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**CARIBBEAN FISHERY MANAGEMENT COUNCIL
ECOSYSTEM-BASED FISHERY MANAGEMENT
TECHNICAL ADVISORY PANEL
HYBRID MEETING
COURTYARD MARRIOTT
ISLA VERDE, PUERTO RICO**

MAY 3-5, 2023

The Ecosystem-Based Fishery Management Technical Advisory Panel convened on Monday morning, May 3, 2023, and was called to order at 8:15 a.m. by Chairman Sennai Habtes.

Call to Order and Roll Call

SENNAI HABTES: Morning, everybody. We're going to get started in a little bit. We're just waiting on a few more participants. We appreciate your patience. Bear with us.

Good morning, everybody. We're going to go ahead and get started. This is Sennai Habtes. I am the Bureau Chief of Fisheries for the Virgin Islands Department of Planning and Natural Resources Division of Fish and Wildlife. I am also the Chair of the Ecosystems Based Fisheries Management Technical Advisory Panel for the Caribbean Fisheries Management Council.

I would like to welcome all of you to the EBFM TAP, the Ecosystems based Fisheries Management Council Technical Advisory Panel meeting for the days of May 3rd through the 5th. It is approximately 9:11 AM and I will call this meeting to order. We are going to begin with a roll call. We'll start with those in the room, and I will ask all online participants to please go ahead and post in the chat your name, affiliation, and whether you are an EBFM TAP member or if you are just visiting. So, if you could do that now what we will do is after we do the roll call within the room, we will have Liajay read off the names from the chat with your affiliations.

So, I'll go ahead and start, and then we will start at the table, top left. So, we'll begin with Kevin after me and go around the table.

So, as I said, Sennai Habtes, EBFM TAP chair, DPNR, DFW, Bureau Chief of Fisheries.

KEVIN MCCARTHY: Good morning, everybody. Kevin McCarthy, EBFM TAP. I'm at the Southeast Fisheries Science Center, the chief of the Caribbean Fisheries Branch.

1
2 **JUAN J. CRUZ MOTTA:** Good morning. J.J. Cruz, EBFM TAP member and
3 affiliated with University of Puerto Rico at Mayagüez.

4
5 **STACEY WILLIAMS:** Good morning. Stacey Williams, EBFM TAP, and I'm
6 affiliated with the Institute for Socioecological Research.

7
8 **ORIAN TZADIK:** Morning everyone. Orian Tzadik, EBFM TAP, and NOAA
9 Fisheries Protective Resources Division in the Southeast Regional
10 Office.

11
12 **TARSILA SEARA:** Good morning. Tarsila Seara, EBFM TAP and
13 associated with the University of New Haven.

14
15 **LIAJAY RIVERA GARCÍA:** Buenos días. Liajay Rivera García, Council
16 Staff, EBFM TAP Technical Assistant.

17
18 Mr. Chair, would you like me to read the participants in Zoom?
19 Okay, so we have. Alida Ortiz Sotomayor, OEAP Chair and CFMC, EBFM
20 TAP member. We have Edwin Cruz-Rivera, Morgan State University and
21 University of the V.I., member of the EBFM TAP. Anne Kersting,
22 NOAA Council, Southeast Section. María López-Mercer, National
23 Marine Fisheries Service, SERO, Caribbean branch and EBFM TAP
24 Support. Tauna Ranking, NOAA Fisheries, Office of Habitat
25 Conservation, EBFM TAP. And Ana Costa. And that is all on my list.
26 Oh, and we have just joined David Behringer, University of Miami,
27 CIMAS.

28
29 **SENNAI HABTES:** Excellent. Thank you everyone. I will ask as we
30 come in, if there's anyone else that comes in or has just joined,
31 please do just put your name, affiliation and information into the
32 chat. Also, the chat is a great place to reach out to us if you
33 need to say something and I haven't been able to recognize you to
34 call.

35
36 So, just some housekeeping updates and information for everyone
37 here in the room. Please do not forget to sign the sheets for
38 attendance. There's one up here that Liajay has; there's another
39 down in the SSC meeting room. That is our daily one for all the
40 meetings this week and we need to make sure to sign both of those
41 every day. And then those online, once you have indicated yourself
42 present in the chat and you are a TAP member, Liajay, we'll add
43 your information into the roll.

44
45 So, today just to keep you guys abreast, what we did with the
46 agenda was we left it pretty open associated with working groups
47 because what we really need to focus on today, tomorrow, and
48 Friday, as I mentioned, was creating the framework for the

1 information that we have a technical writer to help us with for a
2 short period of time. So, at present, we have the first technical
3 writer that's only around for two months, and then hopefully we
4 will be able to find funding available to hire on someone else to
5 help continue the work.

6
7 So, first on the agenda though, you guys should have all gotten a
8 link to the verbatim transcripts. We just need to approve those
9 and then we can do a little discussion on how we're going to
10 organize ourselves for today, tomorrow, and Friday, because there
11 are times where we're going to be needed elsewhere, and we want to
12 make sure that everyone's kept abreast of that. So, I'll ask if
13 there are any changes, edits, revisions that need to be made to
14 the verbatim transcripts, or if people want to hold off on doing
15 that until they've had a chance longer to look over them. Please
16 do just let me know.

17
18 **ORIAN TZADIK:** This is Orian Tzadik. I would recommend that we
19 give that a little longer. I personally haven't seen them yet, so-
20 - I don't know if anybody else.

21
22 **SENNAI HABTES:** Make a motion.

23
24 **ORIAN TZADIK:** Make a motion to approve the minutes at a different
25 time, Friday.

26
27 **SENNAI HABTES:** Anyone there to second?

28
29 **STACEY WILLIAMS:** Stacey Williams. Second.

30
31 **SENNAI HABTES:** Thank you, Stacey. With that, we'll call for a
32 voice vote. Any-- I'm blanking on the word that I need.

33
34 Any objections to the motion? Hearing none. Seeing none. Any
35 abstentions? Great. With that, we have unanimous approval to
36 postpone the approval of the verbatim transcripts until Friday and
37 so that should give us a couple of days for more review to revise
38 and edit.

39
40 Now we'll go ahead and take a look at the agenda. So, Liajay, if
41 you could put that up. Right now, the first part of this was to go
42 back over a lot of the stuff that we went through in my
43 presentations on Monday. I'm happy to do that again if people need
44 to refersher. I also can just keep the slides up to refer back to
45 and we can start getting into the discussion. But I think what we
46 really want to identify is, when do we want to start talking about
47 the data? When do we want to work on specific aspects of the
48 outline for the FEP? where do we want to go?

1
2 My apologies all, there's someone working next door, so there's a
3 little bit of noise. We're going to try and take care of that but
4 if you can't hear me as I'm talking-- actually I'm going to just
5 ask you guys to hold on online for a second for us while we try
6 and deal with this. Thank you.

7
8 **ALIDA ORTIZ SOTOMAYOR:** I don't hear any noise. Oh, you don't?
9 Well, that's good. I guess--

10
11 **MARÍA LÓPEZ-MERCER:** No, we cannot hear anything you guys probably
12 hear more than we do of course, but we are good on our side.

13
14 **SENNAI HABTES:** Yeah, it's just, it's hard for us to hear you when
15 you're talking because there's somebody just drilling into the
16 wall directly behind us.

17
18 **MARÍA LÓPEZ-MERCER:** Okay. We're here. Let us know.

19 20 **Adoption of Agenda**

21
22 **ORIAN TZADIK:** All right. General comment. Orian Tzadik, for the
23 record. Do we have any-- what presentations do we have during this
24 three-day meeting and as opposed to discussion? Do we know? Can we
25 list that out?

26
27 **SENNAI HABTES:** Yeah, so the summary of presentations that were to
28 be presented were going to be what I presented on Monday. Those
29 got moved to the joint meeting, but they were also listed for this
30 first day. Tarsila's presentation, which is the stakeholder
31 perceptions of environmental and climate change. Other than that,
32 it is open for us to work specifically on the outline and aspects
33 of the plan. But during those working groups, we can always refer
34 back to information from specific presentations by any of the TAP
35 members or if we need other presentations that have been given,
36 Liajay will have most of those and we'll add them to the folder on
37 Google Drives for us to refer back to.

38
39 I think what's important for us now is to identify when we want to
40 have those. Do we want to start with going back over all of that
41 stuff now and then move into actual doing the work of revising all
42 of the documents that we currently have? Or do you want to just
43 jump into general discussions around creating the framework and
44 the information that we need? I'm just driving the bus here. I
45 don't care. That is definitely like up to you guys. Kevin McCarthy.

46
47 **KEVIN MCCARTHY:** Thanks, Sennai. So, I'm thinking it would be
48 helpful, because I do think that the framework is the place to

1 start, at least from my perspective. So, it might be good, at least
2 for me, to look over the part of your presentation from the other
3 day that dealt specifically with that aspect of the work. So that's
4 my thought.

5
6 **SENNAI HABTES:** Okay. J.J.

7
8 **JUAN J. CRUZ MOTTA:** Thank you, Sennai. Yeah, you saw on
9 yesterday's presentation, I got, for whatever reason, sidetracked
10 on the quantitative aspects of what we have been doing. But
11 actually, the final slide, which was a word document, were some
12 points that I would like to submit to the working group to see if
13 we can include them on the outline. So, I actually had some
14 concrete proposition for the working group.

15
16 But it would be any time you want to discuss that during the day,
17 I'm happy to do so. I mean, just to show you a few things that
18 perhaps would be nice to add to the outline you already have. Thank
19 you.

20
21 **SENNAI HABTES:** Tarsila.

22
23 **TARSILA SEARA:** Yes. So, regarding the agenda. As I was talking to
24 Sennai yesterday, if we would benefit more from having
25 uninterrupted discussions this morning regarding the overview of
26 the FEP development, perhaps going back to some of this as Sennai's
27 point. I'm happy to move that presentation to whenever we think
28 would be a better time, because I feel like that could interrupt
29 that discussion and maybe we would benefit from having more time
30 this morning to figure out what we're doing.

31
32 **SENNAI HABTES:** Orian and then J.J.

33
34 **ORIAN TZADIK:** Just to say that I think a good compromise here
35 with what I'm hearing from you guys, and I agree, is that maybe we
36 jump into the framework to get our head around everything. And
37 then, yes, I definitely agree. Let's dive back into that
38 presentation from yesterday. I think, there was a lot of
39 information. I've got a lot of questions. I got a lot of procedural
40 stuff that I think will really help us out with the framework.

41
42 And then, yeah, I mean, I think then at some point, relatively
43 early, we should hear your presentation, just that way then we've
44 got all the information to then move forward.

45
46 **SENNAI HABTES:** Okay. Liajay, if you can put up the screen I'm
47 sharing on the zoom up there and then I'll add these things on and
48 then we'll approve it. Tarsila?

1
2 **TARSILA SEARA:** Yes. I also wanted to ask if it would be okay for
3 me to take whatever time I have to do the presentation, to do both
4 presentations and I'll make sure that I won't go over. But just to
5 add the community social vulnerability indicators to that time
6 slot as well, just so that I can, you know, because that was the
7 one that was skipped.

8
9 **SENNAI HABTES:** Yeah, I think that that's absolutely fine.

10
11 **TARSILA SEARA:** Okay.

12
13 **SENNAI HABTES:** So, let's work on this, real quick, for today and
14 see how we can fit everything in.

15
16 **LIAJAY RIVERA GARCÍA:** We apologize for the sound in the
17 background. We are trying to deal with that. We have construction
18 on the third floor. It's the whole floor, so it can't be stopped
19 just as requested. It's not that easy. But we are trying to make
20 a pause for it.

21
22 **SENNAI HABTES:** We are here now. I'll start that at 9:30. I think
23 15 minutes should be good enough for my overview. 45 minutes? Oh,
24 nine. Oh yeah. Sorry. Thanks.

25
26 I'm magical but I'm not that magical. And then 9:45 J.J. you wanted
27 to go over the end of that presentation outline. So, we'll do that.

28
29 **JUAN J. CRUZ MOTTA:** Yes. It is a word document that I would like
30 to share with you, if that's okay.

31
32 **SENNAI HABTES:** All right. So, let's do nine-- I think that's going
33 to take a little bit of time. So, I think we can-- well, yeah, I
34 think we can discuss specifically those changes to that framework
35 during that time.

36
37 Okay. And then, let's do 11:00 to noon. Lunch is at noon, Liajay?

38
39 **LIAJAY RIVERA GARCÍA:** Yeah.

40
41 **SENNAI HABTES:** So, Tarsila, is 11:00 to 12:00 enough time for
42 your presentation? Okay.

43
44 And then we'll do the lunch break. Are there any other content
45 discussions or data summaries that we want to add in before we go
46 into working group discussions? Do we want to go back over the
47 ecosystem stuff from J.J.? Are we doing all of that in 9:45 to
48 11:00? To 11, okay.

1
2 Okay. So, then we can start with the working group. So, the first
3 one, at 1:03 is going to be the framework and content generation
4 for the introduction. Yeah.

5
6 **ORIAN TZADIK:** (Dr. Tzadik's comments are inaudible on the audio
7 recording.)

8
9 **LIAJAY RIVERA GARCÍA:** So, it's, it's highly probable that we're
10 going to be moving downstairs in the afternoon.

11
12 **SENNAI HABTES:** Okay.

13
14 **LIAJAY RIVERA GARCÍA:** Yeah. We apologize for the inconvenience.

15
16 **SENNAI HABTES:** So, apologies, all. I'm assuming you guys still
17 aren't having a problem with our sound. If you are, sorry, we'll
18 try our best to hear what your comments are. It may be best until
19 the-- I think, likely, we are going to move to another room in the
20 afternoon, but it may be difficult for us to hear you when you
21 speak sometimes, and I may ask you to just put things in the chat
22 if that's happening. But it's intermittent, so times like now
23 there's no drilling into the wall. Other times it's very loud. So,
24 please bear with us.

25
26 Okay. So, it looks like for the morning, it's all the overview of
27 previous research priorities. And then I think they're doing a
28 discussion of research priorities for the rest of the day. So,
29 it's not any clearer than that. I think it might make sense to,
30 for us, I know part of the aspect of the joint meeting is if we
31 have research priorities needs associated with the EBFM TAP, we
32 need to make sure that that is in the research priorities that the
33 SSC is recommending. J.J.?

34
35 **JUAN J. CRUZ MOTTA:** Yeah. I'm aware that they are also changing
36 the agenda, so it won't look like this. What I'm not for sure is
37 all the SEDAR procedures or SEDAR talks will take place tomorrow.
38 And so, today they're including other-- I know Rich will talk about
39 the national SSC and then Michelle is bringing some other topic
40 and there is a thir-- I mean, they will include other stuff today
41 that I'm not aware of. So, that definitely won't be the agenda.

42
43 **SENNAI HABTES:** Ori?

44
45 **ORIAN TZADIK:** I'd like to make a motion to accept the agenda until
46 lunch of today and then work on it after that and so that we can
47 get started on some of the stuff that we know we want to talk
48 about. And then, you know, based on their agendas, we can, you

1 know, accommodate and figure out how we want to move forward.

2
3 **JUAN J. CRUZ MOTTA:** I second.

4
5 **SENNAI HABTES:** Okay. Any other discussion on the motion proposed?

6
7 All right. Hearing none, seeing none. I'm going to ask, are there
8 any-- why can't I remember this word?

9
10 **ORIAN TZADIK:** Objections.

11
12 **Overview of FEP Development Working Groups—Review Priorities &**
13 **Objectives, Update and Identify New Membership, Discuss Process**
14 **for Developing Framework and Content of FEP for Technical**
15 **Writers**
16

17 **SENNAI HABTES:** Objections. Thank you. Yeah. Are there any
18 objections? I know! It's worrying me. Yeah. Any objections? Yeah,
19 thanks for putting that on the record, Kevin. Hearing none, seeing
20 none. Are there any abstentions? All right. Hearing none, the
21 motion passes unanimously, and we can go ahead and get started.

22
23 I will go back to the presentation of the overview of the
24 framework. Liajay, I can share that, I think, from here. So, if
25 you want to help facilitate discussion, that will be great. So,
26 give me one second to put it up on my computer.

27
28 Okay, so I think I figured I'd start with the overall working group
29 and FEP development slides, and then we can move back to the
30 outline and goals and frameworks from there. And so, on our Lenfest
31 loop, as I mentioned yesterday, we're a little bit in between one
32 and two, but I think, you know, based on the strategies that we're
33 using, we're moving on a "where are we going" aspect. We're trying
34 to articulate a larger vision for the FEP and for ecosystems-based
35 fisheries management within the U.S. Caribbean.

36
37 That is the purpose of this Technical Advisory Panel. Our job is
38 to provide a large, you know, set of strategic objectives. Meaning,
39 the strategy and a plan that the Council will use to do ecosystem-
40 based fisheries management. If we aren't creating that, then we
41 are not meeting the objectives by which the Council has asked us
42 to do for this TAP. And so, some of the aspects of that are, you
43 know, creating the larger vision, developing strategic objectives,
44 figuring out the ways to do risk management and analysis to help
45 create a framework by which strategic objectives that we've
46 developed are met towards ecosystems-based fisheries management.

47
48 And I think-- yes, J.J.

1
2 **JUAN J. CRUZ MOTTA:** Thank you, Sennai. The strategic objective
3 based on the Lenfest loop is more like a wish list. What we want.
4 What I would say is, those that you're mentioning are operational
5 objectives. I know it is just names that we can change. I mean,
6 but I would say to use the consistent names just to know what we're
7 talking about. Because the operational objectives are the one that
8 we can actually measure if they were met or not. The others are,
9 I want world peace or something like that. Thank you, Sennai.

10
11 **SENNAI HABTES:** Ori?

12
13 **ORIAN TZADIK:** So, yeah, that's a really good point, J.J. Can we
14 make that really clear right now that we think that the strategic
15 objectives then are those that stakeholders have expressed as a
16 wish list? And the operational objectives are going to come from
17 our working group, based on stakeholder input, but we will derive
18 the operational objectives, which are measurable objectives,
19 specific and measurable objectives that we will suggest that the
20 Council continue to revisit.

21
22 **JUAN J. CRUZ MOTTA:** That's correct. Thank you everybody.

23
24 **ORIAN TZADIK:** Great.

25
26 **SENNAI HABTES:** Great. So, I will amend this presentation and the
27 top one in the green will be the strategic objectives, whereas the
28 yellow ones will be operational objectives. Does that seem to make
29 more sense? I would prefer we had different names, like, so I like
30 using vision regarding the strategic objectives, and I like
31 operational objectives as strategic objectives.

32
33 So generally, that's kind of what I use. If you're talking about
34 like, you know, the wish list, that to me is a vision, right? The
35 smart objectives, specific, measurable, achievable, realistic. I
36 always forget what the "t" is, smart objectives, I consider to be
37 strategic objectives. J.J.?

38
39 **JUAN J. CRUZ MOTTA:** Yeah. As I said before, we can call them
40 whatever we want, like you feel like it doesn't make a difference
41 but the only thing that I will say is that we're consistent. We
42 decide now in whatever terminology, and we keep it through the
43 process.

44
45 Are you saying-- I used the one in the Lenfest loop because that's
46 what we're using. Yeah. But the important thing is what Ori pointed
47 out is what we mean define. So, what we mean by-- and actually
48 there are three in the Lenfest loop. There are three things. The

1 general vision that will carry on through time that we can get,
2 there could be two, three visions. One of them could be borrowed
3 from the vision of the Council. The second one will be the one
4 that we have already written. And then the-- how do you want to
5 call the strategic objectives? Some visions.

6
7 **SENNAI HABTES:** I think we can-- I think you, well, yeah. I mean,
8 you can have vision, strategic objectives and operational
9 objectives like are in the Lenfest loop. That's fine. I think we
10 just get confused because we keep using strategic versus
11 operational because we're kind of doing all of them at the same
12 time right now. But when we start going through the process of
13 going through the data from the conceptual models, I think those
14 will become a lot clearer as to how we separate them.

15
16 Right now, we're working more on the vision and the strategic
17 objectives, whereas, and we will use those to inform the
18 operational objectives, which that's kind of the hierarchy I had
19 on the slide. I just may have misspoken.

20
21 **ORIAN TZADIK:** I think I suggest that we keep with that terminology
22 only because I'm guessing it's in a lot of your slides and I think,
23 this Word document we're going to look at probably already has it
24 like that. And I just think that let's just stick with what we got
25 so that we can-- because I think a more pressing issue, for
26 example, right now, where does the risk assessment fit in and,
27 what's our vision right now with the risk assessment, right?

28
29 So, I think that, like, absolutely, let's iron it out. Whatever
30 terms are we talking about? But considering it's all in there
31 already, like that, I just say, let's leave it.

32
33 **SENNAI HABTES:** So, Tauna has her hand up. Tauna, did you have a
34 comment?

35
36 **TAUNA RANKIN:** Yes, thanks. I'm just pulling up the Lenfest report
37 on developing FEPs where they have some examples of strategic and
38 operational objectives, and they seem both measurable to me. The
39 difference is that the strategic objectives are more outcome based
40 for the resource, whereas the operational objectives are more, at
41 least one of them, is more action oriented. More things that we
42 can control, I believe.

43
44 So, for instance, one strategic objective is diversity of benthic,
45 demersal, and pelagic community types is conserved, maybe that's
46 not completely measurable, but they had one that is maintain the
47 biomass of keystone species at levels that will ensure maintenance
48 of their specific role in the ecosystem function. Again, maybe you

1 know, depending on if you have thresholds. The operational
2 objective, maintain or increase regional/local employment in the
3 fishery and related industries.

4
5 So, just to help sort of clarify the difference while we're
6 thinking about where the subgoals set that we currently have, and
7 additional objectives we identified this week.

8
9 **SENNAI HABTES:** Thank you for the clarification, Tauna. I do think
10 that that helps. So, what do we need to do this week? We need to
11 finalize the outline. So, identify what sections we are putting
12 into the outline that writers need to develop. We need to at least
13 clarify the vision, strategy and framework by which we want the
14 Council to do EBFM.

15
16 Now, those don't have to be completely fleshed out, but we need to
17 decide upon the pathways that we are going to attempt to do this.
18 And those need to be largely informed from a lot of the work that
19 Lenfest has done. We need to create actions to address the
20 strategy. Meaning, how are we going to work within our writing
21 groups? How are we going to communicate with each other and push
22 this work forward during the course of this year? We need to go
23 back to our both-- I only have operational objectives because
24 previously we had developed the strategic ones, but clearly, we
25 need to revisit those and address them. So, I would say work on
26 both of the objectives, and we need to clarify, at least, the
27 strategic objectives.

28
29 I think the operational objectives probably will need a little
30 more time. And we have a specific working group for that. And those
31 of us that are in that working group can work throughout the coming
32 year to develop those and get them into a format for some of the
33 technical writing that we need to do. But we can at least give the
34 technical writer a basis from which to start. The background on
35 the operational objectives, summarizing how we want to write them
36 and where we need to do.

37
38 But the main thing we need to get done over the course of this
39 year is to organize ourselves to get the writing of the FEP done,
40 because lest we not forget, there's a lot of work that we're doing
41 with additional projects, but our main task is to develop a
42 Fisheries Ecosystem Plan. That needs to be reviewed by the SSC and
43 then brought to the Council for ratification. Okay.

