners and losers, and, if you're going to have a
41 policy that you're going to compensate any losers, that's going
42 to make it a heck of a lot more difficult to get it passed and
43 raise the money for that, although it may be a good idea.

44
45 **CHAIRMAN POWERS:** Thank you. Harry.

46
47 **MR. BLANCHET:** This goes back to a prior agenda item, but I was
48 trying to figure out if any of these research priorities that we

1 talked about are pertinent to what has already been listed in
2 the council research and monitoring priorities, and, if we're
3 talking about something that's going to be happening within the
4 next few years, is there something that needs to be put back
5 into these research and monitoring priorities to address some of
6 this reallocation issues that you might be seeing coming up
7 here?

8

9 **DR. DIAGNE:** I think, using a broad brush, I don't want to say
10 all of these, because I may miss something, but most of these
11 are covered in the research priorities, because, for example,
12 the priorities would simply say, for example, studies to better
13 characterize the allocations in the Gulf of Mexico, and that
14 would, essentially, include all of the economic efficiencies, as
15 well as the other considerations, and so I would think that
16 these are covered in the priorities.

17

18 **CHAIRMAN POWERS:** Thank you. Any other comments? If not, I
19 think that's been useful, and thank you, Assane, for making this
20 presentation, and we will proceed from there. We are returning
21 to the original agenda, or order, and this is Ryan talking about
22 the SEDAR assessment schedule.

23

DISCUSSION OF SEDAR ASSESSMENT SCHEDULE

24

25

26 **MR. RINDONE:** All right, and so we have a SEDAR Steering
27 Committee meeting on September 30, and it will be held via
28 webinar, I believe in the morning, at 10:00 a.m., for any of you
29 all that want to listen in on that, and this is our current Gulf
30 SEDAR schedule, and so 2019, obviously, we're most of the way
31 through that.

32

33 We have started the scamp research track process, with the stock
34 ID process, and we have a data scoping webinar for vermilion
35 snapper that is also coming up, and we haven't really got cobia
36 off the ground yet, and so we're still waiting on getting that
37 one going. Yellowtail snapper is moving along smoothly, as is
38 the king mackerel update, and, of course, we're wrapping up red
39 grouper now, and gray triggerfish is also underway.

40

41 Moving into 2020, which is also finalized, we will finish up
42 vermilion snapper and cobia, and then we'll start greater
43 amberjack and gag, which you guys will see the terms of
44 reference for, and hopefully some of you will be kind enough to
45 volunteer your time for those. We will keep working on the
46 scamp research track, and we will wrap up the yellowtail snapper
47 benchmark assessment.

48

1 2021 is what we'll be definitely finalizing later this month,
2 and we have a wrap-up of the amberjack and gag operational
3 assessments, and we're still chugging along and finishing the
4 scamp research track, followed by an operational assessment,
5 which is where we'll get the management advice for scamp, and
6 scamp may also -- I forgot to note this, but scamp may also end
7 up including yellowmouth grouper, since they are very difficult
8 to distinguish between, and it may end up being assessed as a
9 complex, as opposed to separate species, and so just something
10 to keep in mind for that. Again, you guys will be the review
11 body for that operational assessment.

12
13 We have proposed a research track for red snapper. The Science
14 and Center and you folks have long had a laundry list of things
15 that you would like to see attempted for red snapper, and this
16 would give the Center an opportunity to take some big swings at
17 that, and then we also have an operational assessment for gray
18 snapper, for which we're going to finalize the scope of work at
19 this meeting.

20
21 Then FWC will be starting a benchmark assessment for mutton
22 snapper, which hasn't had a frame-off-restoration, if you will,
23 in a really long time. Somebody throw their hand up at any
24 point if you want to ask a question or recommend a change.

25
26 2022, we'll finish up that scamp operational assessment, and you
27 guys will get to review that, and we'll be chugging along with
28 that red snapper research track, and we'll finish up our gray
29 snapper operational assessment, and then we've also proposed
30 starting a red grouper research track, for many of the reasons
31 discussed today and yesterday, and also a red drum research
32 track, which hinges entirely on the completion of several key
33 studies throughout the Gulf that are looking at the offshore
34 stock.

35
36 Then we have also listed a benchmark assessment for west Florida
37 hogfish, to be done by FWC, as was requested by you guys when
38 you reviewed the last hogfish update.

39
40 In 2023, which isn't as far away as it seems, it sees us getting
41 an operational assessment for red snapper, after we've wrapped
42 up that research track, and then continuing work on the red
43 grouper and possibly red drum research tracks. Questions?

44
45 Just to clarify, again, the thing that's dead certain getting
46 finalized in a couple of weeks, when we have this webinar, is
47 the 2021 schedule, and so, for 2022, we can still do some
48 fiddling with, but, the further out we lock these things down,

1 the better it is for the Science Center for trying to determine
2 data loads and who needs to be doing what and when.
3

4 **EXECUTIVE DIRECTOR SIMMONS:** I just wanted to remind the SSC
5 that we haven't had a Steering Committee meeting since you were
6 convened last, and so we are still planning to bring up the
7 black grouper assessment issues that we discussed I think in
8 July, when we were going through the status determination
9 criteria amendment.

10
11 I have talked a little bit to Luiz about it, and I haven't
12 talked to Shannon about it recently, but I'm trying to figure
13 out the best way to move that forward, maybe go through SEDAR
14 versus having the Science Center do it versus FWC, and so we've
15 got it on our radar, and we're going to bring that up and try to
16 work those details out, and so, if there's anything else you
17 would like us to consider, that would be great, to get some
18 recommendations now, because we won't meet again, after
19 September, until next May.
20

21 **MR. RINDONE:** If you were looking for somewhere to try to
22 squeeze that in, I mean, 2021, you would have to take something
23 off there for 2021, but perhaps 2022 or 2023, and, just as a
24 reminder to everybody, one of the key problems with the data for
25 black grouper were misidentification issues with gag, which we
26 were able to sort out with the gag assessment, since the
27 misidentification issues don't have as much of an effect on gag
28 as they do in the reverse, and so it's a large effect against
29 black grouper, and there were some other issues as well, but,
30 since the data workshop when that assessment was closed down,
31 there has not been any change to that particular condition for
32 black grouper.
33

34 **MR. GREGORY:** Is this SEDAR schedule on the website, or, the
35 Steering Committee, do they have a website, because I am curious
36 about both the South Atlantic and Gulf schedules, and is there
37 any place to find them?
38

39 **MR. RINDONE:** The Steering Committee's schedule is on the SEDAR
40 website, and I can tell you how to navigate to that. Jess, if
41 you want to bring up sedarweb.org, I can show you guys where to
42 find that, real quick.
43

44 If you go to the SEDAR projects, and go the very bottom, the
45 project list, and so this is based on the most recent
46 information between discussions with SEDAR and the Science
47 Center and the Steering Committee. If you keep scrolling down,
48 these are the things that are finalized on the schedule right

1 now, and then, if you go back a webpage, and if you go to About,
2 Steering Committee, and go down to the briefing materials, you
3 can see -- The schedule should be in there. Where is it, Julie?
4

5 **MS. NEER:** For which one?
6

7 **MR. RINDONE:** The current SEDAR schedule that the Steering
8 Committee is operating off of that was approved.
9

10 **MS. NEER:** (Ms. Neer's comment is not audible on the recording.)
11

12 **MR. RINDONE:** There you go. Scroll down, and so this is the
13 schedule that SEDAR is currently operating off of that we'll be
14 looking at in September, and this was last modified in May.
15 This is only updated a couple of times a year, typically, unless
16 there is some other reason that it needs to be immediately
17 changed, and so the schedule that we have for the Gulf we update
18 on a more fluid basis, based on conversations with SEDAR and the
19 Science Center about realistic expectations for beginning and
20 delivery dates and terminal year and things of that nature.
21

22 **MR. GILL:** Looking at that schedule, I see the second column for
23 the Gulf/Caribbean team indicates a gray triggerfish
24 consideration in 2021, but, when you look at the schedule that
25 we were just looking at, gray trigger is not there.
26

27 **MR. RINDONE:** We are completing gray triggerfish in 2019, and we
28 had dropped it off for being done immediately in 2021 to make
29 room for having a red snapper research track and also trying to
30 see if we could get that gray snapper operational assessment,
31 seeing as we would have just gotten the gray triggerfish
32 assessment, and I think our expected delivery for that is before
33 the end of the year, which means that you guys could be looking
34 at it as soon as your January meeting, which, by the way, you'll
35 be getting a doodle poll for, and respond in a timely manner.
36

37 That would mean that the council sees it in January, and the
38 soonest that they could put forward any sort of change for an
39 ACL would be June, and then maybe it's implemented by the end of
40 2020, and so, if things move smoothly -- Things have been taking
41 a little bit longer to get implemented as of late, and so it
42 could be 2021 before that ACL change actually comes into effect.
43

44 By then, to be starting another full assessment immediately, it
45 seems kind of like stacking gray triggerfish is a bit much,
46 especially when there is some other large problems that we need
47 to try to find some time to take swings at.
48

1 **MR. GILL:** Is the follow-on thinking that gray triggerfish might
2 be filling one of those slots in 2023, in either a research
3 track or something along those lines, and is that the thinking?
4

5 **MR. RINDONE:** Well, you guys can certainly provide some input on
6 that. I mean, if you're going to advocate for a research track,
7 some good justification for that would certainly be helpful,
8 because of the size of that lift is considerable, and so there's
9 a lot of resources that are leveraged into those for the
10 council, for the Science Center, for SEDAR, and so there's an
11 awful lot -- And all of the data cooperators, and there's a lot
12 that's involved, and so, if you're going to propose a research
13 track, I would strongly encourage ample justification for doing
14 so.
15

16 Otherwise, an operational assessment can also be recommended,
17 and just be explicit about what it is that you're looking for,
18 as far as any changes or updates, et cetera, outside of what
19 would have been done this time.
20

21 You guys are going to have time, if you're thinking about gray
22 triggerfish for 2022 or 2023 -- I mean, you're going to see that
23 assessment in early 2020, and so you're going to have some time
24 to decide how it needs to proceed after that as well, and so I
25 don't want you to think you have to squeeze that decision in
26 now. You can, but you don't have to.
27

28 **DR. CALAY:** I just wanted to remind the group too that there are
29 a number of species that have not been assessed recently, and
30 yellowedge grouper is one and Spanish mackerel. These are all
31 assessments now that are getting close to ten years old, and so,
32 before we consider whether a gray triggerfish research track is
33 our most highest priority, we should consider that many stocks
34 have not been assessed for a decade.
35

36 **CHAIRMAN POWERS:** Thank you, Shannon, for your helpfulness. Any
37 other comments or guidance? Okay.
38

39 **MR. RINDONE:** Wonderful.
40

41 **CHAIRMAN POWERS:** Thank you, but don't go away, because we're
42 moving on to the scope of work for the gray snapper operational
43 assessment, and, Doug, you had some suggestions, or you are the
44 discussion leader, but I think you also had some suggestions.
45

46 **SCOPE OF WORK: GRAY SNAPPER OPERATIONAL ASSESSMENT**
47

48 **MR. GREGORY:** Right. Ryan is going to go through the scope of

1 work, and then I want to just talk about size at maturity
2 briefly.

3
4 **CHAIRMAN POWERS:** Okay. Thank you. Ryan.
5

6 **MR. RINDONE:** Sure. We had talked about this the last time, and
7 we had some conversations with the Science Center about how to
8 proceed with drafting this particular scope of work. We have
9 changed some of the language in some areas to say "consider"
10 and, based on the sentiments of the SSC the last time around,
11 and to be clear here, "consider", for our particular term of
12 reference, means exactly that, that whatever is being requested
13 has been considered, and it's not required that it be done if
14 it's not possible that it be done, but, if it cannot be done,
15 then provide some justification as to why that was not able to
16 be included, whatever that particular item may be.
17

18 You see the little highlighted mark there, which has to do with
19 the size at which 50 percent of the females are sexually mature.
20 In the previous assessment, in SEDAR 51, that L 50 was set at
21 300 millimeters fork length, and the reason for that was -- That
22 was essentially the functional L 50 at which, at that point,
23 there was some measurable, meaningful contribution to
24 reproduction.
25

26 The biological L 50 is actually 253 millimeters, but the life
27 history working group for SEDAR 51 had essentially determined
28 that fish that are of that size are -- They may be sexually
29 mature, or 50 percent of them may be sexually mature, but
30 they're not really contributing anything, and so that was why
31 the decision was made to carry forward with 300 millimeters fork
32 length instead of 253, and I think Mr. Gregory has a comment or
33 a motion about that.
34

35 **MR. GREGORY:** Thanks, Ryan. Other than that, I think this is
36 the same scope of work as we saw in July, and what got my
37 attention was the request to have the analysis based on 300
38 millimeters fork length for gray snapper as size at maturity
39 when I had not seen that large of size at maturity in the
40 literature before.
41

42 I looked into it, and you've got the two background documents on
43 the agenda that are related to this, that are both part of the
44 gray snapper stock assessment data workshop, and one is a paper,
45 a small study that was done in the Keys, and then there's
46 another paper that compiled data from other fisheries-
47 independent monitoring programs in the West Florida Shelf.
48

1 Jessica, if you would put up the slide that says "gray snapper
2 size at maturity", I will just go through this quickly, and,
3 just real quick, two points. What was the estimated size at
4 maturity in the NMFS document, let's say, based on monitoring
5 data relative to past studies? Two is the decision to use the
6 size at maturity in the assessment, that was not estimated.
7 That was larger. Next slide.

