

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

Tab I, No. 2

GULF SEDAR COMMITTEE

Gold Nugget Hotel and Casino & Virtual Biloxi, Mississippi

August 21, 2024

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 Tom Frazer.....Florida
 Dakus Geeslin (designee for Robin Riechers).....Texas
 Chris Schieble (designee for Ryan Montegut).....Louisiana
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1 **OTHER PARTICIPANTS**

2 Gary Borland.....SAFMC
3 Shannon Cass-Calay.....SEFSC
4 Frank Helies.....NOAA
5 Paul Mickle.....SSC
6 Clay Porch.....SEFSC

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1 The Gulf SEDAR Committee of the Gulf of Mexico Fishery Management
2 Council convened at The Golden Nugget Hotel and Casino in Biloxi,
3 Mississippi on Wednesday morning, August 21, 2024, and was called
4 to order by Chairman Kevin Anson.

5
6 **ADOPTION OF AGENDA AND APPROVAL OF JUNE 2024 MINUTES**
7 **ACTION GUIDE AND NEXT STEPS**
8

9 **CHAIRMAN KEVIN ANSON:** The SEDAR Committee is Tab I, Number 1.
10 The members are myself, Mr. Geeslin, Dr. Frazer, Dr. Sweetman, and
11 Mr. Schieble. Item Number I on the agenda is Adoption of the
12 Agenda. Does anyone want to -- We have a motion, and it's seconded.
13 Any opposition? Seeing none, the agenda is adopted.

14
15 Next, that will take us to Item Number II, Approval of the April
16 2024 Minutes. Are there any edits, or changes, or the minutes?
17 Seeing none, no opposition to accepting the minutes as written,
18 we'll go ahead with Item Number III, the Action Guide and Next
19 Steps. Dr. Simmons.

20
21 **SEDAR ASSESSMENT PROCESS CHANGES AND MODEL COMPLEXITY**
22

23 **EXECUTIVE DIRECTOR CARRIE SIMMONS:** Good morning. Thank you, Mr.
24 Chair. The first item on our agenda is the SEDAR Assessment
25 Process Changes and Model Complexity. Dr. Shannon Cass-Calay is
26 here, from the Southeast Fisheries Science Center, to review those
27 proposed changes to the SEDAR process and some organizational --
28 Their organizational plan for addressing and implementing these
29 proposed changes.

30
31 Dr. Cass-Calay will also discuss possible levels of model
32 complexity which might be considered for various managed species
33 relative to the data available for each. Dr. Paul Mickle, our SSC
34 representative, will provide the committee with an overview of the
35 SSC comments on this proposal, and so the committee should review
36 this information, ask any questions, and provide feedback. Thank
37 you.

38
39 **CHAIRMAN ANSON:** Thank you, Dr. Simmons. All right, and so that
40 will take us to Item Number IV, the SEDAR Assessment Process
41 Changes and Model Complexity, Tab I, Number 4. Dr. Cass-Calay.
42 Good morning. Welcome.

43
44 **DR. SHANNON CASS-CALAY:** Good morning, everyone, and thank you for
45 having me here. I would very much like to talk to you about some
46 of the process changes the center is recommending to improve SEDAR,
47 and I will also be talking a little bit about the center's ongoing
48 efforts to improve data provision in general.

1
2 I think the need to improve the current process is probably
3 apparent to most. Our current process features many disparate
4 pieces of data that come from many different partners and states,
5 federal governments, and academic partners. There are many data
6 flow dependencies, where one data provider passes information to
7 another for a subsequent analysis before it is passed to a stock
8 assessment lead to put into the assessment model itself.

9
10 The environment we operate in contains a large number of panelists
11 and public participants and features very high transparency, and
12 this often leads to numerous meetings and to very complicated
13 models that may take a very long time to complete. Our post-SEDAR
14 evaluations often occur. The SSCs, or the councils, may request
15 additional information to support management, and so it's very
16 frequent that, after the SEDAR process is complete, we are still
17 conducting analytical work to support managers, for many months,
18 or even years, but there are many unassessed species, and
19 assessments of key stocks are quite infrequent for many stocks,
20 and the gap year between the last year of stock assessment data
21 and the management action that must take place is quite long. It
22 can be years.

23
24 Right now, the concern is that, even though the assessment model
25 itself may be quite high quality, and quite reliable, the terminal
26 year of the data is simply obsolete before the management action
27 has to take place.

28
29 Our current process also has very limited flexibility to address
30 any emergent need that may occur, where an SSC or council, a
31 management body, wishes to have information about action that's
32 taking place on the water, for example a red tide, and, of course,
33 our resources for stock assessment at the center are not
34 increasing, and they may in fact continue to decline, which puts
35 us in a difficult position.

36
37 This is a timeline showing you how long SEDAR projects have taken,
38 from about SEDAR 10, which was gag grouper, conducted many years
39 ago, to SEDAR 85, and you will see lines, in red, that indicate
40 one year, two years, or three years duration of a project, and so
41 the blue parts of these bars show you the part of the project that
42 is devoted to data provision, and the green bars typically show
43 you the part of the project that is the assessment process itself,
44 and the green bar, the dark green, is the quadrant where we
45 prepared the management advice for an SSC, although there may be
46 subsequent work that occurred afterwards.

47
48 The point of this figure is that our projects were going along and

1 taking about nine to twelve months for a number of years, and then
2 there was an initial increase in their duration, to about two years
3 in duration, and that occurred with the first adjustment to FES,
4 from CHTS to FES currencies, and all of the additional work that
5 was done to support that change, or to understand it, to understand
6 that change.

7
8 Where you see the red arrows is where we've started to introduce
9 research track assessments. Those were actually designed to
10 improve efficiency, but, unfortunately, they actually increased
11 the duration of projects substantially, and so the research track
12 assessments -- Some of them have taken in excess of three years,
13 and are yet to produce the management advice, and so that clearly
14 did not improve the efficiency.