44
45 That doesn't mean the aspects of the Lenfest loop aren't going to
46 continue, meaning we revisit readjust change, but we have to create
47 the framework by which that is going to work. And we haven't put
48 that on paper yet. We haven't created the strategy by which we can

1 do that. All right. J.J.?

2
3 **JUAN J. CRUZ MOTTA:** One question, Sennai. So, you envision that
4 we're creating two documents? One is, what is the framework we're
5 going to use? And then the other one is using that framework to
6 actually do the FEP. Sorry, I missed them.

7
8 **SENNAI HABTES:** No, I envision us creating a single document. Part
9 of that document is describing the framework by which we are going
10 to manage fisheries in an ecosystems-based fisheries management
11 framework.

12
13 Now obviously we are-- I don't think we are at a point, well, in
14 my opinion, I don't think we are at a point where we can fully
15 operationalize EBFM within the U.S. Caribbean. That doesn't mean
16 we can't create a strategy by which we can move towards that. And
17 I think that is what we need to find a way to do in the FEP. We
18 have the building blocks. We're in a place where we can start using
19 the information to tell the Council how to get us towards that
20 point. But if we don't write it clearly and create a clear
21 organizational framework by which they can do that, iteratively,
22 it's never going to go anywhere.

23
24 And so, I think the FEP really needs to be a framework by which we
25 can start pulling in all the pieces from all of these many things
26 that are getting done in the region towards ecosystems-based
27 fisheries management and show the Council how to build the tools
28 necessary to do it.

29
30 J.J. hold on. Alida has her hand up. So, I'm going to go to Alida
31 first and then we'll go back to you. Alida.

32
33 **ALIDA ORTIZ SOTOMAYOR:** Yes, yes. Actually, this is the discussion
34 that we're having now is part of my question. Because most of the
35 time, every time I have participated in a meeting, it can be SSC,
36 it can be the Council. I have gotten the idea that the Lenfest
37 code is presented as something separate from the fisheries
38 ecosystem plan.

39
40 So, if we can have like an outline first, like it was started
41 yesterday with your presentation, then you can see that the content
42 of the Lenfest group fill all the areas. And then it'll be clear
43 that the fishery ecosystem plan is only one document. And probably,
44 I'm not correct in that, but you can clear me.

45
46 **SENNAI HABTES:** Yeah, no, that's a great question, Alida. I have
47 some of that in the presentation. So, just to clarify, the Lenfest
48 project that J.J., Tarsila and Stacey have been doing is a separate

1 funded project?
2
3 **ALIDA ORTIZ SOTOMAYOR:** Yes.
4
5 **SENNAI HABTES:** And a lot of the work that they're doing is to
6 develop EBFM within the U.S. Caribbean. As part of that, we are
7 following this Lenfest loop, which is a process for developing a
8 fisheries ecosystems plan. But they're doing a lot of work within
9 their project outside of just developing an FEP. Right. They're
10 doing a lot of the building blocks to help us implement EBFM from
11 a stakeholder-oriented framework. And we are using a lot of that
12 information to help us build the FEP.
13
14 The FEP is our specific task within the EBFM TAP. And we have an
15 outline, which I assume will change a lot over the course of this
16 meeting. But we are going to be using a lot of the work that
17 they've done to inform the sections of the outline.
18
19 But the FEP is a single document that is separate from the project
20 that they're doing. Right. So, the outcome of their project was
21 not to develop an FEP. The outcome of the EBFM TAP is to develop
22 an FEP. Does that clarify things a little bit, Alida?
23
24 **ALIDA ORTIZ SOTOMAYOR:** Great. Great. Thank you, Sennai.
25
26 **SENNAI HABTES:** My pleasure.
27
28 So, these were the working groups that we had decide-- oh, J.J.,
29 go ahead.
30
31 **JUAN J. CRUZ MOTTA:** Sorry, Sennai. I had a question for Ori. When
32 Kath was engaged and if she has already done some work. I'm
33 particularly interested to know if she has done some review on the
34 other FEPs available and-- Well, based on your answer, I have
35 another.
36
37 **ORIAN TZADIK:** Yeah. My understanding-- She sent you a draft of
38 the introduction, right? I don't think the introduction had the
39 vision of other FEPs in it.
40
41 **SENNAI HABTES:** I haven't finished reviewing it.
42
43 **ORIAN TZADIK:** Yeah. I don't think it does.
44
45 **SENNAI HABTES:** I know she has access, I believe, to the other
46 FEPs.
47
48 **ORIAN TZADIK:** Yeah.

1
2 **SENNAI HABTES:** I know she has looked at other FEPs. I don't
3 believe in the introduction she summarized aspects of other FEPs
4 because she's coming at it from a writing framework of, this is
5 unique for the Caribbean. But I do think she has an understanding
6 of how it's been done in other places and the style of writing and
7 drafting that they used to develop other FEPs.

8
9 **ORIAN TZADIK:** And also, I should point out that with Sennai when
10 he presented the technical writing slide, what she was hired to do
11 was through the old outline. And so, the old outline had different
12 sections. And so it was, you know, unfortunately--

13
14 Right. So, yeah, but these are headings of the new?

15
16 **SENNAI HABTES:** Yeah.

17
18 **ORIAN TZADIK:** Yeah. These are the headings of the new outline.
19 So, yeah, it's all a little confusing with regards to that, but
20 this is how we've translated it. Right. Yeah, exactly. Yeah.

21
22 **SENNAI HABTES:** So, these are the ones from the new outline that
23 we pulled. Basically, we understood that the old outline no longer
24 fit the needs of what we were going to have to write in the FEP.
25 Because of the condensed timeframe under which the money was
26 available to get a technical writer, what I and Ori tried to do
27 was to meld a lot of the information we thought we would need into
28 these larger, broader topics that the technical writer could just
29 put all of that into, and then we could move them around into
30 separate subtopics later on.

31
32 And so, they're broader topics that should hold a lot of the
33 information that needs. So, it saves us a lot of time and doing
34 the, pulling the information together. But what we're going to
35 have to do is piece it out into the finalized outline once we
36 develop it. J.J.?

37
38 **JUAN J. CRUZ MOTTA:** Well, perhaps when we talk about the outline,
39 I have a specific question or--

40
41 **ORIAN TZADIK:** Go for it.

42
43 **JUAN J. CRUZ MOTTA:** Yeah. So, when you were doing this melding,
44 right? Did you have, for example, no? Thinking, "Oh, we going to
45 put this, this section is for this, this section is for that." Do
46 you have an example of one actionable item that will be in that
47 outline and in the one before?

1 **SENNAI HABTES:** So, this is the newer outline.

2
3 **JUAN J. CRUZ MOTTA:** This?

4
5 **SENNAI HABTES:** Yeah.

6
7 **JUAN J. CRUZ MOTTA:** So, and then where that would it be, for
8 example. What would be an example of an actionable item and where
9 would that be?

10
11 **ORIAN TZADIK:** I think it's all at the end. Four and five. Tools
12 for use by the Council. And we envisioned the risk assessment being
13 an actionable item. It is a tool that can be used by the Council.
14 And then, five, basically, is the plan moving forward with regards
15 to research needs. And then, it sounds like now, based on some of
16 our discussion, those B and C will be in a different place, but
17 you know, when you're talking about the action, it would be kind
18 of five A, D, E, F.

19
20 **SENNAI HABTES:** Good.

21
22 **JUAN J. CRUZ MOTTA:** Yeah. Thank you, Ori.

23
24 **SENNAI HABTES:** Yeah. I mean, I think you can look at this and see
25 five is the one that we knew we don't have enough of the information
26 on to have the technical right to work on. Right? But the other
27 stuff, the background stuff, it makes no sense for us to kind of
28 like be wasting our time on that, when they can be pulling it from
29 somewhere else, summarizing it and building that part of the
30 document for us, right?

31
32 And then they can help us with part five, and we can move them
33 around. We can create other sections. Like, I envision almost
34 everything in five, probably to be its own chapter in the FEP,
35 right? But we only had the basic building blocks for them at the
36 time we were contracting the technical writer.

37
38 But I think this is a much revised and much simplified FEP outline
39 compared to what we had before. And I think it helps us build a
40 framework going forward, but we can come back to that you know,
41 and redesign it however we think we need to. That's part of today.
42 The whole task that we're here to do this week.

43
44 **ORIAN TZADIK:** I would just add that I'm guessing a lot of the
45 points that you want to add are going to be added in that section,
46 and therefore I think that five is going to be really [inaudible]
47 out quite a bit at this point.

1 **SENNAI HABTES:** I believe I'm a little over my time. So let me
2 just-- I'm going to go through those last couple of slides to give
3 us an idea. Oh, okay. María?

4
5 **MARÍA LÓPEZ-MERCER:** Sorry, just a quick question. Can you go back
6 to that outline, just to clarify it for me. So, number five are
7 you thinking about moving the b and c, the strategic objectives
8 and operational objectives, to basically the part 1b, goals and
9 objectives in there? Like, maybe add them in there? And then,
10 repeat number five?

11
12 Because the way I see number five, it will be more like the plan
13 itself, right? What the Council needs to do. Kind of like the same
14 thing that we did with the Island-Based FMPs. We have a chapter
15 five, coincidentally, and it's basically everything, you know, the
16 results of one, two, three, and four. Everything is in there,
17 right? But then you go to each one of the objectives and you say
18 like one has like road goal, and then the other ones, you know,
19 like your operational. And then say, "Okay, for this objective
20 that we mentioned in part one, if that's the case, then this is
21 where that came out of this whole plan.

22
23 Is that kind of like how you are envisioning? Or I can let you do
24 your presentation and then you tell me. I was just thinking about
25 that.

26
27 **SENNAI HABTES:** I would say yes and no to that. I would say--So, at
28 present, the draft outline that we created, one, two, three, and
29 four. Are all meant to be context. So, in the introduction, the
30 purpose, the need, and the limits of the FEP, the goals and
31 objectives, it's more explaining the Lenfest loop and how those
32 things work within the approach of EBFM.

33
34 The plan moving forward would be a separate plan specific to the
35 U.S. Caribbean for how the CFMC would do EBFM. And in that, we
36 specify the research needs, define the strategic objectives in the
37 context of what we created in the introduction, and put that all
38 into a separate plan. That in itself, the way we were envisioning
39 it, could be a separate document that is simply just an FEP
40 document for the CFMC. But without the context of how it's used
41 oftentimes these things don't get well developed and so we had
42 designed it this way.

43
44 But again, this was just framework that we thought would work best
45 for the technical writer and we can change that around. If we
46 wanted to shorten it and make it only the plan, that's fine too,
47 you know. Ori?

1 **ORIAN TZADIK:** It sounds like, you know, when I did my presentation
2 of this outline, it sounds like it was an issue as well.

3
4 You know, 1b, that goals and objectives, to me, has almost nothing
5 to do with the strategic and operational objectives. What it is,
6 as written, because we did it in like 2019, was, it's a goal for
7 what this document should be, basically. And if you, and if you
8 look at it says, you know, "The goal of this document is to promote
9 EBFM." That's basically what it says. And then it says, a subgoal
10 to that is by doing these things.

11
12 And so maybe that just needs to be changed. Maybe the title there
13 needs to be changed instead of goals and objectives, because, yes,
14 we're using the word objective of lot. So maybe, maybe that just
15 becomes like b, you know, goal of FEP document or something like
16 that. Because that's all it is, it's a goal that promotes to
17 promote EBFM and then it's the subgoal to that goal.

18
19 **SENNAI HABTES:** And I think we're going to come back to the draft
20 outline within the working groups and we can work on all of those
21 things. I just, let me get through giving you guys our overall
22 things that we are working on, and then we can look at the two
23 draft objectives and then we'll move on to J.J. to give us, you
24 know, an idea.

25
26 Cause I think what J.J. is going to talk about is going to lead us
27 directly into how to fix that.

28
29 **JUAN J. CRUZ MOTTA:** Yeah.

30
31 **SENNAI HABTES:** So, the working groups that we decided upon were
32 conceptual models. Like I've said before, this was just a catchall
33 term for a lot of what was coming out of Lenfest. Another for
34 ecosystem indicators; one for risk assessment; one for the data
35 repository; and the drafting of the FEP, which at present, I think
36 with technical writing help, can be left more to like myself, Ori,
37 and the technical writers. I'm okay taking on a lot of that stuff
38 for now until things get super busy for me. But usually in the
39 summer I'm okay and hopefully I'll hire more staff at my day job,
40 which is not working for the Council, so we'll see how that goes.

41
42 But I think what we have, an opportunity to do here, is once we've
43 redrafted the outline, identify if these working groups still work.
44 If not, we can change them. I think, in my opinion, the two that
45 are going to need the most time are the risk assessment and the
46 conceptual models melding. And I think we really need to clarify,
47 not necessarily the strategic or operational objectives, but
48 meaning the objectives of the working group and the outputs. What

1 we're going to do in those? What we need to put out? And the way
2 that we work together within those.

3
4 We also need to fix who's going to be on them because we have some
5 members that are no longer working with us. And so, that's my goal
6 for, like, when we go into the working groups, is to first identify
7 all of that and then go into the specific outcomes that we need to
8 do for each one of those working groups. So, I think once we get
9 through all of the data and informational presentations, I would
10 like us to start with that. What is the framework by which we all
11 want to work together on these things? How often do we meet outside
12 of this? And what is the way that we do that? That's what we need
13 to do within these working groups.

14
15 We also need to elect kind of leads for each of them. People who
16 are willing to help me with the organization communication and
17 delegation of the work that's necessary to be done. Because I think
18 we're past the point now where we can simply do things as outside
19 groups and simply talk about them at this meeting. Because I would
20 really, really, and at this point, I'm begging you guys, like,
21 because I can't Chair this, I think, in perpetuity. We need to
22 create a plan and get it out the door and my goal for that is to
23 be finished by March of next year. And for us to do that, we're
24 going to have to crank some things out.

25
26 Likely, I don't think this needs to be-- you know, this is going
27 to be a living document in some respects. There are aspects of it
28 that can change, but developing the framework in a document with
29 as much of the information that we have available now is necessary.
30 and I think, that, we can do over the course of the coming year.

31
32 Alright. So, these are the tasks that we had agreed upon at the
33 last meeting for each of the working groups. So, within the con-

34
35 **JUAN J. CRUZ MOTTA:** You have a raised hand.

36
37 **SENNAI HABTES:** Oh, I'm sorry. I don't see-- Edwin, did you have
38 a question?

39
40 **EDWIN CRUZ-RIVERA:** It's okay. In the interest of advancing this,
41 just go ahead and I'll ask my question later. It had something to
42 do with the data repository part.

43
44 **SENNAI HABTES:** I mean, you can ask it now if--

45
46 **EDWIN CRUZ-RIVERA:** Just wondering whether there was sort of an
47 overarching goal here, whether the goal was to have somebody host
48 this or whether we were envisioning having to write proposals to

1 get funding to make that happen. Because that's two very different
2 creatures, even though-- Those are two very different routes, even
3 though they end up in the same place.

4
5 **SENNAI HABTES:** Yeah, I think that's a good question. I'll address
6 it when we get to the slide that's going over that particular
7 working group, if that's okay with you.

8
9 **EDWIN CRUZ-RIVERA:** No, that's fine. Yeah.

10
11 **SENNAI HABTES:** Perfect. So, conceptual models, what we decided
12 were the task were these five common terms, conceptual model,
13 validate, compare across groups, combine the melded model, test of
14 different models. And the outputs were going to be indicators and
15 gaps, a model framework, appendix, comparative analysis, and
16 indicator rankings.

17
18 Now I think a lot of that has been done within the Lenfest group.
19 So, I think what's necessary now is for us to create tasks and
20 outputs associated with getting the work that you guys have done
21 at Lenfest into an FEP. Meaning, how do we take all of that
22 wonderful information and put it into a framework for writing and
23 a plan for the CFMC moving forward associated with EBFM.

24
25 And like most things, I think the impetus for this, though it's
26 not really reflected in some of our larger priorities, was to be
27 a voice for the stakeholders in how we manage things across all
28 ecosystems. And I think the priorities from the conceptual models
29 really help to develop that. And so, we need a summary of that and
30 put that into like a framework for the writing group.

31
32 And so, I would love for us to come up with the tasks that we need
33 to do to identify those and maybe even, if there's writing aspects
34 a technical writer can do as background to help with that, give
35 them to us now and we can get her working on those.

36
37 Yeah, Tarsila.

38
39 **TARSILA SEARA:** Just on the conceptual model. I think, if you go
40 back, or maybe that's the same idea. But in any case, I just wanted
41 to stress that throughout this process we should just make sure
42 that we emphasize that step three is still something that we need
43 to do and that's something that we will do in the context of the
44 Lenfest project.

45
46 So, anything that we do right now with the conceptual models, just
47 wanted to make sure that we emphasize that we will go back and
48 adjust after we validate those conceptual models with the

1 stakeholders. Because I think that that's a really important step
2 and that is something that is set up to do. Yeah.
3
4 **ORIAN TZADIK:** Can I just ask what the plan is for that?
5
6 **TARSILA SEARA:** Kind of, yes. We have a plan. So, we have some
7 funding still in the project that's dedicated to going back and
8 validating. So, the idea would be to go back with the conceptual
9 models for each stakeholder group. We still haven't created a plan
10 for exactly how, logistically, and the timeframe, but we don't
11 have that much time.
12
13 But the idea would be to get some feedback or some input that these
14 conceptual models that we are using for this, that each stakeholder
15 group is okay, that it reflects their view of the ecosystem.
16
17 **ORIAN TZADIK:** And this would be for the conceptual models that
18 were specifically targeted by your group, right?
19
20 **TARSILA SEARA:** Yes. I mean, that is within the Lenfest context.
21 But it would be great if we could collaborate and coordinate and
22 try to, of course, validate all of these conceptual models.
23
24 **ORIAN TZADIK:** Right. So, I know that the ones that were created
25 outside of your group, they built that into the project. And so,
26 the ones by Mellivora, for example, they had a two-week time
27 period, right. Okay.
28
29 **TARSILA SEARA:** I remember, I was the one that proposed that.
30 Genius.
31
32 **ORIAN TZADIK:** Right. But it was a covid limitation, and that's
33 why. So, those were all, I think, validated. Okay. I'm trying to
34 thin-- And then the DAPs and the SSC. I mean, the SSC had like a
35 year and a half to deliberate. And then I believe the DAPs, we
36 brought it back to them at a following meeting. So, I think
37 everything other than that one has been validated.
38
39 **TARSILA SEARA:** I'm not sure. And I could be wrong. Maybe the SSC
40 will want to take a look at it. Just because I'm not sure that we--
41 - do you remember, J.J., if we've had a formal validation of the
42 SSC?
43
44 **JUAN J. CRUZ MOTTA:** Sorry, can't hear you.
45
46 **SENNAI HABTES:** You want to speak louder for J.J. I couldn't hear
47 you. Sorry. Sennai, for the record. We're having some loud noises.
48 So, Tarsila, maybe speak a little closer to the microphone.

1
2 **TARSILA SEARA:** So, my question was, J.J., if you remember if we
3 did a formal validation of the SSC conceptual model?
4
5 **JUAN J. CRUZ MOTTA:** For the record, I suffer from tinnitus, so
6 the only thing that I can hear is "weeeeeeeeeeeeeee."
7
8 **TARSILA SEARA:** So, now we have a break.
9
10 **JUAN J. CRUZ MOTTA:** Okay. Go.
11
12 **TARSILA SEARA:** So, do you remember if we did a formal validation
13 of the SSC model?
14
15 **SENNAI HABTES:** Let me do it. I think my mic for some reason is--
16 can you hear me J.J.?
17
18 **JUAN J. CRUZ MOTTA:** Yeah. When we have the drill in my head is
19 "zzzzzzzzzz." I cannot hear anything else.
20
21 **SENNAI HABTES:** Yeah. You can't hear at all. Yeah.
22
23 **LIAJAY RIVERA GARCÍA:** Before continuing the conversation.
24 Tomorrow, we are going to be downstairs. We're going to split the
25 room where we were yesterday. So, half will be for the SSC and
26 half will be for the EBFM TAP. Today we have got to stick with
27 this room for now, but tomorrow we will move. Just, to let--
28
29 **SENNAI HABTES:** Well, he's hammering now, so let Tarsila ask her
30 question.
31
32 **TARSILA SEARA:** Let's try one more time. So, no, J.J. I was just
33 wondering here, if we if we had a formal validation process of the
34 SSC model in the context of what we did for that whole year? Do
35 you remember if Rich went back and we had something that we could
36 call, yes, this has been validated, as the SSC is happy with this
37 model as is. I can't remember.
38
39 **JUAN J. CRUZ MOTTA:** No. It--
40
41 **SENNAI HABTES:** Actually, I can answer for that one. So, they went
42 back through it, they finalized it. They have decided they are
43 finished with their conceptual model. They won't readdress it. So,
44 in that context, I would say it's validated. I don't know if I
45 would call it as complete a conceptual model as was done across
46 the other sectors, but it is a final conceptual model that they
47 have sent up and are finished working on.
48

1 **STACEY WILLIAMS:** Just to give an update on the conceptual models.
2 Now that I remember we did give the managers and experts also two
3 weeks to validate the models. So, really-- Yeah. So, the only
4 stakeholders that we need to validate are the fishers and those
5 will be in person.
6
7 **SENNAI HABTES:** But that was also done through the DAPs.
8
9 The DAPs did theirs. It went back to them for validation. So, we
10 have one group of commercial fishers that have a fully validated
11 conceptual model.
12
13 **TARSILA SEARA:** So, just to reiterate then. So, for as long as we
14 have something in the record that can be said that these
15 stakeholders validated, then we're good. And then, we just need to
16 make sure that for the commercial fishers, that we have a process
17 for that.
18
19 **SENNAI HABTES:** J.J.
20
21 **JUAN J. CRUZ MOTTA:** Thank you. Yeah. The thing is, there are two
22 levels here that we have discussed, but I don't know if we will
23 have time for the two-month period, is once each of the models is
24 validated, weeding stakeholders, which is the only thing that we
25 need to do with the fishers, is like, okay, this is what you guys
26 said. We put all that information together. Is that okay? Or not?
27
28 Everybody else has done it. I don't know if the ones that were
29 done through Council/Pew were validated.
30
31 **ORIAN TZADIK:** Yes.
32
33 **JUAN J. CRUZ MOTTA:** Okay. So, that's the only one. But then what
34 happens is for each island we are doing, that's what we're actually
35 doing right now, we're doing number two, which is the-- what is
36 the melding? Number five. But then the melded model, ideally,
37 should be validated by anybody.
38
39 I mean, this is melding the opinion of different stakeholder. The
40 validation we have done has been within stakeholder. Melding,
41 ideally, should go through another validation, but obviously we
42 won't have time to do that.
43
44 **SENNAI HABTES:** Orian.
45
46 **ORIAN TZADIK:** So, María López just pointed out, for the record.
47 In February of 2021, the SSC put out a consensus statement, I'm
48 not going to read the whole thing, it's very long, but basically,

1 they validated their conceptual model and then some. February 2021.
2 I don't know.
3
4 The other thing though, I was going to say was with regards to
5 validating a melded model. How do you envision that? Because to me
6 that's, I mean, if somebody doesn't see their point of view so
7 clearly, they might say, "Well, then, no. I don't agree with that."
8 But that's kind of the whole point of a melded model.
9
10 **SENNAI HABTES:** J.J., for the record.
11
12 **JUAN J. CRUZ MOTTA:** But you go Tarsila because this is your--
13
14 **TARSILA SEARA:** No, no, I was just going to say, for me, the most
15 important thing is that each stakeholder validates their own
16 conceptual model. I think that's the crucial part because we cannot
17 put something in a document that says this is the view of the
18 stakeholders, and they are not in agreement with it.
19
20 The melded model, as J.J. said, would be, of course, good to
21 validate, but I'm not that concerned and I don't think that it
22 would justify, perhaps, delaying or using and spending resources
23 to do that once we have validated each one.
24
25 **SENNAI HABTES:** Stacey.
26
27 **STACEY WILLIAMS:** I just have a question for the group, and I
28 probably should know since I'm part of the Lenfest project. But
29 when we're talking about an overall melded model, this is combining
30 all stakeholders?
31
32 **TARSILA SEARA:** Yes. Which we already did. That's what we showed
33 yesterday. That big blob, that's it.
34
35 **STACEY WILLIAMS:** That's it? Okay. Okay. Yeah. Okay.
36
37 **SENNAI HABTES:** One thing I will say is, I think with the melded
38 models, you do have an opportunity for validation through the SSCs
39 and the Council. In fact, the purpose of the Council is to be
40 representative of all of these stakeholder groups that we are
41 using. Right?
42
43 And so, when it does come up and it has to be approved by them,
44 that is one way of validating a melded model across all of these
45 stakeholder groups. And indicatively by part of the process, we
46 will have to revisit, and we will have to create a framework by
47 which they do look at stakeholder opinions on these things over
48 time. And that is another way that those models and the objectives

1 can change throughout that process.

