1	GULF OF MEXICO FISHERY MANAGEMENT COUNCIL
2 3	SUSTAINABLE FISHERIES COMMITTEE
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5 6	The Battle House Renaissance Mobile, Alabama
7	June 5, 2023
8	
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1 The Sustainable Fisheries Committee of the Gulf of Mexico Council convened at 2 Management The Battle Fishery House 3 Renaissance, Mobile Alabama on Monday afternoon, June 5, 2023, and was called to order by Vice Chairman Dale Diaz. 4 5 6 ADOPTION OF AGENDA 7 APPROVAL OF MINUTES 8 ACTION GUIDE AND NEXT STEPS 9 10 VICE CHAIRMAN DALE DIAZ: I would like to call the Sustainable 11 Fisheries Committee to order. Members of the committee are Dr. 12 Sweetman, myself, Ms. Boggs, Mr. Anson, Mr. Broussard, Mr. 13 Dugas, Dr. Frazer, Mr. Gill, Mr. McDermott, General Spraggins, 14 and Mr. Strelcheck. 15 16 I will give you all a quick update on Dr. Sweetman, and he is in route, and he'll probably be here in the next hour or so, and, 17 18 at some point, he'll probably take the committee over, but, 19 until such time, we're going to start working down the agenda as 20 efficiently as possible, and so first up on the agenda is the 21 Adoption of the Agenda. Do you all have any modifications or 22 changes to the agenda? Seeing none, is there any objection to 23 adopting the agenda? The agenda is adopted. 24 25 Next up is Approval of the April 2023 Minutes. Is there any edits or comments on the minutes? Seeing none, is there any 26 27 opposition to adopting the minutes? The minutes are adopted. 28 29 Agenda Item Number III is the Action Guide and Next Steps. Dr. 30 Diagne, will you take us through them one at a time, as we come 31 to them, and so you can bring us to the action guide and next 32 steps for Agenda Item Number IV, please? 33 34 OVERVIEW PRESENTATION ON THE RICE'S WHALE STATUS AND RECENT 35 SPEED LIMIT PETITION IN THE GULF OF MEXICO 36 37 Thank you, and good DR. ASSANE DIAGNE: Yes, Mr. Chair. 38 The first item here is an overview presentation on afternoon. 39 Rice's whale status and a recent speed limit petition in the 40 Gulf of Mexico. 41 42 Mr. Baysinger will give a presentation on the status of Rice's 43 whale, and we'll discuss a speed limit petition in the Gulf of Mexico. At the end of his presentation, the committee should 44 45 review the information presented, ask questions as needed, and, finally, determine whether they would recommend that the council 46 submits a letter commenting on the speed limit petition. 47 Thank 48 you.

2 VICE CHAIRMAN DIAZ: Thank you, Dr. Diagne. That moves us to 3 Agenda Item IV, and it's an Overview Presentation on Rice's Whale Status and Recent Speed Limit Petition in the Gulf of 4 5 Mexico. Mr. Baysinger, are you ready? 6 7 MR. GRANT BAYSINGER: Yes. Can you hear me? 8 9 VICE CHAIRMAN DIAZ: Yes, we can, and you can proceed. Thank 10 you. 11 12 MR. BAYSINGER: Great. I will ask somebody to click through the 13 slides as I go along here, but thank you for inviting me to talk 14 to you today, and I realize it's been quite some time since we last gave you a presentation on Rice's whales. My name is Grant 15 16 Baysinger, and I'm a contractor in the Southeast Regional 17 Office, in the Protected Resources Division, in the Marine 18 Mammal Branch. 19 20 Like I said, I would like to come to you today and give you an 21 update on the status of Rice's whales as well as a particular 22 topic that is of interest to you most likely, the speed limit 23 petition that we received in the Gulf of Mexico, and so I've got an agenda here with a handful of bullets, and we'll just kind of 24 25 go through, and I'm not sure how you work with questions, but feel free to ask them at the end, unless you feel like you need 26 27 to jump in during the presentation. 28 29 I will go through back what we knew in 2019, when we last 30 presented, and then give you an update on some things we've been 31 working on in the region, and, in fact, changing the name of the 32 species is one of those, and updating the distribution and some 33 recent papers that are coming out, or have come out in the past 34 few months, that are going to be particularly important to the 35 work we're doing going forward. 36 37 Of course, we received a petition to establish a vessel speed 38 restriction and other vessel-related measures in the Gulf of 39 Mexico, and so I would like to provide you an update on that, and then, lastly, some of the things, moving forward, that we're 40 41 working on for the conservation and management of the species, including recovery planning, critical habitat designation, and 42 43 other activities that may be of interest to you. Right there on the right, you see an image from our website that gives a 44 45 description of the Rice's whale, and a picture of them. 46 Back in 2019, we gave a presentation, and actually the name of 47 the species was different back then, and we had a different 48

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presenter at the time, and so my colleague, Barb Zoodsma, has 1 since retired, and she was the one that gave the presentation 2 last time, and, at that time, she gave a distribution overview 3 of what we knew about the species, and, at the time, it was 4 5 called the Gulf of Mexico Bryde's whale, and we knew they were 6 broadly distributed throughout the Gulf of Mexico historically, 7 based on old whaling records and some sighting data and some strandings, but, at the time -- Presently, the species is still 8 9 going through a restricted range, and so we think that, at the time, the northeastern Gulf of Mexico, around the De Soto 10 11 Canyon, was where most of the sightings were concentrated, kind 12 of along the shelf break, in the 100 to 400-meter depth 13 contours. 14 15 Given that that area is small, the species is susceptible to 16 environmental events and other things that could happen

anthropogenically, and this is important, because the Gulf of Mexico Bryde's whale is the only year-round resident baleen whale in the Gulf, and there's likely fewer than a hundred individuals, fewer than fifty of them mature, and, at the time, the best estimate was thirty-three individuals.

23 Since that time, and kind of around the same time that we 24 presented to you last time -- At that time, we had just listed 25 the Gulf of Mexico Bryde's whales as endangered, under the 26 Endangered Species Act, and so we had our final rule come out in 27 April of 2019, and, at the time, critical habitat was not 28 determinable.

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30 Moving forward a year, some work was done by one of our 31 scientists down there, and that determined that the species is 32 in fact a whole new species, based on morphological and genetic 33 data, and the new name for this species is Rice's whale. While that information came out in 2020, it took us a little bit of 34 35 time, about a year, to get the name changed, and that was a 36 formal process, with a direct final rule, to revise the name to 37 reflect that scientifically-accepted taxonomy and nomenclature, and, to the right there, you see that's an image of a Rice's 38 39 whale skull, and it's the one that we have, and it's currently getting worked on to be presented in the Smithsonian, and we 40 41 hope to have that done later this year.

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As I mentioned, at the time, we were working on coming up with tools to help the communities and stakeholders involved understand more about this species and kind of where they live, and, at the time, in 2019, the Science Center worked on this great visual that you can see up there, and it's the pinkish area, sometimes called the Gummy Bear, but this is the core

1 distribution area for this species, and this was based on 2 sightings and tag data, 180 sightings and two tagged whales. 3 This represented the area where a majority of the sightings were 4 5 located, and this is updated regularly, and we're keeping track 6 of this, and, as recently as 2022, this area was confirmed to still be the core distribution area for the species. 7 However, 8 some new data is coming out, and it's actually historicallycollected data, but this is the first time that it's been 9 analyzed, and a paper was published at the end of last year, 10 based on what you see on the bottom right there, and our 11 12 acoustic monitoring devices are kind of scattered throughout the 13 shelf break of the Gulf of Mexico. 14 15 The paper came out detecting Rice's whale calls in those dots 16 that you see that have a black-dotted circle, and so those three furthest out west -- Those are the Flower Gardens, and then one 17 18 off of Eugene Island there in Louisiana, where they detected 19 Rice's whale calls, with no apparent seasonality to those, and 20 they were heard throughout the year. 21 22 Part of coming up with that paper is we first had to identify 23 the Rice's whale calls, to make sure we understood that those 24 were in fact Rice's whales calling, and so an additional paper 25 came out around the same time as the other one and in fact identified the call types and characterized different calls from 26 27 Rice's whales, and so, together, those two papers helped us understand that, yes, we're hearing Rice's whales, 28 and those 29 whales are in fact out in the western Gulf of Mexico. 30 31 Additionally, work was being done by Jeremy Kiszka's group, down 32 at Florida International University, working on stable isotope 33 analysis of prey species that we thought would be preferred by 34 Rice's whales. Since we've never had direct feeding observed by 35 Rice's whales, we had to rely on stable isotope analysis, and we 36 found that the whales are primarily feeding on schooling fish, 37 Ariomma bondi, and this is a high-energy content species. 38 39 It's a small fish, and it's about ten inches, at the largest, but it's important to know that the whales didn't appear to be 40 41 just feeding on the most abundant prey species in the environment, and they were in fact selecting their prey for the 42 43 highest energy content. This becomes important in other things that we're working on like critical habitat to understand the 44 45 distribution of the prey species, and so a little background. 46 Rice's whales feed on the bottom of the seafloor, which is a 47 48 little different than other whales we've observed, and so this

is their feeding, in low-light conditions down in the 100 to 1 400-meter depth range, just off of the seafloor, 2 and then, finally, there's another paper that is working its way out of 3 the Science Center now regarding habitat modeling, and so this 4 5 took into account physical and oceanic parameters that the 6 Rice's whales seem to prefer, and, of those, we found that the 7 water depth and the chlorophyll levels are important to these 8 species.

10 The depths the whales were observed were between 188 and 320 meters, and so they're tending to stick to those kind of 100 to 11 12 400-meter depths, and those are on the inner portion of the shelf break. 13 Surface chlorophyll-a concentrations were also 14 different in those areas than the sampled environment, and the 15 whales were commonly observed in intermediate chlorophyll-a concentrations, above oceanic levels. Future work is going to 16 17 need to go on to understand how they are using those oceanic 18 parameters for different life stage histories.

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20 Then some other things going on in the background, and one of 21 the main reasons why we wanted to present to you today, was 22 that, in 2021, NOAA Fisheries received a petition, under the 23 Administrative Procedures Act, from a handful of environmental non-profit groups that are listed there on the screen requesting 24 25 NOAA Fisheries to use our authorities under the Endangered Species Act and Marine Mammal Protection Act to establish a 26 27 vessel-slow-down zone to protect Rice's whales from collisions 28 with vessels and noise pollution.

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We have to respond to those petitions in a reasonable amount of time, and 2021 was a couple of years ago, and so it felt like we needed to get on the ball there and respond, and so, on April 7, 2023, we published a notice of receipt of the 2021 petition in the Federal Register, and we have opened a pretty long public comment period of ninety days, closing on July 6.

37 In addition to that, we went around a Fisheries Bulletin, kind 38 of with some frequently-asked questions on the petition and the 39 next steps, but one of the big points that we've been hearing, 40 and want to clarify, is that this is not a proposed rule. 41 There's been a lot of confusion around this, because there is simultaneously a proposed vessel speed rule happening on the 42 43 east coast related to North Atlantic right whales, but that's a separate effort than this notice of petition that 44 we've 45 published in the Federal Register.

47 This is just a petition, and we're soliciting comments to get 48 the public's input before we decide whether to accept the

1 petition and undertake any future rulemaking, and there is more 2 information in the Fisheries Bulletin, as I discussed. 3 The petition has quite a bit in it, and I have put up here kind 4 5 of the highlights for you to consider as you decide whether or 6 not to submit comments on this notice of petition, and so the 7 petitioners have requested a year-round ten-knot vessel speed 8 restriction within waters between 100 and 400 meters deep, 9 roughly from Pensacola, Florida down to Tampa, Florida, and that includes a ten-kilometer buffer area around it, known as the 10 11 vessel slow-down zone. 12 13 Additional restrictions that the petitioners have requested include no vessel transits at night, and vessels transiting must 14 report their plans to NMFS, utilize visual observers, 15 and maintain a separation distance of 500 meters from Rice's whales 16 17 and use and operate AIS or notify NMFS of transits through the 18 zone. Additionally, if there's any deviations, those would be 19 reported to NMFS as well. 20 21 We're currently requesting comments, and, while we've found that 22 the substance of the petition is sufficient and meaningful for 23 public comment, and you see some bullet points here as to our thinking behind that, that the Rice's whale population size is 24 25 extremely small, and I think I said, back in 2019, that we had estimated thirty-three individuals, and that's gone up a little 26 27 bit, to fifty-one, but it's still a very small number. 28 29 As a result of the Deepwater Horizon oil spill back in 2010, it 30 was estimated that 22 percent of the population decreased, and 31 so this is a pretty vulnerable species, and that's an area there 32 in the Gulf where there's a significant amount of oil and gas 33 activity, a little further over in Louisiana and Alabama. 34 35 We've had two whales that have been identified as having 36 potential vessel strike injuries, and one of them in 2009 washed 37 up, or came up, on the bow of a boat in Tampa Bay, and that one 38 was thought to be killed by a vessel strike, and then, in 2019, 39 during field work, a photo was taken of a Rice's whale with a 40 deep scar, consistent with a propellor injury, on its back, and 41 then other actions have been taken, or continue to be taken, to reduce threats of vessel strikes to the species, including the 42 43 2020 biological opinion on oil and gas activities in the Gulf of Mexico, work that we're doing to develop a species recovery 44 plan, and then other projects that come up on a case-by-case 45 basis as well in additional consultations. 46 47 The idea here is that we're opening this comment period for 48

1 ninety days, which is a long time, to give stakeholders and the public time to gather their thoughts and collect critical public 2 3 comments and evaluate steps that we can take for the conservation of the whale, moving forward. 4 5 6 The type of comments, and what we're looking for during the 7 period, is information public comment from the public, 8 agencies, tribes, the scientific governmental community, 9 administrative and environmental entities, and other interested 10 parties. 11 12 We're seeking information specifically on the advisability of 13 and need for regulations to establish a vessel slow-down zone, 14 information on the geographic scope of any such regulations, 15 management options for regulating vessel alternative interactions with Rice's whales, including, but not limited to, 16 17 the options in the petition, any scientific and commercial 18 information regarding the effects of vessels on Rice's whales or 19 other similar species and their habitats, and then information 20 regarding potential economic effects of regulating vessel 21 interactions and anything else that the public feels is 22 relevant. 23 This slide has the next steps, and, like I said, July 6 is 24 25 currently when the public comment period will close, and we'll consider all comments and available information submitted during 26 27 that comment period when determining whether to accept the 28 petition and proceed with rulemaking. 29 30 There is kind of two options there, and so NOAA Fisheries could decide to initiate rulemaking, and I have a couple of bullets 31 32 there as to what the steps would be, should that be the decision that we make, but then there's also the option that we decide 33 not to proceed with rulemaking, and we'll notify the petitioners 34 35 and give a brief statement on the grounds for that decision, and 36 another important point to make here is that the outcome doesn't 37 have to be all or nothing. 38 39 NOAA Fisheries can decide to undertake a future rulemaking with some of the measures suggested by the petitioners, but we could 40 41 reject others, and we could also decide to modify any of the measures that may have merit, but we don't like the specifics as 42 43 the way they were presented to us, and then, of course, should we decide to initiate rulemaking, that notice would proceed with 44 45 a notice of a proposed rule and an opportunity for public 46 comment before any action is taken. 47 48 This current public comment period on the notice of petition is

1 a good opportunity for the public to provide their perspective 2 on the measures suggested by the petition and let us, in NOAA 3 Fisheries, know if there's any suggestions on measures to be 4 modified to support the whale's recovery, along with other 5 activities.

7 Then I kind of turn here to other things that we're working on. 8 Back in 2019, I was not part of the Marine Mammal Branch, and so 9 we brought on some new staff to help work with the species, and, like I said, Barbara retired, and we actually, just in the past 10 month-and-a-half, hired her new replacement, and so, if you're 11 12 familiar with Clay George from the Georgia Department of Natural 13 Resources, he's the new Southeast U.S. Large Whale Recovery 14 Program Coordinator, and so he'll be integral in helping plan 15 and implement recovery efforts.