15
16 At this point, you know, we really need to talk about a paradigm
17 shift, and, many times, you have seen this diagram that shows you
18 that, if your objectives are good, fast, and cheap, it is not
19 possible to have all three, and so I think, for a long time, we've
20 dwelled in that diagram and said that, because it is not possible
21 to be good, fast, and cheap, we will focus on being slow, but
22 thorough and high-quality.

23
24 Now, that has some element of truth to it, because it's important
25 that the work we do is of high quality, and that, you know, it is
26 done correctly, but there are new techniques becoming available
27 that may allow us to provide robust management advice that meets
28 the objectives of fishery managers in a much more efficient
29 process, and so we need to take some time, at this point, to
30 examine these new methodologies coming onboard and determine how
31 we could provide more timely, and more frequent, information to
32 fishery managers that is robust to scientific uncertainty.

33
34 In order to start talking about how we move forward with SEDAR to
35 better meet the council objectives, the center actually did sit
36 down with members of the council staff, from both the South
37 Atlantic and Gulf Councils, to talk about what needs to be
38 accomplished, and I will just start with the South Atlantic
39 Council, which said that timeliness is urgently needed, and, by
40 that, they meant that the terminal years of our stock assessments
41 are too old. The data are obsolete before the management action
42 takes place, and so we need a recent terminal year.

43
44 We need flexibility to address issues that emerge, that are
45 unexpected, and we do need to maintain, or increase, our throughput
46 of management advice, but, by that, they mean that they need
47 updated catch recommendations for each stock more frequently, and
48 they did recommend that some effort take place to right-sizing of

1 stock assessments, meaning do the level of complexity that is
2 warranted for that species, but do not exceed the quality of the
3 data itself, and they wanted to make sure that stock assessments
4 have the appropriate level of review.

5
6 The Gulf Council had very similar concerns, and this is Gulf
7 Council staff. In addition, they discussed the need to make sure
8 the assessments are accurate and reproducible, that we continue to
9 improve access to data, including the fishery-independent
10 indices, and that we improve efforts to automate data provision.

11
12 They wanted to make sure that we give long-lasting catch advice,
13 meaning that the catch information that comes out of a stock
14 assessment is valid for many years and can be updated, as needed,
15 through such things as routine stock assessment updates, updates
16 of projections, and interim assessment, and they also want to make
17 sure that we don't abandon transparency and thoroughness in this
18 process.

19
20 Some of the recommended changes from the Science Center is that we
21 eliminate some of the nomenclature that SEDAR uses, including the
22 concept of research track and operational assessment processes.
23 This seemed to lock us into certain expectations with the SEDAR
24 project definitions that were unnecessarily restrictive.

25
26 We also talked about eliminating the slot concept, and the reason
27 for that is that not all stock assessments are the same. A typical
28 age-structured stock assessment, with minimal changes, can be
29 completed in as little as six to nine months, but some of the SEDAR
30 projects were taking in excess of three years.

31
32 We talked about how additional features add additional time to
33 projects, and these features include stock ID workshops, in-person
34 data workshops, excessive number of assessment webinars, topical
35 working groups, CIE review, and SSC rework. Now, none of these
36 things are bad, right, and some of these things are very
37 appropriate, and necessary, but they do add additional time to
38 projects, and we talked about identifying key stocks of each
39 council, and prioritizing these stocks, so that we can put them on
40 the calendar in the priority that we believe the council has
41 identified.

42
43 We talked about how remaining stocks, that are not identified as
44 key stocks by a council, could be assessed using less time-
45 consuming approaches.

46
47 What would that process look like? I'll be honest with you that
48 we are still in negotiations with the councils to make sure that

1 the process looks -- That it can achieve the council's objectives
2 as well as the center's objectives, and so this is still a little
3 bit fluid, but I'll tell you where we are.

4
5 What we want is to create a very predictable calendar, a rotating
6 calendar, that allows our data providers to better plan their
7 workload and improve their timely delivery of data, because the
8 chaos that happens sometimes with SEDAR calendars is not very
9 productive for our data providers, and we want to create a calendar
10 that allows us increased flexibility to address an emergent need
11 without disrupting other SEDAR projects.

12
13 We also want to make sure that we're increasing the throughput of
14 management advice that we provide with this approach, and that
15 would be using the SEDAR process and as well as innovative
16 approaches, such as interim assessments, and potentially
17 management procedures, that are evaluated in an MSE framework.

18
19 This is a pre-decisional calendar for the Gulf of Mexico, and
20 projects that are stock assessments that you see -- The blue
21 squares are the data provision, the yellow squares are the
22 assessment process, and the green square is the quarter that we
23 would intend to provide the report of that project, and it shows
24 you, in in the highlighted boxes, the key stocks that have been
25 identified to-date by the Gulf Council, and so it shows you how
26 those key stocks are assessed.

27
28 We would assess them with a SEDAR process somewhat less frequently,
29 maybe every six years, as it shows on this calendar, but we would
30 provide updated management advice every at least two to three
31 years, every two years for key stocks, every three years for
32 lesser-priority stocks, using either -- You know, using a less
33 cumbersome approach, such as an update assessment, using the
34 available data, or an interim approach, or a management procedure,
35 and so you would be receiving new catch information every two to
36 three years for the assessed stocks in the Gulf of Mexico.

37
38 Okay, and so now I would like to talk a little bit about what the
39 center is doing to try to improve data availability for stock
40 assessment, and so we've put a lot of time now into mapping the
41 data flow and our data delivery timelines for stock assessment. I
42 will talk a little bit about some of the data provision
43 improvements, a little bit about our efforts to understand data
44 availability for stock assessment in a gap analysis, and a little
45 bit about appropriate assessment complexity.