2
3 What's important now is for us to create the framework by which we
4 do that, using the information from these conceptual models.

5
6 **TARSILA SEARA:** Yes, I think that's a very good point. I just want
7 to make sure that as we're going through the process, that that is
8 clear throughout every step. So that's all.

9
10 **SENNAI HABTES:** I think all of these are really good discussion
11 points that I think we can use to build the outputs and tasks for
12 this particular working group. So, I want us to keep those in mind
13 for when we come back to this in the afternoon. I'm going to move
14 on to some of the others, unless there are more questions.

15
16 The ecosystem indicators are one, and I think this is where we're
17 going to need a lot of help from our partners at NOAA, both at
18 SERO and the Southeast Fishery Science Center, is to identify the
19 data as well as the trends and summaries from the ecosystem status
20 report project that had been worked on. Because we need to use a
21 lot of that information towards the indicators that are available
22 or useful for the U.S. Caribbean.

23
24 Part of what we have to do is, you know, take the information from
25 the conceptual model, meaning the indicators, stakeholders want,
26 versus the indicators that are actually available for us to use an
27 EBFM and clarify that in this FEP. And so, I think these same tasks
28 actually still fit very good for what we need to do over the course
29 of the coming year. I don't know how much of that forward we've
30 moved on that. Orian?

31
32 **ORIAN TZADIK:** I want to bring it up here, but it's going to be
33 more relevant in the data repository working group but because
34 it's up on the board, I think we should discuss it.

35
36 To me we've discussed this FEP as a tool for use by the Council
37 and I think I've made the point several times to not try and
38 include, you know, I think I'm on one extreme of this where I'm
39 saying "Let's just reference a whole bunch of--" you know, we don't
40 need to go back and discuss the colonial history of each island
41 and that sort of thing, right? We can, but if somebody wants to
42 know how to get that, they have a tool that has a link or a citation
43 that says, that's how you can find that information.

44
45 The Council has made it very clear that they're not going to
46 provide any funding for a data repository, nor will they provide
47 funding to help us create a data depository with people who know
48 how to do that kind of thing. So, I want to put this out there

1 that maybe the FEP is a reference for how to get to some of those
2 data instead of an actual repository itself. And I understand that
3 I'm on one extreme of this spectr but I don't know that we have
4 the expertise, and we definitely don't have the funding to--

5
6 I mean, my understanding is that a data repository you need like
7 a physical space and actual machinery to house the data. And unless
8 the Council has that already, which again, I think made it clear
9 to us that they don't, I'm concerned about that.

10
11 **SENNAI HABTES:** So, let me just comment on it first really quick,
12 J.J., and I'll bring it back to you.

13
14 This one is more towards, where repositories of data already exist,
15 right? The data one is a different working group. So, I think we
16 can continue talking about that one aspect. But this one was just
17 to identify where things are currently in terms of repositories of
18 data that can be used for both the qualitative and quantitative
19 indices or indicators that we wanted included in the process by
20 which we can do EBFM in the Caribbean.

21
22 **ORIAN TZADIK:** Which I think is perfect. That's the vision that I
23 just outlined. Exactly.

24
25 **SENNAI HABTES:** So, J.J., you had a comment.

26
27 **JUAN J. CRUZ MOTTA:** I totally agree with you. But also, we could
28 add, let's say we identify as a strategic objective, the wish list,
29 that we need a data center, we need them to specify what the
30 specific operational objective will be to achieve that.

31
32 Not that we will do it, not that we will host it, but what will
33 need to happen and how we measure that that happens, right?

34
35 This is just coming up with some idea. Have a three-story building
36 that will, you know, like-- But it can be in the FEP in terms of
37 what is needed for this to be implemented on an effective basis.

38
39 **SENNAI HABTES:** So, like all of these, these are tasks we developed
40 over a year ago, right? And so, they do need to be updated and
41 they need to be clarified for things that we think we can do or
42 things that are relevant or not relevant. And we have to do all
43 that in the next couple of days. So, I'm going to keep moving
44 forward.

45
46 I think for the data repository one, there's a lot of ongoing
47 things associated with that that we can probably up update you
48 with and that I think will change. But it's abundantly clear that

1 the CFMC will not be a place that will host that type of data or
2 information. That doesn't mean all of the people in the region
3 working towards that, can't work together to create alternative
4 structures, which I think most of us that do fisheries work in the
5 U.S. Caribbean are trying to do but, you know, for us to actually
6 use EBFM operationally in a way that works to make Council decision
7 making, there needs to be something that's more accessible for the
8 people that are on the Council. Right?

9
10 EBFM often requires a lot of trends and informational data to make
11 use of, in the decision support system, at the moment, when you're
12 making decisions. So, we either need to create a way for them to
13 view the data like the GIS stuff that's being done, or we need to
14 create a report that summarizes all of that for the Council every
15 year so they can use that information. Or trends on a webpage that
16 they-- that that is our job to develop that framework and that
17 structure, right?

18
19 So, we have to put it into the FEP for it to happen. And I think
20 we need to be realistic about that. And it's unlikely that we can
21 create the large score data framework that's necessary to do it
22 holistically. So, let's find a way that we can get them the
23 information that's necessary to make the decisions that we want to
24 see through an ecosystem-based management framework. Okay?

25
26 **ORIAN TZADIK:** Yeah, and I think that's going to be the challenge
27 of that data repository working group and how we do that. But
28 absolutely, yeah.

29
30 **SENNAI HABTES:** Tauna?

31
32 **TAUNA RANKIN:** At the risk of going on too long about this subject,
33 I just wanted to add that NCRMP, National Coral Reef Monitoring
34 Program, is working on a data visualization tool that has a
35 download option, so that will help accessibility of some of the
36 data that's used in the ecosystem status report and the Lenfest
37 project.

38
39 Additionally, I know the IEA program is trying to tackle sort of
40 improving automation of these ESRs and, I think, you know, because
41 the Caribbean's just working on its first ESR, we're going to be
42 one of the last ones probably to benefit from this process. But
43 some of the other regions, like Alaska that have been doing this
44 for a long time, are looking into how to automate the process more
45 of updating the data in their ESR. I think we can learn from that,
46 and we can put those little pieces into the FEP. Point to them,
47 like, this is what we want.

1 **SENNAI HABTES:** Thanks, Tauna. Kevin?

2
3 **KEVIN MCCARTHY:** Thanks, Sennai. So, I guess I'm going back to
4 sort of the vision, mission, goals, whatever, however we want to
5 term it, of this group. We cannot solve all things, right? As much
6 as it would be great to be able to do that. So, I'm suggesting
7 that dealing with this is beyond our remit. This is-- I'm looking
8 around the room and we are not, no offense, we are not a bunch of
9 database scientists who know how to do this, particularly without
10 any money, right? And on our own time. Ori and I are the only ones
11 at the table, Liajay, I suppose, as well, who get paid to actually
12 do this and are not outside of our primary jobs.

13
14 So, I think that while I would love to solve that problem, the
15 database problem, I think it is beyond us to do so, and I think
16 it's beyond our mission.

17
18 **JUAN J. CRUZ MOTTA:** Yes.

19
20 **KEVIN MCCARTHY:** So, I'm going to recommend that we just make that
21 very clear and do what our mission is, which I guess is still yet
22 to be fully fleshed out.

23
24 **SENNAI HABTES:** So, what we have on the board was the mission that
25 we had decided on a while back, which was the overarching goal of
26 the fishery ecosystem plan is to promote ecosystem-based
27 approaches to ensure healthy, resilient, and productive marine
28 ecosystems and the fisheries resources dependent upon those
29 ecosystems, within the context of the unique biological,
30 ecological, economic, social and cultural characteristics of those
31 fishery resources and the communities dependent on them.

32
33 And then we have this other thing. Initially we had it as "A
34 corollary, priorities that promote the following goals," which I
35 have shortened simply to say, "The framework that promotes the
36 following goals." And I'm not going to go through each of those.
37 You guys can read them. But that is what the remit of the EBFM TAP
38 was. That's our mission and the vision goals that we had decided
39 upon a long time ago.

40
41 And now, we can-- I think during J.J.s, who was supposed to start
42 presenting a while back, but we've kind of blown through that, we
43 will look at these, and see how we need to change them. In terms
44 of the data repository. I agree, Kevin. I don't think fixing that
45 is something we can do within this group. What we can do is
46 articulate a clear vision of the need for that type of system as
47 part of the FEP. Yeah. Ori?

1 **ORIAN TZADIK:** Yeah. I like how you put it that, you know, what we
2 can do is kind of bring the people together in the region who are
3 working on that. You know, Tauna just mentioned the NCRMP stuff;
4 we saw the GIS landing stuff yesterday. You know, just to throw it
5 out there, I know the PRCRMP, is it Miguel Figuerola is working on
6 that? So, that's going to be visualized and housed and it already
7 is. And then, CariCOOS has their thing.

8
9 So, we can definitely articulate that vision or the objectives,
10 the strategic, and then the operational. But while we're doing
11 that, we can also then point to some of these other resources that
12 we're aware of that exist. And again, use the FEP as a tool for
13 somebody who does want to explore those data and then they can do
14 that through what we've developed.

15
16 **SENNAI HABTES:** So, the risk assessment, which we've talked about,
17 I think this is one where we really need to identify how we're
18 going to do this, right? And the order by which we want to implement
19 risk assessment. So, that's something that we, I think, the tasks
20 and goals for this particular working group, if we still want to
21 have it as a working group, will be critical. Also, identifying
22 leadership. People that can take on the lead for this one, because
23 risk assessment is definitely not my area of expertise. So, that
24 will be very necessary. And then the data repository, which I think
25 we've talked about at present as nauseum. So, I don't think we
26 need to go into the specifics of this one right now, but we can
27 come back.

28
29 Again, we'll come back to these slides when we're redrafting the
30 goals when we're on the specific working groups.

31
32 So, updates from what we need to do. Here are all the updates from
33 our working group partners. Confirm working group participation,
34 identify new participants or people that we think can help on the
35 working groups. Also make sure these are the right working groups.
36 Are there other things that we need to be addressing as part of
37 the working group set up? We need to write the outline and get
38 information to the technical writer. And, then create writing task,
39 or at least informational tasks. It may not be for us to write, it
40 may be for us to get the information to Kat, so that she can write
41 up sections, because that's what she needs. And then organize our
42 working groups so that we have strategies for getting this FEP
43 done.

44
45 Okay. So, that's the overview of what we need to get done. I think-
46 - Does that help give everyone a good starting base for what we
47 need to do? Are there any questions or concerns or things that we
48 want to discuss before we move on?

1
2 Well, I'm going to recommend since it's 10:30, if there are no
3 other questions, what we'll do is we can take a break. We can do
4 a 10-minute break till 10:40, get ourselves refreshed, organize
5 some things, and then we can move into J.J.'s presentation and use
6 that as more discussion points to benefit ourselves for when we're
7 organizing the working group. Is everyone okay with that? Any
8 questions or concerns from online?

9
10 All right, so it looks like got thumbs up. So, we're going to go
11 ahead and take a 10-minute break and reconvene at 10:40 am on May
12 3rd, 2023. Thanks, all.

13
14 (Whereupon, a brief recess was taken.)

15
16 **SENNAI HABTES:** Okay. Good morning, everybody. We're going to come
17 back to session. So, if everyone online can rejoin us, we are all
18 here at the table. I apologize again for the intermittent banging.
19 Hopefully that is not bothering those of you online, but we can
20 hear it very loudly and clearly in the room.

21
22 So, we are going to go through, and we're going to try and keep
23 kind of to the schedule. We're going to use the next 15 minutes to
24 do a quick discussion of the previous outlines and some possible
25 changes to the outlines to get our thought process going. And then
26 we're going to move into Tarsila presentation at 11 o'clock because
27 that we can use to inform a lot of the information that we're going
28 to talk about that J.J. is going to suggest regarding the outline.

29
30 So, to start, I'm going to go back to my presentation and share it
31 with you guys. And we're going to look at the first iteration of
32 the outline that we did about two years ago. And then we're going
33 to look at what Ori and I had proposed changing the outline to.
34 And then, we can start talking about J.J.'s information on how we
35 can better address the outline.

36
37 So, in June of 2022, after our last meeting, we had ratified this
38 overarching FEP outline and we revisited it at the last meeting,
39 last year, but really didn't have enough time to talk about it.
40 But we agreed that this was kind of going to be the working outline
41 that we're going to use.

42
43 The five main sections were: Introduction and Background; Defining
44 the Interface Between Fishery and Ecosystem Management; Describing
45 the Environmental Setting of the U.S. Caribbean; Going Through
46 Conceptual Models, which was essentially the holding place for
47 outcomes from Lenfest; and then, the Coordination of ecosystem
48 approaches to fisheries management in the U.S. Caribbean; Research

1 Needs; and Performance Evaluation.

2
3 So, that was kind of what we'd agreed upon with all of these kinds
4 of subsections. Over the course of this year, what Orian and I
5 tried to do was break it down into a more similar outline framework
6 that could be used by our technical writer to start putting a lot
7 of the pieces in place to help us get the information that we
8 needed to draft the FEP. So, we shortened it to five sections that
9 kind of combined a lot of the most important information for
10 writing, that we thought were writing an FEP, that contained an
11 introduction, summarization of the ecosystems and ecosystem
12 services, which included the description of the qualitative and
13 quantitative indicators that would be available, hopefully using
14 most of the information from the ESR. Then a description of how
15 those indicators could be used in management. And then, five, as
16 I mentioned, was basically our plan for the FEP, how we can do the
17 EBFM in the U.S. Caribbean.

18
19 So, with that, I think I'm going to open up for discussion, but
20 I'm going to have J.J. share his screen to start and give us kind
21 of an overview of what he was thinking towards that outline
22 changes.

23
24 **JUAN J. CRUZ MOTTA:** Thank you, Sennai. Yeah, this outline is a
25 product or is the consequence of the detailed analysis I was
26 presenting yesterday on how the Lenfest loop should go. So, and
27 then I try to take some of the sections that you already have, or
28 you are already proposing for this reduced and try to mix the two
29 and perhaps change the order. But this is to fit, or what I believe
30 fits that Lenfest loop.

31
32 The first thing that I want to say, as I go through this, this
33 should be a document, 20 pages max. And then, Sarah yesterday
34 mentioned, look guys we have a 20-page document, now is 40, but we
35 want to get back to 20. So, you will see that a lot of the sections
36 will be, actually, a hyperlink to some other the document because
37 we want this to be short and go straight to the point.

38
39 As you have now, the first part is an introduction where you set
40 up the purpose of the document. Just to mention, what you have in
41 letters i, 1a, one, two, and three is just things that should be
42 there, but this introduction is no longer than half a page. Perhaps
43 b here, fills up the other half. What is the context of the EBFM?
44 And this is important because now in the literature, and we can
45 use Markshak, a review of 2021, to say, "Look, still, EBFM is
46 considered like different things but then what we going to do is
47 use this concept." I'm not saying this is the right one, but this
48 is, basically, it's NOAAs. But I think we need to dedicate half a

1 page to say which EBFM approach, concept, or definition we are
2 going to use. It is very important when the people talk-- And
3 again, the technical writer can use Marshak 2021, because there is
4 nothing-- he already did the review of the different EBFM that was
5 my question before. Different approaches that have been used in
6 the U.S. and the different criteria that have been used in the
7 U.S. and in the different Councils. And then out of that, the only
8 decision that we will have to make is which one will be the criteria
9 that we'll be using.

10
11 **ORIAN TZADIK:** Do you envision a situation in which we can put
12 this into a single one of those categories? I mean, to me, that
13 pigeonholes us a little bit. And I mean, as Sarah was saying
14 yesterday, she was switching between EBFM and EAFM and these sorts
15 of things. And to me, we can articulate a vision of what we would
16 like to pursue, but it's going to have to start somewhere else.

17
18 I mean, the only thing I think we could do, if this thing was
19 produced tomorrow and given to the Council and approved, I think
20 like we'd be at a very preliminary stage where they will use some
21 of these tools that we're developing to inform some of their
22 decisions, right? But obviously that's not what we want the whole
23 process to end with, but I think that we have to be real with
24 ourselves to say that's where it's going to start.

25
26 And so, I think-- I mean, yeah, absolutely the section, but I'm
27 just saying that I don't know that we want to necessarily say,
28 this is EBFM theory and as Marshak et al. discussed, we're striving
29 for a number six or whatever.

30
31 **SENNAI HABTES:** I need to step forward for a moment to answer a
32 call. I'm going to transfer chair duties to Ori. Before I do that,
33 I'm going to recognize Tarsila.

34
35 **TARSILA SEARA:** So, that is a good point, but my question is, this
36 document, isn't this where we want to go? Isn't that our vision?
37 So couldn't we just decide that that's where we want-- even though,
38 realistically, maybe what will happen is what you're saying, but
39 in the context of this document, shouldn't we be saying, this is
40 where we want to end. This is what we are striving for.

41
42 **ORIAN TZADIK:** J.J.

43
44 **JUAN J. CRUZ MOTTA:** I put a very simple example of that review of
45 Marshak. He says, look out of the fifteen, I don't remember how
46 many documents he reviewed all across the U.S, he says, out of
47 those fifteen, nine say that EBFM is multi-specific management.
48 Right? That's a criterion out of many. He identified like 30

1 criteria that are considered EBFM, and then he went into the
2 literature, "Okay, out of those thirty, everybody uses that one or
3 90% use these other criteria." So, it's a set of criteria that
4 define EBFM. Basically, we could take some time and say, "Okay,
5 out of those" like, for example, I'll tell you like multispecies
6 management, are we going to adopt that as a criterion of what we
7 consider EBFM and so on?

8
9 And it's just to-- that first part, for me, is to let everybody
10 know, within the heterogeneity of everything that has been defined
11 as EBFM, what exactly we are going to-- what are the criteria, for
12 us, that define EBFM approach? That the intention of that first
13 paragraph.

14
15 I'm going back a little bit. These two here, Ori, is just statement
16 of what the FEP will do. No? The FEP will do, one, assist and guide
17 the EBFM and it will be a document that is actionable informa--
18 blah, that's another line. And the second thing that this FEP will
19 do is summarize or direct-- what you were saying before, summarize
20 or direct the information that we need to make the decisions or to
21 help the Council make decisions.

22
23 This is, actually. totally relevant. I'm using the categories that
24 are then used through the whole document to organize the objectives
25 and all that. But it's basically, yeah, it states, what is the
26 purpose of the document, what's the goal of the document as you
27 have now, but make it very concrete half a page. And then, define
28 what is EBFM for us. Because the tool will help us to get to this
29 definition of EBFM. That's all.

30
31 And this work has already been done in Markshak. So, it's just a
32 matter of choosing from there, what we will do. Like, for example,
33 stakeholder engagement is a criterion that everybody agrees, of
34 course. So EBFM for us will be including stakeholders. But anyhow,
35 so that's the first part. I don't know if you have another
36 question.

37
38 **ORIAN TZADIK:** No, that clarifies it. And I think maybe the
39 framework is the key here, because maybe we identify what we want
40 it to become and maybe we write in there that we understand it's
41 a stepwise process.

42
43 **JUAN J. CRUZ MOTTA:** Yeah. I agree.

44
45 So, the second part of the outline is the one that you call
46 synthesis of the description of the environment. And yes, I think,
47 what you were envisioned should still be there, which is the
48 general description from a cultural point of view. However, I would

1 strongly suggest that's done with hyperlinks to what we already
2 have in the Island-Based Fisheries Management Plan and not repeat
3 a lot of information that we have here. But then, I think, and
4 this one will be new for this section, what we spend some of the
5 one or perhaps two pages, is to describe the fishery system based
6 on what the stakeholder thinks the system will be. Right?

7
8 Let's say, if you ask an ecologist what's the fishery system, that
9 guy will include everything all up to El Yunque, you know, because
10 the fly that was there aid the leaf, and then that nutrient came
11 down through the riv-- and all that. Yeah? And that's right and
12 it's true. There is a linkage between what is happening. But then
13 if you ask the fishers, the system will be something different.

14
15 So basically, defining the system here is from a fisheries point
16 of view, based on the stakeholder. So, in this section the
17 description of the system, one, we link to what has already been
18 described in other documents like the Island-Based Fisheries
19 Management Plan. Then number two is where you talk about the
20 conceptual models and the-- This is a summary of the research that
21 Tarsila is leading. What the stakeholders say is the system, and
22 there is where you put the melded models, one per island. One for
23 Puerto Rico, and then a brief description of that.

24
25 And then the third point on describing is very-- we won't do
26 everything. We will do what we have data for. And then this section
27 can be fed out of the ESR once is finished. Remember, the ESR had
28 two types of indicators, one for describing the system, the other
29 to describe the threats. Section one, which is not finished,
30 directly fit into this. So, go ahead.

31
32 **ORIAN TZADIK:** All right. Two things. One, 2a. I like your idea of
33 linking to other documents and all that. Just based on
34 conversations with Graciela, I think it's a lot longer than we'd
35 like it to be, unfortunately, just because of all the different
36 agencies and different spatial restrictions that exist.