17 As you can see on the screen here, in 2020, we published a 18 recovery outline, which is a preliminary strategy for recovery 19 of the species, and it recommends high-priority actions to 20 stabilize and recover the species. We held some recovery planning workshops in 2021, and we're working with federal, 21 22 state, tribe, local governments, non-governments, and other 23 interested parties to seek input from experts and stakeholders. 24

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25 In 2021, those recover workshops identified and addressed challenges relevant to the recovery of the listed species in its 26 27 current and foreseeable environment, and we worked on development of possible recovery criteria that would indicate 28 29 when the species should be considered for delisting, and we 30 developed suggested recovery actions to reduce and/or ameliorate 31 the threats to these listed whales. There's a significant 32 amount of work that's going to be done on that moving forward, 33 as well as some other things that we're working on.

35 One of those is the critical habitat designation, and so, like I 36 mentioned back in 2019, when we listed the whale as endangered, 37 we determined that critical habitat was not determinable at that 38 time, and, in 2020, a complaint was filed, seeking an order to 39 compel NOAA Fisheries to designate critical habitat for the whale, which was subject to statutory timelines under the ESA, 40 and we've been working with the plaintiffs in that case, and the 41 42 modified settlement agreement requires NMFS to complete 43 determinations regarding Rice's whale critical habitat, and we came to that in October of 2022. 44

As part of that summary agreement, we're working to submit a proposed rule to the Federal Register by July 15, 2023, and so in the next month-and-a-half. As part of that, we've drafted a

1 proposed rule to designate critical habitat for Rice's whales. Right now, that area is proposed to be one continuous marine 2 area within the Gulf of Mexico, from the Texas-Mexico border in 3 the west to the Florida Keys in the east, between the 100 to 4 5 400-meter isobaths, as containing a single essential feature 6 important to the conservation of Rice's whale, and then I think 7 Ι have one more slide, just kind of describing ongoing conservation recovery planning, and so, in these images, you can 8 9 see some of the activities that we're working on and trying to meet, like we are here, with different stakeholders, to get as 10 11 much input as possible on the processes moving forward, and so 12 we have oil and gas activity on the top-left, and we have fisheries, meeting with you all today. 13 14

15 Aquaculture is a new, emerging industry in the Gulf, in the top-16 right. On the bottom-left, we have vessel traffic, and so there 17 you can see the kind of shipping lanes are in red, and the 18 bottom center is Deepwater Horizon, and so oil and gas activity, 19 and then another new activity to the Gulf of Mexico is wind 20 energy, and so we're trying to work and make sure that Rice's 21 whales are considered during the Section 7 consultations for all 22 of these types of activities, and, with that, that's the end of 23 my presentation, and so I will open it up to questions, if there 24 are any.

26 VICE CHAIRMAN DIAZ: Thank you, Mr. Baysinger. Any questions 27 from the committee? Mr. Dyskow.

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29 MR. PHIL DYSKOW: Thank you, Chairman Diaz. Considering the 30 significant social and economic disruption that any potential 31 action with Rice's whale could cause, has the science behind 32 this entire process been rigorously peer reviewed? It seems 33 like, when you have such a small database, and you have little 34 information to start with, that the risk is there to pursue the 35 wrong conclusions, and has this been rigorously peer reviewed?

37 MR. BAYSINGER: Sure. I appreciate the question, and I 38 understand that it's been changed since 2019, and so you're 39 right in that there's a small amount of information --

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41 VICE CHAIRMAN DIAZ: We lost you right there for just a minute, 42 Mr. Baysinger, and so would you try that again? We appreciate 43 it.

45 MR. BAYSINGER: Sorry about that. I appreciate the question, 46 and you're right in that there's a small amount of information 47 out there, and we're continuously learning more. Those papers 48 that I included further up in the presentation, there is four of 1 them, and three of them have been published and gone through the peer review process, and the two related to Rice's whale calls 2 3 and the finding those calls out in the western Gulf, both of those papers have been peer reviewed, and then the prey paper 4 5 has also been peer reviewed, and, actually, the peer review 6 process is what we're waiting on right now for the habitat 7 modeling paper. It's going through the peer review process now, 8 and so hopefully that helps answer questions on that topic. 9

In addition, the critical habitat proposed designation that 10 11 we're coming out with in the next month-and-a-half goes through 12 a peer review process as well, with three peer reviewers, and, in this case, we had two of them, but those activities are going 13 14 through peer review. Like I said, since this is just a notice 15 of petition on the vessel speed, there's no peer review process associated with that, until -- If or until it becomes a proposed 16 17 rule, later down the line. Thank you.

19 VICE CHAIRMAN DIAZ: Thank you. Ms. Boggs.

21 MS. SUSAN BOGGS: Thank you, Mr. Chair. I understand there is 22 very few of these whales, presumably, in the Gulf, and there's 23 been two vessel -- Well, one was a presumed vessel strike, and we really don't know, and then you have the one that was 24 25 injured, and so it sounds like, from this, it survived, I′m guessing, and so, again, knee-jerk reactions and things that we 26 27 do, but this will affect the charter fleet, especially the 28 tournament fleet.

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30 I talked to one of tournament directors, and this will affect 31 area, and I know the shrimpers, shipping, their and the 32 restriction of the speed -- I get it, but no vessel transit at 33 night, and, I mean, this is pretty restrictive, and I don't know where the agency will go with this, but I really think that this 34 35 council needs to have some discussion about it and try to 36 alleviate some of this.

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38 We talk about all of the extra things that the fishermen have to 39 do, and this isn't just fishermen. This is all the vessel traffic in the Gulf of Mexico, but the burden to have to file 40 41 these reports, and make sure you have -- If you don't have the right AIS on the vessel, you have to get a different AIS, and 42 43 just all these various things that you have to do, and I'm not saying not do anything, but, at the same time, this is being 44 very, very restrictive to the fishermen, and, if you look at the 45 46 economic side of it, and the tournament fishing, and all the money that that brings into the economy, and you look at the 47 48 fish, and you've got to protect the fish, and it's just like

1 everything else we do, and you're going to have winners and 2 losers, but, in this case, I see a lot of losers. 3 4 I don't know what we have to do, and I've been talking to a lot 5 of people about this, for the last month-and-a-half, because I 6 see it causing a lot of issues. 7 8 I mean, the shrimpers -- I don't think they're going to blow the 9 ten-knot vessel speed, but they need to be able to transit at They can't stop, or go around, and so I'm sure the same 10 night. with the longliners, but this is -- I hope this council will 11 12 take the time to write a letter and oppose -- I mean, I'm trying 13 to come up with some ideas to bring back, instead of what is 14 here, that would be maybe more comparable to help the situation, 15 but this I couldn't support. Thank you. 16 17 VICE CHAIRMAN DIAZ: Okay. Any further questions for Mr. 18 I have a couple, Mr. Baysinger. Baysinger? I know that 19 critical habitat -- You're looking from 100 meters to 400 meters 20 depth, and the petitioner was asking from 100 to 400 meters, but 21 you said, in your presentation, that the primary area where 22 they've been located is between 188 meters and 326 meters. 23 For NMFS, as far as NMFS and what they're considering for their 24 25 critical habitat, I'm assuming that it's a buffer, the distances 26 beyond the 188 and 326, but how did you all come to setting the 27 buffers at those sizes, and was there any rationale for that? 28 29 MR. BAYSINGER: Sure, and so the numbers I gave are where the 30 majority of the sightings have been, and there have been some on 31 the shallower side and the deeper side, which were taken into 32 consideration as part of the proposed critical habitat area, and 33 so the area we were proposing includes those sightings that are 34 kind of out at the -- Not in that 95 percent of the sighting 35 areas. Does that answer your question? 36 37 VICE CHAIRMAN DIAZ: So there's been some other sightings 38 outside of those areas, but the primary ones are between 188 and 39 326, is what I think you're saying. 40 41 MR. BAYSINGER: That's right. There's been some at like just 42 over a hundred meters, and then at a little bit over the 400-43 meter mark there's been sightings as well. 44 45 VICE CHAIRMAN DIAZ: Okay. Well, another question for you is this transiting at night, and I realize that's in the position, 46 and that's not necessarily something that NMFS is saying yes or 47 no to at this point, but is there literature, or is there data, 48

1 or is there science that shows that these whales are more
2 susceptible at night to vessel strikes than during the daytime?
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I think that science is still developing. We do 4 MR. BAYSINGER: 5 know that this species is a little different than others that 6 we've studied in the Gulf of Mexico, in that they spend the majority of the daylight hours feeding at depth, 7 like I 8 mentioned, in that 100-to-400-meter depth, and then, as a result 9 of vigorous feeding during the day, at night they tend to spend more of their time closer to the surface, and so the concern, I 10 11 think, is that, at nighttime, they are more susceptible to 12 vessel strike.

14 VICE CHAIRMAN DIAZ: My last -- Thank you for that. My last 15 question is, as far as -- I don't know what the term is, but 16 stranding goes, is there much in the record about these whales 17 stranding, having stranding events, from what you all know of?

19 Yes, and so the stranding record, like I said, MR. BAYSINGER: 20 was looked at as part of, or in addition, to the historical 21 whaling record, to give us evidence of where the species are 22 occurring in. Some of those strandings were old, and we don't 23 have great samples from those, whereas a couple of the other ones are more recent, and so that 2009 whale came into Tampa Bay 24 25 on the bow of a ship, and then, in 2019, we had a stranding down in the Everglades, and that's actually the one that's becoming 26 27 the model in the Smithsonian.

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VICE CHAIRMAN DIAZ: Okay. There was a stranding, early in my career, in Mississippi, but the whale was escorted back out to sea, and we never did locate it again, and that would have been in about 1995. That's all I have right now. Dr. Stunz.

34 GREG STUNZ: I've got a guestion for you, and it's, DR. 35 obviously, the petition is a big ask, as you've heard around the 36 table, with all the things, like no night, AIS, which, by the 37 a lot of private vessels that would be in this area way, 38 wouldn't have that technology as well, probably, or at least 39 many of them, and so what I'm wondering is just, I guess -- You know, I know this is early, and it's just a petition, but the 40 41 studies -- If you looked at the population dynamics of the species, and their natural mortality and that sort of thing, and 42 43 if there's thirty-three of them estimated, the implication here is that, if you do this zone, that you're going to have some 44 45 reduction that I quess would recover that species, but is that 46 the case? 47

48 In other words, with a big ask like this, what type of

1 assurances are there that there's going to be some level of 2 recovery, and I've got a couple of follow-up questions to that, 3 too. 4 5 MR. BAYSINGER: I think those are great questions that we're 6 kind of looking for during this public comment period, and we're 7 trying to take into consideration all the different --8 9 VICE CHAIRMAN DIAZ: Mr. Baysinger, we're losing you again. You started out strong in your response, and then we're losing you, 10 11 and so, if you're doing something different, it's affecting us 12 hearing you on this end. 13 14 I'm not doing anything different, and I don't MR. BAYSINGER: know what's happening there. Can you hear me? 15 16 17 VICE CHAIRMAN DIAZ: Yes, we have you now. 18 19 I would say that those are great questions that MR. BAYSINGER: 20 we'll need to consider as we decide whether to move forward with 21 rulemaking, and the kind of things that we would like to hear 22 public comment on on this notice of petition. 23 24 VICE CHAIRMAN DIAZ: Dr. Stunz. 25 26 DR. STUNZ: Just two other follow-up things for you to consider, 27 and one is, you know, what was the origin of the ten-knot speed, and I don't know, and maybe there is evidence in the literature 28 29 that that's the, you know, speed to allow them to escape or 30 whatever, and I'm not real sure, and that's just sort of a small 31 question I have, but the other thing is that their primary 32 forage base you're talking about they're selecting for is that 33 silver rag fish, and I think that's the name of it, that you 34 said, and, I mean, there theoretically could be some opportunity 35 here, at this council, to manage for that species, in terms of 36 our forage-based plans or something like that, and so what I'm 37 wondering is, is there any management that occurs, and it's a 38 bottom-dwelling fish that's pretty rare, and, in fact, I'm a fisheries person, and I had to look it up, to really understand 39 40 better what it is, but is there -- What type of work are you all 41 doing to ensure they have the adequate forage base? 42

43 MR. BAYSINGER: I think those are great questions, and I would 44 just caveat it a little bit that, you know, these prey species 45 are based on stable isotope work, and we have never directly 46 observed feeding for this species, and we don't have fecal 47 samples to collect either, and so we're pretty limited in the 48 data we have now, but those are questions that are being

1 addressed by the Science Center, as they look for future 2 research projects. 3 You raised a great point of about forage species, or prey for 4 5 these endangered whales, and I think other councils have done 6 similar things, and so that would -- I'm quessing that would for 7 sure be something we would work together on, moving forward. 8 9 VICE CHAIRMAN DIAZ: Dr. Stunz, did you have any other questions for Mr. Baysinger? Thank you, Dr. Stunz. Mr. Dugas. 10 11 Thank you, Mr. Chair. Greg asked one of my 12 MR. J.D. DUGAS: 13 questions, is what's the chance of recovery of the species, but, 14 also, if there is a chance for recovery, what's the timeline on 15 that? 16 17 Those are great questions, and, unfortunately, MR. BAYSINGER: 18 we don't have answers to them quite yet, as we have not 19 developed the recovery plan for the species, but these were 20 things that were raised during those recovery planning meetings. As Clay kind of gets onboard and up-to-speed here, that's going 21 22 to be one of his tasks, is working on the recovery plan, and so, 23 unfortunately, I don't have a great answer for you at this time. 24 25 VICE CHAIRMAN DIAZ: Ms. Boggs. 26 27 MS. BOGGS: Well, I have my original question, but I want to come back to something that Dr. Stunz was talking about, or I 28 heard a comment just a moment ago, and so this species of whale 29 30 -- Are they just in the Gulf of Mexico, or are they in other 31 areas, and then I have my original question to ask. 32 33 MR. BAYSINGER: This species is just in the Gulf of Mexico. 34 35 MS. BOGGS: So help me understand, on your Slide 14, under 36 consideration for designation of critical habitat, and you're 37 talking about in one continuous marine area from the Texas-38 Mexico border all the way across to the Keys, and is that what 39 I'm understanding, and not just what they're proposing, or 40 asking for? 41 42 MR. BAYSINGER: This is a separate effort than the vessel speed 43 petition that has -- The vessel speed petition is just between -- I think it was Pensacola and Tampa Bay, whereas critical 44 45 habitat -- Your point is right, and it's the Texas-Mexico border 46 to the Florida Keys, between 100 and 400 meters. 47 VICE CHAIRMAN DIAZ: Go ahead, Ms. Boggs. 48

MS. BOGGS: So I'm not familiar with what that designation would 2 3 do, or not do, as far as other requirements, or things that you can't do in the critical habitat area, and maybe that's for 4 5 another conversation, but that just seems like a big swath of 6 the Gulf, to me, considering critical habitat, and, just real quickly, while I have the mic, in talking to the fishermen 7 8 around the Gulf, and I've talked from fishermen in Tampa all the 9 way to Destin, and, obviously, in Orange Beach, and they've never even seen one of these, and, you know, we don't --10 11 12 I'm afraid what we're getting ready to see is you're going to see whale watching cruises in the Gulf of Mexico, and, I mean, 13 have there been a lot of -- I am going just going to say 14 specifically to the charter fleet, but any sightings of these 15 16 whales? 17 18 We've started -- I think we have about 300 MR. BAYSINGER: 19 comments so far on the vessel speed petition, and they've been 20 kind of along what you're saying, that we haven't seen them, but 21 there are other comments, and, actually, we just had one this 22 week from a charter fisherman, who sent us some video, and it 23 looks like it's a Rice's whale, though it's very hard to determine from the video, but those do come in, and they are 24 25 being reported, and so we're trying to track those and kind of 26 keep a count on them as well. 27 28 VICE CHAIRMAN DIAZ: Mr. Anson. 29 30 Thank you, thank you, Mr. Baysinger, for the MR. KEVIN ANSON: presentation and answering these questions. 31 You may have 32 provided it in your presentation, but I'm just -- I've heard that there is two separate petitions that the groups have 33 34 submitted, and I just want to confirm that. There's one for the 35 core habitat area, and there is one for the vessel speed 36 restrictions, correct? 37 38 MR. BAYSINGER: Correct. There is one for critical habitat and 39 one for vessel speed. 40 41 MR. ANSON: Okay, and so just -- Because there was a previous submission for the critical habitat, I just want to be clear 42 43 that, in the presentation you provided, when it talks about additional restrictions, or restrictions specific to the speed 44 45 zone, for instance the no transiting at night -- I mean, these are things that are also listed in the core habitat petition as 46 well, that those would be included in it, those things, and is 47 48 that correct?