46
47 This is a schematic that Vivian Matter put together, in cooperation
48 with all of the data providers in the Gulf, and it shows you, in

1 this table, all of the data products that are necessary for any
2 SEDAR project, and, in the green, it shows you the time period
3 that that data is collected in a year. In the yellow, it shows
4 the time it's taking, in months, for that data to be accumulated,
5 to be processed, aggregated, and quality controlled by the data
6 provider, by the program that actually provides that data.

7
8 In blue, it shows you when the raw data, that is QA/QC'd and
9 aggregated, is made available for our data analysts at the Science
10 Center to do subsequent analyses that are necessary. In that kind
11 of brownish-tan color, it shows you the time it takes our data
12 analysts to create, for example, the input file that's appropriate
13 to go into the stock assessment itself, and, in red, it shows you
14 when the data is actually available for the stock assessment
15 analysts, and so the point of this figure is to show you that there
16 are certain data inputs that are taking up to two years after the
17 data are collected for them to be provided to the stock assessment
18 process, and those are the bottlenecks that we're trying to solve.

19
20 The largest bottlenecks we have right now are in the creation of
21 the composition data, in particularly the length and age
22 composition data, as well as the plankton surveys, and the problem
23 with the plankton surveys right now is that that data does need to
24 be shipped to Poland for the larvae to be identified, and so that
25 can be quite a time-consuming process.

26
27 The next step is so there are many efforts going on at the Science
28 Center to improve data availability, and I am not the expert in
29 these efforts, but Alan Lowther is here, who knows even more than
30 I do, but there are many efforts right now to standardize, and to
31 automate, typical processes that are used to provide data at the
32 Science Center, and a number of these are almost complete, or they
33 might be complete, and that includes finfish commercial landings,
34 recreational removals, the length data, and the observer data that
35 come from those programs, and that is nearly complete.

36
37 We also have automated documentation now that's available for many
38 times of reports and documents that we create, and this is
39 essentially using a programming script to draw directly from a
40 report file, or from a data file, and create an automated report.

41
42 We are conducting a great deal of research right now to try to
43 identify and develop advanced tech, or genomic solutions, to
44 rapidly analyzing age composition information, and so FTNIRS is a
45 visual and machine learning technology to age fish, using the
46 otolith or the scales, and we are also looking into epigenetic
47 ageing, which uses fin clips, in a non-lethal methodology, to look
48 directly at DNA methylation to determine the age of fish, and it's

1 very promising. You heard a little bit about it, I think, from
2 Will Patterson.

3
4 We're also looking at artificial intelligence approaches to
5 identify the fish species in all of our camera surveys, and this
6 is actually quite advanced at this time, and it's a great
7 improvement to efficiency.

8
9 One of the processes right now that is still the bottleneck, a
10 bottleneck, for stock assessment is the age composition data. That
11 does require additional attention, and we are aware of it, and
12 it's a high priority for the center.

13
14 All right. Just very briefly, we've talked a little bit about
15 right-sizing stock assessments, and, just for your information,
16 these links, in this presentation, and maybe not the PDF version,
17 but they should be live, and there are many, many approaches that
18 can be used to conduct stock assessments.

19
20 We typically use what's called statistical catch-at-length, or
21 statistical catch-at-age, methodologies, Stock Synthesis, and
22 these are amongst the more complex approaches that could be used.
23 There are simpler approaches, such as index-based, data-limited
24 approaches, as well as surplus production models and VPAs, which
25 are probably familiar to some of you.

26
27 We did a gap analysis, now years ago, and, to some extent, this is
28 somewhat obsolete, because we've improved information since then,
29 but the point of this figure is that, where you see 4s and 3s in
30 this figure, it really means that we have access to appropriate
31 data, at this point, to use age or length-structured methodologies,
32 and so, for most of our assessed species, the data are sufficient
33 to be using the more complex approaches.

34
35 For many species you see on the right-hand side of the figure, the
36 data are less high-quality, or they're less appropriate for an
37 age-structured model, and that might be the table where you start
38 seeing that the assessment model that's appropriate might be a
39 data-limited methodology.

40
41 We have made a remarkable improvement recently with our
42 collaboration with the state partners in the development of the
43 GFISHER index, the GFISHER survey. There are many species now
44 that we can create an index of abundance using GFISHER. Some of
45 them are identified by the council as key stocks, and those appear
46 in red, but, also, a number of our assessed stocks, that you see
47 here in black, we can also create an index of abundance using
48 GFISHER information, and we may be able to use GFISHER also as an

1 index for some of the unassessed stocks that you see in blue.
2 Those could be used perhaps in a data-limited -- In a less data -
3 - Or a data-limited approach, or a less data-intensive approach.
4

5 I did say that complex models are more the norm. We typically do
6 use those data-rich approaches. It is likely that, for some
7 assessments, that they may be more complex than what is supported
8 by the available data, but, even more importantly, we need to
9 consider the resources that are needed to support that complexity,
10 and it can be that it might be unwarranted if the priority of the
11 stock, or the importance of the stock, is low.
12

13 In addition, I would say that added complexity -- In general, I
14 think most would say that it tends to improve a stock assessment,
15 but one must also consider the timeliness and frequency of the
16 management advice, and there is an appropriate balance between the
17 thoroughness and the timeliness of management advice, and so, right
18 now, we're set up to provide you with few stock assessments,
19 infrequently, but those stock assessments, we think, are, you know,
20 pretty high quality, but if -- You know, if the data are already
21 three years old before the management advice can be created, that
22 is a problem that we have to solve, right, and so that's what I'm
23 talking about with this balance between all the investment into
24 creating a single stock assessment, versus an approach that gives
25 us the ability to be timely, but also give you advice that's
26 robust.
27

28 The Science Center will have to continue to work with cooperators,
29 and SSCs, to identify that appropriate assessment complexity and
30 to make sure that the techniques that we intend to use are well
31 studied and well justified.
32

33 Of course, there are other ways that we can increase throughput of
34 management advice, and they are more procedural in nature. We
35 could use processes that use as few as possible webinars and
36 workshops, and so we could do it when it's appropriate, but not do
37 it when it is unnecessary.
38

39 We can make much more frequent use of update assessments, or
40 updated projections, and we're at a stage right now, with the data
41 availability, where we could do updates pretty quickly with the
42 data that are available at a particular deadline. It may be that
43 the assessment, the update assessment, cannot use all of the most
44 recent age composition data, but we can use the available indices,
45 the landings data, et cetera.
46

47 We think we can do more as the data automation improvements are
48 completed. That should allow us to have more throughput, and we

1 think also that we could use, more frequently, data-limited
2 methods, interim analyses, and management procedures, particularly
3 between the complicated stock assessments, to give you updated
4 advice more frequently than we do today, but this does require
5 some additional research to further define and develop, and so we
6 are prioritizing that research right now.