37
38 So, for example, you know, outlining what is currently in place,
39 particularly with regard, I mean, it's one thing to just say, okay,
40 there's the fishing regulations by the IBFMPs as described in the
41 IBFMPs. Here are the IBFMPs. But then there's a ton of spatial
42 considerations that are also-- I mean, it's fine in terms of an
43 outline, I'm just saying I think it's a longer section.

44
45 And then, I really like what you did here to bring the conceptual
46 models in kind of right away. And then, you know, kind of talking
47 about the main components for each island. And I was going to say
48 a second thing and I forgot. It'll come back to me. I'll interrupt

1 you later.

2
3 **JUAN J. CRUZ MOTTA:** Yeah. Basically, I mean, like--

4
5 **SENNAI HABTES:** Hey, J.J., can I ask you to just hold on for a
6 second? We have a question from Tauna online.

7
8 Sennai Habtes back. I'm going to retake Chair from Orian Tzadik.
9 Sorry. Go ahead. Tauna.

10
11 **TAUNA RANKIN:** Thanks, Sennai. Tauna Rankin here. This is more of
12 a reaction. It also really resonated with me, J.J., when you talked
13 about pointing to other documents because looking through this
14 outline and just what I've heard, Sennai and you, talk about making
15 sure that the FEP lays out the process.

16
17 I am envisioning this as more of a process document than a place
18 that holds the ecosystem information. And I know that's something
19 that the North Pacific Council kind of learned through. They
20 developed their first FEP for the Aleutian Islands and it contained
21 tons of ecosystem information. Their next FEP for the Bering Sea
22 became like purely a process document.

23
24 And maybe we need to find a balance in between. But I think if
25 there is a place for the ecosystem information to live elsewhere,
26 for instance, if we had a separate product regarding the conceptual
27 models that the FEP could point to, then if we ever go back and
28 update the conceptual models, the FEP document is still relevant
29 because it's just pointing to the place where that information
30 lives.

31
32 I don't know if that's idealistic, because I know web blinks break
33 all the time, but yeah, I'm just reacting to all the information
34 that I've been hearing so far and want to encourage us to focus on
35 the process pieces.

36
37 **SENNAI HABTES:** Ori.

38
39 **ORIAN TZADIK:** Yeah, I remember. The other thing was, I'm
40 interested to hear this from you when we're talking about
41 indicators and then you mentioned the ESR, to me, the indicators
42 in the ESR are derived very differently than how you guys derived
43 indicators and we're using that same word, whereas one, I think is
44 mathematical relationship. One is you derived indicators based on
45 math versus the ESR, which was sea surface temperature is an
46 indicator, so let's discuss the sea su-- Here's the date set for
47 it. Yeah.

1 **JUAN J. CRUZ MOTTA:** Thank you, Ori. Before we go to step three,
2 where we are going to talk about that and that's a very good point,
3 going back to Tauna's comment. Yeah, that's what I envision. This
4 is how to document rather than an informative document. Like for
5 example, 2b, there will be the complete work on the conceptual
6 models that we are doing under Tarsila leadership that you can
7 refer to. And then, what you will have here is only the final
8 product, which is the melded model that highlights those
9 components, drivers and receivers, that were important for the
10 stakeholders, right.

11
12 And the thing 2c, which is the work that Stacey is leading, you
13 will be able to refer back through the hyperlink to the paper and
14 the technical report that will be written for Lenfest. However, in
15 that section, you will only mention the summary or highlight of
16 those results that can actually be used in the FEP. You know, for
17 example, one thing that Stacey is-- one of the hypothesis she's
18 testing, or one of the things she's evaluating, it's not a
19 hypothesis, is the potential complementarity or differences
20 between NCRMP and Puerto Rico Coral Reef Program with the aim of
21 suggesting, standardize or change to this or change to that or
22 combine this way, you know, like-- and that would be, for example,
23 an actionable item that we can include in the FEP, in terms of
24 collecting data.

25
26 So again, summary is, in this synthesis of the U.S. Caribbean is
27 not everything that is known, is everything that is known
28 hyperlinked out of that what we need to know for this particular
29 FEP that will be put here. Right? So, this is basically the same
30 session you have now, like three, but then--

31
32 The next one then, is indicators and as Tarsila was pointing out
33 before, this is a document that we think needs to be one after the
34 other after the oth-- I mean, like we cannot talk about, or write
35 the section of indicators before we finish the one before because
36 the indicators are a product of 2b and 2c. Right?

37
38 And then, the only thing we have indicators derived from the
39 ecosystem status report. The criteria to choose those indicators
40 were different from 2b, which is a conceptual model and were
41 different and are different to those selected from 2c. But what
42 would be in the FEP is just those indicators, the process by which
43 those indicators were selected hyperlinked to ESR, hyperlinked to
44 Lenfest work, to Tarsila's paper, hyperlink to Stacey's, if you
45 want to know how we come up with those indicators.

46
47 The important part of number three is 3d, where you come up with
48 an amalgamated list if you want, right? Or what those indicators

1 be. Please note that concomitantly, those indicators will be
2 related later on to what will be the priority objectives in our
3 research.

4
5 Now, when we get here, this is a section that is not currently in
6 the document, in the FEP, but I think will be very, very important,
7 which is articulate how this FEP will involve the opinion of all
8 stakeholders in this look process. Like, imagine, "Ah, we going to
9 decide on cabrilla," you know, like, okay, and now we have this
10 document, you know, "Ah, okay, we can use action 4b to inform the
11 SSC to increase or decrease ACL or ABC," right?

12
13 How are we going to bring into the table, formally, the opinion
14 and the perception of stakeholders into this process. That, what
15 you have 4a, 4b and 4c are just proposals. Doesn't need to be those
16 three it could be other instruments, but I want to-- local
17 ecological-- please develop on that Tarsila because that's--

18
19 **TARSILA SEARA:** What I was going to say was just a correction. I
20 think that's my fault, J.J. 4b, are you referring to the fisheries
21 performance report? Because I think I was referring to it as a
22 status because I got it confused with the ecosystem status. I keep
23 getting the two-- But that's what we mean by that, it's a fisheries
24 performance report. Yeah. That's the one that would be essentially
25 produced by the DAPs.

26
27 **JUAN J. CRUZ MOTTA:** (Dr. Cruz Motta's comment is inaudible on the
28 recording.)

29
30 **TARSILA SEARA:** Yeah. Mm-hmm. Mm-hmm.

31
32 So, this was something that we talked about in the last SSC
33 meeting. And this is something that, you know, we considered to be
34 relatively an easy process, of course, you know, if the Council
35 decides and the DAPs agree, but this is something that's used by
36 other Councils. So, we could, you know essentially borrow that
37 process and then make it, of course, useful for the context of the
38 Caribbean.

39
40 But this is just something that's a very, very simple question
41 based. So other examples that I've seen are four very simple
42 questions that are posed to the DAPs and then this could be
43 something that could be done annually. It depends on the context
44 of how things are done for how the DAPs organize their meetings.
45 But let's say once a year, once every two years, whichever makes
46 the most sense, but they would be answering these questions. These
47 are open-ended questions that intend to get a view for how the
48 fishery is doing, what are their concerns, what are the challenges,

1 what's affecting the fishery, and what are some helpful information
2 for the Council to make decisions. And so, that would just give us
3 a systematic way of collecting that information that could then be
4 used to inform decision making.

5
6 And the local ecological knowledge piece. I mean, that is something
7 that is also one of the things that I brought up in the context of
8 really important, sort of, research needs. That would be, again,
9 a way to formalize a process where we are collecting local
10 ecological knowledge and, ideally, a step that we would want to
11 take, and that's something that J.J. and I and Stacey were looking
12 for funding to hopefully get started, would be to move from just
13 a process of collecting information to actually involving
14 stakeholders in data collection and doing a more closer
15 collaboration that would then feed into this process and make it
16 truly collaborative.

17
18 **STACEY WILLIAMS:** Just-- I totally agree with stakeholder
19 involvement, but wouldn't it makes sense-- Maybe I'm wrong.
20 Wouldn't it make sense to put that before the conceptual models?
21 Because this would be a nice entry point to describe how we
22 included stakeholders in the conceptual models and how their
23 involvement is very important in this process.

24
25 **TARSILA SEARA:** That's a very good point because even there, J.J.,
26 we could put iterations of a conceptual model as well, because
27 that's another thing that would be important, would be to, as part
28 of the adaptive process, from time to time to redo the-- yeah.

29
30 Revisit and the conceptual model effort, as part of the stakeholder
31 involvement.

32
33 **SENNAI HABTES:** Ori, go ahead.

34
35 **ORIAN TZADIK:** So, just a question for us to think about and maybe
36 how to as we develop this outline. We've had a couple suggestions
37 from stakeholders in terms of how to implement the local ecological
38 knowledge. Not just through the conceptual models, but, as an
39 example, letters to other agencies and things like that.

40
41 Would that then be under the objectives? Or would that be part of
42 this right here where we would say that we also envision a yearly
43 meeting where X, Y, and Z happens that results in a letter to
44 different people?

45
46 **SENNAI HABTES:** Could I just make a comment on the overall
47 structure that kind of ties to this?

1 So, I think all of the components that you're mentioning are
2 necessary, but what I'm worried about now is that we're moving
3 things too much into putting the information into overall summaries
4 of things that are already being done, rather than putting them
5 into a framework by which the Council can use information towards
6 ecosystems-based fisheries management.

7
8 The way I see it now, based on some of the things that you've
9 already put in there, is that we really need to, before we even
10 start going into the stakeholder engagement, the indicators, the
11 threats, the stressors, there needs to be a section that summarizes
12 the framework that we envision by which the Council can use this
13 information. I think you could do--

14
15 Well, so I think that's, I agree but that's a generalized
16 specification of existing structures that aren't really tied
17 necessarily to the information that you have from the conceptual
18 models in Lenfest. And also using the information summarized below
19 where you have visions and objectives, I feel like those are too
20 far separated. You're putting too much information about the
21 process, not in a context of the process that we want them to use.

22
23 My recommendation would be to move four above indicators. Do
24 vision, objectives, framework. And then, under that, you can start
25 putting in things like the stakeholder engagement, which I foresee
26 as the largest part of the EBFM framework.

27
28 **JUAN J. CRUZ MOTTA:** So, they get out from here.

29
30 **SENNAI HABTES:** Yeah. And put it under, you know-- Exactly. Kevin?

31
32 **KEVIN MCCARTHY:** So, what do we exactly mean by vision and
33 objectives? Because I would put, if it's what I think it is, that
34 would be one. There wouldn't be buried below all this other stuff.
35 It would be the very first thing. But I may be having a different
36 interpretation from the rest of the group. So, what does that mean?

37
38 **SENNAI HABTES:** Tarsila?

39
40 **TARSILA SEARA:** Yeah. A similar question to me. What I was going
41 to ask is, are these strategic objectives? Is that what-- Okay.

42
43 **ORIAN TZADIK:** To me, yes.

44
45 **TARSILA SEARA:** Okay.

46
47 **ORIAN TZADIK:** And that's where they would go then? No, I would
48 say they'd go right there because the strategic objectives are

1 directly derived from the conceptual models which were informed by
2 that process.

3
4 You know, maybe what we're doing is we're moving that stakeholder
5 engagement involvement down. Maybe there's some stakeholder
6 involvement sections. The first goes above the conceptual models
7 and that has what was done and then we have stakeholder
8 involvement, what will be done.

9
10 **SENNAI HABTES:** Kevin?

11
12 **KEVIN MCCARTHY:** So, I would not-- I think I would have it the
13 other way around. Right? So, there's a vision, there are
14 objectives, and the way you get to them is using conceptual models,
15 right? So, that's how I would think of it. So, that's why I would
16 elevate that to the very first thing or, I can't exactly remember
17 what one is now, but it needs to be right at the beginning. Like,
18 this is the vision, this is the objectives, and then here's all
19 the stuff we did to try and achieve them.

20
21 **SENNAI HABTES:** J.J.

22
23 **JUAN J. CRUZ MOTTA:** Yeah, that's perfectly plausible. We move it
24 to the top saying, we came up to this because of three. Yeah. Yeah.
25 Perfect.

26
27 **KEVIN MCCARTHY:** I think of it, you know, it's, I mean--

28
29 (Part of Dr. McCarthy's comments are inaudible on the audio
30 recording.)

31
32 **SENNAI HABTES:** So, I'm going to recommend that we finish going
33 through this just overall, and then we pause on the discussion of
34 the outline and move to Tarsila presentation. And we revisit this
35 after lunch and more formally continue developing the outline.

36
37 **JUAN J. CRUZ MOTTA:** So, if that's okay with you, we can stop now
38 and keep going to give more time to Tarsila.

39
40 **SENNAI HABTES:** Yeah, I think that would be great. Okay.

41
42 **Overview of the Efforts to Calculate the Community Social**
43 **Vulnerability Indicators for the U.S. Caribbean -Tarsila Seara**
44

45 **TARSILA SEARA:** Okay. So, I will in fact attempt to do two
46 presentations in this time and it should be perfectly doable
47 because they're not long presentations, and I do not intend to
48 really get into the details of the results. This is more to present

1 to this group relatively recent, more recent efforts, from a social
2 science standpoint, that can help to identify some helpful
3 indicators.

4
5 So, I'm going to start with an overview of the efforts that were
6 recently done to calculate the community social vulnerability
7 indicators for the U.S. Caribbean. And this was something that
8 was-- So some of these indicators were already calculated for the
9 Caribbean, for the Island-Based Management Report. I think three
10 of them were calculated. I'm just going to summarize recent efforts
11 to calculate the fisheries indicators and to update some of the
12 other social indicators, what they're now calling environmental
13 justice indicators, economic indicators, and some gentrification
14 effort indicators. And at the end, I'll talk a little bit about
15 the challenges and then hopefully I will be looking forward to
16 maybe Kevin's thoughts on what we can do in the future to help out
17 with this process.

18
19 So, this was done in collaboration with Anthony Mastitski from the
20 Southeast Fishery Science Center. Kelly was super helpful in this
21 process too. Believe it or not, it took three people to calculate
22 the fishery indicators, and I will explain why. And Matt was
23 extremely helpful in making all of this happen.

24
25 So, I will start with just a quick background. So, I'm referring
26 to, here, the community social vulnerability indicators. So, this
27 is essentially a NOAA toolbox and now has 14 social economic and
28 climate change indicators. This process began in 2013. I have a
29 reference here to a tech memo by Jepson and Colburn. I was involved
30 in some of the ground truthing of this for the Northeast back in
31 2015. So, these indicators have been used everywhere else in the
32 U.S. for some time. And I summarize them here in this table. And
33 I bolded the ones that we now have for the U.S. Caribbean.

34
35 So, the fishing indicators, or the fishing engagement and reliance
36 indicators-- Oh, and I also wanted to mention that these are the
37 indicators that Sarah mentioned in her presentation yesterday,
38 that they use in their documents in the mid-Atlantic. So, she was
39 referring to these same indicators.

40
41 So, the fishing engagement and reliance indicators. We have a
42 calculated the commercial engagement and commercial reliance
43 indicators now for the Caribbean. We are unable to calculate
44 recreational indicators. We don't have data. And we have, all three
45 of the environmental justice indicators, poverty, population
46 composition, and personal disruption. And we have one of the
47 gentrification pressure indicators, the retiree migration. And we
48 have all two of the economic indicators, labor force structure,

1 and housing characteristics for the Caribbean. We don't have any
2 of the climate change indicators currently for the U.S. Caribbean.

3
4 So, just to give an example. So, this is one tool, or one way that
5 these indicators are now currently used. There's an online tool
6 for all other regions in the U.S. and you can download, and you
7 can look at all the results of these indicators through time in
8 this map. And when we started the Lenfest process that's what
9 triggered me sort of calling Matt McPherson being like, "Hey, can
10 we revisit this? Can we calculate these indicators that will be
11 useful in our context?" And then, this sort of grew into, "Yeah,
12 let's do this and hopefully add the Caribbean to the yearly updates
13 that NOAA does for all these social indicators so that they can be
14 widely available."

15
16 So here, this is not great because you can't really read, but I
17 just listed all the indicators that we calculated for the Caribbean
18 and the data sources. So, a little description of what goes into
19 each one of these indicators and the data. So, I'm going to focus
20 mostly on the fishing indicators and the data that we use for that
21 was landings data. So, the Commercial Fishing Engagement and
22 Reliance, they use the same data, the same data sources except
23 that the reliance indicator is relative to the community
24 population. So, normally these are calculated using number of
25 permits fish dealers, number of dealers, and vessel landings,
26 pounds in value. We don't have dealer information for the
27 Caribbean, so we used permits and landings, pounds in value.

28
29 The ones that I'm going to present today, the ones that we
30 calculated referred to commercial landings. It's a five-year
31 average that we use from 2016 to 2020. And then the permit numbers
32 that came from that same database. For the reliance one, the
33 population data was used from the census for each municipality and
34 sub-district, in the case of the U.S.V.I. All other indicators,
35 the data is extracted from the U.S. Census to be calculated, and
36 we now have two-time data points for census 2010 and census 2020.

37
38 Now, full disclosure. I have not yet really thought about the
39 results, and especially when we look at comparisons between 2010
40 and 2020. We literally finished calculating the 2020 indicators
41 last week. So, I am going to present them, but we are still in the
42 process of interpreting the data. So, for commercial engagement
43 and reliance, I split Puerto Rico into East and West, just to make
44 the graphs a little bit more digestible. But here our standardized,
45 and again, I'm not going to get into the details of the data, but
46 it's just to show you what we can show with this.

47
48 I think the most interesting way to look at it right now, is

1 mapping this information here, the same scores, but they are
2 categories zero through four, zero meaning we have no data. But
3 one through four low, medi high and very high vulner-- sorry
4 engagement, fishing engagement.

5
6 Same for reliance, you know, mapping, categorical. And this is
7 essentially that information that's being mapped for-- the big map
8 that I showed before this is what would be included in that map,
9 would be the categorical scores. Same for the U.S.V.I. here, both
10 engagement and reliance and the maps with the categorical scores.

11
12 Now, these fishery indicators, and I'll talk a little bit more
13 about this later, but as I mentioned, it took three people to
14 calculate these and they hadn't been calculated before, even though
15 they sound pretty straightforward, calculating these for the
16 U.S.V.I. was extremely difficult because we do not have an easy
17 way to obtain landings data by sub-district. So, we literally had
18 to match the landings dataset that have the fishermen's names and
19 then through the fishery census and a database from U.S. Fish and
20 Wildlife, we had to match names and addresses. And that was, I
21 have got to say, a nightmare.

22
23 So, that's one thing that at the end I have, if there's any way
24 that we could, because I don't know who's going to sit down to
25 update that and ever do that again, because it literally took three
26 people. So that's one thing that, you know, I would like to maybe
27 hear some thoughts on, because these are very helpful indicators
28 and would be very helpful for us to have a way to compare them
29 through time.

30
31 And again, I'm going to go very quickly through these because these
32 are just visualizations of the other indicators. So, we're looking
33 at all the EJ, the economic and the gentrification pressure. The
34 retiree migration, we only have that for 2020, but here, just
35 comparing 2010 and 2020. And as I said, we have not yet interpreted
36 these results, and I'll talk about it at the very end. The need
37 for validation and ground truthing of these as well.

38
39 So, at this time I will not discuss what these trends mean. I just
40 want to stress that it's really important that we can calculate
41 and update these, so we do have trends for the region. So, I'm
42 just show going through standardized scores and then just looking
43 at it at the categorical. We don't have maps for Puerto Rico yet
44 for these, so I just have graphs. And this is for the U.S.V.I.
45 showing, again, differences between 2010 and 2020 in both
46 standardized and the categorical scores.

47
48 So, I already talked a little bit about this, but just to summarize

1 what the next steps are, is understanding the trends that we're
2 observing. This is something that interpretation is needed. Like
3 I said, full disclosure, we literally just got these done. I just
4 wanted to present them as something that we can use. I want to
5 discuss with the Southeast office if we could do some validation
6 or ground truthing efforts for this, which would be very helpful.

7
8 Also, the data challenges that I already mentioned. The landings
9 at the community level for the U.S.V.I. if there's any way that
10 that can be addressed or something that we can do to make that
11 process easier. But also, you know, point out data gaps. We're
12 unable to, and I know that this is a much bigger issue, but we
13 cannot calculate recreational engagement and reliance because we
14 don't have data. If there are any suggestions for any data that we
15 could use in the context of the Caribbean that would be also great
16 to discuss. And then of course, you know, the whole point is to
17 think about how these could be used and integrated into our
18 efforts.

19
20 **SENNAI HABTES:** Excellent. Thanks, Tarsila. Great presentation.
21 We'll open up the floor for questions. Kevin?

22
23 **KEVIN MCCARTHY:** So, I think that on the Virgin Islands forms, and
24 we have a guy in the room who can clear us up on that, I think
25 they're reporting where-- Like the most recent ones, I think they
26 have the information on the landing site. Isn't that right?

27
28 **SENNAI HABTES:** Julian Magras.

29
30 **TARSILA SEARA:** So just very quickly, just because I just want to
31 make sure that Julian answers the right question. So, what we're
32 looking at, it's not, what we're interested in is not the landing
33 site, but it's actual residency. So, we're looking at the
34 contribution of landings for the communities and not where it's
35 landed, but where the fishermen actually reside. Does that make
36 sense?

37
38 **KEVIN MCCARTHY:** Yes. And I still think that that information is
39 available.

40
41 **JULIAN MAGRAS:** Okay, I got it working now. So, Julia Magras for
42 the record. So, the fishermen have their different areas where
43 they land, and it is reported on the catch report. And that was
44 one of the things, my question coming, and Kevin brought it up,
45 but where we land and where we sell at two different things.

46
47 So, we don't sell in the communities where we actually live. So,
48 we have like six different primary locations that we sell at, and

1 each fisher has its own designation spot of where they would sell.
2 Some do more than one site, especially on Saturday. They might
3 sell at the Fort Mylner site during the week, but then some of
4 those guys actually go to the Market Square on Saturday morning.

5
6 So, my question was going to be exactly what information you're
7 trying to get so I can help you in getting that information,
8 because it's not a large number of fishers, it's a pretty small
9 number fishers, and you can get what you need in order for your
10 models to work or whatever you're trying to do. You know, just let
11 me know and I'll be willing to help you with that information.

12
13 It's hard for Fish and Wildlife to get that information because
14 the only place they would get that, actually, is the day of
15 registration, that one form that we fill out with our mailing
16 address. That mailing address will not actually tell you where the
17 fisher lives. Only for the guys on the north side that receive
18 mail on the north side, it would say where they live, but the rest
19 of us, we have P.O. Boxes, so you're not going to capture that
20 information out of those forms. So, just let me know what you need.
21 I'll be willing to help you with that.

22
23 **TARSILA SEARA:** Yes. Yeah, that's great, Julian. I think we should
24 definitely talk more about that. But just to clarify. Similarly,
25 to other regions, you know, they had to make a decision. I mean,
26 do we use home port? Do we use landing port? Do we use-- and so
27 the decision was to use address so that we could link it to
28 engagement and reliance of people living-- Because you could, like
29 you said, you could have a different way where you have your vessel
30 and where you're actually landing your catch. So, the decision was
31 to link engagement and reliance to the communities where they're
32 linked to residency of the fishers.