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2 MR. BAYSINGER: No, and those are not included in the critical 3 habitat petition.

5 MR. ANSON: So, I guess, I understand there is some observations 6 in this no -- In the speed zone area, which is outside the 7 critical habitat area, but I'm afraid to ask the question, but why wouldn't there be the same restrictions in the core habitat 8 9 area? Is it just because of the speed zone, and the ten-knot speed would be considered enough mitigation to protect the 10 11 whales from vessel strikes, whereas, in the vessel slow-down 12 zone, they can still exceed the ten knots, but they need to have 13 these additional restrictions put upon them, and is that 14 correct?

16 MR. BAYSINGER: Yes, and there's a little difference. Some of -17 - The vessel slow-down area, as the petitioners have proposed 18 it, does overlap, to some extent, with the critical habitat that 19 we're working on proposing, but the requirements for critical 20 habitat -- The critical habitat requires federal agencies to 21 consider critical habitat during the consultation, under a 22 Section 7 consultation, and so those kind of activities come up 23 on a project-by-project basis, to figure out what we can do to mitigate for those activities, and so there's nothing being 24 25 proposed when we come out for a proposed rule for critical habitat, whereas what the petitioners have identified in the 26 27 vessel slow-down area is what they think we should propose in and that's where we're looking for feedback 28 that area, on 29 whether we should include those things or not, or, as it's come 30 up several times, you know, the economic impact of these decisions, and we would really like to hear feedback on that, in 31 32 as much detail as possible. 33

34 VICE CHAIRMAN DIAZ: Okay. I am not seeing any more hands. Mr. 35 Dugas.

37 **MR. DUGAS:** Thank you, Mr. Chair, and maybe this question is for 38 you, Dale, but is the staff asking the committee if we want to 39 write a letter, and, if so, is there a timeframe? Is there a 40 deadline?

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42 **VICE CHAIRMAN DIAZ:** Yes, and so the staff is asking if this 43 committee wants to make a motion to write a letter, and I 44 believe the deadline -- He mentioned that it's --

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46 MR. BAYSINGER: It's July 6.

48 VICE CHAIRMAN DIAZ: So the staff would have to start working on

1 that and get that ready. Go ahead, Mr. Dugas. 2 3 MR. DUGAS: So it's July 6, and we would have to vote on that at 4 this meeting, by Full Council, correct? 5 6 VICE CHAIRMAN DIAZ: Yes, and so we would have to -- If we're 7 going to meet that -- If there's no extension, we would have to probably give the staff some guidance, and give the chair the 8 9 ability to edit and go through and approve the letter, I guess, based off the guidance that the council gives, and that's about 10 11 how I see it, and I am seeing some thumbs-up. Okay, Mr. Dugas. 12 Go ahead. 13 14 MR. DUGAS: I am not ready to make a motion, but I would just 15 say that, you know, I'm in favor of us writing a letter in 16 opposition of this. 17 18 VICE CHAIRMAN DIAZ: Mr. Strelcheck. 19 20 MR. STRELCHECK: I wanted to make some comments, to kind of wrap 21 up, from the agency perspective, and I saw Tom's hand, and so 22 maybe go to Tom first, if there's no one else in front of him. 23 DR. TOM FRAZER: 24 It may be better to get this out of the way 25 first, but I'm just curious -- Again, thanks for the 26 presentation. About the ten-mile-an-hour speed limit, right, 27 and so I'm trying to figure out how you calculate the potential 28 for encounter rates, or risk, right, and because risk is related 29 to both speed and the size of the vessel, and what I didn't see 30 in the materials that were provided was if this speed limit 31 applied to all vessels, and so can you clarify that? 32 33 I would say that, you know, we're not MR. BAYSINGER: Sure. 34 proposing a speed limit here, and, from the information that the 35 petitioner provided, they did not do a calculation on how they 36 came up with the ten knots, and so I would say that that's 37 certainly an area where we would want public comment and input, 38 to help us guide our decision-making. 39 40 VICE CHAIRMAN DIAZ: All right. Ms. Boggs. 41 42 Well, and Andy was first, and I know Mara had her MS. BOGGS: 43 hand up, and so --44 45 VICE CHAIRMAN DIAZ: All right. My list is getting out of order. Let's go with Mr. Strelcheck and then Ms. Boggs and then 46 47 Ms. Levy. 48

1 MR. STRELCHECK: Thanks, Mr. Chair. I guess I wanted to just wrap up kind of what I've heard in this conversation, and I 2 3 think really good feedback, and, obviously, what we are looking for, in terms of feedback on the petition, and I would encourage 4 5 the council to provide the agency a letter on this, and you are 6 certainly also welcome to, as individuals, to provide a letter 7 to the agency. 8

9 My recommendation is to be as specific as possible, going through what the petitioners have proposed, and I want 10 to emphasize that this is not a proposed rule, and I know Grant 11 12 said that, but this is something we've been petitioned on, and 13 we did not come up with these ideas. The petitioners came up 14 with these ideas, and so, the more feedback and information you 15 can give us, specific to what the petitioners have identified, 16 the better, and by the July 6 deadline, and so I appreciate 17 that.

19 VICE CHAIRMAN DIAZ: All right, Ms. Boggs.

21 MS. BOGGS: Thank you, Mr. Chair, and so, Mr. Baysinger, a two-22 part question, and I'm going to look at Dr. Simmons. You know, 23 we're just seeing this, and we've got a timeline coming up, and I would certainly like to see if we can request an extension to 24 25 August, where we can at least see this letter, and have some more discussion, if we need to, and discuss the letter, but that 26 27 may not be a viable option, since they plan to publish the final 28 rule on July 15.

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30 The next question that I have is what other agencies has NMFS, 31 or the Science Center, reached out to to comment on this, such 32 as state agencies, possibly, or boat builders, or like the 33 National Marine Manufacturers Association, different 34 organizations and such, to have them comment on this as well?

36 MR. BAYSINGER: I would say that, you know, we've sent along 37 that link to the public comment, to post public comments, to 38 other federal agencies that we're working with, and so I'm 39 thinking of the Coast Guard here, the Navy, Air Force, BOEM, and the Army Corps. Beyond that, you know, we haven't done much 40 41 stakeholder outreach to the groups that you mentioned, but, like I said, that public comment period is open through July, and so 42 43 we knew that this would be fairly controversial, and that's why we selected a ninety-day comment period, instead of like a 44 45 thirty-day.

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47 **VICE CHAIRMAN DIAZ:** Did you want to respond to that, Mr. 48 Strelcheck?

2 STRELCHECK: Well, I was just going to provide some MR. 3 clarification, and so, with the critical habitat rulemaking, which is separate from this petition, we have been coordinating 4 with other federal agencies, and, for example, BOEM, Department 5 6 of Defense and others, and so that's kind of a natural part of 7 This petition is open to anyone to comment, the process. 8 including the states and councils and anyone else, and so that's 9 just an opportunity for you to provide that input. Thanks. 10 11 VICE CHAIRMAN DIAZ: Thank you for that clarification. Ms. 12 Levy. 13 14 MR. BAYSINGER: Can I add a point there? 15 16 VICE CHAIRMAN DIAZ: Go ahead, Mr. Baysinger. 17 18 MR. BAYSINGER: The State of Alabama has reached out to me about 19 this, and they would like to submit a comment as well, and so 20 other states are open, but we have also provided the Fishery Bulletin that I think we provided the link to in the briefing 21 22 book, and so that is able to be shared and publicly distributed 23 to anybody who is interested. 24 25 VICE CHAIRMAN DIAZ: Thank you. Ms. Levy. 26 27 MS. MARA LEVY: Thank you. I don't have a comment, but I was 28 just going to try to clarify the difference between critical habitat and this, unless that's -- If that's necessary, I can do 29 30 it. If not, if people are fine, then I don't need to do it. 31 32 VICE CHAIRMAN DIAZ: All right. I am just looking around the 33 table and seeing people put their thumb up or thumb down, if 34 they want that. I'm not seeing much in the way of a response. 35 Mr. Dyskow. 36 37 Thank you, Mr. Chair. I know that the petitioner MR. DYSKOW: 38 probably wrote this in a vacuum, not knowing what other 39 alternatives might be available, but I know, just from mv 40 peripheral discussions with manufacturers, there does exist 41 technology, in the electronic arrays that are typically prevalent on recreational boats, for example, to develop the 42 43 capability of what I'm going to call risk-avoidance software, or simply programming the electronic equipment on a small boat to 44 45 avoid the risk of whale strikes, for example. 46 I think this was discussed at some level in the Southeast, where 47 they're fixing their own vessel speed restrictions, because of 48

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1 potential whale strikes, and it seems to me that would be a less 2 draconian solution. If there's a whale in the area, the boat 3 can either take avoidance or a speed reduction to avoid that 4 potential strike, as opposed to something that's so draconian 5 that it affects everybody all the time. We're only looking at 6 thirty-some whales, which it shouldn't be that hard to avoid 7 them.

9 VICE CHAIRMAN DIAZ: Next up, we have Dr. Frazer and then Mr. 10 Gill and Mr. Anson, and then we're going to try to start seeing 11 if there's a motion out there to write this letter, and so after 12 those folks. Dr. Frazer, Mr. Gill, Mr. Anson.

14 Thank you, Mr. Diaz. I just wanted to circle back DR. FRAZER: 15 on the question I asked before, and so I guess I wanted some 16 clarity on it. One, Mr. Baysinger, you said that it's not a 17 speed limit rule, but the petition calls for a ten-knot year-18 round vessel speed limit, and I just want to make sure that 19 that's what we're talking about, and the second part of that, my 20 question, had to do with the size of the vessel, and I don't 21 think that I got an answer for that.

23 To address the first part of your question, we MR. BAYSINGER: 24 just posted a notice of the petition that we received and put 25 out for a ninety-day public comment period, to get as much input After that ninety days, NOAA Fisheries will 26 on it as we can. 27 make a decision whether to proceed with rulemaking for a 28 proposed rule to designate vessel speed restrictions or we will 29 decide not to, but we would like as much information as we can 30 get from any stakeholders and the public to help us make that 31 decision, and so I would, I quess, say that we're not currently 32 proposing a vessel speed limit. 33

Then, to your second question, the petitioners didn't make that clear in their petition, as far as the vessel size or any restrictions on that, and so we would have to assume that that means that they're proposing no vessel size limits.

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39 VICE CHAIRMAN DIAZ: Thank you. Mr. Gill.

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41 MR. BOB GILL: Thank you, Mr. Chairman. I hope you can hear me. Greetings from France. I apologize if I -- But the basic 42 43 problem with this petition is there's no data to support the rationale for their request. For example, there is no depth 44 strata identified, frequency in the area, any of that, the 45 46 spatial or temporal, and not enough information to justify their request to impose that restriction on that area, and so I fully 47 48 support a letter from the council opposing this petition. Thank

1 you. 2 3 VICE CHAIRMAN DIAZ: Thank you, Mr. Gill. Mr. Anson. 4 5 MR. ANSON: Thank you, Mr. Chair. I know you want to wrap this 6 discussion up, because you have the rest of the agenda to take 7 care of, but Mara had asked, or you had asked, the question if 8 Mara could elaborate on the core habitat, and what goes into 9 that petition request, versus the speed zone part of it, and I 10 would be interested to hear some of that, if you want to allow

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13 VICE CHAIRMAN DIAZ: I am not trying to rush us, but we do have 14 a fair amount on the agenda to go through today, and this is an important issue, and I want to give it the time it deserves, but 15 16 we have had a lot of discussion, and so let's let Mara give us 17 that description, and we can have a little bit more discussion, 18 but we need to start moving towards if we're going to do a 19 motion, because we'll probably have a fair amount of discussion 20 on the motion. With that, Ms. Levy.

22 MS. LEVY: Thank you. I am not going to take too much time, but 23 just to say that, with critical habitat designation, the agency 24 is essentially required, and there are limited exceptions, and 25 I'm just going to say generally required to designate critical habitat when they list a species, and so that's an Endangered 26 27 Species Act requirement, and critical habitat are generally those geographical areas occupied by the species at the time of 28 29 listing that contain physical or biological features essential 30 to the conservation of that species and that may require special 31 management consideration and protections.

33 They're looking at where these essential features are, and 34 they're designating the appropriate critical habitat, and then 35 then will trigger a Section 7 consultation, right, and, if 36 there's an action agency that proposes to do something that may 37 adversely affect that critical habitat, then, just like you do 38 with listed species, they have to consult and make sure that 39 their action isn't going to destroy or adversely modify that 40 critical habitat.

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42 That is completely separate from this petition, which is about 43 asking NMFS to implement a speed rule to protect the species, 44 right, and so they're together in this presentation, but they 45 are completely separate.

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47 When NMFS gets a petition, NMFS has to decide what to do with 48 that petition, and, in this case, they decided to publish the

1 petition for public comment, to help them make a decision about whether they want to move forward with anything in the petition, 2 or related to the petition, and, if they want to do that, they 3 will have to do proposed and final rulemaking. 4 5 6 The same thing with critical habitat, and they have to do 7 proposed and final rulemaking, and so there's still proposed and final rules potential for each path, but critical habitat 8 9 required under the ESA petition -- The agency is required to deal with it under the Administrative Procedure Act. 10 11 12 Thank you for that, Ms. Levy. Do you have VICE CHAIRMAN DIAZ: 13 a question, Mr. Anson? 14 15 MR. ANSON: No, and I'm still trying to process everything and 16 understand this particular request, I guess, as it relates to 17 the critical habitat issue and then the vessel speed core 18 habitat area and the speed zone area, and I'm just trying to 19 absorb this whole thing, and I'm not making too much sense of 20 it, but that's my problem. Thank you. 21 22 VICE CHAIRMAN DIAZ: It's confusing, because it's two separate 23 things, basically. One is the petition and the other one is the 24 designation for critical habitat. It's two separate things. 25 Ms. Boggs. 26 27 **MS. BOGGS:** I will try to get you where you want to be. I would 28 like to make a motion to direct council staff to write a letter 29 opposition to the petition to establish vessel in speed 30 restrictions and other vessel-related measures, as it relates to 31 I'm not sure how to put that, because the title Rice's whale. 32 of the document doesn't include what it is you're trying to 33 regulate, and so maybe some wordsmithing, but does that get us 34 going in the right direction? 35 36 VICE CHAIRMAN DIAZ: I think it does. Let's get it on the 37 board, where you're satisfied with it, and I will see if there's 38 a second. 39 Speed restrictions and other 40 BOGGS: vessel-related MS. 41 measures. That's fine. Well, to limit speeds -- No, that's not That's not working, Bernie. You've got too many 42 -- Hang on. 43 "limits" in there. Other vessel-related measures. The way that it reads about the speed limit, the speed restrictions, to me, I 44 Okay. 45 don't think it's worded properly. Remove "limit". Rice's whale speed restrictions. How about on Rice's whale --46 How about this? Rice's whale restrictions to limit speed and 47 48 other vessel-related measures.