7
8 There are some next steps. We will continue to talk with councils,
9 with SEDAR cooperators, with the council staff and the SSCs, to
10 establish and describe this improved process and to develop the
11 standard operating procedures. We need to develop the detailed
12 project schedules for the 2026 stock assessments. We have an
13 agreement now of which stocks will be assessed, but the detailed
14 project schedules need to be completed, and we need to continue
15 the research and development activities to improve the quality and
16 timeliness of fishery management advice.

17
18 We are conducting some of that work through desk MSEs right now,
19 and one of them is to evaluate various management procedures and
20 interim assessments against the council's stated performance
21 metrics. I think that that is all, and I did want to thank you,
22 and, if there is time, I can answer a few questions.

23
24 **CHAIRMAN ANSON:** Anybody have questions? We have a couple of
25 questions. We have Mr. Sanchez, followed by Captain Walker.

26
27 **MR. JOHN SANCHEZ:** Thank you. This is very encouraging, by the
28 way. I wanted to ask you about cost differences, because I was
29 very excited to hear, you know, you're finding new methodologies
30 to do age composition sampling, non-lethal to the fish, and are
31 there any dramatic cost differences in that approach versus
32 traditional, or is it cost-effective?

33
34 **DR. CASS-CALAY:** It is cost-effective. In fact, we think it will
35 be extremely cost-effective. The initial -- There is a RESTORE
36 Act project that's still just a proposal at this point, that the
37 Science Center has worked with Will Patterson and Dave Portenoy to
38 develop, and their estimates, at least, were that, even today,
39 it's a little bit cheaper to do age composition using an epigenetic
40 technique than to read the otolith. Those advantages, you know,
41 will continue, once the process can be operationalized.

42
43 **MR. SANCHEZ:** Thank you. That is more encouragement. Thank you.

44
45 **CHAIRMAN ANSON:** Captain Walker.

46
47 **MR. ED WALKER:** Thank you. I just wanted to express my appreciation
48 for the more, as you put it, throughput process of like updates

1 and interim analyses. Those are really helpful, rather than, you
2 know, waiting -- Sometimes waiting for the long assessments, and,
3 you know, we're not afraid to ask for them. You know, if they
4 have an issue on a species, I don't feel like it's asking too much
5 for an update, or an interim analysis, to help us make a decision
6 on something that has changed in the timeframe of the assessment,
7 like king mackerel or something like that, where something major
8 has happened in between, and so I appreciate what you guys are
9 doing, and I just wanted to let you know that.

10
11 **DR. CASS-CALAY:** Thank you very much.

12
13 **CHAIRMAN ANSON:** Dr. Sweetman.

14
15 **DR. C. J. SWEETMAN:** Thank you, Mr. Chair. I appreciate the
16 presentation, Dr. Cass-Calay. I am -- I like this process. I
17 think that it could just greatly increase the efficiency of some
18 of the challenges that we're dealing with here, as it relates to
19 timely management for some of these stocks, and so I'm wondering
20 about -- Maybe it may need to be fleshed out a little bit more,
21 but some of the data-limited approaches that we'll be working on
22 there, or that you guys will be working on in the SSC, and so I
23 guess my question there is, recently, you know, we've been kind of
24 using interim analyses, and things like that, as kind of a go-
25 between in between assessments.

26
27 For the most part, they've been kind of used as health checks,
28 thus far, and so I guess I'm wondering how some of these data-
29 limited approaches will be utilized for management advice, or catch
30 level adjustments, and things like along those lines, and, along
31 those lines, would those data-limited approaches not be utilized
32 for stock status, and it's only for catch advice, and is that my
33 understanding? Is that correct?

34
35 **DR. CASS-CALAY:** Okay, and so I want to say a few things about
36 that. What we're calling those interim assessments, in this
37 graphic that I have created, that could be an index-based approach,
38 like the ones that we have used before in the Gulf, and it could
39 be an update assessment, using the available data, just a quick
40 update, and it could be simply updating projections with the
41 available information we have about removals or indices, or it
42 could be a true data-limited approach, such as iSlope, you know,
43 some of the tools that are in the DLM Toolkit that maybe you're
44 heard of, that are typically index-based.

45
46 You know, it could be a simple stock assessment methodology, such
47 as a surplus production model, but what is needed right now is to
48 actually evaluate how well each one of those approaches achieves

1 fishery management objectives, such as, you know, maintaining
2 stocks in a healthy status, and preventing overfishing, while
3 maximizing yield, and that is -- It all can be tested in a desk
4 MSE environment, and that's -- You know, that is what we are trying
5 to do right now with some of the research the center is supporting,
6 is to evaluate those approaches, to determine which ones are most
7 likely to meet the needs of fishery managers, and that actually
8 might differ between species.

9
10 There's a little bit of research to do, but I think that -- I just
11 want to make sure you understand that interim assessments have
12 sometimes been used as health checks in the Gulf, but we could
13 also, for example, schedule an update assessment, if that is felt
14 to be the more reliable source of information, and that could be
15 done between the more complex assessments, just to look at, you
16 know, what new information is available, in a quick update context,
17 with available information.