33
34 And so yeah. So, if we had a way of systematically being able to
35 link landings to communities that way, that would be the most
36 helpful.

37
38 **JULIAN MAGRAS:** Well, what you can do is, you link the landings to
39 the actual address of where the fishers sell. So, I sell at the
40 Gustave Quetel Fish House. That's my primary location of selling
41 and there is an address to that. So, I think what would close a
42 lot of your loops is getting the actual address of the Market
43 Square, around the field, Coki Point, Fort Mylner, Frenchtown, and
44 you can link the landings to those sites. So, in other words, I
45 land at Krum Bay, but I sell at the Frenchtown Fish house. So, you
46 could link that landing to that area. And we have a couple other
47 fishers that actually, you know, come in at that site and then you
48 have the other areas where a lot of the fishers come in. Like,

1 let's say Saga Haven, you have all your big hitters fishermen that
2 come in there and then you can link where they actually sell to.
3 But linking it to where they live, it's not correct information
4 because that's not where the catch actually goes. So, if that makes
5 sense.

6
7 **SENNAI HABTES:** So, if I can clarify. So they have that
8 information, we have all the information from the landing sites
9 where fish comes in. The issue isn't the question of landings, The
10 information that they're trying to do is to tie it to census
11 information, tying the landings back to the quantitative, meaning
12 the spatial distribution from the information that comes in from
13 the census. And the only way to do that for them was to do it by
14 subareas associated with the residential.

15
16 Because all of these, through a cs-- The data set that they're
17 using to build these all comes from the census data. And so, that's
18 what they were trying to do is tie it-- Because we look at fisheries
19 exactly the way you're talking about it, landing sites, sales
20 sites. But those don't translate to the information that comes in
21 from census, which is the way they have to structure it, to tie it
22 back into these same indicators.

23
24 And so, what we were trying to do is, take that information and
25 form it into a spatial approach that they could use to tie back to
26 the same trends and other indicators. And I think one thing we can
27 do is try, during registration, to get a physical address on the
28 forms into our database. And so, we can have a crosswalk table
29 that'll give landing site, tied to a fisher's registration number,
30 tied to a helper's registration number, tied to a landing site,
31 tied to a residential address. But unfortunately, sometimes those
32 do change for our fishers in the middle of the year, quite
33 frequently. So, I haven't figured out a good way to get updates on
34 that regularly, because we only do the one registration a year.
35 Ori?

36
37 **ORIAN TZADIK:** So, just a question with regard to that and then
38 something for here. How many post offices do you guys have in Saint
39 Thomas, for example?

40
41 **SENNAI HABTES:** Less than landing sites.

42
43 **ORIAN TZADIK:** Yeah, but like, is it less than--

44
45 **SENNAI HABTES:** Saint Thomas has four that are public and four
46 that are prior?

47
48 **ORIAN TZADIK:** So, in Puerto Rico, I don't view it as a problem

1 because like everybody who lives in Rincón and fishes in Rincón
2 and has a P.O. Box, it's going to be a P.O. Box in Rincón and
3 you're doing it by municipality. So, I'm wondering that-- but
4 that's not the case. You're telling me-- No. Okay. All right. So,
5 forget that.

6
7 **SENNAI HABTES:** So, one, we don't have municipalities. In the
8 Virgin Islands we have districts or States. Oftentimes where you
9 live, does not tie to the post office spots that you use.

10
11 **ORIAN TZADIK:** Yeah, that's what I was asking. Okay.

12
13 **SENNAI HABTES:** So, I use Frenchtown, but I live in Fortuna.

14
15 **ORIAN TZADIK:** Okay. So, then my question to Tarsila was exactly,
16 you know, this is a perfect example of it, is that, when you're
17 going to be doing this data validation and the ground truthing and
18 everything, are you going to consider creating your own indices
19 and measurements? Because a lot of this stuff I know doesn't
20 necessarily work for the Caribbean. You know, a lot of the,
21 particularly, the fish ones, it sounds like you're getting a handle
22 on, but like, I'm concerned about the economic ones. I know those
23 are problematic. And so, you know, are you thinking about that.

24
25 **TARSILA SEARA:** Yeah, I don't have an answer, but I totally agree.
26 I've been discussing this with Matt McPherson and Anthony in terms
27 of next steps, but the question is, when there's funding, which I
28 don't know if there is, but we, as I've said, we've been in
29 conversation about this validation. I am, as you said, we have had
30 conversations about being concerned of how it's actually, if it is
31 truly reflecting the reality. And for now, we just took exactly
32 what we're doing everywhere else in the U.S. and just did it for
33 the Caribbean, so we have two data points that we can, okay, now
34 we have the ability to have a more in-depth conversation about
35 whether or not these are working or if we need to adjust the data
36 that's-- You know, maybe there are other indicators in the census
37 because there's more data that would fit better with the context
38 of the Caribbean and we could absolutely just, you know, make it
39 work using other indicators. So, we need to explore that, but for
40 that we need to have some sort of way of validating or ground
41 truth, you know.

42
43 **SENNAI HABTES:** So, there are a couple ways I think we can go about
44 doing this. One is, you guys have already clearly identified your
45 sub-regional areas. We're going through a process now where we're
46 going to be doing port in a random stratified way that will be
47 happening over the course of the next couple of years. We do
48 calculate landings as part of those that are going to be going

1 into standardized databases. And we're doing a survey which will
2 get both recreational and commercial and we can add a section on
3 that that asks the residential sub-area that you require for this
4 data. But that is only a partial set of the landings.

5
6 I am hesitant to put yet another change into our CCR forms, but
7 this, I think, would be an easy one that won't affect other sets
8 of landing. But there's a whole process that we have to go through
9 for doing that. Particularly, if it's not a map that the fishers
10 are already well aware of. Meaning, they know their landing sites
11 associated with where they catch the fish and the landing sites,
12 which we get on the catch reports forms. But if I'm asking them to
13 look at yet another map on the form that they're filling out, it's
14 not something that I really want to do, because the more things
15 you ask of them that aren't clear, it's more on their time and
16 less, you know, validatable and clear information that you're going
17 to get.

18
19 **TARSILA SEARA:** These are great ideas and I also just wanted to
20 say, even if your previous idea of just the registration once a
21 year if we get that information, even that will be so much better
22 than what we have now. So, you know.

23
24 **SENNAI HABTES:** That I can do. But I think we'll need to talk with
25 DRNA and identify ways that we can include that for-- because
26 there's, I think, is very different in terms of fisher
27 registration, residential, versus landing, versus catch areas. So,
28 we need them at the table to get that information. But I can act
29 as a bridge for that as well.

30
31 **TARSILA SEARA:** Thank you, Sennai.

32
33 **SENNAI HABTES:** Kevin.

34
35 **KEVIN MCCARTHY:** I think we're done with that one, right? So, can
36 you clarify the second point? The validation ground truthing thing.

37
38 **TARSILA SEARA:** Yeah, so this would be-- and, you know, I mentioned
39 earlier that I was involved in the ground truthing of the first
40 set of indicators for the Northeast. There, what we did is, we did
41 a survey effort. So, we went out and we had specific questions
42 that we asked that we could then use to compare to the scores and
43 the data that we obtained through calculating the indices. But
44 there are other ways that we could do it that would be maybe a
45 less time consuming or, you know, less resource consuming. But
46 it's just a way of matching what we're seeing here and the trends
47 to the reality of what's actually happening in those communities.
48 And also, make sure-- and this could be something that could be

1 done just in collaboration with stakeholders or is it actually
2 reflecting what's happening in these communities. So that's what
3 I mean by that.
4
5 **KEVIN MCCARTHY:** Okay. The reason I ask is because in one of the
6 previous slides, I think you mentioned the ground truthing and the
7 validating in association with the Science Center, if I saw that
8 correctly. I may be remembering incorrectly. It was something that
9 had Science Center next to it and I thought it was associated with
10 that, but maybe I'm misremembering.
11
12 I may have entirely made it up in my head, so.
13
14 **TARSILA SEARA:** No worries.
15
16 **KEVIN MCCARTHY:** I just didn't want to disappoint you. So, right.
17 So, if there was a way that we could be of assistance, but a lot
18 of that stuff would be more Matt's group. Right?
19
20 **TARSILA SEARA:** Maybe that's what it was. Maybe when I was talking
21 about it, I said something like, I'm in conversation with the Sci-
22 - hoping for some help from the Southeast, from the Center. And
23 yes, Matt is my-- I started nagging him already.
24
25 **SENNAI HABTES:** Tarsila. I had a question.
26
27 **TARSILA SEARA:** Go ahead.
28
29 **SENNAI HABTES:** After your comment.
30
31 **TARSILA SEARA:** No, what I was going to say is that I failed
32 miserably to keep the time to actually do the two presentations.
33 So, we could be able to--
34
35 **SENNAI HABTES:** We can pick it up after lunch?
36
37 **TARSILA SEARA:** Okay. Awesome.
38
39 **SENNAI HABTES:** Between 20-- the CSVI trends. The data you have
40 are simply the one-year census information or it's interpolated
41 across the years between those two.
42
43 **TARSILA SEARA:** So, the data is just to, it's like cross action,
44 so it's just taking the data from the 2010 census and calculating
45 the indicators and then taking the data from the 2020 census and
46 calculating the indicators. Yeah.
47
48 **SENNAI HABTES:** So, then with regards to the other ones, the

1 fisheries ones, those are continuous data sets, or you're still
2 doing those only on the 2010 and 2020?

3
4 **TARSILA SEARA:** No, so those are a little bit different. What we
5 did for those was a five-year average of the landings. But the
6 population, we actually, we did 2020 census, but we actually took
7 into consideration population changes within that five-year
8 period. But what we have right now is 2016 to 2020 data and we use
9 the average to calculate them.

10
11 **SENNAI HABTES:** Okay. Thanks.

12
13 All right. Do we have any other questions, either online or in the
14 room regarding this presentation? Okay.

15
16 So, I'm not sure, did you want to start the other ones and then we
17 break for lunch? Or do you want to wait until after lunch to go
18 into it?

19
20 **TARSILA SEARA:** If it's okay, we can wait. Yeah, I think that's
21 probably better than interrupting it. The other one is probably
22 going to be quicker.

23
24 **SENNAI HABTES:** Yeah. So, then I would say, why don't we go back
25 to the outline. We can work on that for 10 minutes and then we'll
26 break for lunch. I mean, unless there's other topics for discussion
27 that we wanted or short that we wanted to get into, I'd recommend
28 we just keep moving along on the-- We use the time when we have
29 the time. So, J.J. do you want to share the version of your outline
30 that we were working on, and we can keep moving along on that.

31
32 **JUAN J. CRUZ MOTTA:** Just continuing with the outline. We were
33 here, moving around the stakeholder involvement. Then, I mean,
34 what I get is it's important to have it there. We also move vision,
35 strategic objective framework to second. And I put a note here but
36 specify that the rationale for these are given below. You know,
37 like, why does are the strategic objective? And what's the vision?
38 Yeah?

39
40 **SENNAI HABTES:** Kevin?

41
42 **KEVIN MCCARTHY:** I just wanted to take the mic away from J.J. So,
43 can we start at the top again since we're re-- because, yeah.

44
45 **SENNAI HABTES:** Maybe I can get a little more context into my
46 reasoning below and that might help you formulate question. When
47 I'm seeing what we've put in in the introduction, to me, these are
48 somewhat nebulous and general, right? If you're doing purpose of

1 the document, describing the tool to assist, the characteristics
2 that they need to be actionable, formative, participatory,
3 summarizing the information. All of these are general things that
4 help you understand this EBFM theory, background and framework,
5 but they're not specific processes or tools that the CFMC will use
6 to evaluate the information that we are talking about below.

7
8 I think the most important aspect of the FEP we are developing is
9 that, that process by which the CFMC will get us to a way to use
10 ecosystems information in fisheries management. And those can't be
11 theories, they have to be backgrounds, processes, and steps.
12 Because as we've all seen when we talk about this stuff at the
13 Council level, there needs to be constant reminders of the process
14 by which you can use to engage it. Whether it's in the stock
15 assessment process or it's in a decision support system for making
16 changes to existing rules and regulations. Each of those tends to
17 require a presentation from the SEFSC on how we can make those
18 decisions.

19
20 We need to do the same thing in the document that we are developing
21 for this fisheries ecosystem plan. Kevin?

22
23 **KEVIN MCCARTHY:** So, I think that's a great idea. And so, in
24 envisioning this document, this introduction is a brief, is very
25 brief. We're talking about a page, almost an abstract, right? And
26 then, you go into two, and then here are all the components that
27 get you to your strategic objectives and vision and all that. And
28 here's how you use them Council. I think that's great.

29
30 **ORIAN TZADIK:** None here's how you use them yet, right? I mean, we
31 don't spec--

32
33 **JUAN J. CRUZ MOTTA:** Not yet.

34
35 **ORIAN TZADIK:** Way below. Yeah. Okay. Yeah, yeah, yeah.

36
37 **JUAN J. CRUZ MOTTA:** No, just to, yeah. That introduction is a one
38 pager. Let's say this document will help you to do one and two,
39 and it's a document that has these characteristics. Since one is
40 guiding you to implement EBFM, this is what we understand by EBFM.
41 Receive a lot of discussion of what is EBFM, go to this paper to
42 tell you how many visions are there. We're using this one. Of
43 course, basically what NOAA has already established as a guideline.
44 So, it's a one page. Yes.

45
46 **KEVIN MCCARTHY:** That's helpful, to get my head wrapped around it.
47 A little bit.

1 **JUAN J. CRUZ MOTTA:** So, okay. Basically, well, synthesis we have
2 already done that. The important is, like, what is defined by
3 everybody should go there and then other documents to be referred
4 to. Now, stakeholder involvement, and actually, we can move that
5 within the Lenfest loop, actually, four is at all stages, right?
6 So, we can basically move any-- Yes, sir.

7
8 **ORIAN TZADIK:** Sorry, J.J., let me back you up here. 3c, based on
9 existing data, is this just ESR?

10
11 **JUAN J. CRUZ MOTTA:** No, ESR is one-- sorry. Here. Uh-huh Yeah.
12 Comes from ESR, comes from Lenfest, comes from to--

13
14 **ORIAN TZADIK:** Right. So, okay. So, yeah, 3c is the ecosystem
15 status report as well as SEAMAP, NCRMP, PRCRMP, etcetera.

16
17 **JUAN J. CRUZ MOTTA:** Yes. But again, right, it's like, this is a
18 link to the paper or to the report. Here is a summary of what's
19 happening to the fishers. Diversity is increasing, biomass is dec--
20 I don't know. The things are--

21
22 **TARSILA SEARA:** So, if that's the structure, then the 5a is
23 actually then repeated right from 2c. So, we don't need to have
24 that there. Right? If ecosystem status report is included in 3c--

25
26 **SENNAI HABTES:** What I think three is, is a synthesis of how it's
27 created. Meaning, this is what went in, these are the components
28 that came out. Five, I thought was the list of indicators from
29 that that is used in our framework, which is in 2. And d was a
30 summarized list from those three sources that the Council can use.
31 J.J.?

32
33 **JUAN J. CRUZ MOTTA:** Yeah. That's how I envision it, but I don't
34 know if you have--

35
36 **TARSILA SEARA:** Yeah, no, no, that makes sense. I was just
37 wondering if 3c, and this is just a minor thing really, but if in
38 3c, existing data, already includes ecosystem status report, then
39 in 5a and c, it would be included twice. That was my only comment.

40
41 **JUAN J. CRUZ MOTTA:** What we're making in number five is a section
42 with a list. There's not a description of how we came up with that
43 list, because that's in three.

44
45 **SENNAI HABTES:** Kevin?

46
47 **KEVIN MCCARTHY:** So, I could almost see three as the methods, down
48 below is the results if you're thinking of a scientific paper. Is

1 that a reasonable way to think of it.?
2
3 **JUAN J. CRUZ MOTTA:** Yeah.
4
5 **SENNAI HABTES:** That's how I was envisioning it. Ori?
6
7 **ORIAN TZADIK:** So, what I'm seeing there though, 3c, aren't those
8 the MDS graphs with the influence vectors?
9
10 **JUAN J. CRUZ MOTTA:** I would advocate not to show a single MDS in
11 this document. Because whenever show one of those, people get
12 disengaged.
13
14 **ORIAN TZADIK:** Yeah, but I mean, it's instrumental in showing like
15 exactly what it says there, description of patterns of temporal
16 and spatial variation. I mean, you showed very clearly the
17 differences among your groups and that, and then, you know, with
18 those vectors-- I'm asking. I mean, like, I thought that that was
19 a presentation of that stuff, not a method section.
20
21 **JUAN J. CRUZ MOTTA:** Yeah, yeah. And then yeah, no, but like say,
22 look, I think it's-- yeah. How I see it. To select indicators based
23 on existing data we use description of patterns using multivariate
24 analysis, and then we correlated the original variables to those
25 ordinations and the results are in five. And this is an example.
26 And then we can put one, like for example, I don't know, the trends
27 of Puerto Rico Coral Reef Monitoring Program in the west of Puerto
28 Rico and then what were the drivers of changes. And that's how--
29
30 Yeah, we can use that to exemplify the how. But definitely the
31 three is more about the process, how we end up with those. And
32 then five is the final list.
33
34 **SENNAI HABTES:** Stacey.
35
36 **STACEY WILLIAMS:** So, maybe we should-- I mean, this is being like
37 really anal, but moving like identifying the main components down
38 to five, which would be like a step before identifying the
39 indicators. Because if it's describing the methods, if three is to
40 describe the different techniques we're using, you know, the ESR,
41 the conceptual models and the quantitative models, and then five
42 is really like the results of everything. I don't know.
43
44 **ORIAN TZADIK:** Well, it should be like repeated, right? That's how
45 scientific papers are written, right? Like, you have the same
46 sections for method and then you have the same section for-- One
47 section says this is how we did it, and then you just say, here it
48 is, like, this is what it is.

1
2 Let me just ask J.J., are we envisioning then-- So, this whole
3 document is just links, no appendices.
4
5 **JUAN J. CRUZ MOTTA:** It could be appendices. Yeah.
6
7 **ORIAN TZADIK:** Yeah. Like, I'm wondering, for example, the
8 conceptual models. So, there's a total of, was it 51 or something?
9
10 **TARSILA SEARA:** As many as we want. We can make a whole bunch of
11 them.
12
13 **ORIAN TZADIK:** I mean, the originals though.
14
15 **TARSILA SEARA:** Oh gosh, a lot. But we would probably, I think
16 from what J.J. was thinking for this, would be to show the whole
17 thing.
18
19 **ORIAN TZADIK:** The melded.
20
21 **TARSILA SEARA:** The melded. And then by island.
22
23 **ORIAN TZADIK:** Okay.
24
25 **TARSILA SEARA:** I don't think we would be showing by stakeholder.
26
27 **ORIAN TZADIK:** Right. And then the stakeholder ones would be in a
28 link to your papers and whatever else.
29
30 **TARSILA SEARA:** Yeah.
31
32 **ORIAN TZADIK:** We're not putting everything in an Appendix.
33
34 **SENNAI HABTES:** Kevin?
35
36 **KEVIN MCCARTHY:** So, who's our primary audience for this document?
37
38 **JUAN J. CRUZ MOTTA:** The Council.
39
40 **KEVIN MCCARTHY:** Yeah. They're not going to read all that stuff.
41
42 **SENNAI HABTES:** Right.
43
44 **KEVIN MCCARTHY:** But other people will read this and if it were
45 me, and I guess I have somewhat of a vote, to put a whole bunch of
46 appendices and they're going to see this massive document, the
47 Council's going to immediately not look at it, right? So, I would
48 recommend links. I do think all of that stuff is critical because

1 somebody will read it that, you know, wants to dig into that stuff.
2 So, just as in terms of presentation, a 500-page document, they're
3 going to not even start it.

4
5 **SENNAI HABTES:** My recommendation is we take all of the conceptual
6 models, all of the ecosystem status reports, all of the indicators,
7 all of that, and put it into a separate data dump document that we
8 can then link to, and it can go on the Council page. But this needs
9 to be a short operational document that can be used by people
10 trying to figure out how to make decisions.

11
12 To that end, I want to go back to this question between three and
13 five. I think one is the how, the other-- or one is the why,
14 meaning three is why these things are here. And five is the, this
15 is what they are, and this is how you use them to make these
16 decisions. Because the indicators in five is not all of the
17 indicators that went into the conceptual models or how we crosswalk
18 between the choices. They are a simplified list of the ones that
19 are available for use in our EBFM process that we are recommending
20 to the Council to use.

21
22 **ORIAN TZADIK:** So, then where do we have in there, how we're going
23 to use it? Is that further down? Did we-- is that seven?

24
25 **JUAN J. CRUZ MOTTA:** Yeah, further down.

26
27 **ORIAN TZADIK:** Okay.

28
29 **JUAN J. CRUZ MOTTA:** Also note that the difference between a
30 component in the conceptual model, and the indicator, is that
31 indicator is a specific attribute of that component. Now we, for
32 example, in number three, we would say one of the main components
33 of the system based on stakeholder common opinion are coral reefs.

34
35 The indicator is total coral cover, or number of species, or reef-
36 - Right? The indicator will be something more specific than the
37 component described in the conceptual model.

38
39 **SENNAI HABTES:** So, Tauna has her hand up.

40
41 **TAUNA RANKIN:** Just really quickly since we're at lunchtime, in
42 case we don't come back to this page after lunch. Question on the
43 difference between risk assessment on the fishery system and risk
44 to meet objectives. Is 6c, risk to meet objectives coming from the
45 ESR? If so, I think they'll probably also be used in the risk
46 assessment, and so there just may not be a need for a "b" and a
47 "c". It's all highlighting depending on what "c" means.

1 **JUAN J. CRUZ MOTTA:** Tauna, thank you. Very good question. I put
2 those two options, perhaps I didn't write them well, but it's
3 basically, "b" and "c" was trying to give the two-- Oh, my God.
4 Yeah, it's lunch time. Tauna, do you remember the question you had
5 yesterday? Are we going to use the risk assessment for "a" or for
6 "b"? What I was trying to do with those "b" and "c" was to spell
7 out your question and summarize your question. But then my
8 suggestion when you raise the question was to do "6c," no "6b."

9
10 **TAUNA RANKIN:** Okay, that helps. You know, maybe it makes sense to
11 break them up in the different ways of analyzing risk, but
12 generally I think we're actually trying to do just "6c".

13
14 **JUAN J. CRUZ MOTTA:** Thank you. But of course, it's open to any
15 comment or discussion from the group.

16
17 **SENNAI HABTES:** So, I don't see any other, I'm going to give us
18 just a quick comment on our way out the door for us all to think
19 about over lunch. And that is, I think this idea of how we develop
20 the risk assessments to meet either the objectives or assesses on
21 the fishery system links back to a larger question about how we're
22 going to develop the process.

23
24 I think in this framework where we have basically three through
25 six, they should be under headings of this is what we are
26 recommending these to be used for in this process. Here is the
27 information on them. And I think each one of those is a specific
28 step in the loop that we need to clearly identify for the Council
29 under this structure and then we go into that information. And I
30 think that's how we should organize it.