8
9 This is the graph that was used to estimate size at maturity,
10 and I have not seen such a binary graph before. I am used to
11 seeing like histograms, and you see the actual data and the
12 percent mature by size, but, from this graph and the model, with
13 the formula that they supposed used, they estimated 50 percent
14 maturity to be 253 millimeters fork length.

15
16 The formula in the paper does not work. It doesn't matter if
17 you enter 150 millimeters or 650 millimeters. You get 99
18 percent maturity, or 100 percent maturity, and so there's
19 something amiss there, but the 253 millimeter size at maturity
20 is about a half-inch larger than past studies, not a big deal,
21 and the paper goes into detail of how they looked at the
22 maturity information from the spawning season, which makes
23 sense. You don't want to combine non-spawning information with
24 the spawning season.

25
26 What they, I guess, couldn't do is identify spawning areas, and
27 so there may be some animals in here in non-spawning areas and
28 non-spawning conditions that are mature, but I think that's a
29 minor point, but there were two previous studies, and both of
30 them estimated size at maturity to be about 400 millimeters,
31 and, in this paper, in the next slide, you will see, if you've
32 read this -- These are quotes from the paper.

33
34 They are saying, yes, we estimated 253 millimeters fork length,
35 which is fine, and that's the data they had, and then, the last
36 sentence, they kind of justify this by saying, well, in the
37 previous study, maturity occurred between 239 to 288
38 millimeters, and so that brackets our estimate, and so our
39 estimate is fine.

40
41 The truth of the matter is that 239 millimeters fork length was
42 the estimate of maturity in the earlier paper, 50 percent
43 maturity, and the 288 millimeters was the estimate of 100
44 percent maturity, and so you can't really use that range and
45 say, well, this brackets what we found.

46
47 In reality, this -- I will call it a NMFS study, for lack of a
48 better term, but it did find a size that was bigger than

1 previous studies, a half-inch, like I said, and that's not a big
2 deal, but it's kind of misleading the way it was presented here,
3 but then -- I will go to the next slide. Then, as Ryan said,
4 they were looking at the gonadosomatic index, and you will see a
5 sharp increase in this around 300 millimeters fork length.
6

7 Based on that, the paper concluded that the spike in their
8 estimate of maturity -- They think the 300-millimeter fork
9 length should have been the size at maturity to use in the stock
10 assessment, because those bigger fish have more eggs and a
11 bigger gonadosomatic index.
12

13 My concern with this is that this, to me, is subjective. We
14 could do this with any snapper species, and where do we make
15 that distinction? I mean, clearly, this graph looks impressive,
16 but it concerns me, because 300 millimeters is two inches larger
17 than the estimated size, and we're talking about ten to twelve
18 inches, and that's a large difference. That's a 20 percent
19 difference.
20

21 I wonder how much -- How this might affect the assessment. Now,
22 I don't know if gray snapper is modeled in fecundity in eggs,
23 but, because the scope of work said use this size at maturity,
24 it caught my eye, and I want to see that -- I want to see that
25 the next operational assessment for gray snapper actually do --
26 I call it an alternative base run, rather than just a scenario,
27 of 253 millimeters fork length in addition to the 300 that was
28 used in the previous assessment, just to see if it has an impact
29 on the results of the assessment.
30

31 You might remember that gray snapper was strange results with
32 the assessment. It was considered overfished throughout the
33 1970s and 1980s, and, depending on how size at maturity is used
34 in the assessment, a two-inch difference could make a big deal
35 in the results, and particularly when you think about the
36 regulations that are in place.
37

38 Federal regulations for gray snapper are twelve inches total
39 length, which is based on an earlier 1960s study, and that is
40 the size at maturity, based on that 1960 study.
41

42 Now, it's interesting that the 1960 study and the 1990 study in
43 the Keys both came up with the same size at maturity of 400
44 millimeters fork length, which is a half-inch different than the
45 more recent monitoring data, but they were consistent over a
46 thirty-year period, which is surprising if this fishery was
47 fished as hard as the stock assessment says it is, because we're
48 seeing size at maturity changes in fish over that same period of

1 time, and we suspect it's based on fishing pressure either from
2 compensatory dynamics or genetic influence.

3
4 Knowing that this is an operational assessment and it's supposed
5 to be based on a benchmark, and I think the benchmark
6 assessment, in a sense, made a mistake. They never ran
7 scenarios for the two different sizes at maturity, and, if they
8 would have done that, that might have been interesting, but I
9 don't really -- I don't like that subjective decision on use
10 this number instead of that number when they have estimated a
11 number, and the approach to doing 50 percent size at maturity is
12 well-known and well-practiced worldwide.

13
14 **What I am proposing is a motion to the SSC that is this bottom**
15 **paragraph.** I don't want to substitute the 253 millimeters for
16 the 300, and I am not that brash, but I do want to have both of
17 those numbers incorporated in the assessment as alternate runs,
18 so we can see if it does have an impact.

19
20 **CHAIRMAN POWERS:** This is a motion, correct?

21
22 **MR. GREGORY:** Correct.

23
24 **CHAIRMAN POWERS:** Is there a second to that motion?

25
26 **MR. GILL:** I will second it.

27
28 **CHAIRMAN POWERS:** All right. Is there discussion? I think it's
29 important here. Shannon, you wanted to mention something?

30
31 **DR. CALAY:** Yes. I very much disagree with this motion. I
32 don't think it's appropriate at all. The appropriate bit is to
33 include in the project work plan a requirement to review the
34 information available on reproduction and have the life history
35 working group give us a recommendation for maturity and
36 fecundity, which may differ from what was used in the previous
37 assessment or from what Doug has proposed.

38
39 We will use that recommendation as a base case. I am very happy
40 to entertain sensitivity runs, but the requirement to do an
41 alternative base run requires a total duplication of the effort
42 for the stock assessment, and so that requires additional
43 diagnostic plots that are very time consuming, diagnostic work.

44
45 It's a very high standard to ask for an alternative base, and
46 it's a very large time commitment on the part of the Center, and
47 I don't agree that the -- Maybe what Doug is proposing is
48 rational in this particular case, and, if so, we will reconsider

1 the information, and it will become the base run, but what
2 happens when SSCs decide to double and triple our workloads
3 because another hypothesis exists?

4
5 That's true for everything we do, everything we do, and so, if
6 you have particular things you want us to reevaluate or review,
7 it's very appropriate to ask us to make sure we do that as part
8 of the project schedule, but specific recommendations can only
9 really be entertained as sensitivity runs and not as alternative
10 base cases, because of the time commitment involved.

11
12 **DR. PATTERSON:** Joe, this is Will.
13

14 **CHAIRMAN POWERS:** Doug wanted to respond, and then we'll go to
15 you, Will.
16

17 **MR. GREGORY:** For one, this is not a hypothesis. This was the
18 data that came out of the analysis, objective analysis, and,
19 now, Shannon, will a scenario provide the same information that
20 I'm looking for? Will a scenario show a change in the stock
21 assessment trend of biomass over time and fishing mortality
22 rate? I don't want to add work that doesn't need to be done.
23

24 **DR. CALAY:** A sensitivity run will give you all of the results
25 of a stock assessment, and so it will give you stock status, and
26 it will give you the trajectories of SSB and F. What we won't
27 be able to do in a sensitivity run is all the likelihood
28 profiling and retrospective analyses and hindcasting that are
29 the diagnostics that we use to determine if a model is stable
30 and robust for management, and that's what the additional time
31 is.
32

33 It's no problem to do a sensitivity run and see, if we did this,
34 does it have a big impact on our perception of stock status, and
35 we can even provide the projections that would correspond, but
36 it is the Science Center's position that, without the
37 comprehensive set of diagnostics that we need to determine if a
38 model is stable and robust, we should not be producing
39 management advice from that model. It could be an unreliable
40 model.
41

42 The comprehensive diagnostics need to be done on base case, but
43 there is simply no time to decide, a priori at least, that we're
44 going to run a set of alternative base cases to entertain
45 different hypotheses unless -- There are times when the data
46 panels and the assessment panels have had strong concerns about
47 alternative hypotheses that cannot be discriminated, that there
48 is no evidence one way or another for which of the hypotheses

1 are true, and, in those cases, they have asked us, on occasion,
2 to run alternative base cases, but that's a decision made by the
3 panelists associated with SEDAR assessments.

4

5 **MR. GREGORY:** If I may, I don't have any problem changing the
6 word "alternate base case" to "sensitivity run" in the motion.

7

8 **CHAIRMAN POWERS:** Will, you had a comment?

9

10 **DR. PATTERSON:** I was just going to say that, given the nature
11 of this assessment, which is basically a benchmark on steroids,
12 all of these different life history parameters and functions are
13 going to be estimated during the process, and so I don't know
14 why we would get so prescriptive with this one parameter, and
15 we're basically listening to Doug's inference and review of this
16 without actually getting into the data and making an evaluation
17 that would be a more robust one, such as what happened in the
18 process of the assessment, and so I wouldn't support a motion,
19 this particular motion, or one like it.

20

21 **MR. GREGORY:** The background material that's on the website for
22 the agenda for this meeting is the material that was used and
23 the analysis that was done for the assessment. The only problem
24 I have with it was the subjective decision to tell the
25 assessment scientists to use a size at maturity that is two
26 inches larger than that that was estimated by the data, and that
27 just scares me.

28

29 To me, that's a slippery slope, and I was surprised that nowhere
30 within the benchmark process that this was caught or questioned
31 or had a sensitivity run made, and it was just accepted at face
32 value and taken and run with it, and so I'm not -- It's no new
33 analysis. It's their data, their analysis.

34

35 **CHAIRMAN POWERS:** All right. My question is, basically, without
36 this motion, this issue would still be addressed by the SEDAR,
37 and is that a commitment?

38

39 **DR. CALAY:** Yes, it is. If it's in the project schedule that we
40 examine the reproductive information, then we'll make certain
41 that we are provided with that information. I did -- The
42 previous assessment used maturity times fecundity to --

43

44 (There is a gap in the audio recording.)

45

46 **MS. NEER:** I think what you want to do is perhaps delete that
47 sub-bullet that is so specific with an actual sexual maturity at
48 XX millimeters and change the bullet above it to say something

1 like consider SEDAR 51 recommendations as well as any new
2 information regarding reproduction, and that will guarantee
3 that, if there's new information, we'll look at it. If there's
4 no new information, we'll go back and look at what was used for
5 51 and look at what the options were for 51.
6

7 The point is you want to make sure that it's looked at, but it
8 seems like you guys are arguing over including a specific number
9 versus looking at it in general, and it seems like you want to
10 look at it again, and so I would suggest to take out that sub-
11 bullet and modify the main bullet to clarify that you will look
12 at what was used last time plus any new information that may be
13 available. That's a suggestion as a way forward.
14

15 **CHAIRMAN POWERS:** Doug.
16

17 **MR. GREGORY:** Ryan, I volunteer for that assessment.
18

19 **CHAIRMAN POWERS:** All right. Just the mechanics of this, of
20 what we're trying to do. We do have a motion on the floor. Do
21 we need to vote on it, or do you wish to withdraw it?
22

23 **MR. GREGORY:** I will not withdraw it.
24

25 **CHAIRMAN POWERS:** Okay.
26

27 **MR. GREGORY:** Because I am not presenting new data. I am not
28 presenting a new hypothesis. I am saying they should go with
29 the data that they did, the analysis that they did, in the
30 assessment.
31

32 **CHAIRMAN POWERS:** You choose not to withdraw it, correct? Okay.
33 So we're going to vote on the motion. **All those in favor of the**
34 **motion, raise your hand.**
35

36 **MR. RINDONE:** On the webinar, Sean. Will.
37

38 **DR. PATTERSON:** No.
39

40 **MR. RINDONE:** Ken.
41

42 **DR. ROBERTS:** Yes.
43

44 **MR. RINDONE:** Luiz.
45

46 **DR. BARBIERI:** No.
47

48 **CHAIRMAN POWERS:** Here, all those opposed.
49

1
2 **MR. RINDONE:** The motion fails four to thirteen.
3
4 **CHAIRMAN POWERS:** But we go back to the terms of reference, and
5 the suggestion was made by Julie, and perhaps she could
6 reiterate that again.
7
8 **MS. NEER:** My suggestion was take out that sub-bullet that
9 talked about a specific fork length that was used for sexual
10 maturity and modify the main bullet to say something like
11 consider SEDAR 51 recommendations, as well as any new
12 information which may be available for considering reproductive
13 parameters, or something along those lines. I can't make a
14 motion, but --
15
16 **MR. RINDONE:** Jess, I will help you fill it in. For that sub-
bullet, consider SEDAR 51 recommendations --
18
19 **DR. CALAY:** It's a PDF. She needs the Word version.
20
21 **MR. RINDONE:** I have it in front of me in the Word version that
22 will ultimately get submitted, and so what I have written down
23 is consider SEDAR 51 recommendations, and any new information,
24 for reproduction. It would say consider SEDAR 51
25 recommendations, and any new information, for reproduction.
26 Then that sub-bullet is deleted, and is that what you guys are
27 looking for?
28
29 **MR. GILL:** So moved.
30
31 **MR. RINDONE:** We really don't need motions for this if it's
32 consensus, and it would only be if it was like the last one,
33 where there was a difference of opinion.
34
35 **CHAIRMAN POWERS:** I am afraid.
36
37 **MR. RINDONE:** Okay. Then by all means. For clarification, you
38 might add "under Term of Reference Number 3" before "as
39 follows", and so to modify the statement of work for gray
40 snapper under Term of Reference Number 3. I think that's what
41 Bob meant.
42
43 **MR. GILL:** Perfect.
44
45 **CHAIRMAN POWERS:** All right. Any further discussion on this?
46 Bob.
47
48 **MR. GILL:** I think Julie's suggestion is a good one, and,

1 effectively, it accomplished what Doug wants to do, because his
2 objection was the specificity of the size at maturity within the
3 terms of reference, and so this is going to re-look at it next
4 time it comes around, and that will get to the point that he was
5 raising, and either it will be go or no-go via the life history
6 group.