18
19 **DR. SWEETMAN:** Thank you for that. Yes, that's helpful, and I
20 appreciate the further explanation there. I just -- I know our
21 SSC has struggled, a little bit, along those lines, relative to
22 being comfortable making adjustments to catch level modifications
23 based on maybe just an index-based thing, along those lines, and
24 so I'm wondering -- Obviously this has got to be fleshed out, and
25 it's going to be different for every species. The data that you
26 have available for them is going to be completely different, and
27 I know it's going to have to be fleshed out a little bit more.

28
29 How does that like independent reviewer, like a CIE review for
30 these data, and is it going to be that same process, or is that
31 only going to be for the key stocks? I'm just kind of wondering
32 along those lines, too.

33
34 **DR. CASS-CALAY:** So that's a good question, and that's something
35 that certainly I intend to discuss more with the Gulf Council
36 staff. I think, in general, the SEDAR assessments that are
37 scheduled would still feature either a CIE review, or, in some
38 cases, where limited changes were made, they might go directly to
39 the SSC for review.

40
41 The interim assessments that occur, if there is a desire to conduct
42 more evaluation of those besides just an SSC review, then, you
43 know, we could talk about how to schedule, for example, a
44 procedural workshop for SEDAR that might feature an additional
45 level of review, and that might be for establishing, you know, the
46 scientific basis for an approach that we intend to take for one or
47 more species.

48

1 **CHAIRMAN ANSON:** Mr. Geeslin.

2
3 **MR. DAKUS GEESLIN:** Bernie, would you pull up Slide 10, please?
4 Thank you, Dr. Cass-Calay. I really appreciate you giving us an
5 under-the-hood peek of what many of us -- What many of us perceive
6 as a big old black box, and so I appreciate you doing that.

7
8 Earlier, you mentioned that, you know, traditionally, this has
9 been a slow and thorough approach. I'm hoping that we are gaining
10 a little more comfort in moving towards a faster and sufficient
11 approach, and I understand there is tradeoffs associated with a
12 more, you know, faster and sufficient approach. This slide here,
13 there's a lot of data streams shown here, and how much of that is
14 in your control?

15
16 **DR. CASS-CALAY:** Well, that's a very good question. In my control,
17 none of it. Clay -- You know, a lot of this in the center's
18 sphere. Some does come from state partners.

19
20 **MR. GEESLIN:** Understood.

21
22 **DR. CASS-CALAY:** You know, we have -- We have -- The part that's
23 in my control is the part that's shown in the amber-orange color.
24 That is the work that's done by the data analysts that are in my
25 division, and so they would be actually taking a data product from
26 a -- From a, you know, state partner, or from one of our federal
27 laboratories, and they are doing what is needed to turn that raw
28 data input into the data input that is put into the stock
29 assessment, and so that might be creating a CPUE series, and it
30 might be creating the weighted age composition data that
31 essentially corrects for non-representative sampling, but the
32 green and the yellow is largely in our -- It's either in our FST
33 branch, or even within a state partner, purview.

34
35 We are working together, to a large extent, to try to improve these
36 methodologies, and so the work that the center is conducting is
37 actually very much in collaboration with the data providers at the
38 state and academic partners, to try to automate, and to better
39 standardize, all these approaches.

40
41 **MR. GEESLIN:** That was somewhat of a softball question, and I
42 understood that much of this is out of your control, and much of
43 this reliant upon others, right, and so we all play a part in this.
44 We all play a role, and responsibility, in conducting these
45 research projects and getting that data over to you all in a timely
46 fashion.

47
48 **DR. CASS-CALAY:** Thank you.

1
2 **CHAIRMAN ANSON:** Dr. Simmons.
3
4 **EXECUTIVE DIRECTOR SIMMONS:** Thank you, Mr. Chair. I just wanted
5 to circle back to the interim assessments that the council has
6 asked for, and used, and, I mean, sometimes they have been health
7 checks, and sometimes they have been used to change catch advice.
8
9 Some of the reasons for that are really because the management
10 process has taken so long to get things implemented, and so it's
11 not just the Science Center.
12
13 It's our side of the house too, that we're trying to work on
14 improving, you know, regulatory streamlining and that kind of
15 thing, and we did get some funding to look at that effort, through
16 our Inflation Reduction Act program, and I think I gave you guys
17 a presentation, a year or so ago, on how long things were taking,
18 and so that is one think we are very interested in doing, and we're
19 working with the Regional Office staff on that.
20
21 I mean, for example, lane snapper is a tiny increase, right, 60,000
22 pounds, and we still don't have that implemented yet, and so
23 there's improvements on our side of the house too that have held
24 up whether or not we can utilize the interim analysis approaches
25 with changes in catch advice.
26
27 **CHAIRMAN ANSON:** Dr. Sweetman.
28
29 **DR. SWEETMAN:** I wasn't trying to put the blame on anyone there,
30 and, quite frankly, it's the entire process that we have here that
31 needs to be more efficient, and it's not just the stock assessment,
32 and it's how we utilize that. Understood.
33
34 **CHAIRMAN ANSON:** All right. Not seeing any other questions, Dr.
35 Cass-Calay, thank you, and thank you to you and those that work in
36 your bureau, as well as those in the Science Center, to try to
37 make inroads into improving the process and to be a little bit
38 more open-minded, potentially, in trying to effect some change,
39 and so we do appreciate your efforts, and we look forward to seeing
40 further reports as you make progress in that effort. Thank you.
41
42 **DR. CASS-CALAY:** Thank you, and I should also thank Julie. The
43 SEDAR coordinators have been very helpful in this process as well,
44 and we're definitely working in collaboration. Thank you.
45
46 **CHAIRMAN ANSON:** Next, that will take us to Item IV(a), SSC
47 Recommendations and Feedback, Tab B, Number 9(b). Dr. Mickle.
48 Good morning.