31
32 But I'm open to all other options. I think we can think about and
33 talk about it after Tauna's presentation. We'll come back to this.
34 But for now it's 12:06 PM We are going to break for lunch and we
35 will return back in the seats. Let's do 12:15 to restart the
36 meeting. Sorry, 1:15. My apologies. All right. So, with that
37 meeting break at 12:06 PM.

38
39 (Whereupon, the meeting recessed for lunch on May 3, 2023.)

40
41 - - -

42
43 May 3, 2023

44
45 WEDNESDAY AFTERNOON SESSION

46
47 - - -

1 **SENNAI HABTES:** Okay. Good afternoon, everyone. It is 1:17 PM.
2 We're going to reconvene for our afternoon session. There are a
3 couple of updates. One, Stacey has had to step away to attend a
4 master's or PhD thesis disserta-- exam. One of those. Something
5 for a graduate student where they're being tested. I'm assuming
6 it's an exam and not a thesis defense. But she will rejoin us at
7 2:00 PM.

8
9 In addition, the SSC is currently going over research priorities,
10 so I think we should, maybe after Tarsila's presentation, shift
11 over to discussing those and kind of solidify some research
12 priorities through EBFM that we want to get sent down to the SSC
13 during their afternoon discussions while they're formalizing their
14 research priorities. So, after we do those, I think we can move
15 back to formalizing the outline and go into some of the working
16 group discussions.

17
18 So, I will just see if anyone has an issue with that or questions,
19 please raise your hand or let me know to make a comment.

20
21 All right. So, I will just take that as everyone's fine with us
22 moving forward in that direction. So, given that, I think we can
23 go ahead and open the floor up for Tarsila presentation. Tarsila,
24 did we need to wait for Julian on this one or this one is not a--
25 We do?

26
27 **TARSILA SEARA:** Yeah, he wanted to be present. I just sent him a
28 text. So, hopefully, I mean, I guess we could maybe start out,
29 just start with the background and whatnot and hopefully he can
30 join.

31
32 **SENNAI HABTES:** We can do that, or we can talk about research needs
33 or we can go back to the outline [crosstalk]

34
35 **TARSILA SEARA:** That's fine with me too.

36
37 **SENNAI HABTES:** Whatever you guys want to do.

38
39 **TARSILA SEARA:** Oh, he said he can't leave right now, so.

40 41 **Research Recommendations for SSC**

42
43 **SENNAI HABTES:** Well then why don't we do the research discussion
44 kind of priorities? How about we do that in the interim and then
45 we'll move into Tarsila presentation and do some of the work in
46 group formatting and outline stuff a little later in the afternoon.

47
48 I would like us to get at least a somewhat more formalized draft

1 of the outline done today. I think there are some elements that we
2 can put in, we'll probably add more to it over the course of the
3 week. We're getting close to getting to a more formalized draft,
4 and I'd like to finish that up. But we do need to send some research
5 priorities, I think associated with our needs within the EBFM TAP
6 and for EBFM work to the SSC. So why don't we start the conversation
7 and then try and solidify it.

8
9 What I would like is for us to have two clear research priorities
10 that we are sending down for them to evaluate, to include in their
11 list of research priorities for the Council. So, I think I can--
12 I'll open up the floor now for us to have 15 minutes of discussion
13 for that, and then we can put up a sheet and have-- I'll take notes
14 while we do that.

15
16 Ori is recognized.

17
18 **ORIAN TZADIK:** Yeah, I think that through the Lenfest project we
19 heard very clearly research priority would be getting recreational
20 landings, a handle on recreational fishing pressure, some way of
21 doing that. Maybe you can update us on what are we doing currently
22 that's, you know, underway and then maybe what we need is to
23 complete that.

24
25 **KEVIN MCCARTHY:** Yeah, this is Kevin. So, we've got two projects.
26 One with DFW, we're very collaborative looking in the Virgin
27 Islands at not just, it's sort of a revamp completely of the way,
28 ultimately of the way we do port sampling there. So, it will
29 include not just recreational, not just for higher, but commercial
30 as well. So, if a vessel comes to the dock, comes to the marina,
31 to the boat ramp, we're going to sample it, we're going to sample
32 them and whatever they bring.

33
34 So, historically there was some recreational data that was
35 collected in the Virgin Islands, but it was, you know, like
36 tournament data and stuff like that, which is useful, but it
37 doesn't get you landings and it doesn't get you size comps and it
38 doesn't get you that, you know, day in, day out, long term. So, we
39 wanted to do something beyond that.

40
41 And then in in Puerto Rico we've got a very minor sort of supporting
42 role to DNER's work at starting up a port sampling survey. And in
43 both of those-- Well, I'm not sure about Puerto Rico, but I think
44 that this is true --we've done an effort survey, meaning, we've
45 gone out, "we" being the people who are actually doing the work,
46 not me, and identified sites, identified the usage patterns in
47 those sites, what kind of boats are coming in? When are they coming
48 in? And so now we're working on an initial survey design and we've

1 hired a CIMAS associate in my group to help Steve Smith who's also
2 at CIMAS and has been there for 20 years and is the survey
3 statistician. So, this person David Behringer, who was on the call
4 earlier, I don't know if he's on now, but anyway he's working with
5 Steve specifically on those projects and some others.

6
7 So, you know, the issue is long-term funding, right? So, the
8 approach that we're taking is to keep MRIP engaged and aware of
9 what we're doing. We did have some updates for them, so they got
10 a report out of the work in the Virgin Islands and a report out of
11 the work in Puerto Rico. They didn't know where we stood, but they
12 were very happy with the progress, so we want to update them maybe
13 every six, eight months with the intention of, we're going to
14 develop a Puerto Rico centric, Virgin Island centric design because
15 the stuff you do on the mainland may or may not be appropriate,
16 right? We may come up with the same design, but we're not going in
17 predisposed to forcing the fit. And then we want to help have them
18 partially funded or completely funded.

19
20 So, that's the plan. So, I don't know if we want to push that
21 forward. If we're going to limit the number of research
22 recommendations coming out of this group, I would not recommend
23 something that is already ongoing because our problem there is
24 long-term funding. We think we have a mechanism to at least fund
25 the rec side of it, but that's kind of where we stand. And Sennai
26 can update as well, because he's, you know, leading the group
27 that's actually doing the work.

28
29 **ORIAN TZADIK:** No, that's very helpful. Thank you. You know, and
30 I agree with you, but I don't think it's worth something like that.

31
32 Just as a quick follow up and then maybe we can move on to something
33 else. Why is MRIP not involved already? Why have they moved out of
34 the Caribbean in the first place?

35
36 **KEVIN MCCARTHY:** So, I don't know all the gory details, but it was
37 always a sort of a fraught arrangement. So, I think, if this is
38 correct, they worked with DNER and they were never, except for
39 maybe a pilot work 20 or 25 years ago, they were never really in
40 the Virgin Islands, but in Puerto Rico they started in 2000 full
41 on. I think initially they worked with DNER and for whatever reason
42 that didn't continue. I'm not sure the timeline. But then they
43 worked with a series of contractors and the last one was just
44 really not working out in 2017, and when the hurricanes hit, it
45 was all over. Right?

46
47 So, it was already falling apart earlier in 2017 and it's just
48 never restarted. MRIP was left with a really negative association,

1 even though it had been going on for 17 years. So, I think we could
2 do a better job and have something that's-- It was problematic to
3 begin with. They didn't even-- You know, if somebody came in with
4 a bunch of lobsters, lobsters in the U.S. Caribbean, they didn't
5 sample them. Right? It was finfish and finfish only. So, it was
6 crazy. So, if you came in with lobsters and conch, it was like you
7 weren't even there. As I understand it.

8
9 **SENNAI HABTES:** J.J.

10
11 **JUAN J. CRUZ MOTTA:** Yeah, the thing in theory, in theory, I know
12 we have to adjust to what we have, but in theory, the research
13 needs need to be informed by the priorities in our strategic
14 objectives that we haven't even said.

15
16 **SENNAI HABTES:** So that is true, but those are priorities for two
17 or three years down the road, in my opinion. At present, if we
18 still haven't clarified and solidified the strategic objectives
19 from those, they can't go into research priorities from the SSC
20 this year. What can, our research associated with the process for
21 developing the FEP or research for more information that's needed
22 or gaps that you've identified either through Lenfest or the
23 ecosystem status report that we can use to say that those are
24 things that are needed if we plan to do EBFM going forward.

25
26 And so, I would say focus more towards that because I think, you
27 know, we have talked about a lot of the data gaps that stakeholders
28 are interested in associated with fisheries management data, I
29 would say a lot, at the Council level, but we have not really
30 solidified ways of bringing those in. Part of the reason I don't
31 think we've solidified ways for bringing those in is because we
32 haven't focused enough on infrastructure and the process used in
33 doing this kind of research, right?

34
35 Like Lenfest is a great example, right? People were talking about
36 EBFM, but there were no research priorities associated with EBFM
37 being put forward by the SSCs on an annual basis despite that being
38 a need that we need to have. Is there anything that we have,
39 generally, right now, that we feel like-- Personally, what I would
40 say, risk assessment is a great example of this, right? Is anyone
41 comparing the different risk assessment approaches and using them
42 to see how best they would fit into the Caribbean region based on
43 the conceptual model outputs from stakeholders, right? But Tauna
44 is-- Tauna, correct me if I'm wrong, you're already possibly
45 getting funded to do some of that, so maybe that isn't the best
46 choice to put up as a research priority. J.J.?

47
48 **JUAN J. CRUZ MOTTA:** Yes. Sorry. Perhaps I wasn't-- I am confused

1 a little bit. So, we are including in research tasks things that
2 need to be done. Like, for example, doing the risk assessment per
3 se is not research. It is something that needs to be done. We are
4 putting all that together, right?

5
6 **SENNAI HABTES:** So, I think, no. Right? I think there is a
7 difference, right? If you have a specific research question
8 associated with tasks that we need to be done, that can be a
9 research priority. And this is something that I think a lot of
10 people fail to understand about research. Research does not
11 necessarily only encompass purely theoretical questions. There are
12 actionable items, infrastructure, as well as like, research needs
13 that are associated with research priorities, if you can frame
14 them from the theoretical standpoint of a hypothesis driven
15 question. And I think you can do that with a lot of the actionable
16 items that we have. And I think that that lack of understanding
17 has really limited the type of research priorities that have been
18 put forward at the SSC for a while.

19
20 **JUAN J. CRUZ MOTTA:** Can you summarize what-- like your argument
21 please.

22
23 **SENNAI HABTES:** Yeah. Oh, Tarsila, do you want to go?

24
25 **TARSILA SEARA:** Just a quick comment, maybe a helpful example
26 perhaps. I think, J.J., our proposal is a good example of that. We
27 keep talking about how an actionable item is the stakeholder
28 engagement. I mean, that's something that we want to achieve. We
29 wrote a proposal to find out what's the best approach to do that.
30 So, I think that's-- does that--

31
32 **SENNAI HABTES:** Yeah, exactly. So, like with risk assessment, for
33 instance, that is an actionable item. We have to create a framework
34 for risk assessment for the U.S. Caribbean. Go ahead.

35
36 **JUAN J. CRUZ MOTTA:** But we do have-- I mean, like we are using
37 the Aussie protocol, which is, I believe it's a very good one.

38
39 **SENNAI HABTES:** But we haven't decided on that here within the
40 EBFM TAP. I have no problem using the Aussie protocols. I think it
41 works, but we do need to, if that's where we're going, we need to
42 decide that, put it in the outline and move forward. I was just
43 using risk assessment as an example.

44
45 **JUAN J. CRUZ MOTTA:** As an example. Okay.

46
47 **SENNAI HABTES:** Right. So, there can be others. I just want to get
48 the conversation going. Tauna, I see your hand up. So, why don't

1 you go ahead.

2
3 **TAUNA RANKIN:** Just wanted to respond. Yes. I have secured a year
4 of funding, so if these research priorities are discussed annually,
5 I think it's something we can revisit next year. I don't know if
6 the year of funding's going to be sufficient, but that's my hope.

7
8 And I have another potential research priority which comes from
9 the ESR. I was surprised to see that there weren't any indicators
10 related to managed herbivores and I asked about that, and I was
11 told it was because in NCRMP, they don't ever see any of the big
12 parrotfish. And so, I do feel like a gap in our understanding is
13 what the exact role of different herbivorous fish species that are
14 harvested are, and what's sort of the ecologically sustainable
15 level to harvest them at. So, I don't know if that's too researchy,
16 but it was something that stood out for me with the ESR.

17
18 **ORIAN TZADIK:** Tauna, thanks for bringing that up. This is Ori. I
19 think, first of all, whether NCRMP is seeing them or not, they are
20 there. We do see rainbows and midnights, at least, in some areas
21 of off Parguera and stuff. But they're also not-- Those big three
22 aren't the only ones that are managed.

23
24 Yeah. Stoplight and in the new island-based plans, I think there's
25 at least six or something that are-- parrotfish. So, that's not a
26 bad suggestion.

27
28 **SENNAI HABTES:** Yeah. I agree. I think, you know, looking at
29 something like stoplight and redband or yellowtail are all useful.
30 But from some of the work that we saw, like in Bermuda, where they
31 do have the larger species, they are the ones that primarily
32 contribute to the large amounts of grazing that keep algae numbers
33 down. The smaller parrots, negligible. Which is why I think NCRMP
34 and PRCRMP don't focus on those as an indicator for use in
35 ecosystem like coral reef health, which is generally where that
36 indicator comes from. And they use large herbivores for that
37 reason.

38
39 I think a good example would be the nearshore reefs of the U.S.
40 Virgin Islands. We do have a lot of the small parrotfish, but
41 they're becoming algal dominated systems because we typically do
42 not see the large body. In the U.S. Virgin Islands, they really
43 are not there. So, you know, more research on that is necessary,
44 particularly, not even from an EBFM standpoint, but from management
45 decision support system, there are a lot of questions that managers
46 have as to what can be done related to, like, managing those
47 species efficiently because of the loss of them to the ecosystem.

1 I have no problem about putting in development of research
2 indicators related to herbivores that are managed by the Council.

3
4 Edwin, you have your hand up?

5
6 **EDWIN CRUZ-RIVERA:** Yeah, I guess I have got to pull a little bit
7 to my corner on this one. Given that this is an emergent issue,
8 one of the areas that is the most data poor, if we want to include
9 it into any management plan, is obviously sargassum inundations on
10 the coastline.

11
12 Now this is something that people have recognized, and yesterday
13 there was a really important comment made about the fact that this
14 may have both positive and negative effects on managing any kind
15 of fisheries. There's a lot of work that has been done there and
16 I just don't know what is. I mean, I don't think anyone knows what
17 everybody else is doing in terms of sargassum. But where I think
18 that we need information is not--You know, we have a lot of indexes
19 of floating algae in the water. The gap is, how much of that ends
20 up in the coastline, and then interfering with coastal management
21 of fisheries? You know, how that affects different types of
22 fisheries and so forth.

23
24 So, I would argue that if I was-- Given that it is a relatively
25 new thing, only 10 years old, there's no background data from this,
26 because it wasn't happening regularly before 2011. I would put
27 coastal effects of sargassum as a research priority. Particularly,
28 predictions of where it's going to end.

29
30 And with that, I get off my soapbox.

31
32 **SENNAI HABTES:** Thank you, Edwin. Other recommendations, needs.
33 Ori?

34
35 **ORIAN TZADIK:** One thing that we-- I mean, I mentioned this in
36 Tarsila's presentation, and I don't even know if it's possible, so
37 I don't know if it would be worth recommending at this level, but
38 I know that traditional economics and then by extension fishery
39 economics are not relevant in the U.S. Caribbean. Because the
40 economies are-- I forgot the terms, but there's-- What?

41
42 **SENNAI HABTES:** Artisanal.

43
44 **ORIAN TZADIK:** No, I think they're called informal economy or
45 something. Like, there's a lot of stuff that isn't necessarily
46 reported and then there's a lot of stuff that, you know, a lot of
47 all cash transactions and things like this. And if you look at
48 some of the traditional metrics of economics, and in this case

1 fisheries economics, you're not going to get the whole picture.
2 So, if you look at, for example, the economics associated with
3 people with fishing licenses in Puerto Rico, you know, that's not
4 getting you the whole picture at all. I mean, I can tell you on
5 the West coast where I live, I mean, there's a bunch of people
6 with licenses and a bunch of people without licenses and they're
7 all selling to the same people kind of thing.
8
9 So, you know, some sort of kind of fisher-- and like I said, I
10 don't know that that's even possible. And if it's not, I don't
11 think it would be worth suggesting, but maybe somebody in this
12 room knows more about that than I do.
13
14 **TARSILA SEARA:** So, what exactly are you-- do you have a specific
15 set of data or variables in mind or just generally the--
16
17 **ORIAN TZADIK:** I mean, I guess it would be something along the
18 lines of modeling the fishery economy.
19
20 **TARSILA SEARA:** Mm-hmm.
21
22 **ORIAN TZADIK:** And maybe by location, because I think it differs.
23
24 **TARSILA SEARA:** I'm just asking just because if that's something
25 that you think could be achieved with a survey or social sciences
26 methods, which we don't have, so. I, obviously-- I mean, I just
27 wasn't sure if we could jump to another, you know, sort of category
28 of data needs but obviously, I have my social science wish list
29 and, in there, the need for collecting socioeconomic data on a
30 systematic basis. Right?
31
32 The issue, and I have a, sort of, a long list of things that I
33 could mention. I mean, part of it is what we've been talking about,
34 formalizing a mechanism for obtaining, collecting and
35 incorporating local ecological knowledge. And the proposal that we
36 keep referring to is a good example of what would be a data need,
37 right? We need to figure out what's the best strategy to do that
38 within the context of the U.S. Caribbean.
39
40 But on top of that, I mean, I had also included, and I think this
41 is already in the SSC list too, but some sort of-- and I recognize
42 that there are challenges to implementing surveys, especially,
43 when we're talking about if it's being implemented by the federal
44 government. I know that that's extremely, extremely complicated.
45
46 But you make a very good point. We maybe don't have another way of
47 obtaining this information. We need to go out there and ask people.
48 So, it might be worth maybe going through the process so we could

1 formalize, maybe it's not every year, but maybe every other year
2 that we have a survey, and we try to do it with the least amount
3 of burden on the stakeholders. But we also have to take into
4 consideration the fact that we would keep talking about iterations
5 of the conceptual model and all of that. If we add all of that
6 together, it can create, you know, a burden.

7
8 So, I keep looking at you because I know you know more about this.
9 If you have any insight onto, would we be able to add all of these
10 things to our list and figure out a way that we could actually,
11 you know, through all of these efforts collect the data that we
12 need. But I think this has to be a priority. We don't have, right
13 now, even data or, you know. We have isolated efforts. We have
14 different research, different surveys, but nothing that can give
15 us a good baseline for comparison, right?

16
17 So that was one of the things that I wanted to put out there as a
18 research priority from a social science standpoint. The other one
19 is what we talked about earlier in the context of a presentation.
20 I think making sure that we're taking the steps to validate the
21 community social vulnerability indicators and figure out ways that
22 we can update those on a regular basis. And I'm not sure that's a
23 research prior-- I think, validating, yes. The data challenges,
24 maybe that's not necessarily a research priority, but something
25 that would be sort of included and making sure that we were able
26 to calculate and update those.

27
28 So, I think those were the two major things. And then if I can
29 just throw sort of like the, in Narnia world, you know, as part of
30 my wish list would be for us to consider the possibility of doing
31 climate vulnerability indicators for the U.S. Caribbean. And I'm
32 talking about the species climate vulnerability indicators. Those
33 are extremely useful not only because we can assess vulnerability
34 of the ecosystem, but we can use those to also assess community
35 level vulnerability to climate change. And I think that, you know,
36 that that's something that I think would be extremely helpful in
37 the context of everything that we're doing. So.

38
39 **SENNAI HABTES:** Alright. Kevin, let me-- I'm going to go to María
40 first because she had her hand up and then you. María?

41
42 **MARÍA LÓPEZ-MERCER:** Yes. Hi, this is María. I think I would agree
43 with the climate stuff because, and that's one of the things I had
44 in my notes when I was listening to you earlier. So, part of the
45 Council strategic objectives is incorporating ecosystem
46 information on approaches to management and incorporate climate
47 issues. And those are part of the two strategies that are included
48 in three objectives of the Council.

1
2 This administration, as you all know, it's very big and the big
3 topic right now is climate. That's where the money is. Offshore
4 energy management and aquaculture. Those are the three things that
5 I believe NOAA Fisheries is going to be pushing for the Council's
6 agenda. I think in the sense that this can provide some useful
7 information that can be used for this group, I think we should
8 strive to do that because, for example, the climbable vulnerability
9 assessment is something that needs to be done, right? And we can
10 identify perhaps some collaborations from other areas. For
11 example, HMS and NMFS are currently doing a climate vulnerability
12 assessment and they have offered their assistance to work with the
13 Caribbean to do that.

14
15 So, that's something that maybe-- I just wanted to second Tarsila,
16 what she said about that, in terms of research need or any of those
17 topics that I mentioned. Because it's very probable that the money
18 is going to be around those topics too. Thanks.

19
20 **SENNAI HABTES:** Thanks, María. Kevin?

21
22 **KEVIN MCCARTHY:** So, the Science Center did a climate vulnerability
23 analysis that went on and on and on for years and years and years
24 through no fault of many of the collaborators. I was part of that.
25 And it went on for so long that I don't remember how many Caribbean
26 species were included, if any but it was certainly Gulf and South
27 Atlantic, and it may have included the Caribbean. I was just
28 looking through a bunch of old emails to see if I could find that
29 information.

30
31 But before we reinvent the wheel, certainly we might want to look
32 at some of that stuff and maybe you're aware of it.

33
34 **TARSILA SEARA:** Yeah, I have. You're talking about the Southeast,
35 right? So, I have all of that, I have that data. Yeah. And I did
36 that to do the community vulnerability, climate vulnerability for
37 the Southeast and the Gulf, but we're missing major species. Like
38 conch is not there, for instance. And some others. Because I went
39 through the list because I was hopeful that maybe we could just
40 pull straight out of that.

41
42 And my other concern, and that goes for, you know, this is outside
43 of my area of expertise, is that, I mean, they are considering
44 that assessment within the context of the specific habitats, right?
45 In terms of sensitivity and exposure. So, I don't think that we
46 could even just say, oh yeah, it's the same species so we could
47 just use the same scores, right? So, that's the other-- Yeah.

1 But I mean a lot of it could be based on it, I'm sure. You know,
2 for those species, a lot of the background and a lot of the work
3 can be maybe useful, but yeah.

4
5 **KEVIN MCCARTHY:** Yeah, I mean it was nice in that it was doable
6 for individual species. There were just a zillion species and I
7 think there was a lot of people. The lead on it is now trying to
8 get it published and it's one of those, you know, 45 author
9 publications, sorts of things. So, there were a lot of people
10 involved and I think that's part of why it dragged out so long.
11 Now we may want to change some things, but as a model, yeah, I
12 agree with you. It's maybe a good place to start.

13
14 Yeah, and looking back, because I don't know anything about fish,
15 I did a bunch of the inverts which is ironic, isn't it? Or tragic,
16 given my current role. But anyway, I did a bunch of the inverts
17 and you're right, I would've remembered conch and yeah. So, I guess
18 we're not as far along as I'd hoped.