7

8 **CHAIRMAN POWERS:** Thank you.

9

10 **DR. PATTERSON:** I agree with that sentiment.

11

12 **CHAIRMAN POWERS:** Doug.

13

14 **MR. GREGORY:** Again, this will truly be my last statement on
15 this. To me, what alarmed me was the subjective nature in that
16 decision, and I'm surprised that it hasn't alarmed other people,
17 and that's all. That's really what got me, is that here's the
18 data, and then you make a subjective decision to ignore the data
19 and use something else to say this is what we think it's going
20 to be. That just scares me.

21

22 **CHAIRMAN POWERS:** We are protracting this, and I would really
23 like to avoid it, because, basically, as Bob said, for this, for
24 the conduct of this assessment as we go forward, this is
25 basically saying look at all that stuff. At this point, if
26 there's no other comments, I would like to vote on this. **All**
27 **those in favor of the motion, raise your hand.**

28

29 **MR. RINDONE:** Sean. Will.

30

31 **DR. PATTERSON:** Yes.

32

33 **MR. RINDONE:** Luiz.

34

35 **DR. BARBIERI:** Yes.

36

37 **MR. RINDONE:** Nineteen. Ken.

38

39 **DR. ROBERTS:** Yes.

40

41 **MR. RINDONE:** Twenty.

42

43 **CHAIRMAN POWERS:** **All those opposed.**

44

45 **MR. RINDONE:** Anyone opposed on the webinar? Was it Sean that
46 wasn't on there? Okay. **It's twenty to zero with one absent.**

47

48 **CHAIRMAN POWERS:** Thank you. That's it for this item? Did you

1 have anything else?

2

3 **MS. BOSARGE:** Shannon does.

4

5 **DR. CALAY:** Can we look at the statement of work again?

6

7 **CHAIRMAN POWERS:** Yes, you may.

8

9 **DR. CALAY:** Thanks. There are also a few other things that do
10 say, in general, for example, and it says evaluate uncertainty
11 and natural mortality, and then it says "i.e.", which is not for
12 example, but I have no issue with considering uncertainty and
13 running those sorts of sensitivity runs, but I do wonder too if
14 this is too specific, because it could be that we want to
15 explore a broader range, or it could be that natural mortality
16 itself -- That we re-estimate it and it's different and it no
17 longer falls within this range, and so I wonder if being
18 prescriptive is necessary, and it applies to both the M bullet
19 point and the steepness bullet point, but, if you don't want to
20 change it, then I would suggest using "e.g." instead of "i.e."
21 in the second-to-last bullet point.

22

23 **CHAIRMAN POWERS:** That's the simplest way. I mean, that was my
24 reaction to it, is e.g.

25

26 **MR. RINDONE:** It is so changed.

27

28 **CHAIRMAN POWERS:** Okay. Ryan has made that change. Anything
29 else with this?

30

31 **MS. BOSARGE:** I was reading the second document, changes in MRIP
32 data both pre and post-calibration, in terms of the magnitude of
33 changes to catch and effort, and so I assume that's between MRIP
34 and FES, essentially, and you're going to be looking at those
35 changes, and so this is predominantly a recreational fishery,
36 and about 82 percent or so of those landings, on average, come
37 from Florida, and so I was just wondering -- You know, you had
38 spikes last time, when you recalibrated those, and you were
39 looking at the new landings, and you said, man, should that be
40 there, and then Luiz made his presentation, and he said that I
41 really think the onus is on us to put things like this in the
42 terms of reference and say let's evaluate all the different
43 survey streams that we might have, so that, if we need to
44 smooth, or if we need to see if there's big uncertainties, if
45 something else is more reasonable, that we could look at it. I
46 just wondered if you thought that should be in here, to give
47 yourselves the leniency to look at more than that, if it's
48 helpful.

1
2 **MR. RINDONE:** It is. It's the first bullet point under Term of
3 Reference Number 2, and it says to document changes in MRIP
4 data, both pre and post-calibration, in terms of the magnitude
5 of changes to catch and effort.
6

7 **MS. BOSARGE:** But that's why I asked. That only is MRIP to FES,
8 and that doesn't allow you to look at GRFS or any other state
9 surveys, in case there's an outlier or a spike or something that
10 you want to see, well, what did the other survey say on that
11 year, and that says you're looking at MRIP and FES only, and
12 that's why I said is it too prescriptive and should you add
13 something in there that says "or other surveys".
14

15 **MR. RINDONE:** It's up to you guys.
16

17 **CHAIRMAN POWERS:** Is there any comment on that from the Center?
18

19 **DR. CALAY:** We have documents that are made available by
20 Headquarters that describe some of the changes, and what we will
21 have in our hands in time for this assessment is most likely the
22 FES time series, and the previous time series of the charter --
23 It is no longer being calculated or supported by NOAA, and so we
24 only have that series through some terminal year, and I can't
25 recall if it's 2017 or earlier.
26

27 What we could do is, essentially -- There are things that we can
28 do to meet this term of reference, but what we cannot do, at
29 this time, is do an alternative stock assessment in the CHTS
30 units, because that time series is no longer provided or
31 supported by the agency, and so they are moved to FES now, and
32 that's what we're given, and so we can still meet this term of
33 reference, but we're going to do it in a way that you probably
34 saw with red grouper, where we take the new time series and
35 essentially put it in the old model, to show you what the
36 differences would be, or we could put the old time series in the
37 new model with a different terminal year, but we cannot extend
38 CHTS through the terminal year of this assessment, and it's no
39 longer available to us.
40

41 **CHAIRMAN POWERS:** Ryan.
42

43 **MR. RINDONE:** Thank you, and so I think what Leann is more
44 asking is a comparison of the state survey data against the FES
45 data, and the APAIS catch data also, that are going to be used
46 in the assessment and not necessarily to use the state data, but
47 just this is what FES-adjusted MRIP is telling us, and this is
48 how that compares to the state survey data, for the surveys that

1 actually collect data on gray snapper, which I think is going to
2 be limited to TPWD, LA Creel, and GRFS, as far as the separate
3 surveys outside of MRIP reporting are concerned. Is that what
4 you're asking? Yes.

5
6 **MS. NEER:** I think, with regard to what Luiz was saying, which
7 is it's on us to come up with those conversion factors and be
8 able to use them in assessments, and he's on the call, and so he
9 can speak up, if I'm misrepresenting what he said, but my
10 understanding of his comments were that the states need to
11 continue to work with the MRIP program, to the extent they can,
12 to come up with conversion factors so that we can make those
13 comparisons in the future, but, currently, we only have four or
14 five years of the GRFS data, the Florida data. When this comes
15 around, we might have seven years' worth of data, but we have no
16 way to take that seven-year data series and run it back to the
17 beginning of the gray snapper assessment.

18
19 Now, if, two years from now, that is available, because this
20 assessment is a couple of years out, I'm sure the Science Center
21 would be willing to look at it, if it's available, but, right
22 now, the only series that we do have included, that we
23 definitely know we can convert, are the ones that are in the
24 terms of reference specifically, and I just want to point out
25 that the terms of reference are the minimum. We can always do
26 more.

27
28 If new information becomes available that isn't specified in the
29 terms of reference, it doesn't necessarily mean that we can't
30 include it, but I think that was what Luiz was saying, is we
31 need to continue to work with the states to develop those
32 conversion factors, so that we can run the new state surveys
33 back in time and try substituting them into individual
34 assessments, but I don't think we're there yet. That's an
35 ongoing project, and I know that Florida is supposed to be
36 meeting with the MRIP people sometime this fall to work on that,
37 just that topic. Like I said, Luiz is on, and so, if I have
38 misspoken, Luiz, please speak up.

39
40 **DR. BARBIERI:** Just to confirm, Leann, that, yes, what Julie
41 just said is correct. This is the urgency of trying to get some
42 of this process moving forward, where we can start developing
43 those calibrations that will allow us to use the new survey
44 data, and that's the part that was the most disappointing to me,
45 is that no process was put in place to handle that part, and so,
46 by the time that we got to where we are now, we actually don't
47 have those calibrations in place, and we have to fall back to
48 the default, which is the current FES-calibrated MRIP data.

1
2 As I mentioned yesterday, we are continuing to work with NMFS,
3 and there is a meeting planned by state directors for the
4 October council meeting, and they are reaching out to NMFS
5 leadership to bring this up, because this is something that we
6 are fully committed to moving forward, so this data can be made
7 available.
8

9 **CHAIRMAN POWERS:** Thank you. Carrie.
10

11 **EXECUTIVE DIRECTOR SIMMONS:** Thank you. I was just going to ask
12 -- I don't think gray snapper is currently in GRFS, but, Luiz,
13 is that correct?
14

15 **DR. BARBIERI:** Yes, that's correct. As of now, it is not
16 covered by GRFS. In this particular case, it would not be
17 really relevant to GRFS, but I see the point of Leann's thought
18 process, because this discussion eventually is going to come up
19 in terms of what represents the best scientific information
20 available, and we have a number of surveys that are certified by
21 the agency as scientifically -- They have been through peer
22 review, an extensive peer review, and multiple years of
23 development, and so what represents the best scientific
24 information available in the case of lesser variability, or
25 greater certainty, in terms of the data that's being used, and
26 so that question, for some of these other assessments, will
27 become really, really relevant.
28

29 **CHAIRMAN POWERS:** Go ahead, Dave.
30

31 **DR. CHAGARIS:** I think we all want to see this comparison
32 amongst the state surveys, but I don't know that it should be
33 done on a case-by-case basis and tucked into each individual
34 stock assessment. There's a lot more to be learned if we look
35 at this for a suite of species simultaneously, so we have
36 contrast in the outputs for different species, and, if that's
37 something we want to see, then maybe we need to make a
38 recommendation for that type of analysis to occur separately
39 from the stock assessments, so we can evaluate it all at the
40 same time.
41

42 **CHAIRMAN POWERS:** Ryan has reminded us that, for a lot of these
43 things, if there is consensus, there is no reason to have a
44 motion, but, in this particular case, do we have a consensus?
45 If we do, a consensus to do what?
46

47 **MR. RINDONE:** Based on what I have heard from you guys from the
48 discussions and the data that are available, you are not

1 recommending any new changes to the scope of work, as to what is
2 written.

3

4 **CHAIRMAN POWERS:** Doug.

5

6 **MR. GREGORY:** If you go down to the status determination
7 criteria, given our discussion this morning, it might read
8 better if -- Where it says "MSY proxy", and then, two lines
9 down, where it says "MFMT", replace the word "or" with "and",
10 and I suggest that because, the way it reads now, it implies
11 that F rebuild is an MSY proxy, and F rebuild is MFMT, and we
12 had that discussion this morning, where that is not the case.
13 If we say give us the FMSY proxy, which is the yield at FMSY,
14 and F rebuild, if overfished, then we've got them separated.

15

16 **CHAIRMAN POWERS:** Shannon has a response to that.

17

18 **DR. CALAY:** I agree that we can provide an F rebuild trajectory
19 even if we're not below MSST, but the definition, right now, of
20 MFMT is FMSY or its proxy, and so I suggest that we just add
21 another bullet point that says to project the F rebuild
22 trajectories or some such thing. Then the reality is we
23 typically do F rebuild trajectories over a ten-year period, but
24 the reality is that councils may request a variety of different
25 approaches, and so you can either leave it silent, in which case
26 we'll do a ten-year rebuild trajectory, and that would be what I
27 propose, knowing full well that's an approximation for whatever
28 the council might actually ask us for, and so I would just say
29 that another projection at F rebuild if the stock is below SSB
30 at MSY or its proxy.

31

32 **CHAIRMAN POWERS:** I am not sure why that isn't covered by just
33 using the word "and".

34

35 **DR. CALAY:** Because MFMT is not equal to F rebuild unless the
36 stock is below -- Actually, never, because it's never equal to F
37 rebuild, according to current FMPs.

38

39 **MR. GREGORY:** The word "and" instead of "or", to avoid that
40 confusion.

41

42 **DR. CALAY:** We'll do it regardless of where you put it, and so
43 maybe we're just arguing about nothing.

44

45 **CHAIRMAN POWERS:** Just use the word "and".

46

47 **MR. RINDONE:** "And" shall be used.