1
2 **SSC RECOMMENDATIONS AND FEEDBACK**
3

4 **DR. PAUL MICKLE:** Good morning, Mr. Chair. All right, and so
5 Shannon, Dr. Cass-Calay, did a great job pretty much talking about
6 the SEDAR assessment process and some of the bottlenecks, and the
7 SSC was presented similar materials, and this is a compilation of
8 SSC comments, and discussions, from our last meeting.
9

10 The proposal that Shannon talked about -- I just wanted to
11 emphasize that it's the twelve/eight concept, and so twelve species
12 every eight years, which was discussed at our last meeting, with
13 updates between full stock assessments. The approach is to match
14 assessment complexity to the available data and focus on key stocks
15 and provide consistent, predictable stock assessment advice with
16 some capacity for unseen needs, so that there's a balance there,
17 and I think you all discussed that briefly here today.
18

19 Data sources, again, just to repeat a little bit, remember that
20 we've got to understand that it's independent and dependent data,
21 fishery, and then fleet-specific data and GFISHER for the Florida-
22 centric species, of course, and the composite video survey data.
23

24 The timelines, delays in age composition, data availability,
25 timelines for data inclusion in stock assessments, and then, for
26 model complexity, considerations for matching assessment methods
27 to data availability and the need to address uncertain or biased
28 data, like we heard from with the ageing for triggerfish and those
29 things.
30

31 Technology integration, I think everybody is at least aware, and
32 is starting to get excited about, the capabilities of AI and the
33 perception of how this could be of value to the stock assessment
34 process, to improve video data processing, with incremental
35 advancements, especially for red snapper. My institute actually
36 is involved with that, and it's very exciting to be a part of.
37

38 All right, and so there is need to clarify expectations for
39 management updates between assessments, and so we need to
40 understand the steps of that, and the presentation here today was
41 very helpful toward that. Processing time, there is a potential
42 reduction in video survey processing with AI and an inquiry into
43 AI application for plankton surveys, and so being able to automate
44 that is -- You know, it actually improves accuracy, and it reduces
45 costs, and it's not an expensive first step, like Shannon
46 mentioned, and so some of these technologies are very affordable.
47

48 With video, it's more simpler, but, when you talk about the ageing

1 structures, and the hard bones and the otolith efforts, you've got
2 to think about the steps involved with that, with cutting the
3 otolith, right, and slicing -- Removing and cutting and laying
4 down and mounting and reading, re-reading by a different person,
5 and then validating, QA, and that's a lot of steps.

6
7 When you automate half of those, prices, or costs, decrease very
8 quickly, and efficiencies increase very quickly, and so it's just
9 a very easy concept to understand. Automating data, creation all
10 the way to archive, is paramount, and it was discussed at the SSC
11 meeting last time.

12
13 Let's see. Assessment pairing, reconsideration of statistical
14 catch-at-age models to reduce processing error and enhance data
15 collection, and then, council discussions, plans for the October
16 2024 -- At our SSC meeting, to discuss how to proceed with SEDAR
17 process changes by species, and so, like Shannon said, this is an
18 evolution in our working effort, and we will definitely be on point
19 to provide an SSC scientific opinion on those changes.

20
21 Balancing consistency and flexibility in the actual management of
22 the species, the question of how to balance consistency and the
23 need for updates and changes, and that's something that I think
24 this group is getting better at. It's just difficult to understand
25 the balance, and so Shannon alluded to the processing and the
26 questions here of control and the data aspects, but it's all --
27 I'm sorry. The question of assessment versus update and those
28 different things.

29
30 We all want these things, and we need to understand what each
31 change, different from update projections, and then a full stock
32 assessment, and what it actually means, and then the cost of it,
33 because the Science Center has to balance all of this, and the
34 costs is an important thing to keep in the discussion.

35
36 Council representative, Tom Frazer was at our meeting, and he
37 emphasized the need for predictable management periods, and then
38 insight from the SSC is stable management allows for better
39 assessment of stock response to management changes, and, you know,
40 that's just -- You know, these stocks, they respond to fishing
41 effort, obviously, ecological changes, things like that, but, when
42 management changes occur, it affects the way that the models can
43 project backwards and get consistency and strength, looking
44 forward, to reduce and increase inference.

45
46 When you think about -- When you do a management change, or
47 multiple management changes, it has vast effects on a long-term
48 historical-based model, which SS is getting better at, but, when

1 you think about how these things work -- Like, for example,
2 amberjack.

3
4 You all have made quite a few changes with the management strategy
5 of amberjack over the last ten years, and so it's really good that
6 -- The increased data efforts there, but, again, you've got to
7 understand that, when management changes like that occur, the
8 models struggle with projections, when those things happen,
9 because the age structure, which it's based on, is different.

10
11 I guess that's my last slide, and so I will answer any questions,
12 but that was the perceptions of the SSC, and I will just take my
13 SSC hat off, or I guess nerds take out their pocket protector,
14 but, from a perception of data automation, a lot of folks -- They
15 don't put a lot of resources into the data aspects, and we focus
16 in on the analytical side, like the modeling side, and I think
17 this group has done that really well. The Science Center is just
18 incredible. Those analysts are second-to-none, and I'm always in
19 awe, every time I'm speaking with them, and their efficiencies as
20 well, but, you know, other countries that do stock assessment --
21 They put a lot of resources into the data creation, the data
22 acquisition, the QA aspects, and that, obviously, was a major
23 bottleneck presented here today by Shannon.

24
25 I know it's not sexy, but focusing on the data side, in the
26 beginning, can have massive benefits, and I will put my hat back
27 on and answer the questions, but that was just my opinion, and I
28 wanted to make that clear. Thank you.

29
30 **CHAIRMAN ANSON:** Thank you, Dr. Mickle. We do have a couple of
31 questions. Captain Walker, followed by Dr. Sweetman.