19
20 **SENNAI HABTES:** So, I'm not sure how involved any of you are with
21 this process, but the Southeast Conservation and Adaptation
22 Strategy, is a separate nonprofit, but it's managed under the U.S.
23 Fish and Wildlife Service, are creating a blueprint and spatial
24 plan. They've done it for most of the Southeastern United States.
25 My director and a couple others within Puerto Rico and the U.S.V.I.
26 worked really hard to get the U.S.V.I. and Puerto Rico included
27 into that strategy.

28
29 And so, what they're doing is they create kind of a spatial map
30 that identifies priority areas for climate conservation and
31 mitigation needs. And included in that, are kind of a summary in
32 GIS and spatial data associated with the indicators that can be
33 used to understand that better. And it's for both marine and
34 terrestrial, though obviously terrestrial is much easier to
35 gather. But they're doing that process now for the U.S. Caribbean.

36
37 And so, I think they are ones that can help us get a lot of that
38 information and that data, but I think research associated with
39 that and indices that can be gathered at the spatial scale
40 necessary for fisheries, from that information, is still
41 necessary. And there aren't a lot of people that do that well in
42 this region.

43
44 **TARSILA SEARA:** Can I make a comment? Just a quick comment and
45 also to your previous comment. I mean, I think it is important
46 that whatever we do, it would be ideal if it's comparable to what's
47 being done in other regions so that we can end up with comparable
48 indicators. But I think that would be super helpful in the process.

1 So, if there's work that's already being done, that's good news
2 because probably the process would be, perhaps hopefully, not as
3 lengthy or as complicated.

4
5 **SENNAI HABTES:** So, there is work being done. I think why I will
6 really push, in my opinion, for this to be one of our priorities
7 is because what's needed are for more people bridging those group
8 of people and our groups of people in the work. Right now, I tend
9 to be the only one that's in both of those meetings, but I have a
10 lot of responsibilities, as we all do, but if the Council directed
11 some priorities and some time or funding to have another person
12 who can sit in on those and help say, "Hey, we need more of the
13 information on this and these are the research needs that we have.
14 What do you guys have for that?" I think it will get us a lot
15 further along, you know.

16
17 So. I would really think that this could be a strong research
18 priority associated with EBFM that we could put to the SSC. And it
19 would take some work off of my plate. Selfishly on the record.
20 Tauna?

21
22 **TAUNA RANKIN:** Yeah, thanks. I just wanted to suggest, if we do
23 put this forward as a research priority, the Northeast Fishery
24 Science Center adapted the species approach for habitat, and they
25 did a habitat climate vulnerability assessment and then compiled
26 the information for both to get a more complete picture of
27 vulnerability and where to really be concerned. And so, if we
28 wanted to include habitat in the sort of, request for vulnerability
29 information that might actually get attention from my office. And
30 so, it's just potential to have multiple potential funders aware
31 of our research priorities.

32
33 **SENNAI HABTES:** Thanks Tauna. Good point. I mean, I do think though
34 that habitat, because that is likely the thing, especially for a
35 place that the U.S. Caribbean that is the most vulnerable loss of
36 coral reefs, species, the increased diseases, sargassum
37 inundation, all of those I think are leading to losses in large
38 amounts of most of our essential fish habitat in the region. And
39 so, I think you can't have that conversation without the habitat,
40 but I absolutely agree that we need to be more explicit to include
41 that in the priority that we are recommending. So, thank you for
42 that comment, Tauna. Anybody else?

43
44 **ORIAN TZADIK:** I think we've covered a lot of the major bases,
45 right? I mean, habitat, socioeconomics, herbivores, like these are
46 big components of EBFM.

47
48 **SENNAI HABTES:** I see Kevin's hand. So, Kevin, you're recognized.

1
2 **KEVIN MCCARTHY:** Thanks, Sennai. Yeah, so this is back to the
3 socioeconomic and off the climate vulnerability. So, it's always
4 been unclear to me, even though I think maybe NOAA's paying for
5 some of this, how the price data is obtained in the U.S. Caribbean.

6
7 Now, and correct me if I'm wrong here, Sennai, your folks do a
8 couple of surveys, is that correct? You do four--

9
10 **SENNAI HABTES:** It's supposed to be quarterly, usually. Due to
11 Covid, because of the emergency, we've gotten two generally done
12 a year.

13
14 **KEVIN MCCARTHY:** Yeah.

15
16 **SENNAI HABTES:** But the returns are low.

17
18 **KEVIN MCCARTHY:** So, that's what I'm getting at. And I haven't a
19 clue as to how we get those numbers in Puerto Rico. So, it seems
20 to me that a relatively straightforward research recommendation
21 might be a review of how we obtain those. Let's design by, not by
22 a bunch of biologists, but by some economists. Let's design the
23 survey. Like, if we're going to pay for it, let's get one that we
24 like. And I don't know anything about it.

25
26 So, I think that we've got an SSRG team at the Science Center.
27 Let's put those folks to work. You know, if we're going to get
28 this kind of data, which we need, let's do it properly.

29
30 And maybe what's being done is great, but I don't know. And I don't
31 know if there's ever been-- I don't know how it was designed, who
32 designed it. I know that in the past, Nancy, asked for multiple
33 surveys a year, but I don't know how that was then designed. And
34 you're having problems getting responses, so maybe it's time for
35 a review of that.

36
37 Let's come up with something better because it drives a lot of
38 what we're trying to do here. You know, it's always about money.

39
40 **SENNAI HABTES:** Yeah. I mean, I don't disagree. I think the design
41 that we currently use is not that useful for what type of market
42 driven questions we ask. Also, in assessing like the socioeconomic
43 importance of fisheries to the U.S. Caribbean.

44
45 I can tell you from our survey that we put out, we're basically
46 asking for an average market price over that quarterly period for
47 individual species listed on the commercial catch report. And then,
48 we aggregate those into a mean price point from the fishers

1 responses. So, all you're really getting is four times a year a
2 price associated with the species.
3
4 But in the U.S. Virgin Islands, generally the price doesn't vary
5 that much across fishers, and you have very specific fishers that
6 fish species. So, it's fairly steady and it does give you an idea
7 of cost. If, like we had-- I don't want to beat a dead horse, but
8 if we had the right fisheries information system where that data
9 was compiled, regularly and organized, we would've had a nice time
10 series of that information.
11
12 But, you know, I've only been in the position two years and it's
13 hard to find data going back over the 15-year time series
14 consistently.
15
16 **KEVIN MCCARTHY:** Yeah. And the information that I see is in CCL,
17 so in the logbook data. It's in with the logbook data, doesn't
18 come off the logbooks, I don't think.
19
20 So, there's a number that's associated-- and I don't know how that
21 gets populated. I don't know anything of the process from the data
22 collection to the data entry to how we, you know, is everybody
23 okay with the design? And it sounds like we're not. I never knew
24 anything about it, so I didn't have an opinion and I didn't work
25 with the data. But Kim Johnson, who works at the Science Center,
26 uses that information for this, I think, it's yearly fisheries of
27 the United States and sticks a value on it. Right? And she's just
28 grabbing these numbers with about as much knowledge of them as I
29 have.
30
31 So, the data being used and then people take that information for
32 fishers of the United States and do stuff with it. So, we should
33 have a little bit more confidence in how we're generating those
34 data. And I think that's a pretty straightforward thing to do. And
35 it would be informative for so many things.
36
37 **ORIAN TZADIK:** Research wise, you're saying it's pretty
38 straightforward?
39
40 **KEVIN MCCARTHY:** Well, as a biologist, yeah. I mean, doing it is
41 probably a much more, not straightforward. But I think it's a clear
42 research project, is what I mean.
43
44 **ORIAN TZADIK:** Do we still have an economist downstairs?
45
46 **SENNAI HABTES:** No.
47
48 **ORIAN TZADIK:** No, he's off?

1
2 **SENNAI HABTES:** Gregory? No, he's left the SSC.
3
4 **ORIAN TZADIK:** That's what I mean. Yeah.
5
6 **SENNAI HABTES:** Sorry.
7
8 **KEVIN MCCARTHY:** No, that's Walter. Walter's just not here.
9
10 **SENNAI HABTES:** Oh, Walter's just not here. Oh, I thought Walter-
11 - Okay.
12
13 **KEVIN MCCARTHY:** Doug's not an economist? He's a [inaudible].
14
15 **SENNAI HABTES:** No, I thought Doug, or I thought Walter had left,
16 but it's Doug who left.
17
18 **KEVIN MCCARTHY:** Doug left.
19
20 **SENNAI HABTES:** Okay.
21
22 **ORIAN TZADIK:** I'm just saying, if we had an economist available,
23 they'd be much more able to answer this. Like Yeah, I agree with
24 you. It sounds fine. Great. Absolutely. But I don't know how hard
25 that is to get or not.
26
27 **KEVIN MCCARTHY:** Right. There's an item that doesn't come up very
28 often. Is there an economist in the room?
29
30 **SENNAI HABTES:** Yeah. Well, I mean, that's a good point. One. Two,
31 I don't think we need to specify that much into it for the research
32 priority. We don't have the information. That's what makes it a
33 priority. Three, María had her hand up, so I'm going to let María
34 talk if you still have a question or comment, María.
35
36 **MARÍA LÓPEZ-MERCER:** Yeah. María López, I just had a comment.
37
38 So, in terms of the information that comes from the logbooks, I
39 assume that's where it's coming from. We have the Economist in
40 SERO and they are the ones that participate in the IPT that make
41 the sections on the amendments that are related to the, you know,
42 we have a social scientist doing the social section, and then
43 another one doing the economy. And they do use that pricing
44 information to analyze, evaluate the effects that our actions will
45 have on the fishers, on the economy itself. And all of that
46 information can be included in the amendment.
47
48 I don't know exactly where they get the information, but I think

1 it's what Kevin was saying. And then we have Walter also, who has
2 been contracted by the Council to prepare all of the sections and
3 all of the amendments, new amendments that we are working on right
4 now to gather that information. So, my recommendation will be just
5 to ask him or maybe contact some-- I think Walter will be the right
6 person to do this because he has been work working with us for a
7 long time. See what is specifically are the needs in terms of data,
8 at least for the part of evaluating fishery management actions,
9 which is, obviously, what we're all trying to accomplish here at
10 one point or other.

11
12 So, I mean, I don't know if he is part of the still part of the
13 SSC or not. I think he is. So, that's it.

14
15 **SENNAI HABTES:** Thanks, María. Yeah, I think that's right. He is
16 still part of the SSC, we established that with Kevin. That was my
17 mistake. I was confusing people because I usually am not in the
18 room at the SSC meetings. I'm just dealing with voices on a phone.

19
20 Second to that, I think that is one aspect of the socioeconomic
21 data that we need from fishers, which it's well reported, I think,
22 for the most part, for the U.S. Caribbean. Price data is fairly
23 stable, and we have a good record of it. It's self-reported, but
24 I haven't seen much variability in problems with it. And we do it
25 enough times a year that you would see fluctuations that are
26 necessary. And in terms of like the amount that we get back, I
27 know for the U.S. Virgin Islands there's less than 300 fishers
28 active, we're getting like 25 to 30 on island that are probably
29 well representative of the field. So, that data, in my opinion, is
30 pretty good.

31
32 What's not there is cost, right? Like two fishers, how much their
33 costs have increased, what the changes in those have, what are
34 their resale aspects. We also don't understand areas of illegal
35 fishing versus illegal sales and that impacts to the fishery. So,
36 there are a host of other socioeconomic and market cost data that
37 we don't get that would make for really more informed decisions on
38 the Council.

39
40 So, I agree. I think this would be a great area. And if we can
41 create new surveys that can target that would be great. But I will
42 caveat that with, I don't know how to do that because fishers are
43 extremely cagey about price information and cost to them. And that
44 is a hard thing to design a survey to pull out that information.

45
46 So, I'm still going to keep recommending that this would be one of
47 our top priorities.

1 **MARÍA LÓPEZ-MERCER:** Sennai, if I may. I completely agree with
2 you. I think this is something that will definitely help a lot.
3 The problem in Puerto Rico, I mean, I don't know if you guys have
4 the same problem in U.S. Virgin Island, is that fishers don't like
5 to share too much their information because of many reasons. And
6 the same reason why they don't want to share their landings. They
7 don't want to share how much money they're making because they
8 are-- and this is me, based on hearsay, right? You know, because
9 of all their helps that they may get.

10
11 This is something that we have here-- throughout the Council's
12 meeting we hear a lot and in the DAP meetings.

13
14 So, that's something that, it will be nice to find a way of really
15 getting that information. Like, for real, right? Like without
16 trying to go around all those barriers that we're definitely going
17 to find in that, because it's not-- What we are hearing out there
18 is, Vanessa says this all the time, what you guys are hearing,
19 it's not the same thing that what's happening in the water. Thank
20 you.

21
22 **SENNAI HABTES:** Tarsila.

23
24 **TARSILA SEARA:** Yes. Just a quick comment. You're absolutely right.
25 I mean, these are some very significant challenges and just wanted
26 to say something that, yeah, maybe we may not be able to implement
27 this next year because the problem, what you were pointing out
28 here is an issue of trust, right?

29
30 And so, it's a process and I think that everything that we've been
31 talking about here and engaging stakeholders in the process is a
32 really important piece of gaining that trust. Once stakeholders
33 are able to see that this is all beneficial and what we're trying
34 to do is actually not-- because what we hear is you're coming here,
35 you're getting information, then you're closing our fisheries,
36 you're closing our areas, you're creating more management to hurt
37 us.

38
39 So, that is going to be naturally a process that, hopefully we
40 can, through more of the stakeholder engagement, gain more trust
41 and be able to implement the kinds of strategies that we need. So,
42 you know, it's not something that's just going to happen. So, I
43 just wanted to, you know--

44
45 I think we're going, hopefully, in the right direction really
46 focusing on the collaborative and the engagement part so that we
47 can get there.

1 **SENNAI HABTES:** Liajay, could you enable screen sharing on the
2 Zoom? Thanks.
3
4 So, unless there are other priorities-- Oops, J.J.
5
6 **JUAN J. CRUZ MOTTA:** Yeah, thank you. These priorities are things
7 that we discussed at the National SSC when talking about EBFM and
8 they fall in different categories.
9
10 The first one that has to do with actually producing models, and
11 the main challenge we have, and we need to actually do research on
12 that, is come up with ways to estimate reference points for multi-
13 species data. These days we have reference points for one species
14 at a time, but the whole point of managing the whole system is
15 that we need a reference point for that. That would be one. So, in
16 one word, methods or procedures to estimate multispecies reference
17 points.
18
19 The other point is the research on the management itself. So, this
20 will be research into management. And for me, and also, I agreed
21 by a few colleagues in the SSC is, we keep talking about adaptative
22 management. However, we haven't done the research, or we haven't
23 put forward how we going to actually do that. So, we keep saying,
24 "Oh, let's do this, let's do this," but we don't know how to do
25 it. So, research to implement adaptative management into the
26 process.
27
28 Then the next one falls into the ecological realm and is for the
29 region on the-- We don't know. We have no clue what's the
30 percentage of bycatch or discards. We haven't evaluated that. It's
31 presumed to be low for the Caribbean because it's 100% artisanal,
32 but we don't know how low.
33
34 **SENNAI HABTES:** I mean, is this--
35
36 **JUAN J. CRUZ MOTTA:** I'm telling you what the people say?
37
38 **SENNAI HABTES:** No, it's a great question.
39
40 **ORIAN TZADIK:** I would say that though-- Yeah. The bycatch
41 situation is one where fishers, my understanding is the vast
42 majority of fishers don't believe there is bycatch. And I mean,
43 because, you know, they take all that they catch. What I've been
44 told is that everything's selective by gear type and size and so
45 therefore, if you're a pot fisherman, and it fits in your pot,
46 then you take it home.
47
48 **SENNAI HABTES:** Kevin?

1
2 **KEVIN MCCARTHY:** So, the counter that we also hear right, is that
3 you want a plate size fish, right? We hear that time and time
4 again. So, what is it? Right, we're hearing two very different
5 things from the same fishers or the same group anyway, the same
6 stakeholders. And it really matters not only for EBFM but for a
7 straight up stock assessment because of gear selectivity and dome
8 shame selectivity or not.

9
10 And so, I've done a lot of work with discard over the years in the
11 Gulf and the South Atlantic, and self-reported discard data is
12 worse than self-reported any other data. And you can now, in the
13 Virgin Islands, if you want to, as a fisher, and you choose to,
14 you can report discards in a very detailed way. We don't get the
15 size comp, but I think there's maybe a reason for discards, I can't
16 remember, but you can certainly report discards by species and by
17 gear.

18
19 So, the fact that they don't report doesn't mean anything, right?
20 You don't know if they kept them all. So, it's a tough thing to
21 get at, but I think it could be really useful and we might get
22 there indirectly for some of the other projects that we have going
23 on. So, it's a tricky one. It's important. But a lot of people
24 work on this and it's a very hard thing to get at.

25
26 **ORIAN TZADIK:** Yeah. To your point, I think, right, it's one of
27 those that like a positive result would tell you something, but a
28 negative result doesn't tell you that it-- and not, right.

29
30 To just go back to your question though. Yeah. I think the plate
31 size is the ideal and that's what they want, but that doesn't mean
32 that anything smaller or anything bigger doesn't get used. And my
33 understanding is none of it goes back. None of it gets discarded.
34 And I mean it's either, you know, we got empanadas, we got tacos,
35 we got all sorts of stuff that you can--

36
37 **SENNAI HABTES:** Sennai, for the record. I think it also hides the
38 idea of selective individual fisheries, right?

39
40 So, like, one, nobody's going to consider what the fish caught in
41 a lobster pot that also does get both lobster and fish as bycatch
42 or discard, right? Those are going to sales. But that is not a
43 directed fish fishery, it is a lobster fishery. So, by other
44 fishery areas that should be considered bycatch. But we do not put
45 that in there. Those usually would go onto a catch report form as
46 fish that are sold. But it's not for that directed fishery.

47
48 And so, I think there's a lot of terminology as well as data that

1 are going in through avenues that we can actually use in the right
2 way for the decision support system.

3
4 **SENNAI HABTES:** Right. And then, what you're saying though, that
5 is very valuable information with regards to, if we're talking
6 about that being bycatch, it's really useful to know what the
7 lobster fishery is bycatching, for example.

8
9 **SENNAI HABTES:** I mean, and that's totally dependent on the
10 fishers. Some have a high level of that, and some have a very low
11 level of it depending on the style of their trap and what they go
12 after. In the U.S. Virgin Islands.

13
14 **SENNAI HABTES:** So, I guess, J.J., do you want to keep going with
15 you--

16
17 **JUAN J. CRUZ MOTTA:** Yeah, it's a question that perhaps is already
18 included. What says, [inaudible] has adapted it for the species--
19 that's doing research vulnerability for each species?

20
21 **SENNAI HABTES:** Yeah. That was Tauna's comment where she had
22 mentioned that the Northeast had done a mix of both vulnerability
23 assessments from the species level and the habitat level and did
24 a combined approach.

25
26 **JUAN J. CRUZ MOTTA:** Okay.

27
28 **SENNAI HABTES:** So, I was just trying to capture that under climate
29 vulnerability.

30
31 **JUAN J. CRUZ MOTTA:** Yeah. So, that's also your recommendation,
32 that we need information here. Yeah, because I was just checking
33 this and actually the MSA says, when you have multispecies
34 fisheries, you should manage for the less productive or the more
35 vulnerable, the most vulnerable. Because that will be a
36 precautionary principle, if you go for the weakest one and you're
37 protecting that one or managing that, then you will be-- but we
38 don't know that. So, thank you.

39
40 **STACEY WILLIAMS:** This is Stacey. For the research since we're
41 into it. Like, restoration practices, is it even working, like,
42 setting standards and in restoration and if it's acquiring the
43 goals that it tends to acquire, like the functionality of
44 restoration? I don't know.

45
46 **SENNAI HABTES:** Habitat, species, what type of restoration?

47
48 **STACEY WILLIAMS:** Ecosystem restoration.

1
2 Also, like, with aquaculture. I mean, that's another topic that is
3 being discussed and being funded in many projects. I don't know
4 how to pose that as a research question, if it's, like, when we're
5 talking about-- So, I came in late, so I'm not sure exactly-- We're
6 talking about what research topics we would--

7
8 **SENNAI HABTES:** For SSC. So, for the Scientific and Statistical
9 Committee for their research priorities.

10
11 **STACEY WILLIAMS:** Ah, for their priorities? Yeah.

12
13 **SENNAI HABTES:** So, are there ones from the EBFM TAP that we want
14 to recommend to them?

15
16 **STACEY WILLIAMS:** So, I mean, looking at the conceptual models and
17 what we're seeing in our data, you know, not everything's centered
18 around coral reef, but coral reefs are a big part of the system.

19
20 So, if you're doing any type of enhancement or improvement, I would
21 also include aquaculture, not just restoration, to see how
22 aquaculture can be integrated to where you can do successful
23 restoration or provide another livelihood to fishers. I don't know,
24 like, I don't know how--

25
26 **SENNAI HABTES:** I'm not sure who went first, on the hands up. Okay,
27 so María was first. So, you're up.

28
29 **MARÍA LÓPEZ-MERCER:** My comment was not related to the aquaculture
30 it was from before. I just wanted to bring to your attention that
31 for the bycatch and discard research that the Council has an
32 obligation to have in their management plans, in their amendments,
33 a standardized bycatch reporting methodology and they have been
34 struggling a little bit through the past years to figure how that
35 that works because of all the reasons that you guys mentioned
36 regarding bycatch, what is considered by catch, what is targeted,
37 not targeted, kept, sold, regulatory, discards, etcetera. So,
38 that's something that I think it should be very important to
39 include.

40
41 And is also noted in several of the several of the strategic
42 objectives of the Council. For example, you have one that is
43 talking about reducing bycatch through modifications to gear or
44 the seasonal closures, and also see the effects of bycatch on
45 ecosystem function. So, those are things that are already in the
46 strategic objectives of the Council, and I think something on that
47 line would align with the strategic plan of what the Council will
48 want to do. Thanks.

1
2 **SENNAI HABTES:** Thank you María. Very, very valid points that I've
3 tried to take down on my note sheet here, though I am a terrible
4 typist. So, Tauna, did you have a comment or question?

5
6 **TAUNA RANKIN:** Yeah. Going back to Stacey's first point about
7 whether ecosystem restoration is working. I just wanted to support
8 that idea and add that I know NOAA's Restoration Center is trying
9 to figure out how to better understand that through the bipartisan
10 infrastructure law funding that they're administering.

11
12 And so, I think, one, having this as a visible priority will, you
13 know, maybe encourage more work in the Caribbean, but also I wanted
14 to just add, and I don't know how to socialize this more broadly,
15 but a letter from the Council supporting restoration work or
16 understanding the efficacy of it for fisheries management would go
17 a long way with those funding opportunities. So, I just wanted to
18 make people be aware of that, that the Council does have a voice
19 and could potentially help influence more projects being done in
20 the Caribbean.