1 **CHAIRMAN POWERS:** Anything else on this subject?
2

3 **DR. CALAY:** Just for the benefit of my staff sitting at home
4 listening, this is outside of what we envisioned as an
5 operational assessment. This is approaching a benchmark, and
6 that is fine, but I just wanted to let this group know that that
7 will require a longer period of time in the project calendar
8 than what we had proposed for an operational assessment, and so
9 that decision will have to be made at the Steering Committee, as
10 to how long the project schedule for this is likely to be, but
11 this is much closer now to a benchmark assessment than an
12 operational, if we actually consider all of this new
13 information.
14

15 **CHAIRMAN POWERS:** I think the Steering Committee should be aware
16 of that, and, if they want to proceed, with the understanding
17 that there won't be enough resources left and it's incumbent, at
18 that point, in coming back to us and saying that it won't be
19 done.
20

21 **MR. GREGORY:** I'm sorry, but an operational assessment,
22 theoretically, can be equivalent to an older standard assessment
23 or an update assessment, and I thought it was up to us,
24 collectively, the Center, the council staff, the SSC, the
25 Steering Committee, to decide which is which.
26

27 What we don't have is like some parameters of this is what an
28 operational update would look like and this is what a standard,
29 operational standard, would look like, and so maybe we've got
30 them mixed up in here, and so, at a minimum, the staff and the
31 Center should come to some agreement and give us options for us
32 to consider of should we go an update approach or should we go
33 an operational approach.
34

35 In the past -- Again, if you don't put something in the terms of
36 reference, it doesn't get done, necessarily, and so this is a
37 critical point, and we're in transition, I know, with the stock
38 assessments, and that's probably a major part of the problem.
39

40 **DR. CALAY:** It is a general agreement that an operational
41 assessment can be essentially the equivalent of a standard,
42 which already did often approach a benchmark. That's not the
43 question.
44

45 There's a question of throughput, and we can only do so many
46 stock assessment weeks in a year per person, and it's up to the
47 choices made by the council to sacrifice the throughput for a
48 much more comprehensive complex assessment, and so, if this is

1 the desire of the councils, then we'll absolutely do this, but
2 the cost will be throughput, and we'll have to make adjustments
3 to project schedules to make sure that we don't exceed the
4 capacity of our staff.

5
6 **CHAIRMAN POWERS:** Thank you. I think that will be conveyed to
7 the Steering Committee, and then we'll proceed from there.
8

9 **MR. GREGORY:** But, Joe, it would be nice, at this stage, to know
10 what staff is looking for, from their perspective, and what the
11 Center is saying we can or cannot do, from their perspective,
12 and give us some guidance, because we don't go through these
13 item-by-item and say, well, let's do this one and let's not do
14 that one. We're just kind of in limbo here.
15

16 **CHAIRMAN POWERS:** Julie.
17

18 **MS. NEER:** The decision was made at the Steering Committee to
19 not give you that guidance and to allow the councils the
20 flexibility to do what they felt they needed within this range
21 of we're pretty happy with it, and we're pretty happy with the
22 last assessment, and so do more of a turn-the-crank and add this
23 one new piece of data, or, in the case of gray snapper, we had a
24 lot of questions about this previous assessment, and so we want
25 to be able to look at a lot of things.
26

27 I understand, Doug, your frustration, but the reality is that
28 the decision was made to let the operational have that
29 flexibility, so the councils could judge for themselves what
30 they felt they needed to be comfortable with the assessments
31 that come out, and so we can be much more stringent, if that is
32 a recommendation you would like your Steering Committee
33 representative to come back with, and I'm sure the Science
34 Center would be happy to put limits on it, but I'm not sure --
35 You guys didn't like when we had those limits, and that's where
36 standards came from in the first place, if you think back in the
37 history, and so the process is designed now to give you the
38 flexibility.
39

40 I understand that it's kind of tricky for you guys to know how
41 much to include and not include, but that's why you get to sort
42 of look at these things and make decisions on whether you think
43 we need to include all of these things or not, and, as Shannon
44 said, the Science Center can do all of these things, but it's
45 just going to be at the cost of perhaps doing three things in a
46 year and you get two things in a year, and it always depends on
47 that particular year, and so that's just where that came from.
48

1 **CHAIRMAN POWERS:** I am not sure what more we can do at this
2 stage with this, other than get some guidance from the Steering
3 Committee and then kind of proceed from there, unless somebody
4 else has a suggestion. Ryan.

6 **MR. RINDONE:** Typically, what you guys are looking at with this
7 process is the council's representatives for the Steering
8 Committee are looking to you guys to lay it all on the table for
9 what needs to be done for a particular species, and then those
10 recommendations are carried forward to the Steering Committee
11 and things like the data weeks and timeliness and throughput of
12 other projects are all discussed, and things are moved around,
13 and we just -- We do our best to try to satisfy everyone's
14 requests, and, naturally, everybody leaves a little bit
15 disgruntled, and so it must be somewhere close to being the
16 right way to do it, and so that's typically how that process has
17 worked.

If there is something that is listed in the terms of reference that you're looking at and you're just saying to yourself that that's just really not that necessary to invest the time into, then you can absolutely say to strike that thing off of there, but you do have to just balance amongst yourselves those sorts of decisions about the tradeoffs between making sure that you have all the bases covered versus cutting things out.

27 **CHAIRMAN POWERS:** Thank you. Any other comments on this agenda
28 item? Good. The next is greater amberjack.

**TERMS OF REFERENCE AND PARTICIPANTS: SEDAR 70: GULF OF MEXICO
GREATER AMBERJACK**

33 **MR. RINDONE:** You guys already went through the scope of work
34 for this, and it was approved and sent to the Science Center and
35 SEDAR, and then SEDAR put "terms of reference" on the front of
36 it instead of "scope of work", essentially, and so that's what
37 we're looking at here, and so this should be very familiar to
38 you.

40 One thing that I would identify immediately that you just
41 changed for gray snapper is, under Term of Reference Number 3,
42 the third bullet down, MFMT is equal to F 30 percent SPR and F
43 rebuild, if overfished. If you guys are still happy with that
44 modification, I am happy to make that.

46 **CHAIRMAN POWERS:** Yes.

48 MR. RINDONE: All right. That's been made. Other than that,

1 it's the same as you saw the last time you guys approved this,
2 and so we're just looking for you to approve it as the terms of
3 reference, and then we'll talk about participants.
4

5 **CHAIRMAN POWERS:** Is there any objection to approving this as
6 the terms of reference? Luiz.
7

8 **DR. BARBIERI:** I think that, for this one, the issue of
9 recreational data series to be considered should come back to
10 the forefront. If that is not something that needs to be
11 included, for that to be considered, that is fine, but, looking
12 at Bullet Number 2 there, Ryan, there are a number of things
13 that could be considered, and they didn't need to be included
14 here either, but they were, and so, just to be on the safe side,
15 I wonder if we could or should add another bullet that asks for
16 an evaluation, if applicable, of the use of supplemental reef
17 fish recreational survey data as a way to supplement the MRIP
18 data going into this assessment. Now, I do not have the
19 schedule, and I can guess I can pull it up, to see when this
20 assessment is to start.
21

22 **DR. CALAY:** December of 2019.
23

24 **DR. BARBIERI:** This starts in December?
25

26 **DR. CALAY:** Yes, a few months from now.
27

28 **DR. BARBIERI:** Yes, and so, in this case, these calibrations are
29 unlikely to be ready. However, I would like to ask Carrie --
30 The calibration that exists now between MRIP and LA Creel is
31 really just a simple ratio, calibration, for the time being,
32 instead of a full calibration model, right?
33

34 **MR. RINDONE:** That is correct.
35

36 **DR. BARBIERI:** So I cannot see why, between now and the time
37 that the assessment gets started, a simple calibration, couldn't
38 be developed for greater amberjack and for these other stocks
39 that are being considered for assessment until a full
40 calibration model that's more complex can be put in place.
41

42 Again, Shannon, this is not to create more work for the Center
43 or overcomplicate the issue, but greater amberjack is one of
44 those species that are likely to see quite a bit of uncertainty
45 in the recreational estimates, with fairly high PSEs and the
46 potential for spikes or estimates that are based on a lower
47 number of intercepts or FES effort responses, and, therefore,
48 they are not as reliable as some other estimates might be, and

1 so, if this is not -- Julie, help me here as well, but, if this
2 is not the place to bring this up, and there are opportunities
3 for us to incorporate this as potential scenarios going forward,
4 but I just don't want to get halfway to the next year, if we do
5 have an accepted preliminary calibration model, or at least a
6 ratio calibration, and it would be the reverse in MRIP, but that
7 data cannot be used to add as a supplemental survey that is
8 focused on that stratum of the fishery.
9

10 **CHAIRMAN POWERS:** Thank you, Luiz. Kai, you had a comment and
11 then I think Julie.

12
13 **DR. LORENZEN:** I may be mistaken, but I think this time series
14 is so short, at the moment, that they are unlikely to be really
15 informative for this assessment.
16

17 **CHAIRMAN POWERS:** Shannon.
18

19 **DR. BARBIERI:** To that point, Mr. Chairman. Kai, of course, for
20 the four years, the idea is that calibration allows us to --
21 Just like the new FES, and that was in 2017, right, but the
22 calibration model was developed, and so we can convert the CHTS
23 currency recreational fisheries data to the FES currency all the
24 way back to the beginning of the time series, and so that's all
25 I'm talking about, is the potential to calibrate, so we actually
26 can include the entire time series of recreational fishing data.
27

28 **CHAIRMAN POWERS:** Shannon, you had a comment?
29

30 **DR. CALAY:** Well, I will make my comment, and then Julie may
31 have additional information, but this project schedule, in terms
32 of reference, are approved and locked. Essentially, we have
33 already created the SEDAR master calendar with all of the data
34 deadlines for the tens of data providers who provide
35 information, and we can't take on any additional workload
36 without delaying other assessments, and so I think that these
37 should remain as they were approved, and, if there is additional
38 information, certainly it could be brought to SEDAR in a
39 document, and, at that point, there would have to be a decision
40 made whether we can proceed on project schedule or whether we
41 need to request a delay to entertain new information, but we
42 can't -- The Science Center has already allocated all of its
43 staff time to SEDAR that we can for this year. I mean, these
44 project calendars were locked a year ago, I think.
45

46 **MS. NEER:** Just to refresh everyone's memory with the new
47 process, you had a statement of work, which is what we just
48 reviewed for gray snapper, a statement of work, and that says

1 this is what we expect from this assessment, and that statement
2 of work is communicated to the Science Center, and we use that,
3 with all the statements of work that come in for the entire
4 region, and we use that to build the master schedule.
5

6 Adding stuff after you have approved the statement of work is
7 not impossible, but difficult, and you have to acknowledge that,
8 if we want to try and add additional stuff after you have
9 approved these statements of work, and then we've gone ahead and
10 done this planning, it will almost certainly create a delay.
11

12 As it is, this project starts in December of 2019 and finishes
13 in January of 2021, and so just keep -- I know it's a different
14 process, and that's why I am reiterating it. The statement of
15 work is when you guys get to stick your stuff in there, and then
16 we use that to build the schedule. We're trying to bring you in
17 the process earlier, but it also means that you need to sort of
18 think ahead. Like Shannon said, if new information becomes
19 available during the process, bring it to us, and then the group
20 can decide if we can incorporate it or not.
21

22 **CHAIRMAN POWERS:** Thank you. Jack, did you have a comment?
23

24 **DR. ISLEY:** I actually had a question. Did the council recently
25 change the commercial regulations on this species?
26

27 **CHAIRMAN POWERS:** Ryan, can you answer that?
28

29 **MR. RINDONE:** No, I can't. I don't know what the question was.
30

31 **DR. ISLEY:** Did the council recently change the commercial
32 regulations on the greater amberjack?
33

34 **MR. RINDONE:** Yes.
35

36 **DR. ISLEY:** So you're analyzing the species under a different
37 set of commercial regulations than exists now, and what are the
38 possible ramifications of that for your study?
39

40 **MR. RINDONE:** For this assessment, none, because it hasn't been
41 implemented yet, and we don't foresee it being implemented
42 before the data collation portion of this assessment is done.
43 That was recently transmitted, but it has to go through the NMFS
44 rulemaking process, and so it won't have any bearing on this
45 assessment.
46

47 **CHAIRMAN POWERS:** All right. We're back to the original
48 subject. Luiz.