32
33 **MR. WALKER:** So I wouldn't say it's off-topic here, but, a couple
34 of times today, I've heard the plankton surveys come up, and I
35 recognize that -- You know, I understand that they take a long
36 time, and I didn't know -- How many species -- Do all the
37 assessments require, or input, plankton surveys, or is it just
38 certain ones? Is it considered like a major input? I'm not
39 familiar with --

40
41 **DR. MICKLE:** You're talking about the plankton surveys?

42
43 **MR. WALKER:** Yes, plankton surveys.

44
45 **DR. MICKLE:** Okay. I think I misheard you in the beginning, and
46 so just the plankton survey? I would probably refer that to the
47 Science Center, because they're more relevant to the data streams
48 for each stock assessment, and each species, but it's my

1 understanding that it's not for all the species. Does anybody
2 want to comment toward that?

3

4 **CHAIRMAN ANSON:** Dr. Porch.

5

6 **DR. CLAY PORCH:** That's exactly right. We do use it as an index
7 of spawning biomass for a number of species, and so the number of
8 larvae that you're intercepting out there, eggs and larvae, are an
9 index of how much spawning potential there is out there, but we
10 don't have that for every species. We have it for things like
11 king mackerel, red snapper, although, for some of those species -
12 - Like, for red snapper, that's not our best indicator, you know,
13 and we have longline surveys, and video surveys, for that, but, in
14 other species, like king mackerel, that's one of the few fishery-
15 independent indices we have, because we don't have a way to
16 actually assess them directly.

17

18 **CHAIRMAN ANSON:** Dr. Sweetman.

19

20 **DR. SWEETMAN:** Thanks for the presentation, Dr. Mickle, and so the
21 stable management allows for better assessment, and not having too
22 many changes, and I understand how that completely can change the
23 stock assessment model, and everything along those lines, and you
24 used greater amberjack, and so I guess I'm looking for your insight
25 here.

26

27 We basically have thrown the kitchen sink at greater amberjack,
28 and we can't seem to get that stock moving in the right direction
29 there, and so, I mean, there are limitations, for us at the table
30 here, where we need to end overfishing, and we do need to make
31 some changes here and there, potentially, to reduce that harvest,
32 and so I guess what I'm wondering, from your perspective, and the
33 SSC's perspective, is how us, as council members, better balance
34 that to -- I mean, we do have things that we need to do. Sometimes
35 we do need to make changes, just based on Magnuson requirements
36 along those lines, and I understand that can completely blow up
37 the stock assessment model, and then comparing one to the other is
38 a challenge, and so any insight there for how to better navigate
39 that, in light of some of those requirements we have?

40

41 **DR. MICKLE:** Dr. Sweetman, a point of clarification. Are you
42 wanting my opinion or the SSC's? They're different.

43

44 **DR. SWEETMAN:** I will take yours.

45

46 **DR. MICKLE:** Yes, and so the kitchen sink, the bathroom sink, and
47 everything has been changed on amberjack. Amberjack is a very
48 seasonally-focused species, and it's a good business model for the

1 federal for-hire fleet, and so there's a lot of interest there.

2
3 I think what got us to a point where the investment is, from what
4 Sean Powers' shop is doing right now, with the abundance efforts,
5 and the way, in my opinion, we've been briefed on the initial
6 efforts of his work, it looks like it's going very well, and he's
7 doing it the right way, where the standardization is going to
8 provide some very valuable data, but, again, when you change more
9 than one thing in management -- When you change two or three
10 things, we all have to understand that that has a short-term impact
11 and a long-term impact on projections.

12
13 Adding more data may compensate, and so I'll be optimistic in
14 saying that the recommendation, from my personally, is to let it
15 play out. Take like a full assessment and identify the
16 variabilities from the management changes, really not only look at
17 the projections, but look at the data that's going in on an annual
18 basis, and that retrospective analysis that the center will do on
19 amberjack will be very informative on the management changes, and
20 that is my opinion.

21
22 When you change things retrospective, you remove one year at a
23 time, and you start looking backwards to see how it moves and
24 shakes, the model performs, and so, when you actually do that, it
25 will hopefully provide a little bit of light on the management
26 changes that this group has done, and it may show that, you know,
27 it's working, or it may not be working, but I think leaning on the
28 fishermen to provide public comment is huge with amberjack. It's
29 huge. Thank you.

30
31 **DR. SWEETMAN:** Thank you for that.

32
33 **CHAIRMAN ANSON:** Thank you. Any other questions for Dr. Mickle?
34 Not seeing any, thank you, Dr. Mickle.

35
36 **DR. MICKLE:** Thank you.

37
38 **CHAIRMAN ANSON:** That will take us to Item Number V on the agenda,
39 SEDAR Steering Committee Summary Report, July 2024, Tab I, Number
40 5. Dr. Simmons.

41
42 **SEDAR STEERING COMMITTEE SUMMARY REPORT JULY 2024**

43
44 **EXECUTIVE DIRECTOR SIMMONS:** Thank you, Mr. Chair, and so I have
45 a short -- Staff has a short presentation for you, for your
46 information, from the July 29, 2024 SEDAR Steering Committee
47 meeting. It was a webinar. The committee should listen to the
48 briefing, ask questions, and provide feedback to us. Bernie, could

1 you pull up Tab I, Number 5, please?

2
3 Again, we met via webinar on July 29, and we covered these items.
4 We got an update on the SEDAR projects, and we received a similar
5 presentation from the Science Center on the process changes and
6 data efficiencies. We reviewed and requested changes to the stock
7 assessment schedule for 2026 and beyond.

8
9 Just an update on where we are, and this is just the Gulf
10 assessments, and not the South Atlantic, Caribbean, and Highly
11 Migratory Species work that's also ongoing, and so, for penaeid
12 shrimp, they're planning assessment webinars, and those are
13 planned to start in September of this year, and go to February of
14 2025, and then the review workshop -- The report would be available
15 for a review workshop in June of 2025.