1 2 VICE CHAIRMAN DIAZ: Did you all want to weigh-in? 3 4 DR. STUNZ: Can I weigh-in, Susan, real quick on something? I 5 think what we would want to do is this would be if they went 6 forward with the petition, and I think the motion, right now, 7 would be for NOAA Fisheries not to proceed with the petition action. Then that just cuts it right there, and then, if they 8 9 proceed with action, then we come back with a motion like this, about the speeds and all that. 10 11 12 MS. BOGGS: I like Greq's motion. 13 14 Well, I'm not on the committee, and so I DR. STUNZ: Okay. 15 can't make a motion, but I was just saying I'm getting confused 16 on what step of the process we're in, and, right now, we're 17 considering whether are recommending that they proceed with the 18 petition or not. 19 20 MS. BOGGS: Okay, and so strike that. To direct staff to write a letter to NOAA Fisheries asking them -- There you go. 21 With 22 the requested petition. 23 Go ahead, Tom. Tom had some 24 VICE CHAIRMAN DIAZ: All right. 25 help with the wordsmithing. Tom. 26 27 Well, I was just going to follow-up with Greg's DR. FRAZER: comments a little bit, and thinking about what we're being asked 28 29 to do, and, you know, we're not supposing to make a decision for 30 NOAA, or NMFS, at this point, and so my inclination would be to 31 direct the staff to write a letter to NOAA outlining the 32 concerns, right, as they relate to the petition. I think that's 33 better, right, because we're not making the decision. There's 34 been a lot of discussion around the table that I think that the 35 agency might want to consider in making their decision, but we 36 have to recognize where the authority actually exists. 37 38 MS. BOGGS: I am just trying to get the Vice Chair's request of 39 going in the right direction, and so, yes, but, Bernie, as I would say "as they relate", and take the "d" off of "related". 40 41 42 VICE CHAIRMAN DIAZ: All right. I want to thank you, Ms. Boggs, 43 for trying to move us along. Do you like what is currently on the board? Are you satisfied with that? 44 45 46 MS. BOGGS: Yes, sir, I am. 47 48 VICE CHAIRMAN DIAZ: Do we have a second? It's seconded by Mr.

Broussard, and so is there discussion on the motion? I am going to read the motion one time, and then we'll discuss it. To direct staff to write a letter to NOAA Fisheries outlining the council's concerns as they relate to the proposed Rice's whale petition. Any questions or comments? Dr. Simmons.

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7 EXECUTIVE DIRECTOR CARRIE SIMMONS: Thank you, Mr. Chair. Just 8 to go back to the timing question I think that was discussed 9 earlier, yes, there was ninety days given for comment on this, but I think this was released like a day or two after our April 10 11 council meeting, and so we had to hustle to get this on the 12 agenda, and we have not put any of this before any of our 13 advisory panels or anything like that, and I've talked to some staff over at the Regional Office, and I think that we're going 14 to communicate a little bit better about some of that before it 15 16 happens in the future, hopefully, but I don't know if there's an option to extend the timeline at all, and so that would be a 17 18 question I have. If not, I think we can make this work, but 19 that's just a question for the future. Thanks.

21 MR. STRELCHECK: I would have to talk to my team about any sort 22 of extension, but I know, for past actions, there's been 23 opportunities to extend the deadline, and so we can discuss the 24 timeline with them.

26 VICE CHAIRMAN DIAZ: Okay. Any further discussion on the 27 motion? Did I forget you, Dr. Porch? I'm sorry. Dr. Porch. 28

29 DR. PORCH: A couple of times, but that's okay. I just wanted 30 to step back a minute, as you think about how you would respond here, remembering that this is one of the rarest animals on the 31 32 planet. I mean, we're not talking about something that is just 33 remotely endangered. I mean, literally, you know, it's a tenth of the right whales, and so -- And you know where right whales 34 35 is at, and so I think a very thoughtful response is warranted, 36 but be careful not to appeal to, well, we don't see these very 37 often, or something like that, and, yes, you don't see them 38 often because they're extremely rare. 39

I mean, I think the only other rare marine mammal at this point 40 41 is the vaquita, which is probably a foregone conclusion that it's going to go extinct, and I hope not, but it's close, and so 42 43 just keep that in mind as we respond, and I did want to comment on Mr. Dyskow's point that, yes, there is nascent technology 44 that could allow vessels to avoid Rice's whales, as for North 45 Atlantic right whales, but it's not ready for primetime vet. 46 There's a lot of development that needs to go into it, and also 47 to establish that actually they can detect whales in time to 48

1 actually maneuver out of the way, and, obviously, that's going 2 to depend on vessel size.

There's a lot of work that's likely to go on in the near future, 4 5 with the injection of funds from Congress, and some of that 6 could spill over to Rice's whales, but keep in mind, you know, 7 with our passive acoustics, we're pretty confident of the core 8 area where they live, and we don't have as extensive of a 9 passive acoustic array in the western Gulf, but, where we've had them in a couple of places, we didn't have detections, and so 10 11 they're there, but we just don't have a complete enough array to 12 say how much they utilize that area, but, as you respond, again, 13 I come back to they're an extremely rare animal, and you're not 14 going to see them a lot, but even one strike is at least 2 15 percent of the population. Thank you.

17 VICE CHAIRMAN DIAZ: Thank you for that, Dr. Porch, and I tend 18 to agree with a lot of what you said. I think the -- To me, I 19 think what I'm hearing around the table is the council knows 20 this is a serious issue, but there is some concerns about where 21 some of the numbers come from. You know, the ten-mile-an-hour 22 speed, why not nine? Why not eleven? Why not twelve? I don't 23 know.

25 Was there some rationale behind that and some of the other things that was brought up as questions, and so those things 26 27 could be looked at from the minutes, and the letter could be put together with some of the concerns that the council has, and, 28 29 the way that the motion is worded, I think that it could deal 30 with the concerns very effectively. All right. Is there any 31 other discussion on the motion? Seeing no discussion, is there 32 any opposition to the motion? Seeing no opposition, the motion 33 carries. Any further discussion on this issue, before we leave 34 it? Ms. Boggs.

MS. BOGGS: So I was waiting to see if the motion passed first, and so it would be my assumption that, at Full Council -- Dr. Simmons, would you like us to come back with specific concerns that we have, so that you all can address them in the letter and not just we don't like this, or do you have enough direction, based on the discussion today, to move forward?

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43 VICE CHAIRMAN DIAZ: Dr. Simmons.

45 **EXECUTIVE DIRECTOR SIMMONS:** Thank you, Mr. Chair, and so I 46 think that would be a good idea. I do think -- Grant, you said 47 you had -- On page 10, he's got some of the specifics that he 48 wanted us to try to focus on, and is that correct? 2 MR. BAYSINGER: (Mr. Baysinger's comment is not audible on the 3 recording.)

5 VICE CHAIRMAN DIAZ: Okay. Dr. Sweetman.

7 Thank you, Mr. Vice Chair, CHAIRMAN C.J. SWEETMAN: and 8 apologies for being late, everyone. Susan, I've got some ideas along those lines, too. I mean, in Florida, we're dealing with 9 this issue on the Atlantic coast, with Northern right whales, 10 11 obviously, and so I think some of the comments that maybe 12 Florida had for that would be relevant for here, things along the lines of narrow the scope of the focus areas, for areas that 13 14 contribute to 90 to 95 percent of the vessel strikes, and that kind of reduces some of the economic impacts, just things along 15 16 those lines that I think we can help out with.

18 VICE CHAIRMAN DIAZ: Okay, and so, yes, at Full Council, if you 19 have some detailed things, let's bring them up and address them 20 Is there any other issues on this agenda topic? then. All Seeing none, Dr. Diagne, would you go over the action 21 right. 22 guide and next steps for Agenda Item Number V, and then we'll 23 move into that, after you do that.

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REVIEW OF THE MULTIYEAR ANNUAL CATCH LIMITS

27 DR. DIAGNE: Yes, Mr. Chair. The next item on the agenda is a Review of Multiyear Annual Catch Limits. 28 For this item, Dr. Porch is going to give a presentation and discuss the pros and 29 30 cons of using multiyear averages for setting and monitoring ACLs 31 to incorporate interannual variability in effort, recruitment, 32 and other considerations. During the presentation, examples from federally-managed species in the Gulf will be used, and, 33 34 also, a bit of background.

36 In January of 2023, the council discussed the challenges 37 relative to monitoring small catch levels for short fishing 38 season durations, and that is the context of this, and one more 39 thing is the use of multiyear averaging approaches for ACL is permissible under the National Standard 1 Guidelines, and it is 40 41 of interest to this council. At the end of Dr. Porch's presentation, the committee should, obviously, 42 review the 43 information presented before them, ask questions, and recommend -- Make recommendations, as appropriate. Thank you. 44 45

46 CHAIRMAN SWEETMAN: Okay. I guess I'm stepping up here again. 47 Thank you, Dale, for stepping in while I was away. Dr. Porch. 48 1 DR. PORCH: Thank you. As many of you know, we've been struggling for a long time with catch estimates that 2 are 3 relatively imprecise and have high percent standard errors, and so that means that, any given year, you have an estimate that 4 5 might be higher or lower than the true value, and we don't want 6 to be overreactive if we just happen to have an anomalously high 7 or low data point.

9 One of the ways that we can deal with this is to look at 10 multivear averages, because the average over multiple years, 11 obviously, you're averaging over the overestimates and 12 underestimates, and so, the longer the time period you can look 13 at, the more precise your multiyear average is. Now, by law, we can only go with three-year averages, by the National Standard 1 14 15 Guidelines that is, and so that's what I am going to focus on 16 here in the example.

18 As I mentioned, why would we want to consider it? Averaging 19 over annual landings estimates, over multiple years, reduces the 20 imprecise catch estimates on impact of overfishing 21 determinations, and I will show you an example as we go on, and 22 they also can reduce the impact of imprecise fishery closure 23 times, in that you're able to monitor over an extended period of time, and you're not going to close the fishery in a given 24 25 season, based on your catch statistics, but, as time goes on, you're monitoring to see if the catch exceeds what you would 26 27 expect over multiple years, and so it's really only the last year of the time series that you would make a call and say, okay 28 29 -- Maybe, in the first two years, they already met, and you 30 would expect that in three years, and so then you would shut it 31 off at that point, and so it's just going to be easier to 32 monitor that way. 33

There's actually an implicit carryover and payback that occurs if, for instance, you just had a down year, where the fish were a little less available, and the fishery caught fewer than expected, and maybe another year they're a little more available, and that would kind of average out, and so it's kind of the same concept of, you know, in the stock size threshold, where you're trying to account for natural variability.

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The question is, is it permissible, and, as Assane said, it is, and there are some nuances there that we'll have to talk about, and probably an IPT would have to resolve, but, in certain circumstances, a council may utilize a multiyear approach to determine overfishing status, based on a period of no more than three years, and, in fact, a lot of times, when we do an assessment, we average over the last three years, to get a

1 fishing mortality rate, because it's not that precise, and so 2 your overfishing definition is based on that three-year average, 3 and you can do this for the actual catch period that you're 4 monitoring across, too.

6 There is a couple of ways that multiyear ACL management could 7 work, and the one that I have in mind here would work exactly 8 like annual ACL management that you've been doing, except, 9 instead of looking at one year, you're actually looking at every three years, and so you set regulations for three years, and 10 11 then you look at the cumulative catch over those three years, 12 and so, at the end of the three-year period you evaluate whether 13 you're overfishing or not. 14

15 A second method is to use three-year moving averages, and so 16 then you're still doing annual evaluations, but you're looking 17 at a three-year moving average, which I think the council has 18 looked into in the past, and it ends up being less practical to 19 implement when you have high uncertainty, and I will show you an 20 example of why that is. 21

22 This is just to start us off on trying to make an apples-to-23 apples comparison, and so this is a situation with annual catch limits, and we'll have a payback provision, and what you see on 24 25 the vertical axis is the catch here, in millions of pounds, and this isn't a real example, and it's just a mock one, just to 26 27 illustrate the point, and then, of course, years on the horizontal axis, and the orange dots are the catch estimates 28 that you would get from say the Marine Recreational Information 29 30 Program, and then the blue line would be the OFL that comes out 31 of the assessment recommended by the SSC.

Let's say we're in 2023, and we get a catch estimate that's rather high, much higher than the OFL, and then we would have to say, of course, that overfishing is occurring, and so then we're going to have an adjusted ACL, and, in this case, we have a payback provision, and, in this case, I would spread it over a three-year time period, and so the payback is occurring over the next three years.

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Now, imagine that we get our next catch estimate for 2024, and it ends up being a little bit over the OFL, even though we put management measures in place to try and achieve that lower catch limit, and it happens to come in above the blue line, and so we still have to say that overfishing is occurring, and so let's see what happens.

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48 Something in the automation isn't working, but the next slide

1 was just going to show a couple of points that happened to be a little bit below that line, and, in that case, if you had looked 2 3 at a three-year period, then you would say that overfishing wasn't actually occurring, and you just have to imagine a couple 4 5 of points below the line, and that can actually happen. Just, 6 if you average over a time period, you just happen to have a 7 high point somewhere, and you have to call it overfishing, 8 whereas, if you were looking at a three-year average, it might 9 not be.

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11 This is an example of how a triennial ACL would work. Aqain, 12 we're working with a three-year time period and not evaluating 13 things every year, but once every three years, and so we're in 14 2023, and you see that very high point, and what we would do, in 15 this case, is take the average catches across from 2021, 2022, 16 and 2023, and that's represented by the red-dashed line, and you 17 can see that, yes, it's still overfishing, because of that very 18 high point, and then we would implement our payback provision, 19 and it's almost the same place we were before, or maybe a little 20 bit higher, or a little over five-million pounds would be your adjusted catch limit, and it was the OFL is at eight-million 21 22 pounds, and, by the way, just for simplicity, I'm just assuming 23 the ACL and ABC were the same as the OFL, just trying to make 24 this as simple as possible, without having too many lines on the 25 graph.

27 In any case, now we have a new set of ACLs below the original 28 OFL, with a payback, and here we have our point. If we were 29 evaluating this annually, we would have to say that overfishing 30 is still occurring, because it's above the OFL, but let's just 31 say, in this sample, we would monitor for a couple more years, 32 and we happen to get a couple of estimates that are below the 33 line, and it averages out, actually, to not only not 34 overfishing, but it's below the -- In this case, it's below the 35 actual ACL that we had set.

The point is you take multiple years, and, if you happen to have a high year, because of the imprecision, it's more likely, over multiple years, to average out, and so that's the advantage of going with the triennial ACL.

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Now I want to illustrate the idea of moving averages and why that's a little bit problematic. It's been tried in a couple of councils, and I think the New England Fishery Management Council uses it, and they find a similar problem that I'm about to illustrate here, and so that dashed line now is the moving average, and, again, you have your high point, and we just happen to have a very high point in 2023, and you can see that,

1 if we're using the moving average, we're overfishing, but not by 2 as much -- Not as high an amount, because we've averaged over 3 three years. Then we set our adjustment for the next year, with 4 our payback provision, and that's in the green line. 5

6 Now imagine, in this case, somehow we're perfectly precise, and 7 our catch estimate lines up even exactly on what the management 8 recommendation we just made was, that ACL that we had adjusted 9 downward with the payback provision, and we got it exactly right, and so we now calculate our moving average, and you will 10 11 see the red line now goes over one more year, to 2024, but it 12 says we're still overfishing, because we're dependent on the --13 We made a commitment to use the moving average.