1
2 **DR. BARBIERI:** I just wanted to say that I don't disagree with
3 the points that Shannon and Julie made, and so I'm okay with
4 that, and we will revisit it when the time comes, but thank you.
5

6 **CHAIRMAN POWERS:** Yes, and I think an underlying issue of this
7 whole meeting has been the MRIP and recalibration and things
8 like that, and the implication that I heard from this is that
9 the Gulf Council collectively, both the SSC and the Center, et
10 cetera, is going to have to deal with this, but it's hard to
11 deal with it for these kinds of things that have already been
12 set in motion, and so I think the signal we want to send is that
13 we're sort of delaying it, but it's got to be done at some
14 point, and just not through this particular terms of reference
15 for amberjack. Thank you. Nothing else on amberjack?
16

17 **MR. RINDONE:** You guys need to approve this.
18

19 **CHAIRMAN POWERS:** Do we have to do it through a motion?
20

21 **MR. RINDONE:** Yes, let's do it by a motion. We've done all the
22 rest of the stuff by a motion.
23

24 **CHAIRMAN POWERS:** The motion, if somebody were to make it,
25 should probably be like --
26

27 **MS. NEER:** Approve the terms of reference for SEDAR number
28 whatever, greater amberjack.
29

30 **CHAIRMAN POWERS:** To approve the terms of reference in document,
31 et cetera.
32

33 **MR. RINDONE:** Approve the terms of reference for SEDAR 70, Gulf
34 of Mexico greater amberjack, as modified.
35

36 **MR. GILL:** So moved.
37

38 **CHAIRMAN POWERS:** So moved by Bob Gill and a second by Kai
39 Lorenzen. Is there any objection to this motion?
40

41 **MR. RINDONE:** Any objection on the webinar? Hearing none, Mr.
42 Chair.
43

44 **CHAIRMAN POWERS:** The motion is approved unanimously. Doug, did
45 you have a question?
46

47 **MR. GREGORY:** Ryan, when did we approve the scope of work for
48 greater amberjack? I mean, I heard somebody say earlier that

1 these are basically the same document.

2

3 **MR. RINDONE:** Right, and so we do a scope of work, which is
4 where we flesh all of these details out, and then that's sent to
5 the Science Center for a final, yes, we can actually do this,
6 and then SEDAR comes back to us and says, all right, these are
7 now your terms of reference, and the point to doing this is
8 that, by giving the Science Center more of a heads-up in advance
9 of what they're actually going to be asked to do, they can
10 better budget their time and organize what they're going to need
11 to get in line to satisfy what you guys are requesting, as
12 opposed to what we used to do, which was we approved the terms
13 of reference about six or so before the start of the actual
14 assessment, and so it just dropped that load of work on them
15 without quite enough notice that everyone could keep their heads
16 on straight, and so, by doing the scope of work followed by the
17 terms of reference, it at least gives them a good warning before
18 they have to start the assessment process. Does that make sense
19 to everybody?

20

21 **MR. GREGORY:** So the scope of work is developed by staff, or
22 does the SEDAR staff help the council staff develop the scope of
23 work, or how does that work?

24

25 **MR. RINDONE:** The SEDAR staff sends us a very, very basic
26 framework that I have Word versions of, and so staff add in
27 things, based on research recommendations from past assessments
28 and comments that were made in the past assessment, and so we
29 frontload it, and then it's up to you guys to whittle it down,
30 and we work with the Science Center also ahead of time to try to
31 whittle things down, and so we start big, and we try to condense
32 it down to what's necessary to be done.

33

34 We are going to make sure that we're better about this in the
35 future. We didn't do quite as much collaboration with the
36 Science Center for gray snapper, but we've worked this one out
37 now, and so we did work with FWC, with the hogfish benchmark
38 assessment, and we got that one whittled down and straightened
39 away pretty well, and so we have the process set up for this,
40 but this is new, and so everyone is kind of learning exactly how
41 we need this to function, so that it best serves everyone that
42 it's supposed to be serving.

43

44 **CHAIRMAN POWERS:** Thank you. Then we have to deal with
45 participants for this.

46

47 **MR. RINDONE:** Yes, I need volun-tolds, and so, Jess, did I send
48 you the participation memos? I bet that I didn't.

1
2 **MS. NEER:** I can just tell you how many people.
3
4 **MR. RINDONE:** That will work.
5
6 **MS. NEER:** There is a total of twelve people for this
7 assessment. There is no in-person workshop for this assessment,
8 and it will all be run via webinar. That is what the council
9 requested and what the Science Center agreed to. We are looking
10 for a total of twelve people, and we usually want about eight
11 data providers and four industry representatives, but you have
12 flexibility, in terms of nine and three or whatever, but, in
13 general.
14
15 I know Ryan usually looks for a couple of SSC reps to
16 participate, and there's the schedule. As I said, data scoping
17 starts in December of this year, and this assessment runs
18 through next fall.
19
20 **MR. RINDONE:** What she said.
21
22 **MS. NEER:** Greater amberjack, super fun.
23
24 **CHAIRMAN POWERS:** We are looking for how many from the SSC?
25
26 **MR. RINDONE:** As many of you that want to participate can
27 volunteer, and then, ultimately, through the council's SEDAR
28 approval process, the ED and the Chair will determine who
29 ultimately goes, and so that's our process.
30
31 **MS. NEER:** We're going to be looking for gag too, and so plan
32 accordingly.
33
34 **CHAIRMAN POWERS:** Exactly. I would worry not about having too
35 many, but it's having too few.
36
37 **MR. RINDONE:** We've had that problem in the past, and so don't
38 be shy. Put your hands up.
39
40 **CHAIRMAN POWERS:** Benny, are you --
41
42 **DR. GALLAWAY:** Yes, I volunteer for greater amberjack. I
43 believe I have some pertinent data, and I would be pleased to
44 participate.
45
46 **CHAIRMAN POWERS:** Thank you. Jim Tolan, you're volunteering for
47 greater amberjack? Okay. Kai Lorenzen, too.
48

1 **MR. RINDONE:** All right, and so I have Benny, Jim, and Kai.
2 Anybody on the webinar just itching to talk about greater
3 amberjack? Not all at once. All right. We have three.
4

5 **CHAIRMAN POWERS:** Then we're moving on then to another terms of
6 reference, and I hesitate, but gag.
7

8 **TERMS OF REFERENCE AND PARTICIPANTS: SEDAR 72: GULF OF MEXICO**
9 **GAG**
10

11 **MR. RINDONE:** Gag, we will make the same change of "or" to
12 "and". Then the rest of it is as you guys saw before for the
13 scope of work for gag. Mr. Chair.
14

15 **CHAIRMAN POWERS:** Any comments? If not, then we would -- We
16 would like a motion to approve that says essentially the same
17 thing we said for the previous one.
18

19 **MR. GREGORY:** I make a motion to approve. I have a question,
20 also.
21

22 **CHAIRMAN POWERS:** Okay. This is SEDAR 72.
23

24 **MR. GILL:** I will second.
25

26 **CHAIRMAN POWERS:** Bob seconds. Doug.
27

28 **MR. GREGORY:** I am trying to find it, but, in this document, or
29 I believe it's this document, you say that you want to use the
30 geometric mean of the last three years, of the previous three
31 years, mortality to determine F current, but that's not said in
32 the amberjack terms of reference, and I'm wondering why the
33 difference. Was it? Okay. I missed it, or is it in gray
34 snapper?
35

36 **MR. RINDONE:** It's in both. It's in both, and it's a matter of
37 consistency for reef fish stocks.
38

39 **CHAIRMAN POWERS:** Any other discussion on this? **Any objections**
40 **to this motion?** **Any objections on the webinar to this motion?**
41 **The motion carries.** Now participants for the gag.
42

43 **MR. RINDONE:** Again, we're looking at twelve total participants
44 allowed, and so, as many of you guys want to volunteer, you're
45 welcome to, and then, if there ends up being a bunch, the Chair
46 and ED will have to whittle.
47

48 **DR. BARBIERI:** Mr. Chairman.

1
2 **CHAIRMAN POWERS:** Just a second, Luiz. What are the ground
3 rules here? Are these webinar or in-person?
4

5 **MR. RINDONE:** There is a workshop, and so it's February 9 to 11
6 of 2021, and it will be in Miami, and then there will be a
7 series of webinars following it, and the reason why there is a
8 workshop for gag and not for greater amberjack has to do with
9 the amount of items in the scope of work, and so, for greater
10 amberjack, the data environment hasn't changed very much, and so
11 having an in-person workshop wasn't seen as being as necessary
12 for greater amberjack. For gag, there are some larger issues
13 that are slated to be discussed as part of the terms of
14 reference, and it was thought best to do that with the
15 assistance of an in-person workshop.
16

17 **CHAIRMAN POWERS:** So you're asking for participants for the data
18 workshop?
19

20 **MR. RINDONE:** Well, you would be on the panel, and so you would
21 be participating in pre-workshop webinars and scoping, the data
22 and assessment workshop in Miami, and the assessment webinars
23 that follow, and so you would be an assessment panelist for the
24 duration.
25

26 **MS. NEER:** It starts in June of 2020 and finishes June of 2021,
27 it looks like.
28

29 **CHAIRMAN POWERS:** Bob. Any other volunteers?
30

31 **MR. RINDONE:** We've got Dave Chagaris and Jim Nance.
32

33 **DR. BARBIERI:** I am volunteering as well, Mr. Chairman.
34

35 **CHAIRMAN POWERS:** Okay, and so we have -- You have got them all,
36 thus far?
37

38 **MR. RINDONE:** Yes. I have Dave Chagaris, Bob Gill, Jim Nance,
39 and Luiz Barbieri. Okay.
40

41 **CHAIRMAN POWERS:** All right. We have two other things on the
42 agenda, and one of them is the review of the draft technical
43 memo for National Standard 1 and the other is Other Business,
44 and, for the Other Business, actually Carrie had brought up
45 something this morning, some demands of being placed on the
46 councils that are rather short-term, and so I don't want people
47 to bail out before we get to that, because there is some sort of
48 business. It probably won't take too, too long, and so why

1 don't, Carrie, you go ahead and talk about this one.
2

3 **OTHER BUSINESS**
4

5 **EXECUTIVE DIRECTOR SIMMONS:** Thank you, Mr. Chairman. I tried
6 to push back on these deadlines, but to no avail, and so there
7 is one item that has just come our way in the last week that we
8 need to try to get the SSC to help us comment on, and that has
9 to do with changes in the Modernizing Recreational Fisheries
10 Management Act of 2018.

11 If you go to the next page, the specific part of that act, the
12 cooperative data collection section, this, I think, directly
13 speaks to some of the things we talked about yesterday with
14 NOAA's Science and Technology paper regarding that data, and so
15 I think it's really important that the SSC can help us weigh-in
16 on this and, unfortunately, we're going to have to take it to
17 the council first in October and come back, probably, to the SSC
18 and then draft our letter, which will be due to them by the end
19 of this year, and so that's one item that we'll need your
20 assistance with before January.
21

22 Then the other item is the social impact analysis process, and
23 Ava can speak to this a little bit more, and this is something
24 that I think has been in the works for a while, and it's part of
25 our amendments, but it's trying to improve that, and I think
26 trying to standardize it across our amendments, and so that's
27 the other item that we would like the body and the Special
28 Socioeconomic Panel to provide some feedback on for us, and the
29 deadline for that is also early December, and so we'll have to
30 have them extend it if our meeting ends up being the first week
31 in December.
32

33 Those are two items that are urgent, and I guess Ryan and I can
34 work with the Chair and decide if we can have maybe, perhaps, a
35 long webinar or if we need to have an in-person meeting, a one-
36 day meeting, to handle these items or if there's other things
37 that we need to do before the start of the next year, and so I
38 will leave it there and see if there is questions.
39

40 **CHAIRMAN POWERS:** Basically, we're having to deal with a
41 webinar, essentially, in order to be able to respond to this.
42 We certainly can't respond to it right now, and so I think the
43 expectation is that we're going to get a schedule for possible
44 days for a webinar and kind of go from there. Most likely, it
45 will be in the month of October?
46

47
48 **MR. RINDONE:** No, December.

1
2 **DR. NANCE:** I think what you were saying is the council is going
3 to look at this first, and then, once they -- Then we'll look at
4 it, and is that what is happening?
5

6 **EXECUTIVE DIRECTOR SIMMONS:** Unfortunately, due to the timing,
7 and we would normally do it the other way.
8

9 **DR. NANCE:** So we can't even look at this now, I guess, right?
10

11 **EXECUTIVE DIRECTOR SIMMONS:** Well, I'm not prepared. We got
12 these items last week, and they're giving us a deadline of the
13 end of the year, and I asked for an extension, and I was told
14 no, and this is your opportunity to comment, and so that's the
15 situation we're in currently.
16

17 **CHAIRMAN POWERS:** So, like I said, the expectation is that we
18 will have to deal with it, probably in December, probably by a
19 webinar, and that's correct?
20

21 **EXECUTIVE DIRECTOR SIMMONS:** Well, we could have an in-person
22 meeting, if we have the availability and we have enough
23 materials that you think we need to have an in-person meeting,
24 and so that's what we can talk to you about in the future, but I
25 wanted to put that on folks' radar. If this enough, we think
26 these are important enough, that it needs to be an in-person
27 meeting, and, really, looking at the calendar, I think the first
28 two weeks in December are really our only opportunity, if we
29 were to do that, but I will let Ryan speak to it, and we can
30 send out several days to the panel.
31

32 **MR. RINDONE:** We can let you guys know of some dates. We're
33 looking at the weeks of December 2nd and December 9th. December
34 2nd is the week after Thanksgiving, and so we may edge a little
35 later in that week, like Wednesday to Friday, and then the
36 entire week of December 9th, and we'll post some options for
37 availability then, and, like Dr. Simmons was saying, I mean, we
38 just got these things, and so, as far as the scope of work
39 that's going to be required, that's not yet fully fleshed out.
40

41 **CHAIRMAN POWERS:** At this point, this is -- I mean, it's a
42 heads-up, and you see the documents in front of you, and they
43 will be on the web and that sort of thing.
44

45 **MR. RINDONE:** Then you guys will also get proposed dates for the
46 January meeting.
47

48 **CHAIRMAN POWERS:** Okay.