16
17 For mutton snapper, that review workshop is right around the
18 corner. That's going to be in September, and then, yellowtail
19 snapper, we have fall -- We have several webinars, assessment
20 webinars, for the fall, and then the SSC will review it after that,
21 and so we are working with the South Atlantic Council staff right
22 now to coordinate those two assessments with them, because those
23 are jointly managed stocks, and they straddle the Gulf and South
24 Atlantic.

25
26 For red grouper, that assessment report is also due in September,
27 and that will be going to the SSC in October, I believe. Red
28 snapper, the data workshop -- We're going to try a benchmark
29 assessment, and that's going to start in December of 2024. We'll
30 have assessment workshop webinars in April through October of 2025,
31 and then a review workshop in March of 2026.

32
33 Some of the discussions that the committee had on the information
34 that was presented regarding this new process is we reemphasized,
35 you know, how the key stocks approach was going to work, and we
36 discussed the consistent intervals for updating management advice,
37 which you've been briefed on, and we discussed those less-data-
38 intensive assessment techniques.

39
40 Some of the proposed next steps, from that presentation that were
41 discussed, is they would continue to receive council feedback on
42 the initial recommended changes, they'll work with the staff to
43 establish and describe processes and confirm the council's
44 assessment priorities for the age-based assessments, and we
45 emphasized, and they emphasized, this work really needs to start
46 in 2026, for these assessments, to get this process going. Then
47 we discussed the project schedules for the 2026 assessments.

48

1 The green is the approved assessment schedules, and this is pretty
2 coarse, as far as the timing goes, and I think Dr. Cass-Calay
3 mentioned there's a lot of details that still have to be worked
4 out with that, and the orange is pending, and the blue is
5 requested.

6
7 The Gulf also requested that cobia be done in-house, hopefully, by
8 the Science Center in 2025, maybe using one of those data-limited
9 approaches, or management procedure approaches, because there
10 wasn't a lot of changes to the model anticipated. Then the
11 council directed us to send a request to the Science Center on
12 lane snapper, an interim analysis, and that letter -- I think it
13 was distributed Monday, requesting that of the Science Center. I
14 think that's it. Any questions or feedback?

15
16 **CHAIRMAN ANSON:** Any questions? All right. I am not seeing any,
17 and we'll move on to Item Number VI, SSC Recommendations, Tab B,
18 Number 9. Dr. Mickle. This will be Management Strategy
19 Evaluations Overview and RESTORE Project Update on Stock
20 Assessment Projections.

21
22 **SSC RECOMMENDATIONS**
23 **MANAGEMENT STRATEGY EVALUATIONS OVERVIEW**
24 **RESTORE PROJECT UPDATE ON STOCK ASSESSMENT PROJECTIONS**

25
26 **DR. MICKLE:** Good morning again. This work was completed by Dr.
27 Vaughn, a NOAA affiliate. Just for reference, this is a five-year
28 RESTORE initiative to develop modeling strategies. It's to enhance
29 stock assessment methods and improve overfishing limit and ABC,
30 acceptable biological catch, decision-making in Gulf fisheries,
31 and it's to really focus on the realism and accuracy of the
32 projections, throughput and robustness of management advice, and
33 then model interpretability and uncertainty quantification, to try
34 to provide that uncertainty in a quantitative sense.

35
36 Projection is simulations for estimating reference points and
37 short-term OFLs, and the factors considered are future fishery
38 dynamics, ecosystem effects, selectivity-based MSY estimates,
39 discards, and more.

40
41 Red tide mortality, we've talked a lot about it in the past, and
42 Dr. Vaughn looked at it and applied age-specific mortality rates
43 for gag, and a single rate for red grouper, and so, instead of
44 just treating it as a fleet, he added the complexities there.
45 Simulations included red tide as a discard fleet, including SSB,
46 and then potential options is to incorporate average red tide
47 mortality in all projections or adjust SPR, and those are proxy
48 targets.

1
2 As far as selectivity-based MSY adjustments for different fleets
3 and allocation changes, MSY and OFL estimates consider single-
4 fleet projections and compare to managed allocations. It was
5 looked at with big-eye tuna. Although that doesn't fall within
6 the purview of this group here, it's novel enough, but it has been
7 done before.

8
9 Discards were estimated proportional to fishing effort at OFL.
10 Consideration of closed season discards and litigation risks from
11 overfishing out of season, and solutions are set fleet-specific F
12 in projections or adjust retention rates.

13
14 Management advice throughput and what's next, it's data
15 provisioning and automation, and we've talked about it here today
16 in multiple presentations, increased frequency and robustness of
17 management advice through interim analyses, and, like I said before
18 in the last presentation, understanding the interim value there of
19 what an interim analysis provides, and not to be misleading, but
20 to understand some directionality from a potential management
21 change. Let's see. The importance of representative indices in
22 handling retrospective patterns, and I mentioned that before.

23
24 Next steps is regular progress reporting to the SSC. As this is
25 a somewhat new approach, and being able to look at these
26 projections in a different way, it's important for the SSC to
27 weigh-in on it. Consideration of social and economic factors in
28 project outcomes, and that was mentioned at our meeting, and, also,
29 further integration of discard mortality in future catch
30 allocations, and so trying to understand that discard mortality,
31 and it was discussed yesterday. It's a big unknown, and more
32 research is needed. Thank you. Any questions?

33
34 **CHAIRMAN ANSON:** Any questions? Not seeing any, thank you again,
35 Dr. Mickle.

36
37 **DR. MICKLE:** Thank you, all. Have a good week.

38
39 **CHAIRMAN ANSON:** So that takes us then to Other Business. There
40 wasn't any other business brought up at the beginning. Is there
41 any other business now to be discussed? Seeing none, that will
42 conclude the SEDAR Committee.

43
44 (Whereupon, the meeting adjourned on August 21, 2024.)

45
46 - - -