15 Even though we actually got it exactly right in 2024, because 16 we're dependent now on using the moving average, we're still 17 declaring it overfishing, and so here's the next year, and we 18 got it down again, and the catch was exactly right, and it was 19 exactly what we intended to set the ACL at, but, again, because 20 it's a moving average, it's still incorporating that high point in 2003, and so we still have to call it overfishing, even 21 22 though the catch estimates show us that, you know, they line up 23 exactly with what we intended.

It's not until that high point moves out of the moving average that estimate comes down and we say we're not overfishing, and that's the problem with moving averages. Once you're committed to the moving average, if you have a high point, it follows you through until that moving average gets past, three years past, where that high point occurred.

The advantage of annual ACLs is, one, we're already implementing it, and so that makes it easy. It's something we're already doing, and it's completely consistent with the NS 1 Guidelines, and it is the most responsive, in case that real large spike is real. If that spike was real, and it's that big, then, obviously, we want to take action as soon as possible.

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39 In the case of multiyear ACLs though, it avoids overreacting to imprecise catch estimates, and so, if that point was really 40 41 high, and it's really anomalous, because there are just not that 42 many samples that were taken, not that many intercepts, and you 43 happen to get one guy that caught a lot of fish, and you expand that up, and it turns into a high estimate, you don't have a way 44 45 to say it's wrong, and it could be right, but it is imprecise, 46 because you didn't have many samples, and this would avoid overreacting to something like that. 47 48

1 The next thing is that it does reduce the data provision and rulemaking burdens, right, because you're only doing it every 2 3 three years, and so it would allow you to focus on other issues, and so there's less frequent changes to ACL regulations, it 4 5 reduces the importance of precise estimation of fishery closure 6 dates, as I mentioned at the outset. In particular years one 7 and two, you don't have to worry about it, and you just keep 8 monitoring, and then the effort would be concentrated in the 9 critical third year.

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11 Then, finally, you're placing -- You could place species in one 12 of three different cycles for monitoring the end year, or the 13 end of the three years, and that would allow a constant 14 management effort, but effort on you all's part, in terms of 15 monitoring and managing these fisheries, and so it would cut the 16 workload down, in addition to averaging over imprecise 17 estimates.

19 Then, finally, multiyear ACLs are expected to allow the fishery 20 to be more adaptable to variations in market demands and stock 21 availability, and so, every time you have some kind of boom-and-22 bust, which might have nothing to do with the trends in the 23 population, but it still affects catch, you're not having to 24 The only fly in the ointment there is, if there was some react. 25 major change in the stock that caused a large decrease in the catch, then you might miss it with a three-year average, and so, 26 27 in that case, it probably is useful to do health checks, looking 28 at our fishery-independent surveys and looking at stock trends, 29 just to make sure, if there's a drop in catch, it's not because 30 there is a drop in the population, but, without any other 31 indications that the population is decreasing, it's advantageous 32 to use something like a multiyear ACL. 33

We just tried to anticipate a few questions, and, actually, some that I think council staff sent us, and so one of the questions is, is the implicit carryover and payback of landings during the three-year monitoring period sustainable, and we've done a lot of simulation studies, looking at carryover and payback and how it's spread over three years, and the bottom line is it's not our biggest worry.

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If you more or less have a one-to-one carryover and payback provision, and so, in other words, if you have carryover provisions, you should have payback provisions, but whether you do it annually or every three years doesn't really matter very much, and it all kind of averages out. We found this to be robust for a wide range of species life histories, initial stock status level, and so it's a fairly robust trend. It's not the

1 biggest worry that we would have. 2 3 Another question is do species-specific sector allocations, or management approaches, whether you use IFQs or no IFQs, impact 4 5 this approach, and, in general, the answer is, no, sector-6 specific allocations are not expected to impact whether you use multiyear or annual ACLs, and the benefits or risks thereof. 7 8 Monitoring IFQ utilization in a multiyear fashion, with a quota 9 -- Sorry. I have to read this. 10 11 ACL with a quota allocated on an annual basis, when reconciled 12 in aggregate at the end of the three-year monitoring period, 13 could provide IFQ participants additional flexibility. All 14 right, and so that's a long-winded way of what I said before, is 15 that, yes, if there's some market fluctuations or something that 16 causes catch to vary, that has nothing to do with the population 17 abundance, this would kind of average out over that. 18 19 Then the justification may be a little more difficult for IFQ or 20 other well-monitored fisheries, because catches are more 21 precisely known, and so that's just saying, for instance, this 22 would be more valuable for the recreational fishery, especially 23 for target species, where the estimates are highly imprecise, 24 and so species with so-called high PSEs. 25 26 Does stock status, and/or the existence of a rebuilding plan, 27 impact the merits or drawbacks of this approach? The bottom 28 line, again, is no. The multiyear ACLs are not really -- Their 29 effectiveness is not expected to be impacted by current stock 30 status or rebuilding plans, again based on a lot of simulation 31 work that we've done, and we would point out that, just like 32 with annual ACLs, we can adjust multiyear ACLs, based on interim 33 analyses, using our fishery-independent surveys. It can be done 34 more or less the same way. 35 36 Just an example, working through some of the issues that come up 37 with greater amberjack, we do expect multiyear ACLs to reduce 38 the risk of overfishing, due to the precision of seasonal 39 closures, because you're looking at a longer time period, and so 40 you're not going to shut the fishery down prematurely. 41 Allowing 42 implicit carryover and payback, with monitoring 43 periods, could reduce the impact of strict payback provisions, and, again, you're averaging over fluctuations, and, similar to 44 45 the averaging model predicted catches to produce constant OFL, 46 ABC, and ACL estimates, multiyear monitoring approaches could lead to prolonged overfishing, if assessment model predictions 47 48 of population rebuilding are overly optimistic, simply because -

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3 If, in fact, you gave overoptimistic advice, and then you don't 4 make a decision for three years, it could make the population 5 more susceptible to prolonged overfishing, but that would happen 6 even if you just predict -- If you just ACLs based on a past 7 assessment for many years out.

9 This is where the caveat comes in, and is multiyear ACL management permissible? It clearly is, 10 in terms of the The way the NS 1 Guidelines 11 overfishing definition. are 12 written, in terms of accountability measures, it's clear that 13 they're generally referring to moving averages, which becomes problematic, and so this is where I think that, if we had an 14 15 IPT, they would have to think about how you would structure the 16 accountability measures, in light of this.

18 I think there's still a way to do it that you can work with 19 three-year time periods, in terms of making overfishing 20 determinations, but, in terms of the accountability measures, we 21 might have to look at it a little bit differently. Okay. That 22 was it. Any questions?

24 CHAIRMAN SWEETMAN: Okay. Thank you, Dr. Porch. Any questions 25 for Clay? Dr. Froeschke.

27 DR. JOHN FROESCHKE: Just thinking about your comment on the 28 accountability measures, the way I was thinking about that, in 29 my head, is, essentially, when you did that, you would have to 30 make -- It would come with the assumption that you wouldn't look 31 at it for three years.

33 For example, we did this with the jacks complex, and you set a 34 half-million-pound ACL for that complex, and started in 2024, 35 and, at the end of 2024, the first year you were 600,000, and so 36 you're 100,000 pounds over, and you would have to really just 37 let it ride, until you had three years of data, and hope that it 38 averaged out, before you made a determination, is the way that I 39 would see the accountability measure would have to work to do 40 this, and I don't know if that's allowed or not.

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42 DR. PORCH: I think there's some other ways you could structure 43 it, but I have to admit that I haven't sat down to think about, 44 you know, what we can do, and I think that's something that an 45 IPT would have to put some thought into, making sure it's 46 consistent here, but it could --

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48 It says "evaluation of moving average catch to the average ACL

1 must be conducted annually, and, if the average catch exceeds the average ACL, appropriate AMs should be implemented", but it 2 doesn't specify specifically what those AMs would look like and 3 how they react, and so I think we could structure them in a way 4 5 that accounts for the fact that it allows us to make overfishing 6 determinations based on this three-year fixed average, and not a 7 moving average, but doing it every three years, but you could 8 build in things like health checks and what would happen, for 9 instance, if the surveys show a decline of more than X percent. I think there's a way to build it in there that would meet the 10 11 requirements, but some thought would have to be put into it.

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13 CHAIRMAN SWEETMAN: I've got a question for you, Clay. You said 14 that this could be potentially useful for species where is a low level of precision, high PSEs, and so I'm curious -- You gave 15 16 the greater amberjack example, and that was going to be one of 17 my questions, actually, but I am curious, and what's the line in 18 the sand that the Science Center would say that this is still a 19 theoretical good approach, and like what is that level of 20 precision where we're okay with it, versus we're not okay with it, and I'm thinking along the lines too of how this interacts 21 22 with -- I know that NMFS is proposing to get rid of, you know, 23 listing out the species with high PSEs, and so I'm wondering how 24 all of that reacts with some of the council deliberations. 25

26 DR. PORCH: I don't have a hard number, in terms of a cutoff. I 27 mean, we're not contemplating a particular cutoff. I mean, this 28 approach would be useful for anywhere, I think, where you're 29 getting more than 30 percent PSEs. If I had to say a cutoff, it 30 would be somewhere between 50 and 70 percent, and it gets to the 31 point where an annual estimate is not especially meaningful.

33 **CHAIRMAN SWEETMAN:** Thanks, Clay. Any other questions? I had 34 Mara and then Mr. Diaz.

36 **MS. LEVY:** A question, but also a couple of comments. I think we would really need to think about how this would work, and 37 38 it's taking a lot of brainpower just sitting here trying to 39 conceptualize this, under all circumstances, but I quess my question is, on Slide 10, when it's talking about the triennial 40 41 ACLs, and there is the big dot with the overfishing, and then we come back down, and we're just slightly under that big dot, 42 43 right, and, if we evaluated annually, we would say that overfishing is still occurring, but I think what you're saying 44 45 is, even if we evaluated it triennially, we would still say that 46 overfishing is occurring in that year, because we wouldn't evaluate it for another two years, right? 47 48

1 I can see it working both ways, meaning you've got the big dot, and you say you're overfishing, but now you're not evaluating 2 3 for three years, and so you're going to be overfishing all of years, regardless of whether you 4 those were under the 5 overfishing limit or not, and I could see it working in reverse, 6 and you would say no overfishing, and now we're above the overfishing limit for three years, but we haven't declared 7 overfishing, and I guess I just -- I don't know if that's been -8 - I think that's one of the things like why I'm thinking like 9 this is really going to require a lot of thought, and also with 10 11 respect to the accountability measures. 12

13 I think it's pretty clear, from the guidelines, that it's an 14 annual evaluation, and so we would have to think about that, and 15 also the fact that it's not that you're not evaluating or 16 monitoring, right, and like you would monitor. You would know, 17 each year, what is happening, but I get the sense that this is 18 we're going to delay action, regardless of what that monitoring 19 I think, in some circumstances, that and shows, could 20 potentially be problematic, and so I think it's just going to 21 take a lot of hard thought about how this would actually be put 22 into practice. Thanks.

24 CHAIRMAN SWEETMAN: To that point, Clay?

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DR. PORCH: Yes, and so, in this case, it would be as though, if 26 27 we were doing it annually, you look at that one high point and 28 we say there's overfishing, and now here's the actions we're 29 taking, but then you took your actions for overfishing, and then 30 you evaluate again three years later, to see if you're still 31 overfishing, instead of every single year, and that's the 32 difference, because the action happened with that high point, 33 and we said there is overfishing, and now you're taking the 34 steps, but, instead of waiting a year to evaluate whether you 35 actually -- If your observed catches are below the overfishing 36 limit, you're waiting the three years, but the steps are exactly 37 the same.

38 39 In answer to the other point you raised, Mara, I totally get 40 what you're saying, and there definitely needs to be some 41 thought, but, when the catches are that imprecise, especially 42 for some of the species where they are 50 or 70 percent, it just 43 does not make sense to monitor annually and try and do in-season 44 monitoring. 45

46 It literally doesn't make sense, and the estimates are too 47 imprecise. You have to go through a longer time period or find 48 some other way of managing the stock, and I think that's where

1 we are now, is we need to do something different, because, in 2 order to get the precision down to something more reasonable, 3 like 20 percent PSEs or something, it would require at least a 4 quadrupling of sampling, and I don't see the resources coming 5 into the system to do that, except for maybe a couple of 6 species, but not across-the-board.

8 CHAIRMAN SWEETMAN: Okay. Mr. Strelcheck, did you have 9 something there?

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11 MR. STRELCHECK: I appreciate the presentation, and we have used 12 multiyear averages, I believe in the South Atlantic and 13 currently in the Caribbean, and some of the same challenges that 14 Clay has described kind of exist there, especially when you have 15 these, you know, points that persist in that multiyear average, 16 with the moving average, right, and so that's a challenge, in 17 and of itself, if you go to the moving average.

19 Obviously, Mara has kind of shared the potential issues with the 20 triennial approach, and what I wanted to discuss though is kind 21 of a little bit different, in that I think this conversation 22 aligns very well with the recreational fisheries initiative, 23 right, and so let's look at our system of management and what's 24 working and what's not, are we managing to variability, versus 25 stability, in the system, and the concern that I quess I have is like an example like this, and let's take the 2023 datapoint. 26 27

28 Is that a real datapoint? Is that a statistically-driven 29 datapoint? Was it a recruitment event? Was it an outlier? Was 30 it sample-size driven? Whether you're talking single-year or multiyear averages, it's really trying to understand what's the 31 32 driver of that spike in landings, and I highlight 2023, but you 33 could potentially question 2019 or 2021 for being too low as 34 well, and being kind of on the side of maybe there was low 35 sample sizes, whatever the case might be, but I quess my 36 question would be to Clay.

38 You know, are there statistical methods where we could actually 39 try to get more consistency, stability, in terms of the catch 40 estimates themselves, to where they're not bouncing around, by 41 like taking multiple years of data and sample sizes, and so 42 you're essentially generating a catch estimate based on multiple 43 years of data, or is that problematic, because of recruitment 44 events and other factors that could affect those estimates? 45

46 **DR. PORCH:** To Andy's last point, it is akin to a multiyear 47 average, but you're just doing it with making some assumptions 48 at the sampling level, but, ultimately, you're -- If you did

1 that, it would be, I can almost guarantee, the same as if you 2 did a multiyear average, and we've done those sorts of exercises 3 before, and it might be a little different than that. 4 5 The bottom line is, if it's relatively uncommon to get a species 6 in an intercept, then you're always going to be affected, especially if it's a species where sometimes you can catch a lot 7 8 of them at once, and so you get somebody that goes and -- Well, 9 I will give you a great example. 10 11 We used to track modeling catches in the U.S. Caribbean, using 12 the MRIP survey as it ran there, and you would get zero, zero, 13 zero, zero, zero, because, you know, it's relatively rare to 14 intercept them, and then, all of a sudden, you would get like 15 one guy that had two, but then, when you multiply that by the 16 all the effort, it's zero, zero, zero, zero, 2,000. 17 18 Now, on average, it probably gets it right, over a ten-year 19 period, if you average the 2,000 beyond, and that makes 200 a 20 year or something like that, and that might be about right, but, 21 in any given year, it wasn't zero, and it's not 2,000, and 22 that's what you try and avoid by taking these kinds of averages. 23 24 CHAIRMAN SWEETMAN: Thank you, Dr. Porch. Mara. 25 26 MS. LEVY: Thank you. Just one other consideration is the 27 difference between the overfishing limit, which is like set at a 28 stock, or stock complex, level, right, and so commercial and 29 recreational together, and the recreational catch limit and 30 accountability measures, and, you know, a lot of this talk about 31 variability, and things like that, applies somewhat to the 32 commercial sector, but it really applies to the recreational sector, right, and so I just want to make clear that, when we're 33 34 talking about overfishing limits, we're talking about everybody together, and the IFQ program -- I can't even think about how 35 that would work on a three-year cycle or anything like that, and 36 so I just -- It's just like a lot that needs to be considered 37 38 with this. 39 40 CHAIRMAN SWEETMAN: Dr. Porch. 41 42

42 **DR. PORCH:** I completely agree with that, and I tried to make 43 the example as simple as possible, but you certainly could break 44 down that here's the fraction of the ACL, or the OFL, that is 45 due to one fishery, and then work on the averages for the one 46 fishery and then another fishery where the catches are known 47 more precisely, and you do it on an annual basis, and so it 48 certainly can be done, but, for this contrived example, I tried 1 to make it as simple as possible, just to illustrate the 2 difference between annual and triennial and moving averages.