1
2 **MR. GREGORY:** These are draft documents written by the D.C.
3 office, and they're asking the councils to comment on them, and
4 the council is going to see it and comment on it in October and
5 then we comment on it separately, and it doesn't go back to the
6 council? I mean, it looks like a written report, and what do we
7 do?
8

9 **EXECUTIVE DIRECTOR SIMMONS:** Well, I spent last night talking to
10 Tom Frazer about this, and we're kind of in a tough situation
11 now. What we could do is try to get the council's comments
12 together and put them in a letter, or in some format, and then
13 we can get that to the SSC to look at. I'm not sure exactly how
14 we're going to handle it, and it is an awkward position to be
15 in, and we're doing the best we can, but I do think it's
16 important that the SSC weighs-in on that particular report to
17 Congress regarding data collection.
18

19 **CHAIRMAN POWERS:** Okay, and so we see what's there, and the
20 council itself is going to have to do what we're doing, muddle
21 through, and then, at that point, then we'll figure out what to
22 do, but, more importantly, at least we have the information that
23 we might be asked to look at in front of us. Okay. Harry.
24

25 **MR. BLANCHET:** Typically, when we're making something -- This is
26 something that goes back to the council for their consideration,
27 and so, in this case, basically, the council is going to not
28 have a chance to think about the stuff that we had talked about,
29 and we're not -- I am really -- I feel uncomfortable about just
30 walking over the top of the council's perspective on something
31 like this, or am I overreaching there?
32

33 **EXECUTIVE DIRECTOR SIMMONS:** Well, we could try to have it
34 before the October meeting, but I don't see how. What I was
35 thinking we would do is we would take your recommendations, and
36 staff would work with the Chair and Vice Chair and have them
37 approve anything that we write from your recommendations and
38 theirs before we submit it. I mean, short of having another
39 meeting with the council via webinar or something like that, I
40 don't know another way of how we would handle that.
41

42 **MR. RINDONE:** It's kind of similar to what we do after an
43 amendment is submitted if there are any adjustments that need to
44 be made, to keep everything copasetic with the codified text.
45 The Council Chair has the ability to re-deem those, and this
46 would be similar, in respect to you guys would see whatever the
47 council had recommended, and then the Council Chair and Vice
48 Chair could say, yes, we think that's good too, and they would

1 be speaking on behalf of the council, but the council would have
2 approved their ability to do that.

3
4 **EXECUTIVE DIRECTOR SIMMONS:** I think, particularly for this
5 document, I think a lot of the discussion that has come up
6 regarding the MRIP FES and the state data collection programs, I
7 think the council and the SSC are going to generally be on the
8 same page, and so I'm reaching there with that, but hopefully
9 so, generally, broad-brush speaking.

10
11 **CHAIRMAN POWERS:** Okay. Thank you. The last agenda item is the
12 draft technical memo on the National Standard 1. This is the
13 last --

14
15 **DR. AVA LASSETER:** For the social impact assessment document,
16 that was sent for council staff to review, and we were not
17 intending to take that in front of the council, and it would be
18 additional guidance to bring it in front of the SSC. Two of the
19 other councils mentioned that they might be putting it in front
20 of their SSCs, but it was not something that we were intending
21 to take back to the council. Thank you.

22
23 **CHAIRMAN POWERS:** So this agenda item is deleted?

24
25 **DR. LASSETER:** It would be your comments on the SIA document
26 would be welcome, if you have a subsequent meeting, but we're
27 not concerned that your comments -- That it would be
28 inappropriate for you to provide comments that are not going to
29 the council. We are not intending to take that document to the
30 council at all. It is more guidance for how we would put
31 together sections.

32
33 **CHAIRMAN POWERS:** Good. Then, essentially, instead of taking a
34 break, let's go ahead and deal with this, and then that will be
35 the end of the meeting. The document itself is --

36
37 **MR. RINDONE:** It's review of draft technical memo, "National
38 Standard 1 Technical Guidance for Designing, Evaluating, and
39 Implementing Carryover and Phase-in Provisions within ABC
40 Control Rules". Dr. Holland is on the webinar, and he is
41 excited to share with you all.

42
43 **REVIEW OF DRAFT TECHNICAL MEMO: "NATIONAL STANDARD 1 TECHNICAL
44 GUIDANCE FOR DESIGNING, EVALUATING, AND IMPLEMENTING CARRYOVER
45 AND PHASE-IN PROVISIONS WITHIN ABC CONTROL RULES"**

46
47 **DR. DAN HOLLAND:** I have a PowerPoint.

1 **MR. RINDONE:** Dr. Holland, can you just give a brief who are you
2 to the SSC?

3
4 **DR. HOLLAND:** Yes, and I'm Dan Holland, and I am a Senior
5 Scientist and Economist here at the Northwest Fisheries Science
6 Center, and I also sit on the Pacific Council SSC, and I am also
7 the Chair of the NS 1 Technical Guidance Workgroup Sub-Group 2.

8
9 **CHAIRMAN POWERS:** Thank you. We're getting your information on
10 the screen.

11
12 **DR. HOLLAND:** Okay. Hopefully you have just a clear screen then
13 showing the first slide.

14
15 **MR. RINDONE:** Yes.

16
17 **DR. HOLLAND:** Feel free to ask questions as I go along here.
18 Hopefully I can hear you if you ask them, and I will stop and
19 deal with those as they come, but I will go ahead and get
20 started. As I mentioned, I'm with the Northwest Fisheries
21 Science Center, but I want to also acknowledge that what I'm
22 talking about today is a tech memo that was put together by a
23 large group of people that are serving on this technical
24 guidance sub-group, and this includes people from a number of
25 different science centers and regional offices that you can see
26 listed here on the screen, and, in particular, Debra Lambert and
27 Eric Schnettler have been staffing on this and doing quite a
28 bit, and Kathryn Frens was stepping in for a while, while Debra
29 was on maternity leave, and I think Debra is back, and I think
30 she's tuning into this, but she is probably muted.

31
32 The background on this is this has come about as a result of the
33 National Standard 1 Guidelines being renewed, and these were
34 last revised in 2016, and, among other things, they have some
35 new -- The new guidelines have some new language about phase-in
36 and carryover that is designed to create a little bit more
37 flexibility for councils, in terms of setting ABCs to deal with
38 these things.

39
40 The NS 1 Technical Guidance Workgroup was formed to develop
41 technical guidance on a variety of different subjects, and there
42 are actually three different sub-groups within this larger
43 technical guidance workgroup, and one is dealing with reference
44 points, and one is dealing with carryover and phase-in, and
45 that's Sub-Group 2, and that's the one that I am chairing, and
46 then there's one on data-limited stocks.

47
48 I am speaking only about the work that's been done so far by

1 Sub-Group 2, which is working on carryover and phase-in, and I
2 have been chairing that group, but, as I showed you earlier,
3 there are a large number of other individuals from Science
4 Centers and Regional Offices that are on that group.

5
6 Just to clarify what we're talking about and sort of, in general
7 terms, what the phase-in and carryover guidance allows for,
8 first, phase-in, in the past, or under the old guidance,
9 generally, you would have expected it sort of as an OFL drop,
10 let's say, if we have a new assessment that comes in that shows
11 that the stock is somewhat more depleted than it had been and
12 the OFL drops, and we would expect the ABC to drop in
13 conjunction with that, sort of in lock-step with most councils'
14 ABC control rules.

15
16 What this new guidance allows for is for a phasing-in over a
17 period of up to three years of that reduction, and so it would
18 allow you to have an ABC that would be somewhere in between what
19 it might have otherwise been under the old control rule and to
20 phase-in that reduction over three years, and that could be done
21 sort of automatically with an ABC control rule, that I will talk
22 about later, on sort of a case-by-case basis.

23
24 The other main part of this guidance that I am talking about is
25 the carryover provisions, and carryover was already allowed, and
26 was in fact being done by a number of councils, but, up until we
27 got this latest guidance, it was really only allowed to be used
28 if there was a margin between the ACL and the ABC, and so you
29 could carry over uncaught catch from one year into the next as
30 long as that carryover did not exceed the difference between the
31 ACL and the ABC.

32
33 If you had a case in a fishery where the ACL was equal to the
34 ABC, which is the case in some fisheries, for example in the
35 council where I am on the SSC, then there really wouldn't be any
36 possibility of carryover for those stocks.

37
38 The new guidance allows you to change the ABC to allow for that
39 carryover, and so, even if there isn't a margin between the ACL
40 and the ABC, you could potentially carry over some of that
41 uncaught catch and adjust the ABC upwards. The guidance still
42 requires that the ABC cannot exceed the overfishing limit in any
43 given year, and that was also true for the phase-in requirement,
44 and so the rules that you can't exceed the OFL still hold, and
45 this is purely allowing you some flexibility in changing the
46 ABCs to deal with phase-in and carryover.

47
48 The Sub-Group 2 that I am a part of decided to put together a

1 tech memo that was dealing with these subjects, both carryover
2 and phase-in, in the same tech memo. We originally were going
3 to do separate ones, but there is a lot of similarity in kind of
4 the way these are potentially done and the issues that come up,
5 and so we put them into a single tech memo.
6

7 The tech memo gives some discussion of the kind of risks and
8 benefits, in general, of doing carryover and phase-in, and we
9 then go through -- I will show some examples of how these
10 provisions have been used, both in the U.S. and elsewhere around
11 the world, and we discussed the approaches to implementing
12 these, which include changing ABC control rules and also a case-
13 by-case basis, and then we also talk about the characteristics
14 of fish stocks and fisheries management that may impact the
15 risks and the benefits of using carryover or phase-in.
16

17 First, a little bit on the potential benefits, and let me stop
18 for just a second and just make sure that everyone is hearing
19 me. I can't see your faces.
20

21 **CHAIRMAN POWERS:** We can hear you fine. Keep going.
22

23 **DR. HOLLAND:** Okay. Great. Since I can't see you, I didn't
24 want to proceed. All right. First, some of the potential
25 benefits. One of the reasons that's been put forward for
26 allowing carryover is safety, that, if you have catch left over
27 at the end of the year, whether it be for individuals in a catch
28 share system or potentially for the entire fleet, in a fishery
29 that is managed with a total allowable catch, let's say for an
30 industry sector, that you might be rushing to try and catch
31 every last bit of that catch at the end of the year. If you can
32 carry that over, it may avoid people going out and fishing in
33 unsafe conditions, and so that's sort of one reason.
34

35 It may also create more economic stability, or help with that.
36 For example, if there was a lot of catch that was going to be
37 happening at the end of the year, that might cause a market
38 glut, and that might be avoided by allowing this catch to carry
39 over.
40

41 It could help with management stability, and an example there
42 might be, for example, if you have a fishery that has a race for
43 fish, and maybe short openings, and you wouldn't necessarily try
44 and have a really short opening at the end to finish that last
45 bit of catch that's left over, and maybe you would put that into
46 the next year, and perhaps you could have more stability in
47 seasons that way as well.
48

1 A lot of these are somewhat speculative, but they are reasons
2 that have been put forward where these have been used in the
3 past. Lastly, and this is one where I personally see a lot of
4 utility for carryover, is in multispecies catch share fisheries.
5 Individual fishermen often have a portfolio of quota for
6 different species, and it can be difficult for the individual to
7 match up their catch exactly to all of those quotas, and so, at
8 the end of the year, they are likely to have some quota for
9 certain species left over, and, if they try and really use up
10 all of that quota, they are going to end up exceeding their
11 quota for other species, and so they can -- If they can carry
12 some of that over, it may be helpful for them, and particularly
13 if the quota market isn't working very well.

14

15 That was kind of a key issue in the IFQ that was put in place
16 here on the west coast. In the catch share fishery, you had a
17 number of species that were really pretty much bycatch, with low
18 quotas, and the market wasn't really working very well, and
19 people had a tendency to kind of hoard quota, and so, even
20 though, on average, the total catch of any of those species did
21 not exceed the ABC, or ACL, in a given year, it was helpful for
22 an individual to be able to carry over some of that uncaught
23 catch at the end of the year.

24

25 Carryover is pretty broadly used, particularly in catch share
26 fisheries, and it's been used in the U.S. for quite a while in
27 the North Pacific halibut and sablefish IFQ, which allows 10
28 percent carryover, and I think they allow it both directions,
29 where you can borrow the quota from the next year as well.
30 Pacific groundfish allows a 10 percent carryover in their IFQ,
31 although, again, it hasn't been up to date, and it hasn't been
32 allowed for certain stocks that were rebuilding or if the ACL
33 was equal to the ABC.

34

35 New England multispecies sectors, their catch share system has
36 had a 10 percent carryover, but with some restrictions.
37 Atlantic sea scallops as well, and the limited entry, and that's
38 actually a fishery that is managed with days-at-sea rather than
39 quotas, but they have had the ability to carry over some of
40 those days-at-sea. Then the portion of that fishery that is an
41 IFQ has had a carryover as well.

42

43 Atlantic HMS shark has a 50 percent carryover, apparently, but
44 only for species that are not overfished, and, in your neck of
45 the woods, the Gulf snapper and reef fish IFQ has a 10 percent
46 carryover, I believe, and hopefully that's correct, and you can
47 correct me if I'm wrong about that.