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CHAIRMAN SWEETMAN: Dr. Simmons.

6 **EXECUTIVE DIRECTOR SIMMONS:** Thank you, Mr. Chair. Thank you 7 for the presentation. I guess I agree with Mara, and I was a little confused when we were comparing the ACLs to the OFL, and 8 9 I think maybe we need to delve into that a little bit more, and looking at it for moving averages, because, if we go over the 10 11 OFL in any given year, even for a complex, we get a letter from 12 the agency that says the council has to take action, or we have 13 something in the next year to look at to do reducing 14 overfishing, and so, to me, we need to get ahead of that, and 15 not get to that level, and so what are our tools that we have in our toolbox to manage for these ACLs with very short seasons 16 17 with the recreational information that we have now?

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19 I know we have issues with data-poor species, but like, for 20 species like amberjack, right, and, this year, we're looking at 21 a super short recreational fishing season, and what tools in our 22 toolbox do we have, for now and in the future, to make sure that 23 we don't go over that ACL, even for the recreational sector, so 24 that we get in a huge hole next year, and we have a payback 25 measure, and then there's no season the following year?

I guess a couple of different brackets that maybe we could look at this in, and like whether the stock is rebuilding, whether it's in healthy shape, whether it's a complex, and, I mean, I think there's lots of different avenues that we need to explore here, but it just makes me nervous when we're comparing the ACLs to the OFL, because that triggers major changes at the council level if the agency sends a letter.

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35 Thank you, Dr. Simmons. CHAIRMAN SWEETMAN: Some good points 36 there, and I think that there's a lot that we need to unpack 37 here. I think that there definitely is some utility, and, Clay, 38 I appreciate the presentation, and the way that you laid it out was informative, and I definitely think that, you know, between 39 40 what Ms. Levy and Dr. Simmons brought up, that there's probably 41 some things we still need to unpackage here, thinking about specific examples and potentially how we can utilize this, but I 42 43 do think that there is some utility, and I appreciate the presentation, Clay. Any other questions or comments from the 44 45 committee around the table? Mr. Strelcheck.

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47 MR. STRELCHECK: I guess I wanted to talk about kind of next 48 steps here, right, and so I think there's certainly some more

1 discussion that needs to be had with regard to the utility of I mentioned earlier, with regard to the recreational 2 this. fisheries initiative, and this is kind of a component of that, 3 and I think we'll be discussing that this week, at least with 4 5 some informal meetings, how to get that off the ground. 6 7 I feel like that's maybe an opportunity to move this forward, 8 but it would be dependent kind of on that process and not 9 necessarily a more immediate action by the council, and so I just wanted to throw that out there for consideration. 10 11 12 CHAIRMAN SWEETMAN: Thanks, Andy. Okay. Going once. Okay. 13 Not seeing any other hands, Clay, I appreciate the presentation, 14 and it was a good discussion, and I am going to pass it over to 15 Ryan. 16 17 SSC RECOMMENDATIONS ON REPORT FROM THE MRIP TRANSITION TEAM ON 18 RED SNAPPER AND OTHER SPECIES IN GULF SUPPLEMENTAL SURVEYS 19 20 MR. RYAN RINDONE: Mr. Mareska is going to come on up and present the SSC's discussion of the MRIP Transition Team's work 21 22 in the Gulf, with the Gulf states and federal data managers, to 23 identify and assess sources of non-sampling error across the 24 various recreational data collection programs. 25 26 Dr. Cody presented this information to the SSC, and this is --27 This covers some ongoing work, in various capacities, that's been taking place 2020 and has recently been expanded to include 28 29 other species managed by the council. Dr. Cody focused on red 30 snapper, and briefly reviewed work from some of the other species, and reviewed MRIP's new presentation of the cumulative 31 32 landings data, and so you guys should consider the information 33 presented and make any recommendations, as appropriate. 34 35 All right, and so, as Ryan said, MR. JOHN MARESKA: Thank you. 36 Dr. Cody presented an update on the MRIP Transition Team's 37 progress on the calibration, primarily investigating the non-38 sampling error and also looking into the recreational angler 39 landing permit/license. 40 41 He talked about fifteen studies that had been completed in a 42 very general sense, and three more were ongoing, and six had not 43 started, and the SSC inquired if all the projects were -- All the projects are not expected to be completed in time for 44 45 integration into the red snapper operational assessment. There 46 was some discussion about the Texas landings calibration, where the independent consultant had recommended that they be included 47 into the assessment, and an SSC member indicated that that issue 48

1 had not been addressed by the assessment development team, at the time, and the SSC recommended that the Gulf transition plan 2 3 include integration of these project findings into future assessments. That concludes the summary. Are there questions? 4 5 6 CHAIRMAN SWEETMAN: Thank you, Mr. Mareska. Any questions? 7 Ryan. 8 9 MR. RINDONE: Regarding the cumulative landings, the change in the way that MRIP is presenting the landings information on 10 S&T's website, and that's Science & Technology's website, the 11 12 SSC is going to receive a presentation on that at its next 13 meeting in July. 14 15 CHAIRMAN SWEETMAN: Okay. Any questions, additional questions, 16 for Mr. Mareska. I am not seeing any. Okay. 17 18 MR. RINDONE: Don't go anywhere, John. You're up next too. 19 20 CHAIRMAN SWEETMAN: Okay. All right. On to the next one, Ryan. 21 22 SSC RECOMMENDATIONS ON THE EVALUATION OF THE INTERIM ANALYSIS 23 PROCESS 24 25 MR. RINDONE: All right. John is going to hang around a little longer and talk about the SSC's discussion of the interim 26 27 analvsis process, which is conducted in between stock 28 assessments to either update catch advice or kind of serve as a 29 health check on how the stock is doing. 30 31 The SSC discussed how the interim analysis process functions, 32 the timing of indices processing, catch advice changes with respect to the OFL and ABC, time limits on using interim 33 34 analyses for catch advice after the terminal year of a stock 35 assessment, conducting a health check versus updating catch 36 advice, and, generally, the resources needed to do all of this 37 work. 38 39 The SSC requested additional information be brought at a 40 subsequent meeting, which is currently planned for September of 41 2023, and so you guys should consider the information and make 42 any recommendations. 43 MR. MARESKA: Thank you again. Staff presented an evaluation of 44 45 the interim analysis process, and the SSC indicated a preference 46 for fishery-independent data use in the index and also made a request for additional complementary data used to evaluate the 47 48 stocks during the interim analysis process.

2 Those included length-at-age compositions from directed fleets, 3 landings from the directed fleets, and we also talked about getting some alternative, looking at Fishermen Feedback about 4 multiple species in the fisheries, and we also talked about an 5 6 ecosystem status report for similar species from those 7 There was a proposal to potentially evaluate the fisheries. 8 index and the interim assessment through a management strategy 9 evaluation.

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11 Ryan indicated that we would ask for further information at 12 subsequent meetings, basically considering the time 13 consideration for the complementary data, as well as the level 14 of analysis that is required, and that would be for a health 15 check interim analysis, or an interim analysis plus, and so 16 that concludes my summary.

18 CHAIRMAN SWEETMAN: Thank you, Mr. Mareska. Any questions for 19 Mr. Mareska about interim analysis? Mr. Strelcheck. 20

21 MR. STRELCHECK: I'm not sure if it's a question for you, John, 22 or Clay, but, with the interim analysis approach, and especially 23 the fishery-independent indices, has the -- Were you presented, 24 or has the Science Center done, any sort of evaluation to determine whether or not we would have sufficient indices for 25 certain species, to be able to conduct an interim analysis? 26 Ι 27 know we've worked on some for like red grouper and gag, but more 28 holistically for other species?

30 MR. MARESKA: I believe discussions were for, you know, species 31 that we have information on. Yes, we have the information we 32 need to do the interim analyses, and then, one species in 33 particular, you know, we don't have the fishery-independent data 34 to do the interim analysis, and it was based on fishery-35 dependent, and I'm trying to remember what that species was. 36 Ryan, do you recall?

38 MR. RINDONE: So, for some species, we don't have a fishery-39 independent index, like cobia, and so cobia has just the headboat catch per unit effort index and then the commercial 40 index, the commercial vertical line, and so, for some of those, 41 it may be more difficult to do an interim analysis in the same 42 43 manner in which it's been done for species like red grouper, but that's not to say that another index-based approach couldn't be 44 45 considered in its place. 46

47 We currently use an index-based approach with lane snapper, and 48 we use the headboat CPUE index there, and so something similar 1 to that might also be appropriate for cobia. Those approaches 2 don't result in near the amount of load, necessarily, for the 3 Science Center to be able to produce that analysis, and it can 4 be done comparatively quickly, compared to some other indices, 5 and so Clay could comment more on that, if he wanted.

7 CHAIRMAN SWEETMAN: Sure. Dr. Porch.

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9 DR. PORCH: We have done a couple of sets of MSEs, management strategy evaluations, basically simulation experiments, 10 to 11 demonstrate that the interim analysis approach can work, and, in 12 even under ideal circumstances, it works as well as fact, anything we do. Under less-than-ideal circumstances, where you 13 14 have say a red tide or something, it's far superior than just 15 using your catch projections, because the projections don't 16 account for something like a red tide, whereas this, when you're 17 using your fishery-independent survey data, you actually have as 18 close to real-time data as you're going to get, and it measures 19 the actual impact to the stock.

21 We have looked at that for about a half-dozen species and found 22 indices where that seems to work pretty well, and we're in the 23 process of looking at it for other species as well. For instance, vermilion snapper in the South Atlantic is one of the 24 25 ones that we're looking at now, to see if an interim analysis would work for that one, and we're examining some other species 26 27 in the Gulf, and so, yes, we're looking at it actively and trying to figure out for which ones we have good enough indices 28 29 that you could actually do a reliable interim analysis.

31 Then I had a question, because you mentioned using the indices 32 for health checks, in that discussion you had at the SSC, but maybe not for interim analyses, and I am kind of wondering what 33 34 the reasoning was there. Unless you have an intentionality with 35 the health check, it's just kind of like gee whiz, but, if you 36 didn't conduct an interim analysis, then you would say, okay, 37 there's a problem with the fishery, and maybe we ought to do a 38 stock assessment, but then you're not going to get an answer for 39 three to five years, and so there is an advantage to using an interim analysis, if you see a problem, because you have close 40 41 to real-time information that indicates there's a problem or there's not, and then you actually take your management steps 42 43 and recommend an ABC, right then. 44

45 CHAIRMAN SWEETMAN: Ryan, to that point?

47 MR. RINDONE: I was just going to -- To that point, I think the 48 way that we're defining "interim analysis" is we're using it to 1 cover both, a health check and something that could be used to 2 revise catch limits. If we need to come up with revised 3 terminology, I guess we could certainly do that, but using it sort of as an umbrella for all of that, just like interim 4 5 analyses are included under the umbrella of management 6 procedure. 7

8 When we're requesting these things of the Science Center, and, 9 just for those that are probably wondering, this happens outside of the SEDAR process, and so the request for these things is 10 and we're 11 between the council and the Science Center, 12 specifying, in advance, whether we think something should be done as a health check or whether it should yield catch advice, 13 14 and so that's known in advance, and that's something that we discuss with the SSC prior to. We're calling it all the same 15 16 thing, and so just whether or not it generates catch advice.

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18 CHAIRMAN SWEETMAN: Mr. Mareska.

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20 MR. MARESKA: To add on to what Ryan said, part of the 21 discussion was looking at all these different options that were 22 presented to us in a tiered approach, and so, if you look at a 23 health check, and if everything looks fine, let it carry on. Ιf 24 you have a health check, and something looks out of whack, then 25 maybe you need to look at an interim assessment, and, if the SSC feels like they still don't have enough information with an 26 27 interim assessment, then we ask for something like an interim 28 assessment, plus some complementary data, so that we feel less uncertainty about the decisions we're making. 29

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31 CHAIRMAN SWEETMAN: I've got a question for you, along those 32 A lot of why the council has advocated to use some lines. interim analyses, obviously, is from a timing perspective, in 33 34 between stock assessments, everything along those lines, and so, 35 from an SSC perspective, when you're adding some additional data 36 onto this, how does that impact the timing? I mean, obviously, 37 it's going to be case-specific, obviously, but, generally 38 speaking, are we missing the ball there, by adding that additional information? 39

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I understand that it adds additional precision, context, to the fishery there, and it gives you guys what you need there, from that perspective, but I am just curious, from timing, and trying to be responsive and adaptive to the fishery, how some of this additional information can come into play with the interim analysis.

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48 MR. MARESKA: That is exactly the question that we were asking

for subsequent meetings, is, when we make these requests, how 1 much time does it take to pull in extra complementary data. 2 For a species that's using the video survey, that already has a 3 nine-month delay, you know, that may give us a little bit more 4 5 of a time to ask for that additional information, and so it may 6 not actually add too much more time to us coming up with a 7 recommendation. 8 9 CHAIRMAN SWEETMAN: Okay. Any other questions for Mr. Mareska? 10 Seeing none, Mr. Chair. 11 12 I think what we'll do, C.J., is we have one more DR. STUNZ: 13 update, while John still kind of has the floor here, that we 14 need to get to, and it's a little bit longer, maybe, than the 15 last two, but then we'll break, because, at that point, it will 16 closed session, to take care of some advisory panel be 17 appointees, and that will make a nice break to transition there, 18 and so go ahead. 19 20 CHAIRMAN SWEETMAN: Okay. I think we can continue on with the 21 next agenda item, Ryan. 22 23 SSC RECOMMENDATIONS ON MANAGEMENT STRATEGY EVALUATION WORKSHOP 24 25 MR. RINDONE: All right, and so is Dr. Saul on? 26 27 DR. STEVEN SAUL: Good afternoon. I'm here. 28 29 MR. RINDONE: All right. Thanks, Steve. All right, and so Dr. 30 Saul is with us remotely, and he's going to review the SSC's discussion of a series of talks presented to the SSC about 31 32 management strategy evaluation, and these talks were intended to serve as a primer to MSE, including techniques and guiding 33 34 principles, along with real-world examples of MSE that are 35 either in development or in use to provide context for the SSC 36 with respect to its place in evaluating MSE on behalf of the 37 council. 38 39 The SSC discussed MSE at-length and postulated how it might be operationalized in the Gulf, and so you guys should consider the 40 41 materials presented and provided and ask questions and make 42 recommendations to the council, as appropriate. 43 44 CHAIRMAN SWEETMAN: Okay. Thank you, Ryan. Off to you, Dr. 45 Saul. 46 47 DR. SAUL: Thank you, Mr. Rindone, Mr. Chair, and the members of 48 the Gulf Council. Good afternoon, and thanks for the time.

1 When the SSC met this past May, we held a one-day workshop to 2 talk about management strategy evaluation with respect to 3 considering it as one potential tool that might, in some certain circumstances, help the Gulf Council to better evaluate 4 5 different policy choices and decision-making under certain sets 6 of conditions. 7 8 management procedures developed Briefly, through using 9 management strategy evaluation may help the council to sort of trial, or test, a priori, a policy before it goes into place, 10 and so it's sort of a framework that is, in a way, like a flight 11 12 simulator that would help us to trial different policy scenarios 13 before they are put into place, as a way to try and better 14 understand the tradeoffs. 15 16 To that end, the SSC heard several presentations from various 17 invited subject matter experts on the topic, including Doctors 18 Bill Harford, John Walter, Adrian Hordyk, Cassidy Peterson, and 19 Nikolai Klibansky. 20 21 Briefly, so that we're all on the same page, a management 22 strategy evaluation is a framework that is helpful, or can be 23 used to help, look at, or evaluate, the interactions between 24 data collection, the analysis of that data, and so all the way 25 from data workshop through assessment workshop, through review, and then all the way through to the implementation of fishery 26 27 regulations, and so it's, in a sense, a closed-loop process, or framework, as I mentioned, that can help guide us through 28 29 evaluating and testing certain management scenarios that may be 30 under consideration and how those management scenarios may feed 31 into affecting the data that's collected and the back 32 assessment, or evaluation, of fish populations. 33 34 It's a simulation-based analytical framework, and so you would 35 develop, or use, a simulation model, or a stock assessment 36 model, as your sort of base, or foundation, and then you would 37 develop various different scenarios that would allow you to --38 Which, within that analytical tool, you would test and allow you 39 to better understand how those scenarios would play out with 40 respect to catch advice or whatever regulatory framework you are 41 considering. 42 43 It's a process that involves essentially interaction between scientists, managers, and stakeholders. It's similar to the 44 45 SEDAR process that we have now, but with more intense 46 involvement and interaction iteration between and the scientists, managers, and stakeholders, where the scientists 47 48 would have a role in developing and implementing and running the

1 statistical analytical framework, and so, again, some type of a modeling, or a simulation model framework, and the managers 2 3 would help to develop the different policy scenarios that would be tested in such an analytical framework, and stakeholders 4 5 would be involved, ideally from the beginning of the process, to 6 help provide feedback on the structure and development of that 7 model and how it's used and to help us understand and interpret 8 the output.

10 There are some clear cases, or times, when you would want to use management strategy evaluation, and then there are also some 11 12 clear circumstances in which you would not want to use it, and 13 so, for example, if, you know, you're just trying to tighten the 14 screw, you don't need a jackhammer, right, and you just need a screwdriver. If you're trying to rip up a bunch of concrete, a 15 16 screwdriver is not going to suffice, and so the idea here is not 17 to replace our current process, or current way of implementing 18 policies, based on stock assessments and interim analyses, but 19 rather to add an additional framework, or tool to the toolbox, 20 that we could use for very difficult problems, and I will talk a 21 little bit more about where and how MSE can better be 22 implemented in a few slides.

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However, essentially, what you would want to do is identify a 24 25 very clear objective, or research question, that needs to be addressed that is really hard to address, where you may not have 26 27 a clear understanding on the biology of the species, where there 28 may be many potential management scenarios that could be 29 implemented, or different management directions, and perhaps 30 there is a change in the ecological or socioeconomic system, or components of those systems, that is very difficult to capture 31 32 using some of the other tools that we are using, and to try to use management strategy evaluation strategically under these 33 34 sort of circumstances. Like any research endeavor, you would 35 identify that clear objective and try to match your resources to 36 that problem.

38 Management strategy evaluation is not cheap or easy, and neither 39 is stock assessment, but management strategy evaluation is a 40 little bit more intense than the typical stock assessment 41 process, and the SEDAR process that we have at the moment, and there are different sort of levels of management strategy 42 43 evaluation that I will describe in a moment, but you would really want to reserve the sort of full-on management strategy 44 45 evaluation process for those decisions that are, as I mentioned 46 earlier, very difficult, and/or of the highest priority, or where you're not getting traction with the current tools we have 47 48 at-hand.

2 As I mentioned, things like environmental changes, changes in 3 the system state that may be difficult to represent, or challenge the assumptions that underly typical stock assessment 4 5 approaches, and stock assessment translation to management 6 approaches that we currently use are good candidates for 7 possible use or implementation of an MSE. 8 9 MSEs can provide tactical guidance, and so you can help to develop a management strategy for a certain fishery, as well as 10 strategic guidance to develop best sort of -- Highly focused or 11 12 ideal fishery management plans going forward. 13 14 There are several steps to developing a management strategy 15 evaluation, and you would want to identify your management objectives first, and those are the sort of, you know, the 16 performance measures that you would -- In other words, how would 17 18 you know that that management policy is working or not, and you 19 would want to sort of bake that into your simulation modeling 20 framework, so that, as you test the different policies under consideration, you can understand which are working better than 21 22 others, both biologically and socioeconomically. 23 You would then want to identify key areas of uncertainty, either 24 25 both data and model uncertainty, and try to encapsulate those within your framework, and then, considering those, develop an 26 27 operating model that represents the biology of the fishery, the socioeconomic components, and contains -- All along the way 28 29 contains feedback from the various stakeholders. 30 31 Then you would, like any other modeling exercise, identify the 32 key parameters that you would need to represent the different 33 processes in your model. Like any model, you would want to 34 include those processes that are germane to the management 35 question that you're trying to address, right, and not all 36 models are perfect, and models should be parsimonious, as much 37 as possible, and so you want to include those elements that are 38 relevant to addressing the question at-hand and leave other 39 elements that may just add complexity, but not help you address 40 the problem, out of this framework. 41 42 Then you would want to identify your candidate management 43 strategies, and so you would want to have dialogue with the Gulf Council, stakeholders, et cetera, to identify those different 44 strategies that are on the table and are being considered, and 45 then the analysts would then go ahead and try to implement those 46 strategies within this simulation modeling framework, and it 47 48 would help quide the interpretation of the results of that

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simulation exercise, so that managers and stakeholders can best understand them and participate in the process.

If we were to implement a management strategy evaluation, what 4 would the roles of the council be, the roles of the SSC, the 5 6 roles of NMFS, and other stakeholders and external scientists? 7 During our workshop, we had quite a bit of discussion about 8 this, and what arose was that there would be essentially a core 9 modeling team responsible for constructing operating models, similar to the way that we have sort of a core team of NMFS 10 11 scientists developing stock assessment models.

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13 The SSC would likely sort of peer review these models, and provide feedback, as part of this sort of iterative process on 14 15 the model that's being considered, under advisement of the council, of course, and then management objectives would be 16 17 quantified by the modeling team, with the direct input and 18 advisement from the SSC, and from the council, as kind of 19 filtered down through the process, where the council would inform the SSC of what they're looking for, and the SSC could 20 21 then interface between the council and the scientists involved, 22 to help implement those management objectives and help guide and 23 refine the development of the operating model, all of this with the direct involvement of stakeholders from the very beginning 24 25 of the scoping of this sort of process. 26

27 Then different management plans could be tested and refined by the modeling team, with the SSC sort of helping -- Again, 28 29 providing peer review and helping guide the process and helping 30 to identify these, quote, unquote, must-pays, and so what are the necessary elements that we cannot live without, that need to 31 32 be included within this framework, such that the council can 33 then use the results of this as a guide to adopt and implement 34 best management strategies and best management practices, based 35 on this performance. Again, stakeholders should be expected to 36 play a very active role throughout this whole MSE process.

38 We're not -- Management strategy evaluation is not attempting, 39 or trying, to replace stock assessment, nor is it attempting to replace interim analyses, and so it's really, as I mentioned 40 41 earlier, a very useful tool, but it's very time intensive, resource intensive, and it requires very heavy involvement from 42 43 stakeholders, who are typically not compensated for their time, and so MSE should really be reserved for those really, really, 44 45 difficult questions, where we need to implement some sort of a 46 policy, or management strategy.

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48 However, the science is highly uncertain, or the modeling is

highly uncertain, or environmental conditions are changing, such 1 that we cannot get a firm hold on what's going on. 2 In addition, 3 as I mentioned, there are different sort of levels of MSE that one can apply, and that's what is shown in these four colored 4 5 boxes that you see on the screen. 6 On the left, in dark blue, your full stakeholder MSE would 7 involve stakeholders from the very beginning, and develop a 8 9 model, a simulation framework, or a quantitative model, that contains all the necessary elements, as I mentioned, and you 10 would apply it where management objectives are not fully 11 12 developed, and that sort of full-on MSE, you know, is expensive 13 and time consuming, more so than our typical stock assessments, 14 or it can be anyway. 15 16 Then there are sort of lower levels of MSE that one can apply, 17 like an intermediate MSE, where you sort of -- It's somewhere in 18 between your full MSE and what's called a desk MSE, which is the 19 next level down, and I won't go into full details of that right 20 now, but you would have some components of the full MSE, but 21 limited -- It would be more limited in scope. 22 23 A desk MSE would not involve any stakeholder input, and so that 24 burden would be lifted from the stakeholder community with 25 respect to their time, and a desk MSE is really useful for exploring very broad, or general, research questions, where you 26 27 don't have to make a quick move on tactical management advice. 28 If your management objectives are really clearly known, you may 29 not have to go through your full MSE process to sort of whittle 30 down that list of management objectives that might work, and so 31 if, you know, you know you're going to use one or two management 32 objectives, or even just one, but you're not sure, you know, 33 where to set your ACL, for example, but you know that you have 34 to set an ACL, and that's the only management option, let's say, 35 in your toolbox for that particular scenario, then a desk MSE 36 might work for that. 37 38 It can also be used to test interim approaches. As Dr. Porch 39 alluded to earlier in his presentation, they have used management strategy evaluation to test the efficacy of these 40 41 interim approaches and to unveil how effective they can be at setting ideal policy advice, and so that's a great example of a 42 43 desk MSE, where you really -- You know, it's more of a scientific exercise that doesn't really require stakeholder 44 45 feedback, and it's like an internal exercise to try and understand whether a process that's being used is effective. 46 47

48 Then, as I mentioned, there are a lot of times when MSE is not

1 really useful, or not that it's not useful, but not really 2 necessary to expend the time and resources, and I will go into 3 that a little bit more in the next slide.

5 Okay, and so there was a recent paper that came out that laid 6 out, in fairly specific terms, when it's best to conduct an MSE 7 and when it's best not to conduct an MSE, and so MSEs are best 8 used where you need to adopt some sort of binding management advice that is -- That needs to be implemented, you know, with a 9 high degree of uncertainty, whereas, if you're just trying to 10 explore different management options, that may not be the best 11 use of MSE. It is a good use of MSE, but it may not be a great 12 13 use of Science Center and council resources, and stakeholder 14 resources, in those sort of scenarios.

16 MSEs can be really useful when, as I mentioned, you have a really hard policy decision to make, where there 17 is not 18 convincing scientific evidence in place to try and make that 19 decision, and also where there are -- Where there is a high 20 degree of stakeholder conflict, where one group of stakeholders 21 thinks very strongly in one particular way about the issue, 22 whereas another stakeholder thinks very strongly in a completely 23 opposing way, to try and bring those parties together, and get 24 them on the same page with respect to management, and MSEs could 25 be really useful to demonstrate the different tradeoffs between different policies to each of those groups and help each of 26 27 those groups better understand the perspective of the other. 28

29 MSE is also -- It can be helpful when stakeholders are 30 disenfranchised, and, as I mentioned earlier, if your system state is changing, and there are ecosystem considerations in 31 32 play, at play, MSE can be a great tool to try and help bring 33 those into your management decision-making, and then, when 34 scientific uncertainty is extremely high, and it sort of 35 threatens your ability to properly manage that fishery, or 36 current management attempts are, and have been historically, 37 failing for a particular species, then one might want to take a 38 more nuanced look at what's going on with that system, and with 39 that species, and that is another great application for MSE. 40

41 The same thing when conditions are changing, such that your 42 future projections are not clear, and, again, it goes to sort of 43 changing state spaces, or changes in the environment, that we 44 need to consider and that we cannot consider with our 45 conventional tools.

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47 There are a couple of examples of MSEs that have been 48 implemented successfully or that are being considered for

1 implementation, or planned, within our sort of neighborhood, 2 regionally.

4 ICCAT recently implemented an MSE for bluefin tuna, for its 5 empirical management plan, and that was a useful implementation 6 of this approach, because stakeholders all had different sort of 7 opinions, and they were on very, very different pages with 8 respect to what should be done, in terms of management, and so the MSE process helped to -- It helped 9 stakeholders to 10 understand different tradeoffs between different policies, and 11 that was a useful implementation of this process in that 12 example.

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14 It's also being scoped for tropical tunas and swordfish as well, 15 for South Atlantic dolphinfish, and there was an empirical 16 management procedure in development, and the MSE was useful in 17 helping to define some of the management objectives there. As 18 far as I understand, it's been funded for South Atlantic reef 19 fish, and it is being worked on by an external contractor, and 20 is partially funded, I believe, with some modeling work ongoing, 21 for Kemp's ridley sea turtle.

23 It's funded, but being talked about, for things like Gulf 24 shrimp, and another great sort of example where management 25 strategy evaluation could be extremely useful is something like greater amberjack, where historical approaches to assessing and 26 27 managing this fishery have just failed to rebuild the stock, and we're not certain why that is, and so throwing that into a 28 29 management strategy evaluation framework, and developing a 30 simulation model, and having stakeholder input, and really exploring what may or may not be going on with that, with the 31 32 population dynamics and the fishery for that species, could be a 33 really useful way to gain a better understanding on what sort of 34 management strategies could work to help recover that species. 35

36 Throughout our discussions by the SSC, the SEDAR Steering 37 Committee provided some feedback, and noted that they were not 38 comfortable having the MSE process sort of run through the SEDAR 39 process, and that it should likely be its own sort of separate 40 entity, apart from the SEDAR process, and feedback from council 41 staff stated that it would be most appropriate for the council 42 to help provide direct feedback before embarking on an MSE. 43

That's particularly important given the large lift that an MSE imposes on scientific staff, on stakeholder engagement, and on managers and the sort of council management process in general, and so it would be really useful to have the council kind of --The council staff thought it would be really useful to have the

1 council sort of endorse when, or where, this sort of approach 2 could best be used. 3 From our discussions, the SSC developed two motions for the Gulf 4 5 Council to consider. The first is this one here that you see on 6 the screen, which states that the SSC recommends that the 7 council pursue management strategy evaluation as a decision 8 support tool with applications to stock assessments, fishery 9 ecosystem issues, and council decision-making, and that motion passed the SSC without any opposition. 10 11 12 The second motion that the SSC made was that the SSC recommends 13 the council pursue opportunities to incorporate social and 14 economic performance indicators, as well as human behavioral 15 responses, into management strategy evaluations, and that motion 16 carried, in the SSC, without opposition as well. With that, I will pause here and take any questions from folks that the 17 18 council may have. Many thanks, Mr. Chair and council members, 19 for your time. 20 21 CHAIRMAN SWEETMAN: Thank you very much, Dr. Saul. That was a 22 very informative presentation. I'm looking around the table. 23 Any questions or comments for Dr. Saul? We've got some SSC 24 motions. Yes, sir, Mr. Anson. 25 26 MR. ANSON: I don't know if this is a question that Dr. Saul can 27 answer, and, if there was any discussion related to my question that he wants to provide some insight on, that would be great, 28 29 but so these motions here from the SSC, to encourage the council 30 to pursue management strategy evaluations, what -- Was there any 31 discussion as to the process, and so the SEDAR Committee didn't 32 want to get involved, and I hear MSEs, you know, could be 33 resource intensive, and so how are we to proceed with the 34 requests that would come to the agency and the requests that MSEs, specific to a certain species, or issue, and, I mean, is 35 36 that -- I mean, how is this going to work, I guess, if we look 37 to MSEs to kind of help us in, you know, making decisions or in 38 the management realm? 39 40 Thank you for the question, and I will defer most of DR. SAUL: 41 your question to others, particularly the procedural aspects of it, but you raise good points with respect to the time intensity 42 43 of this. However, I think, in some very targeted scenarios, it would be a really useful, and necessary, framework, as I had 44 45 mentioned in the presentation. 46 47 We had some discussion with respect to how this should fit in, again, to the current processes and procedures that we have in 48

place, from data collection to stock assessment to review, to 1 SSC review, and recommendations to the council, to the council 2 3 voting, and then NMFS implementing policy, right, and so I think it is incumbent on -- This is now, you know, my opinion, but 4 5 informed by the workshop that we had, but it seemed incumbent on 6 -- In the same way that the council and the SSC help sort of set 7 up the SEDAR scheduling, and select which species should be 8 assessed and when, in that same way, I think that the council could recommend what sort of specific applications of MSE could 9 be used, and where and when, if that makes any sense. 10 Then, 11 from the procedural side, I will defer to Mr. Rindone, or 12 others, who have a better sense of that.