48

1 They are also heavily used in other catch share fisheries around
2 the world. For example, New Zealand and Iceland have
3 carryovers. In Australia, some of the fisheries have
4 carryovers. One thing that is important to remember, and I will
5 go back, actually, but, in almost all of these cases, there are
6 limits, and so they generally range from 10 to 30 percent, and a
7 lot of fisheries tend to have these carryovers lowered to 10
8 percent, and, also, you can't carry over carryover, and so it's
9 a one-time thing, and so carryover can't build up to a point
10 where you're going to have a total amount of quota out there,
11 for example, that would be 20 or 30 percent higher than what the
12 ABC would have been.

13

14 In terms of approaches to implementing and evaluating carryover
15 under the new guidance, there are a couple of routes for this.
16 the first route, I guess, is to have an ABC control rule that
17 actually lays out how a carryover is going to be done. What the
18 guidelines advise is that this ABC control rule should describe
19 when the carryover provisions can and cannot be used, and it
20 should conduct a comprehensive analysis of a control rule, of
21 the new ABC control rule that allows the carryover, and it
22 should consider reasons. You may want to consider in the ABC
23 control rule reasons for an ACL underage that might affect
24 whether carryover is allowed or how much is allowed, and it
25 should be evaluated whether it's appropriate for overfished or
26 rebuilding stocks.

27

28 We don't say, in our tech memo, that you should not use this on
29 overfished or rebuilding stocks, and it's just something to
30 consider, and, in fact, it was -- Carryover, I think, was a
31 fairly important thing for some of the overfished stocks in the
32 Pacific IFQ system, west coast IFQ, those bycatch stocks that I
33 mentioned with kind of rare and uncertain bycatch.

34

35 Some other aspects of developing a control rule, ABC control
36 rule, for carryover, additional factors that you should consider
37 would be which stocks are eligible, how will the underages be
38 determined, whether you need to account for multiple fishery
39 sectors, if there are multiple sectors that are catching a given
40 species, whether to limit the amount of carryover, and, as I
41 said, in most cases where these have been applied, there is some
42 limit that is usually a percentage of the quota, on an
43 individual basis or overall, and there needs to be a process,
44 obviously, for making changes to the ABC and ACL.

45

46 Ideally, you would evaluate a carryover ABC control rule with a
47 management strategy evaluation, to test for its robustness to
48 uncertainty, and that's not a requirement to do an MSE, but it

1 would be a good idea, if possible, and then the council should
2 consult with the SSC and applicable NMFS Science Centers in
3 developing these ABC control rules.

4

5 You can also do this on a case-by-case basis, and so you might
6 not necessarily develop an ABC control rule, per se, to allow
7 for carryover, but, for a given species in a given year or for a
8 given species over a set of years, you might develop -- Allow
9 for carryover and an ABC change on a case-by-case basis.

10

11 One way that you might do this would be to re-run the
12 projections that were used in the last assessment with the
13 revised catch estimates that are allowing for carryover, to
14 ensure that catches are not going to exceed what the OFL would
15 be, or advised OFL would be, and it might also be possible to do
16 this sort of in a scenario planning exercise within a stock
17 assessment.

18

19 The idea here would be, when the assessment is done, if
20 projections are made with some kind of a projection model, you
21 could make a series of projections that would sort of cover the
22 gamut of possibilities, in terms of carryover, and explore
23 whether those create undue risk, in terms of sustainability, to
24 ensure that OFL is not going to be exceeded by doing that, and
25 so basically planning out scenarios where catch was under one
26 year, and that was carried over to the next year, maybe to the
27 sort of most extremes that the policy would allow for.

28

29 I am going to move on to talking about phase-in, but I will
30 pause for just a minute here, to see if there were any questions
31 specifically about carryover.

32

33 **CHAIRMAN POWERS:** Any questions? I don't see any.

34

35 **DR. HOLLAND:** All right, and so potential benefits of phase-in
36 are greater stability, potentially less variability in ACLs over
37 time, and this might actually be built into an ABC control rule
38 and tested with an MSE, for example, that would limit the
39 percentage changes or the frequency of changes in ACLs, and this
40 has been done in other fisheries around the world.

41

42 It may reduce the socioeconomic shock of catch reductions in a
43 case like I mentioned before, where we get an assessment that
44 comes in and shows that the stock is somewhat depleted and the
45 OFL needs to come down, and it can give the fishery a little bit
46 more time, the industry a little bit more time, to deal with
47 that reduction.

48

1 It can lower management uncertainty and make it easier for
2 managers to control catch when ACL shifts are smaller, and it
3 may be difficult when you have a really large change in catch,
4 particularly when you're managing with indirect controls, to
5 ensure that large change -- That catch doesn't exceed a large
6 change in ACL.

7
8 As with carryover, phase-in has been used quite a bit around the
9 world, and, in fact, outside of the U.S., in countries,
10 particularly in countries that have used management strategy
11 evaluations and what is sometimes referred to as management
12 procedures, that are rules that set how the ABC or the TAC is
13 set every year, and some of these rules specifically are aimed
14 at trying to create more stability in TACs and less variability
15 in TACs over time.

16
17 For example, in New Zealand, some of the rules for the lobster
18 fishery would say you can't change the TAC more than once every
19 two years. Some of the rules in South Africa, MSEs put limits
20 on the percentage change in a given year, and some of those
21 rules that have been used elsewhere may not be legal here, in
22 the sense that they could allow for catch to exceed an OFL, but
23 these -- We could do something similar in the U.S., if we tested
24 with an MSE, and you can test a rule, for example, that did
25 limit the frequency or amount of change in a TAC and show that
26 that was not going to lead to exceeding the OFL and potentially
27 implement an ABC control rule like that.

28
29 There are a number of cases where phase-in has been used, in
30 kind of one-off cases in the U.S., and I have given some
31 examples there with Atlantic summer flounder recently and
32 western Pacific bottomfish and the Gulf of Alaska program. I am
33 not aware of phase-in sort of control rules like we've seen in
34 other parts of the world, Europe and South Africa and New
35 Zealand, that try to limit the variability of a TAC over time,
36 but, again, those are things that could be considered.

37
38 In order to implement phase-in, again, as with the carryover,
39 there are sort of a couple of different approaches to doing
40 this. One is to develop ABC control rules that allow for phase-
41 in, and these could be general or potentially for specific
42 stocks, and these rules should then describe -- According to the
43 National Standard Guidelines, they should describe when the
44 phase-in provisions can or cannot be used, and a comprehensive
45 analysis of the control rules should be conducted.

46
47 The phase-in time cannot exceed three years, and they must
48 prevent overfishing in each year, but they can adjust the ABC up

1 from what it would have otherwise been, and they should be
2 evaluated to see if they are appropriate for overfished and
3 rebuilding stocks. This guidance does not change, I don't
4 believe -- I don't think it changes the overall guidance, in
5 terms of rebuilding over a specified timeframe, ten years or
6 whatever the requirement is for a specific stock, and it doesn't
7 change that, but it does allow for phasing-in some reductions
8 over three years.
9

10 Additional factors to consider in creating an ABC control rule
11 for phase-in are which stocks are eligible for it, and you might
12 want to consider phasing-in increases as well as decreases, and
13 so, if we're going to allow phasing-in the decreases in the ABC
14 when the stock assessment comes in as lower, but not phasing-in
15 the increases, that tend to create more risk, and so you may
16 want to do both.
17

18 There may be -- You might want to consider maintaining a minimum
19 buffer between the ABC and OFL, and that is not required,
20 however, but it would be something to consider. The generation
21 time of the stock and the precision of the assessment and the
22 length of time between assessments are the things that would be
23 considered about whether a phase-in is a good idea or not for
24 particular stocks, and, ideally, a phase-in, particularly if
25 it's something that's going to be an ABC control rule that's
26 going to be used sort of over time for a given stock, rather
27 than just on a case-by-case basis, would be evaluated with a
28 management strategy evaluation that would test its robustness to
29 uncertainty.
30

31 Again, we can do this on a case-by-case basis, and, in fact, I
32 think there was nothing really to preclude this in the old
33 guidance, and I think that the councils had the ability to
34 choose to phase-in reductions in catch with a proper analysis
35 and showing that OFLs weren't going to be exceeded and showing
36 that the rebuilding was going to be taking place in sufficient
37 time if a stock was overfished, but that still can be done, and
38 the SSC then can do that for a particular stock. It might want
39 to run projections based on the most recent assessment with
40 those proposed ABCs, in such a case.
41

42 The other part, sections, of the tech memo then go into some
43 discussions of what are the different factors that might affect
44 the risks and benefits of carryover and phase-in, and we talk
45 about life history characteristics of species that might create
46 more risk, for example, and so, with short-lived species, there
47 may be more risk, particularly where the fishing mortality is a
48 much higher percentage of the population.

1
2 Where there is stock structure and spatial dynamics, how that
3 might affect the risks associated with these. If they are
4 jointly targeted species or bycatch, that can create both
5 greater risk, but also more benefits, as I mentioned, in these
6 multispecies fisheries. The carryover can be an important tool
7 to help fishermen balance catches and quotas. The availability
8 of a good assessment and frequency and how recent those
9 assessments are and whether there have been ACL overages and
10 catch uncertainty would also affect how you would want to use
11 these.

12
13 There is a bit of an irony, in that what the rules allow is that
14 you can raise the ABC, but you can't exceed the OFL. Well, that
15 means that any increase in the ABC, whether it be for phase-in
16 or for carryover, is limited to the margin between what the ABC
17 would have been and the OFL.

18
19 The irony is that, if you have a stock with a highly-uncertain
20 assessment, then you're probably going to have a larger margin
21 there between the ABC and the OFL to deal with that scientific
22 uncertainty, and you have more leeway, at that point, to adjust
23 the ABC upward to deal with phase-in or carryover than you would
24 in a case where you have kind of a Category 1 assessment with a
25 much smaller margin between the OFL and ABC.

26
27 The last slide here is just talking about the next steps in this
28 process. We've been working on this tech memo now for quite a
29 while, and I think it could be getting on toward a couple of
30 years, and it's been through multiple reviews internally, within
31 NMFS, within both regional offices and science centers and
32 Science Center staff and Headquarters, but we are now sending it
33 out to the SSCs for review, and we are looking for feedback.

34
35 I think we had originally hoped to get feedback by October, but
36 there was some pushback about that, and so we have extended that
37 deadline to January 15 for feedback and comments on the tech
38 memo, and then we're hoping to deal with those comments and get
39 the tech memo finalized by May of 2020.

40
41 I do want to just stress that this is a technical guidance memo,
42 and it is not -- If you have read through it, you will see that
43 it's really not particularly prescriptive. It allows a lot of
44 flexibility in how you would go about this, and it is, indeed,
45 just guidance, and it's not -- Nothing in it really is
46 mandatory. Some of the guidelines themselves are mandatory, but
47 this particular tech memo guidance is not mandatory guidance,
48 and it's not really that prescriptive.

1
2 That is all I have, and these are the points of contact, and my
3 email is there, and then Deb Lambert is the main staffer on this
4 at Headquarters, and Kathryn Frens was working on it, and I'm
5 not sure if she still is, but that's all I've got, and I am
6 happy now to answer whatever questions you might have.
7

8 **CHAIRMAN POWERS:** Thank you very much, Dan. Let me open it up
9 for questions or comments, and I will make the first question
10 and comment. You sort of alluded to this when you were talking
11 about in the case of overages and underages and the uncertainty
12 in the catches, but it's also the lags in collecting the data.
13 I mean, that is an important issue, I think, in terms of how
14 quickly a carryover can be implemented and how quickly you could
15 detect whether there is a carryover or not, and I am
16 particularly thinking about things like the recreational catches
17 and that sort of thing. Do you care to comment?
18

19 **DR. HOLLAND:** Yes, and I certainly would not disagree with that,
20 and I think that may be touched on a little bit in the
21 discussion of sort of the characteristics of fisheries, but that
22 I think is a good point to emphasize, for sure, in that section,
23 that, in order to really implement this, you would have to have
24 timely data, and I personally think that the carryover is
25 particularly useful in these catch share systems, and, there,
26 you typically do have pretty good data without a lot of lags.
27

28 **CHAIRMAN POWERS:** Yes, I agree with you. Any other questions or
29 comments by one of the co-authors, Ryan?
30

31 **MR. RINDONE:** I dare not comment on the review of work that I
32 was a part of.
33

34 **CHAIRMAN POWERS:** Okay. Walter.
35

36 **DR. KEITHLY:** Dan, thank you for the presentation, and it was
37 very good. One thing we see a lot in the Gulf seems to be
38 relatively large exogenous shocks to the system, and we spent
39 yesterday talking about red tide, and red tides seem to be
40 frequently occurring now, and they do have a relatively large
41 impact on the stocks. Can you possibly give us a little
42 guidance of, especially with respect to carryover, the impact of
43 an exogenous shock that would reduce the stock size?
44

45 **DR. HOLLAND:** I don't know if I can really say anything there.
46 First of all, I'm an economist and not a fisheries scientist,
47 and I think our tech memo is pretty generic, in terms of sort of
48 bringing up issues about fisheries that would affect carryover