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CHAIRMAN SWEETMAN: Mr. Rindone.

16 MR. RINDONE: Thank you, Mr. Chair. To that point, and Dr. Saul 17 had stressed this in the beginning of his presentation, about 18 objectives and having a clear goal in mind of what you're trying 19 to do, and everything about how the MSE process functions -- It 20 all starts with what are you trying to do, and what is the 21 purpose of this, and so let's say it was for, you know, the 22 Anson fish, and it's been overfished for a long time.

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For, you know, one reason or another, it hasn't responded to 24 25 management, but you generally have an idea of what you want it to look like, besides, obviously, being rebuilt, and how you 26 27 want it to function, and is it the sizes of fishes that are preferable and things like that, and so you go in knowing all 28 29 that upfront, and, of course, we want it to be rebuilt, but we 30 really want our -- You know, we really want to go for trophysized fish, and it's not so important to necessarily have a 31 32 volume of catch, but we want a specific type of catch. We want 33 fish that are above a certain size limit or something like that. 34

35 That might require, you know, thinking more about variations in 36 spatial and temporal management, or things like that, and so an 37 MSE might be able to then look at that information, and compare 38 that with the biological information that's available, and 39 compare it to social and economic drivers that might influence 40 when certain sizes are preferential for harvest, or sale, and 41 all of that gets poured in to help tell you what sorts of management practices will work and which ones might not work so 42 43 well. It can help you kind of institute -- Not institute, but a priori test those things, before you actually implement that. 44 45 Sorry about the Anson fish being overfished, by the way. 46

47 CHAIRMAN SWEETMAN: Dr. Simmons and then Dr. Frazer.

1 **EXECUTIVE DIRECTOR SIMMONS:** Thank you, Mr. Chair, and so I will 2 try to answer, I think, the question about the SEDAR Steering 3 Committee, I think the bullet that Dr. Saul had there that he 4 summarized, and so we were presented with a presentation about 5 MSEs in February, and so the timing of that meeting, and then 6 the SSC had a larger workshop-style MSE day, and so the timing 7 of it was kind of switched.

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9 The way we discussed it in February was that it would take up a 10 slot, a SEDAR slot, a stock assessment slot, and, at the time it 11 was presented, as a committee, including the South Atlantic, 12 Caribbean, and HMS, we were not ready to embark on that process 13 just yet, and I think the other thing we had kind of going on in 14 the background, during the SSC meeting after, that we were 15 trying to think through, and then the Ecosystem Technical 16 Committee meeting, is, through the FEI process and the FEP 17 process, there is the potential that that could result in the 18 council wanting to embark on a management strategy evaluation. 19

20 I think for us to just jump on that right now, before we kind of 21 see what's happening with the South Atlantic Council, and I 22 think they have two MSEs that they've embarked upon, and we were 23 hoping to kind of get that a little bit further along, and so we 24 had all those things kind of in the mix, but the SSC received a 25 great deal more information than what we received during the Steering Committee, and we just weren't ready to put it in that 26 27 SEDAR slot.

29 MR. RINDONE: To that also, another concern of the SEDAR 30 Steering Committee was the time, because, depending on what the 31 goals are of what you're trying to accomplish, you know, it can 32 dictate whether you should do a desk MSE or whether perhaps you 33 need a full stakeholder MSE, whereas one may be able to be 34 completed within a matter of about a year or so, and there's 35 some simulation testing to test that procedure, and the other 36 one could take multiple years, and it could be a process not 37 dissimilar from a proposal for the research track process, 38 where, you know, due dates are kind of the enemy of the good, so 39 to speak, and so you don't want to constrain the process, where 40 it must be done within this certain amount of time, if it's a 41 full stakeholder MSE, because it might take you quite a bit of time to gather the necessary information from stakeholders and 42 43 those who are going to be affected by it. 44

Thoughtful planning and things like that kind of go against the rugosity of the SEDAR schedule, as we've come to know it, and that was another reason why the Steering Committee was a little standoffish about incorporating it there, too.

DR. TOM FRAZER: I will just pile on a little bit, and so I had 2 3 the opportunity to go to that meeting, and, first of all, I would just like to say that I think there's a tremendous amount 4 5 of potential for using MSEs, right, but it was pointed out in 6 the slide presentation that kind of the full strength of the 7 MSE, right, should really be reserved for those problems that 8 are considered most challenging, right, the most vexing, in 9 large part because they cost a lot, and they take a lot of time, and I don't think that there is a long list of successful MSEs, 10 11 and I am going to say that very carefully, because I don't want 12 to disrespect the people that have been working on them, but 13 even the bluefin tuna one, which is kind of the shining star 14 right now, and, I mean, it took eight years to develop, and a 15 lot, a lot of resources. 16

17 I mean, one of the problems that we're facing, and I think the 18 SSC recognized that, and the discussion around the table 19 certainly did, is that you have a limited amount of resources, 20 right, and, if you're going to carry out an MSE, not only are 21 you relying on your stakeholders, but you're also relying on 22 your analytical experts in the Science Center, and they're 23 already workload strapped, and so, every time we talk about something, it's workload, right, and so, if we're going to put 24 25 people on MSEs, are we going to then be taking them away from the stock assessment, and are we going to get pure reliable 26 27 tools and outcomes?

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I think there's a lot to think about there, and who is going to provide the support for them, but, all of that said, there's a tremendous amount of potential, and that may in fact be the way of the future, because they rely heavily on indices and some of the things that we talked about in the interim approaches before, and so that's just my observations, Kevin, from that meeting.

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37 CHAIRMAN SWEETMAN: In response to that, Mr. Anson, and then Dr. 38 Porch.

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40 Just in response to that, and I should have said it MR. ANSON: 41 when I asked the question, but that was my point, or my concern, is that, I mean, you look down the list of stock assessments 42 43 here in the last three to four years, and the timeline of when they were originally scheduled, when we were supposed to receive 44 45 them, and things seem to be drifting here, and some of it is 46 resources, and some of it is timing of the data and these types of things, and COVID played a part in that a few years ago, and 47 so that's all I'm saying. 48

2 If we understand this, I guess, to be something that's 3 available, and this is a chance to explain a little bit more to the council, as to what an MSE is, and explain some background 4 5 as to when it might be appropriate to use, that's one thing, but, I guess, you know, to consider this as, you know, part of 6 7 our normal decision-making responsibilities, you know, is I 8 think it just might be a little bit too much to expect MSEs to 9 be performed on a regular routine basis, and that this should be relegated to a more, you know -- Again, what you brought up is 10 it was harder decisions that have to be made, more contentious 11 12 decisions, and so it would be more irregular that regular, I 13 quess is my point. 14

15 DR. FRAZER: Just to follow-up again with some of those 16 comments, I mean, one of the things that came up, both in the 17 SEDAR meeting and in the SSC meeting, right, was this idea of 18 potentially using MSE to deal with some of the shrimp issues, 19 right, and so, obviously, you don't think the MSE is going to 20 replace a stock assessment, and you've got a stock assessment 21 for shrimp, right, in the SEDAR schedule, and are you going to 22 be spending time doing both of those, right, and, again, you 23 have to decide how to allocate your resources, and those are 24 tough choices to make during these times.

26 CHAIRMAN SWEETMAN: Dr. Porch.

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28 DR. PORCH: Thank you. From my perspective, and, of course, I am sensitive to the workload issues, but we need to do something 29 30 different. I mean, are we happy with the way the situation is 31 now, you know, as far as stock assessments go? It's getting 32 more and more complicated, more and more people contributing little pieces of data, more people complaining about how pieces 33 34 of data are contributed, and fewer and fewer people that 35 actually can stitch all of this together.

37 assessment models mean, these stock are enormously Ι 38 complicated, and the math isn't really much more complicated 39 than it used to be, but it's all of the tiny pieces that you're trying to sew together, and it's not clear to me that these 40 41 complex, super complex, assessments, with so many pieces of 42 data, that everybody wants incorporated, actually give you 43 better management advice, and I think that's a key point with MSE, as Dr. Saul was alluding to. 44

46 You can look at MSEs, and not only in the fuller sense of it, 47 try and incorporate all stakeholder considerations beyond, you 48 know, the usual things, like achieving MSY, but you also can

1 look at things like, all right, do you really need what people are calling Cadillac assessments, or what have you, or you can 2 3 get by with something much simpler? 4 5 In the case of bluefin tuna, and now, granted, now you have 6 forty countries, you know, arguing about what's important, but it boils down to now the simple harvest control rule that, you 7 8 know, the index goes up, and the catch goes up. When the index 9 goes down -- It's something simple for everybody to understand. 10 11 The complexity went in in the frontend, and you have this 12 massive simulation model that incorporates all kinds of 13 uncertainties, everything imagine, you can movements and 14 recruitment patterns, but then you find a harvest strategy that's robust, in light of all that uncertainty, and, if it's 15 16 robust in light of all that accumulated uncertainty, it probably 17 works pretty well in the real world, and now you have something 18 that's really simple to implement. 19 20 You did a lot of work initially to test your procedure, but, 21 once you vet it, now you've got something simple that is easy to 22 update, and I think we have to start looking along those lines, 23 or we're going to continue in this vortex that is sucking us 24 down the drain of trying to do more and more complex 25 assessments, with more and more species, and not getting the resources to do it, and so, again, I think we really have to 26 27 think seriously about doing something different. 28 29 CHAIRMAN SWEETMAN: I have a question there, Clay, along those 30 lines, and so, relative to examples of what they're dealing with 31 in the South Atlantic right now, and so dolphinfish and then the 32 reef fish MSE that they've got actively going on, and timing on those are ongoing, and so 33 those -- Obviously, I'm just 34 wondering, from -- You know, we're talking about adaptability 35 here, and I understand what you're saying, and that's what MSEs 36 provide the framework for, but, in terms of what us, as 37 managers, can do, in terms of responsiveness to that, I′m 38 curious how far along those are, expected timing that those 39 would take to complete. Tom said the bluefin took eight years to do, and so I'm just wondering your perspective along those 40 41 lines. 42

43 DR. PORCH: Thank you. Great question. Looking at bluefin, 44 again, as I said, so this is ICCAT, and so you think -- Chester 45 can attest to this, and, if you think you have a complex 46 situation here, dealing with the councils, at ICCAT, you have a 47 hundred people sitting around a big table, and 600 people in the 48 room, because you've got fifty different countries arguing about

1 things. It is a bigger challenge with something like bluefin 2 tuna, and it should not take eight years here. 3 I think the dolphin MSE -- It's moving pretty far along, and I 4 5 can't remember the exact timeframe when we expect it to be done, 6 but, all told, it's probably going to be two or three years, and 7 I expect the same thing for the reef fish. 8 9 Dolphin, in that case, we really couldn't do a stock assessment, because we're only dealing with a fraction of the stock, and so 10 it doesn't make sense to pretend that all the stock is in U.S. 11 12 waters, let alone South Atlantic waters, but that would -- What 13 we would come up with there is a harvest control rule that's 14 pinned to the best piece of information we have regarding trends 15 in space, and then you could have a harvest policy that ensures 16 you're not locally overfishing and, at the same time, it spreads 17 the wealth around about who gets the fish. 18 19 In the case of some of the reef fish stuff, obviously, it's 20 going to involve things like management of discards, et cetera, 21 looking at different strategies, but all of those, I think, 22 typically are taking the three-year range. Granted, the more 23 stakeholders you get involved, the more input back and forth, and it could take longer, but, if you don't start now, and you 24 25 wait a few years, we'll be having this same conversation three 26 or four or five years from now. 27 28 CHAIRMAN SWEETMAN: Okay. Thank you, Dr. Porch. Any other 29 questions or comments? Mr. Anson. 30 31 MR. ANSON: Dr. Porch, then for an MSE -- You made the comment 32 about, you know, these assessments are more complex, only 33 because of the amount of data necessarily that we have, the 34 different sources and trying to get them to talk to one another, 35 to stitch them together, and so, I mean, could an MSE be used to 36 pare down that data, I guess, and look at specific data sources 37 and how they could be used to maybe come up with an answer that 38 an assessment would generate, and you just kind of cherry-pick, 39 for lack of a better term, certain types of data, and look at 40 those, in the context of status of the stock? 41 Yes, and, as Dr. Saul elaborated, there's a whole 42 DR. PORCH: 43 range of levels of MSEs, which could include looking at stock assessments, and, in fact, that could be even a desk MSE, and 44 45 you would look at stock assessments and then find out what level 46 of model gets you an adequate level of advice, and, in other

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words, what pieces of data that you have to stitch together, all

the way up to the full-blown MSE, where you've got stakeholders

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1 involved, and looking at what their objectives are, and what 2 strategy does the best job of achieving all the objectives that 3 you want, and so there's a whole range of them.

5 Some of those things we've been doing, and will continue to do 6 in our spare time, so to speak, but some of the things that would require say stakeholder interactions, 7 or a lot of interactions with others, council staff and the council, those 8 9 will take a little bit longer, be more intense, and probably need more people contributing to the process, other than just 10 NMFS staff, but the short answer to your question is, yes, you 11 12 could use it to find out how you can pare down certain stock 13 assessment models and focus on certain data, and the extreme 14 being to the point where you get to bluefin tuna, where you 15 literally have a harvest control rule that, again, the catches 16 go up when the indices go up, and the catches go down, and 17 there's a certain formula associated with it.

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CHAIRMAN SWEETMAN: Dr. Simmons.

21 EXECUTIVE DIRECTOR SIMMONS: Thank you, Mr. Chair, and I 22 apologize, and we haven't had a chance to get the report out 23 from the May Steering Committee meeting yet to the council, but, Dr. Porch, one of the things that we did talk about, during that 24 25 meeting, and I think Dr. Cass-Calay presented, was looking at some of the data that we have available for some of these data-26 27 poor species, that we know very little about, and looking at other modeling environments and approaches that we could use to 28 29 try to get more timely management advice through the system, and 30 I thought we had started some work on that, and we could be 31 bringing some of that to the council, hopefully in the fall, I 32 would assume. Is that true? Is that correct?

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34 DR. PORCH: I would have to check on timing, but I will say that 35 we've been doing work with data-limited approaches for quite 36 some time, especially in the context of the Caribbean, but, of 37 course, we've also done that for the Gulf, and we did that exercise where we looked at, what was it, the eight or ten 38 39 different species, and I think the only one that we ended up 40 coming up with management advice for was lane snapper out of 41 that, but I think some things could be refined, and maybe dispositions have changed a little bit, and people would be more 42 43 interested in going with data-limited approaches, as opposed to just average catch type schemes, but I can't say for sure what 44 45 we have in the fall, and I would have to check with my folks. 46

47 **CHAIRMAN SWEETMAN:** Okay. Any other questions or comments from 48 the committee? We still have Dr. Saul on the line. Okay. I am

1	not seeing any. Thank you very much, Dr. Saul.
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3	DR. SAUL: Thank you, Mr. Chairman and council.
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5	CHAIRMAN SWEETMAN: We appreciate your time. Thank you. Good
6	presentation. I wasn't here for the start of the meeting, and
7	was there any other business in Sustainable Fisheries? I am not
8	seeing any. Okay. I am going to yield twenty minutes back to
9	you, Mr. Chair.
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11	(Whereupon, the meeting adjourned on June 5, 2023.)
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