1 and phase-in.
2

3 I mean, I think, in other regions, there are also big shocks
4 that affect the productivity of fisheries, and we've got the
5 blob issues out here on the west coast, and I guess it's -- If a
6 stock that was really heavily impacted by something like that,
7 that would sort of suggest, to me, that it's generally going to
8 be a riskier stock, and you might want to be more careful about
9 allowing carryover or a phase-in, particularly if it's a stock
10 that has a high natural mortality and a small number of cohorts
11 make up the whole stock. Then phase-in or carryover may be more
12 risky.
13

14 I should note as well that, and I don't know if I mentioned it
15 or not, but the tech memo definitely cites it, that we've been
16 working on a tech memo -- Not a tech memo, but a journal article
17 that does a sort of generic MSE looking at phase-in and
18 carryover procedures, and that -- It doesn't address, again, any
19 particular fishery like this, but it does kind of -- It does go
20 into how those risks are affected by things like life history
21 characteristics.
22

23 **DR. KEITHLY:** That's pretty much what I was thinking, that it
24 may lead to some additional risk with carryover in these type of
25 fisheries. Thank you.
26

27 **DR. HOLLAND:** Yes.
28

29 **CHAIRMAN POWERS:** Thank you. Ryan.
30

31 **MR. RINDONE:** Just to pile on a little bit, one of the things
32 that we had talked about, towards the end of our discussions
33 with our carryover amendment that we were working on with the
34 council, was the need for payback provisions to balance out
35 carryover for our stocks, and that was the result of some of the
36 analyses that the Science Center had run for us, and it was
37 basically showing that, if you implement carryover for years
38 when you have foregone yield, and you carry that yield to the
39 following year, but you don't implement payback provisions when
40 you don't implement payback provisions when you have exceeded
41 your catch limit, and then you reduce it by that amount in the
42 following year, then you end up with a compounding effect on the
43 rate of reduction of your biomass that can be faster than what
44 is being given to you, in terms of the projections from the
45 previous stock assessment and whatever your established catch
46 limits are.
47

48 Ultimately, the Gulf Council chose not to proceed with

1 implementing a carryover provision to the ABC control rule,
2 because of the penalty for payback provisions potentially being
3 much greater than whatever benefit may have been achieved by
4 carrying over the couch change from one year to the next.
5

6 **DR. HOLLAND:** I think certainly -- That was one of the things
7 that we talked about, and that was that you need to -- One
8 consideration would be whether you can keep catch below the ACL,
9 and, if catches are exceeding ACL in some cases, then you would
10 clearly need to have those payback provisions, or you're going
11 to increase the risk. The MSE work that John Weideman and I
12 have done has looked at that particular question as well, and it
13 definitely shows that, as you would expect, the risk is
14 increased if you do have overages and you don't have payback
15 provisions along with carryover provisions.
16

17 **CHAIRMAN POWERS:** I think you made a comment early on that the
18 carryover and things like that are especially applicable to
19 catch share ITQ kinds of systems, and I think we need to
20 remember that, because, if you are doing it sector-by-sector, it
21 becomes allocation issues between sectors, and you are
22 allocating the risk of going over or going under and a lot of
23 conflict and exacerbating the conflict between sectors, in some
24 cases. Andrew, did you have a comment?
25

26 **DR. HOLLAND:** I would agree with that, and that was, again, one
27 of the other considerations that we mentioned in the slide and
28 we talk about, is, if you have a multisector fishery, then that
29 definitely can complicate situations, and I think it seems like
30 a fairly big general point that you wouldn't want to allow
31 carryover in a case where you don't have good control over the
32 ACL, for a sector that you don't have good control over the ACL,
33 unless you also have payback.
34

35 **CHAIRMAN POWERS:** Okay. Andrew.
36

37 **DR. ROPICKI:** Hi, Dan. I was just wondering, for the carryover
38 examples you have for catch share fisheries, do you have any --
39 Have you done any analysis of how it has affected the quota
40 markets at year-end? Have you seen any changes in how they
41 behave or anything like that?
42

43 **DR. HOLLAND:** Nothing really formal. I will say that, if you
44 look at British Columbia, where they have had that multispecies
45 ITQ system in place for quite a long time, you do see that there
46 is a lot of trading that goes on at the end of the year, so that
47 people maximize their use of carryover, and so, basically,
48 anybody that -- You can carry over 30 percent, but let's say you

1 had 40 percent of your quota that people tend to find somebody
2 to buy that 10 percent, and so, as that system matured, you end
3 up getting kind of full carryover of whatever aggregate wasn't
4 caught, and that gets carried over, unless it exceeded 30
5 percent, whereas, in other cases, when things are sort of
6 getting started, you end up with some individuals that can't
7 carry over everything and others that can, but your aggregate
8 carryover is unlikely to be -- It's likely to be lower than the
9 aggregate underage.

10
11 **CHAIRMAN POWERS:** Thank you.
12

13 **DR. HOLLAND:** I think there are reasons to believe that it helps
14 people with -- It reduces transaction costs in the market for
15 individuals that don't have to trade stuff.
16

17 On the other hand, there is sort of also kind of theoretical
18 reasons to believe that it may undermine the market a little
19 bit, because people don't have to trade quota and people can
20 carry it over, and so, if there's somebody that really needed
21 some extra quota, they may have a harder time getting it, and so
22 there are sort of pros and cons.
23

24 **CHAIRMAN POWERS:** Thank you, Dan. Any other questions? If not,
25 Dan, thank you for the presentation, and I think this has been
26 helpful, and your patience for sitting through in the afternoon
27 here, or it's morning for you, I guess.
28

29 **DR. HOLLAND:** We're getting on towards 1:00 now.
30

31 **CHAIRMAN POWERS:** Okay. All right. Well, thank you then.
32

33 **DR. HOLLAND:** You're welcome, and please forward on your
34 comments. We've got a while to do it, but whenever you have
35 them. Forward them on, and we will try and incorporate them.
36

37 **CHAIRMAN POWERS:** Mechanically, for us, the SSC, we can give
38 comments -- If you have comments, give them to Ryan, because
39 he's one of the co-authors, and he can convey them on.
40

41 **DR. HOLLAND:** Okay.
42

43 **CHAIRMAN POWERS:** All right. Thank you.
44

45 **DR. HOLLAND:** Thank you.
46

47 **CHAIRMAN POWERS:** With that, Jim.
48

OTHER BUSINESS (CONTINUED)

DR. TOLAN: Since we've been motion happy this meeting, I am going to channel Mr. Gill, and if I could get the language that I sent over up on the screen real quick. It really deals with the elephant in the room that we've been talking about this entire meeting, and that's how to deal with the MRIP and the FES data conversion and what to do with the state data.

I am going to put up a motion that says we recommend an in-person workshop to deal with this, so we can try to get this new state data into future stock assessments. One of the things that came up today was the gray snapper, and there was something thrown out there that Parks and Wildlife looks at a bunch of gray snapper data, and I would be remiss to use that data, because we don't have a bag limit or a size limit on that species, and so we can take as many as we want.

The good chairwoman had talked about it today, how we deal with the state data, and so, just as a quick motion, I would say that we need to get an in-person workshop with the Science Center folks and the SSC folks and the state people that have the best knowledge about their data to all get together and say, if we know this is a big deal, and we're going to have to deal with it, let's deal with it sooner than later.

CHAIRMAN POWERS: Is there a second to this?

DR. BARBIERI: Mr. Chairman?

CHAIRMAN POWERS: Yes, Luiz.

DR. BARBIERI: I am providing a second.

CHAIRMAN POWERS: Okay. All right. The expectation of this sort of workshop might be just a schedule of what to do and how to do it, or are you looking for a particular workshop where we actually do it?

DR. TOLAN: More just to get it on the record, to say we need to address this issue, and this is going to keep coming around for every stock assessment if all the states keep collecting data, and what are we going to do with this data? If we say it's a big deal, let's do something about it, and that's why I left the timing completely open.

CHAIRMAN POWERS: Okay. Basically, as the motion suggests, it says "address", and so whatever steps need to be taken need to

1 be taken, and they may need to be initiated. This has been the
2 underlying issue of this whole meeting, and so is there any
3 other discussion related to this?

4

5 **SSC MEMBER:** I have a question. Because this is really a lot of
6 what we were talking about in Item XI, and is this looking at a
7 different method, or is it looking for -- What exactly are we
8 trying to get out of it that we haven't already talked about
9 under the previous agenda item?

10

11 **DR. TOLAN:** I guess, if the state data is going to be used for a
12 stock assessment, how is that physically going to work, and
13 hopefully this -- Whether it's just a ratio conversion and we
14 set those parameters and say this is now going to be the ratio
15 for Louisiana data, for Mississippi data, for Alabama data, and
16 we can go forward with that, because we have this extra
17 information, and we're not using it, and we all recognize that
18 it's a big deal, and how do we get past that big deal?

19

20 If we're saying that the MRIP, with the now FES conversions, are
21 very different than what they used to be, and we have this other
22 data that we can use, but we can't really use it, how do we get
23 past that point?

24

25 **SSC MEMBER:** I agree that it's something that we're going to
26 need to figure out, but I just -- Hopefully this is a way of
27 getting at it, but I don't know what our endgame is going to be,
28 because it doesn't seem like there is a real enthusiasm to
29 address some of these issues in the short-term and we're just
30 going to keep on working with the Option 1a, or maybe 1b, stock
31 assessments, and then, when you convert that into projections
32 going forward, it's kind of a punt, at this point, as best I can
33 determine.

34

35 **CHAIRMAN POWERS:** I don't interpret it that way. Basically, I
36 think this is saying we need to get recreational data for the
37 assessments, and we've got all these data streams, and we need
38 to figure out a way to deal with it, more than anything else.
39 Bob.

40

41 **MR. GILL:** Exactly, Mr. Chairman, and I think this goes directly
42 to the heart of what Luiz was requesting, demanding, and so I
43 think it's entirely consistent with what we have all been
44 thinking and talking about during this meeting, and so I support
45 the motion.

46

47 **CHAIRMAN POWERS:** Any other comments relative to this? **Any**
48 **objections to this motion? Any objections on the webinar?**

1 **Hearing none, the motion carries unanimously.** Bob.
2

3 **MR. GILL:** Mr. Chairman, could you give us an update as to your
4 thinking and planning for the ABC Control Rule Working Group?
5

6 **CHAIRMAN POWERS:** I had asked for some inputs. What we had
7 agreed to was to have a working group. Functionally, we may not
8 be able to isolate it down to just a set of people, and the
9 communication will be to everybody on the SSC, and so I had
10 asked for some input from some key people that I need to get, in
11 terms of what their thinking was that were related to the last
12 meeting.
13

14 I think it was Doug and Will primarily, but there were a few
15 others, and Carrie and staff here had suggested a series of
16 webinars, and we just got that suggestion a couple of days ago,
17 and it seems to me like a good idea to approach it that way, and
18 so what we can do is Ryan and I can kind of go through that
19 suggestion and then pass it on, but the expectation is not to
20 have any individual meetings, but perhaps webinars, but it will
21 take some input from people other than me.
22

23 **MR. GILL:** Thank you.
24

25 **CHAIRMAN POWERS:** Okay.
26

27 **MS. BOSARGE:** Are you going to close the meeting?
28

29 **CHAIRMAN POWERS:** I would like to sometime.
30

31 **MS. BOSARGE:** Then you should never give a woman the mic. No,
32 but I just wanted to say thanks for that motion, and I just had
33 an idea. You know, I know that sometimes when you try -- I know
34 we want to look at all the species, but we actually contemplated
35 that in the beginning, as far as doing these MRIP Lites and
36 things like that, and we said, no, we're going to do this
37 species-by-species when an assessment comes up, because there's
38 just too many variables.
39

40 Maybe you could use something that people are going to be
41 pulling data on anyway and use the amberjack as a test case.
42 You could pick a species and say let's look at this. We've got
43 an assessment coming up on it, and, in the case of amberjack --
44 The problem is the management. We are managing amberjack based
45 off of Texas survey, based off of LA Creel and not MRIP in those
46 two states, and I would venture to guess our landings from
47 Florida, fairly shortly, will be that GRFS-MRIP collaboration
48 that they have.

1
2 Eventually, the amount of coastline that will actually be jiving
3 with the assessment will just be Mississippi and Alabama, the
4 two smallest coastlines on the Gulf, and so we're going to --
5 That might be something you could look at, because the data will
6 be being pulled anyway, and maybe it won't be extra work on
7 anybody, and so what are the headwinds here.
8

9 The question that I actually had was about red grouper, and it's
10 just a housekeeping question. When we went through red grouper,
11 did we talk about if the SSC had any recommendations or updates
12 to the MSY proxy? I only ask because that will have to be in
13 our amendment where we implement the ABC and ACL, and did we
14 talk about that?
15

16 **CHAIRMAN POWERS:** I believe we did, actually. That option -- I
17 don't think we changed anything.
18

19 **MS. BOSARGE:** That's fine.
20

21 **CHAIRMAN POWERS:** But I believe that we did. All right. I will
22 entertain a motion to adjourn.
23

24 **MR. GILL:** So moved.
25

26 **CHAIRMAN POWERS:** Any objection? No. We are adjourned. Thank
27 you very much.
28

29 (Whereupon, the meeting adjourned on September 18, 2019.)
30
31 - - -
32