21
22 **SENNAI HABTES:** Kevin?

23
24 **KEVIN MCCARTHY:** So, that brings up sort of a larger question, at
25 least in my head. So, how are these recommendations going to be
26 used? What becomes of them?

27
28 So, for example, with SEDAR. Every SEDAR has a list of research
29 recommendations, and sometimes those-- You know, so people will
30 use them in writing a proposal. But that seems to be the limit of
31 their utility as opposed to-- This came up in our strategic
32 planning within the Science Center, and it'll probably come up
33 again in a couple of weeks. And thank you Tauna for your comments,
34 because this is what-- I agree with what you're saying, and it
35 also triggered this question. How do we get some of these research
36 recommendations to become research priorities in RFPs from from
37 funding agencies?

38
39 So that's a better goal than just, "Hey, you can use this as
40 ammunition in your proposal." Let's make them the funding
41 priorities for some of these things. I don't know how you do that,
42 but does the Council have a say in some of these? I think they
43 probably do, depending upon the RFP. And I think, if that's what
44 our goal is, we might have to be-- Well, one of the things that we
45 push for at the SEDARs is, let's be as specific as possible. Let's
46 set a research priority that is actionable because we often, in
47 those SEDARs, come up with very vague, sort of, you know, let's
48 collect better data and nonsense like that, right? These are

1 better, way better than that. But in some cases, it pays to be
2 vague if that's where it's headed, to set research priorities in
3 an RFP. If on the other hand, the Council has some disposable
4 income that they want to fund some of these things, maybe want to
5 be much more specific.

6
7 I just don't know where these are going. Right? But I hope where
8 they're going is to be very Caribbean specific in research
9 priorities within RFPs from a funding agency. That would be the
10 best thing. And then we have got to get some people to go after
11 it. And they could be everybody at this table. I'd be perfectly
12 fine with that.

13
14 **SENNAI HABTES:** So, I believe, in practice, in past years, they
15 have been used to help clarify directions for additional CFMC
16 funding and needs but it is also used as an annual list of
17 associated people that are doing work with the Council for
18 research. To my knowledge, there is not a specific process, like
19 a letter that is written and provided to all the funding agencies,
20 specifying the Council's priorities every year. I think that would
21 be a beneficial thing for them to do. But people that are in the
22 Council, like, you know, Miguel or Graciela, when they interact
23 with federal agencies at those larger meetings, whether it's
24 director's meetings or across agency meetings, they usually do
25 mention those priorities in those areas.

26
27 But I think it would be beneficial to require, to make a recommend,
28 I'm not going to say require, because I can't require anything
29 except of you people in this room and online to make a
30 recommendation to the SSC that they draft a letter annually, every
31 year with the priorities, representing the priorities of the
32 Council, for the Council to distribute to agency partners.

33
34 I think that would be super beneficial because if I know it ahead
35 of time, I will plan a lot of my annual grants to incorporate some
36 of those things for research funds. But if I don't know them, they
37 are talked about only at the SSC meeting and not to distributed
38 back out, there's no way for us to do anything about that. Kevin?

39
40 **KEVIN MCCARTHY:** Right. And it could very well be, and I suspect
41 that it probably is, that for things like MARFIN and S-K and stuff
42 like that, the Councils are probably asked, what are your
43 priorities? And if so, it's really helpful that they have this
44 list and whatever list the SSC comes up with. And maybe there needs
45 to be some additional, once the SSC has their list, we've got our
46 list, some of it's going to overlap of course, but you can't throw
47 out 20 different things in an RFP. But we could be very strategic
48 in, "Hey, these make se--" When the S-K people come around, when

1 the MARFIN people come around, given their history and what they're
2 interested in funding, these make sense to go there.

3
4 We really need to be more proactive because we are always griping,
5 certainly I am, about lack of funding. And so, if we can rig, not
6 rig the system, but at least get in the game, right? Because
7 everybody else is rigging the system, we all know this. Let's get
8 in the game in a way that gets real priorities out there. Because
9 often the priorities are, "Is that really the top thing in the
10 Caribbean?" You know, I've looked at these lists of priorities
11 many times. Not these things, but in RFPs and it's not, in my mind,
12 the top thing.

13
14 So, I think we have an opportunity, as you're saying, Sennai, you
15 know, let's get the Council to be more proactive and make sure
16 they don't let those opportunities pass them by, because they've
17 have got to be asked. I'm certain they're asked.

18
19 **SENNAI HABTES:** Yeah. So, I agree with that, Kevin. I'm going to
20 let María comment or make a question, but before I do that, I just
21 want to do a time check. We're at 2:28, which we're going to need
22 to take a break soon. I would like for us to wrap this up and then
23 reduce this list. Unless someone has really burning priorities to
24 add to it, I'd like for us to kind of talk-- Stacey does. All
25 right. So, María, let's have your comment and then we'll go back
26 to Stacey. I'd just like people to put out stuff on the list and
27 then we can reduce it.

28
29 **MARÍA LÓPEZ-MERCER:** Yeah. So, real quick. This is María. I'm going
30 to agree with Kevin. A list with priorities and perhaps ranked
31 priorities would be really useful for us at the office because
32 several times when we sit down and they're like, "Okay, so what
33 are the priorities for the Caribbean or for other regions in terms
34 of research? What would we be funding?" And not necessarily just
35 S-K or MARFIN, but also some more internal funding opportunities.
36 And sometimes we struggle a little bit trying to figure out exactly
37 what is it that is the most important thing, especially if we have
38 a giant list of things to do. Right? And it's like sometimes it
39 will be more like, what do I think it's the most important thing
40 or what does Kevin thinks is the most important thing right now.
41 Right?

42
43 So, I think it will be very useful to have that letter that is
44 sent and says, this is what we need right now. And when the bosses
45 ask, "Hey, you know, where would you spend the money?" I have that
46 right there to support it. Thanks.

47
48 **KEVIN MCCARTHY:** So, you don't tell Andy to always listen to us?

1 Like, if it's your idea or my idea, it should be at the top of the
2 list.
3
4 **MARÍA LÓPEZ-MERCER:** Yes, yes, yes. But some support is good.
5
6 **SENNAI HABTES:** All right, Stacey.
7
8 **STACEY WILLIAMS:** I just want to finish my comment with
9 aquaculture. I guess what I would put is, enhancing the capacity
10 and support for aquaculture in the Caribbean. As Kevin mentioned,
11 with the S and K, I was on one of the advisory reviewer committees,
12 and there's hardly any Caribbean projects. And that was
13 specifically for aquaculture. And a lot of times we are out
14 competed again, you know, from Northeast and Gulf projects.
15
16 So, I think with the Council's backing it would put us in the
17 limelight.
18
19 **SENNAI HABTES:** Sorry. So, just give me the wording on that again.
20 "Enhancing support--"
21
22 **STACEY WILLIAMS:** Enhancing support and capacity for aquaculture
23 in the U.S. Caribbean.
24
25 **SENNAI HABTES:** María, did you have another comment or is your
26 hand still up from before?
27
28 **MARÍA LÓPEZ-MERCER:** Lowered the hand. Thanks.
29
30 **SENNAI HABTES:** All right. Yeah, no, I do agree with you there,
31 Stacey. You know, I've been trying to implement aquaculture in the
32 U.S. Virgin Islands and the capacity for mariculture, not
33 freshwater aquaculture for the last 10 years and it's difficult
34 and very hard to do because we were starting on the back foot. So,
35 you're nowhere near as competitive as most other regions that have
36 a lot of infrastructure already built in. And these funding
37 instruments aren't interested in funding people starting from
38 scratch and doing research, they'd much rather do incremental
39 approaches for people that have already started the work. So, it
40 becomes a bit more difficult. Alida?
41
42 **ALIDA ORTIZ SOTOMAYOR:** Yes. Probably this is something that may
43 have been discussed before, but somehow, I don't see it. Even
44 though we do pay very good and excellent attention to that marine
45 fishery ecosystem, I'm wondering if, in terms of the fishing
46 ecosystem, when we have this hurricanes and we have all these
47 earthquakes and the fishing villages, many of them are still
48 addressing Puerto Rico, are still in poor condition or they were

1 lost, does that go into the socioeconomic research of issues that
2 you are doing?

3
4 **SENNAI HABTES:** I mean, I think we'll have a little bit more on
5 that later with Tarsila's presentation.

6
7 **ALIDA ORTIZ SOTOMAYOR:** Okay.

8
9 **SENNAI HABTES:** But some of the socioeconomic factors that we want
10 to measure better would really account for that. We have limited,
11 you know, like the CSVIs that Tarsila spoke about earlier, kind of
12 capture, I think, some of that, but to really quantify it, the
13 ways that we would like to, we would need to create better surveys
14 and better data collection approaches. But it can be difficult, as
15 we mentioned, due to like trust with the fishers. Right?

16
17 I think one of our largest problems in the U.S.V.I. was what Ori
18 was kind of hearkening back to, which is like, there is no
19 quantification of cost funding because it's a cash business, so
20 there isn't a requirement for it to go through our IRB or the
21 Internal Revenue Bureau. So, if it doesn't go there, there isn't
22 a way for me to pull that summary data in terms of monetary profit
23 or loss for that sector of our economy. Because that's a lot of
24 where we get that information from. So, it requires us to go and
25 create this entirely new survey for a group of people that don't
26 want to give you that information in the first place. You know?

27
28 And so, but that's the thing. Trying to explain to the fishing
29 community how that benefits them is extremely important and it
30 really needs to be done by people that know how to do it. I'm not
31 one of those people, I'm a fishery scientist. Right?

32
33 **ALIDA ORTIZ SOTOMAYOR:** Yes, yes. I understand. Thank you.

34
35 **SENNAI HABTES:** No problem.

36
37 So, are there any other questions, comments? I think maybe we
38 could-- Oh, okay. Ori has a comment.

39
40 **ORIAN TZADIK:** Just a quick comment that the-- I don't know why
41 this didn't jog my memory earlier. There is a fishery economics
42 study about to begin to do but it's solely focused on conch. I
43 think it's MSA funding, right? Yeah. It's involved in the project
44 and then there's a whole socioeconomic component, but it's
45 specifically to do with conch. It's not the whole deal. So, just
46 thought I'd put that out there.

47
48 **KEVIN MCCARTHY:** That was with Jennifer and Juan, right?

1
2 **ORIAN TZADIK:** Yes. For the record.

3
4 **SENNAI HABTES:** That was Kevin and Ori, for the record. [laughter]
5 Thank you all for remembering to use the microphones for all of
6 our people that are online and for the permanent record.

7
8 All right, so I think what we should do now is spend some time
9 shrinking this down. I promise I'll let us all take a break at
10 three o'clock, but I think we can kind of condense this and then
11 when we come back at three, we'll have Tarsila's time to present
12 for an hour, and then I think we'll probably end early so that
13 some of us can go down and provide these research actions in the
14 SSC, if everyone is okay with that.

15
16 Yes, recommend J.J. as well. [laughter]

17
18 All right. So, one, how many do we think we need to provide them?
19 Should we send all of them and let them choose? All of 'em? All
20 right.

21
22 **ORIAN TZADIK:** Let's get into a digestible format though.

23
24 **SENNAI HABTES:** Well, yes. I get that, but it's often easier to
25 know what format we are trying to get it into before putting it
26 into that format.

27
28 If everyone is okay, I think we should maybe have a vote on that.
29 So, everyone can--Kevin?

30
31 **KEVIN MCCARTHY:** So, in preparation for the vote that I think
32 you're about to have, they're going to already have some of these.
33 I don't think there's going to be a problem with overloading them
34 with too many. That would be my argument for just sending
35 everything. Yeah, we probably do need to go through it and clean
36 it up, and there may be some overlap with some things. Who knows?
37 We might be able to condense it. But yeah, why is their list better
38 than our list, first of all. And why is it, why aren't they joining
39 our list instead of the other way around? That's all I'm saying.

40
41 **SENNAI HABTES:** Okay. So, that is a great question for the record,
42 but I will explain as to why that has to be the case.

43
44 We are a Technical Advisory Panel, so we are created by the
45 Council, but our recommendations still technically need to go
46 through the SSC because they are the Scientific and Statistical
47 Committee and so that is why our information is technically
48 subordinate, in a way, to their information, despite the fact that

1 it may be better. I don't know. I'm just saying.
2
3 And so given that we do have two members on our TAP that are also
4 members of the SSC it does help to get that information up to them.
5
6 All right. I don't necessarily think we need to vote on it now,
7 but I think we need to motion to do the vote so that we can, in
8 discussion, address these and then we can just move on to have
9 them edited and vote on them when they're finalized. Is everyone
10 okay with that process?
11
12 All right. So, I need a motion and a second to send these, whatever
13 you call them, priorities, to the SSC as part of their research
14 priorities.
15
16 **ORIAN TZADIK:** This is Orian Tzadik. I motion to have a discussion
17 to streamline this document and then send all of the ideas down as
18 research priorities to the SSC.
19
20 **TARSILA SEARA:** This is Tarsila. I second.
21
22 **SENNAI HABTES:** Excellent motion by Ori, seconded by Tarsila. Are
23 there any opposed to having discussion and reviewing these
24 priorities and sending the entire list down to the SSC for
25 inclusion in their research priorities? Okay. Any abstentions? All
26 right. Having seen no opposition or abstentions, we're going to go
27 ahead and let it be known that that decision was made unanimously
28 by the TAP, and now we can open it up for discussion to change
29 them into clear solidified research priorities that we want to
30 present. Comments?
31
32 I'm going to be quiet now. I'm going to leave this open to a kind
33 of general conversation, and I will try to keep notes and address
34 them as we're going. Whenever I see a hand up online, I will stop
35 the conversation to allow that person to speak. Please do remember
36 to say your name before you have a comment. So, let's get it
37 started. Kevin?
38
39 **KEVIN MCCARTHY:** I just have a question. So, SCCAS and NECAS, S-
40 C-C-A-S and N-E-C-A-S, what are those? Remind me, please.
41
42 **SENNAI HABTES:** They're different things, so I'll put them in here.
43 Okay. But those don't need, I think, to be priorities. This is
44 just information that will help why this is an important priority.
45
46 **ORIAN TZADIK:** Yeah, I was going to say the same thing, that
47 actually, it looks like just the dashes need to just be turned
48 into like questions, research questions, and all the bullets

1 underneath look pretty much like notes. So, I think we got at the
2 original idea when we introduced the topics and then we went into
3 a discussion, and you were taking notes.

4
5 So, I think, maybe we could just, if we flesh out all the dashes,
6 we should probably be close to good.

7
8 **SENNAI HABTES:** Kevin?

9
10 **KEVIN MCCARTHY:** So, do we want to turn them into a question? Do
11 we want to say, for example, conduct species in habitat climate
12 vulnerability int-- or develop, maybe develops a better word now
13 that I look at the whole sentence.

14
15 **SENNAI HABTES:** I'm going to-- María's had her hand up for a while,
16 so María, I'm going to let you go ahead and then Tarsila.

17
18 **MARÍA LÓPEZ-MERCER:** Yeah. María López, just a general comment
19 before you guys start doing this, right. I'm not part of the TAP
20 but I'm support. Just keep in mind that, and I know I said this a
21 couple of times before when I was giving my recommendations,
22 there's a strategic plan that the Council prepared that has
23 objectives and this is the same for the SSC, in the way that we
24 could assist the Council to fulfill those objectives, I think it
25 will be a good way to tie that to basically tie it to what needs
26 to be done.

27
28 So, I see several things in here that have been mentioned as part
29 of those objectives and also other projects. For example, there is
30 a regional action plan that has been developed for the Southeast
31 region and the Caribbean is missing one, and it's going to be
32 prepared. And there's information that this research can bring,
33 that could be used to populate that regional action plan that is
34 part of the, don't have the name, of the climate strategy of
35 something from NOAA Fisheries.

36
37 So, I just wanted to bring that to the table in case you needed to
38 tie it to something. I think that will be good. Thanks.

39
40 **SENNAI HABTES:** Tauna? This is Sennai Habtes for the record. Tauna,
41 who did you say in the Northeast did the species and habitat
42 climate vulnerability indices?

43
44 **TAUNA RANKIN:** It was a, I think possibly, an interagency group,
45 but it was led by the Northeast Fishery Science Center.

46
47 I think both the Mid-Atlantic and New England Councils were
48 involved. And I don't know who else, but I don't know if they had

1 like some kind of name for the group.
2
3 **SENNAI HABTES:** I think this is fine. I just wanted to clarify the
4 information there.
5
6 Okay. So, is everyone fine with "Develop species and habitat,
7 climate vulnerability indices for the U.S. Caribbean? Or should we
8 change it to "Assess species and habitat, climate vulnerability
9 indices"? No? Tarsila.
10
11 **TARSILA SEARA:** Yeah, I mean, I think "develop" is probably a
12 better way to put it. And should we be specific there that what we
13 were talking about here would be to follow the same or similar
14 methods that were used? Yeah, I think so. Just to clarify. So, we
15 could refer to perhaps the Hare et al. 2016. They outlined the
16 methodology that we're talking about, so just to make sure that
17 these are comparable and that it's clear what we're referring to.
18
19 **SENNAI HABTES:** Is it 2016?
20
21 **TARSILA SEARA:** 2016, I think. Or 17. I think it's 16. I can double
22 check.
23
24 **KEVIN MCCARTHY:** This is Kevin. I don't think it's a question
25 anymore.
26
27 **SENNAI HABTES:** Exclamation point. All right.
28
29 Sorry. Let's move on to, let's start from the top. How about
30 sargassum inundation? Oh, wait, no. Ecosystem status report,
31 indicators related to managed herbivores. Do we need to flesh that
32 one out into a specific priority?
33
34 **ORIAN TZADIK:** Wasn't the idea behind that one to understand the
35 impact of managed herbivores. I didn't think it has to do with the
36 ESR so much. Tauna maybe should correct me if I'm wrong.
37
38 **SENNAI HABTES:** Tauna, please. Yeah. Please, jump on in there and
39 help us. Thanks.
40
41 **TAUNA RANKIN:** I guess it was both. It was to better understand
42 the ecological impact of managing herbivores, but also, to develop
43 or include related indicators in future ESRs.
44
45 And just one small tweak is, I think, at least from my perspective,
46 it's understanding how managing them affects the ecosystem, if
47 that makes sense. Not just the ecological role they play in the
48 ecosystem, but how does managing them affect that? So, to try to

1 get to understand, sort of, more ecological sustainability. Like,
2 you know, through multi-species, like J.J. was saying yesterday.
3 You know, we're going to have some species that are going to be
4 more vulnerable. Some are going to-- I'm rambling, so I'm just
5 going to stop. I think you got it. I think you gathered it.
6
7 **SENNAI HABTES:** Okay. I put two up there.
8
9 **TAUNA RANKIN:** That's good.
10
11 **SENNAI HABTES:** Let me know which one works better or if there are
12 changes you want to either of those. I like the second one better.
13 Does that work for most people? Edwin, I see your hands raised.
14
15 **EDWIN CRUZ-RIVERA:** Oh, no, I thought that we were done with this
16 one. I was going into the sargassum already. Sorry.
17
18 **SENNAI HABTES:** Okay. I gotcha. Tauna, are you good with the second
19 one or do you prefer the first one?
20
21 **TAUNA RANKIN:** I'm good with the second. Thanks.
22
23 **SENNAI HABTES:** All right. We'll leave that one then. Oh, Kevin?
24
25 **KEVIN MCCARTHY:** I guess it's just a grammatical thing. Instead of
26 "assessing," I would say, "assess the" or, right? The ecological
27 sustainability. You, you need another "s."
28
29 **SENNAI HABTES:** (Part of Dr. Habtes comment is not audible in the
30 recording)
31
32 That's identify important ecosystem indicators for those species
33 and [inaudible] habitat. Essential habitat? Is there a line?
34
35 **KEVIN MCCARTHY:** Well, "essential habitat--"
36
37 **ORIAN TZADIK:** "Associated."
38
39 **KEVIN MCCARTHY:** Yeah, essential habitats [crosstalk]
40
41 **SENNAI HABTES:** Associated habitat. Okay.
42
43 **ORIAN TZADIK:** Exactly. Essential has a connotation that, yeah.
44 Associated.
45
46 **SENNAI HABTES:** All right.
47
48 **ORIAN TZADIK:** I think we can get rid of the rec fishing data. Is

1 that-- Kevin, what do you think?
2
3 **KEVIN MCCARTHY:** Yeah, I think--
4
5 **ORIAN TZADIK:** Unless there's a final step.
6
7 **KEVIN MCCARTHY:** --it's happening unless you want to say that, you
8 know, Brazil and Sennai Kevin have a cunning plan or something
9 like that. But I would--
10
11 **ORIAN TZADIK:** Yeah. No, I would take it out.
12
13 **KEVIN MCCARTHY:** I would just take it out because it's ongoing.
14 Should we stumble in our efforts due to funding or something, then
15 maybe we can elevate it and--
16
17 **SENNAI HABTES:** All right, Edwin, we're on yours.
18
19 **EDWIN CRUZ-RIVERA:** I would say, I don't know how specific you
20 want this, but "quantify," is that a permissible word here?
21
22 **SENNAI HABTES:** Yeah.
23
24 **EDWIN CRUZ-RIVERA:** Quantify positive and negative effects of
25 sargassum inundations on local fisheries. I have it in the-- to
26 make your life easier, I just put it in the chat, copy and paste.
27
28 **SENNAI HABTES:** Sorry, I keep forgetting to turn on it. I couldn't
29 see it because I was sharing the screen, so I apologize. Let's do
30 that.
31
32 **EDWIN CRUZ-RIVERA:** So, my question is, are those clarification
33 points underneath that, are those supposed to be elevated? Are
34 those clarifying points going with the text that we're sending to
35 the other committee?
36
37 **SENNAI HABTES:** They can. I mean, the ones for sargassum was just
38 coastal effects predictions of sargassum landings.
39
40 **EDWIN CRUZ-RIVERA:** Right. So, fisheries, that's a separate idea.
41 It should be period and "the have" is part of one of the clarifying
42 notes.
43
44 **SENNAI HABTES:** There is a period after-- Oh, over here. Up top?
45
46 **EDWIN CRUZ-RIVERA:** Yes.
47
48 **SENNAI HABTES:** Okay.

1
2 **EDWIN CRUZ-RIVERA:** It should be "fisheries." And that "have a lot
3 of indices of floating algae" that is just a parenthesis to one of
4 the challenges that we have with this being the data poor field
5 for the models.

6
7 **SENNAI HABTES:** Okay.

8
9 **EDWIN CRUZ-RIVERA:** So, I guess my question becomes then, do we
10 want to have enhanced ability to predict coastal leaching of
11 sargassum? Do we want to elevate that as another priority? or
12 should we leave it as a clarifying note?

13
14 **SENNAI HABTES:** I'm confused. Can you repeat.

15
16 **ORIAN TZADIK:** I can. I think I understood it and I think I would
17 suggest leaving it as a clarifying note because I don't think it's
18 a direct link to the fisheries, right? Like, you might use it in
19 your quantification of the positive and negative effects, but--

20
21 **EDWIN CRUZ-RIVERA:** Fair enough.

22
23 **ORIAN TZADIK:** You know, the positive and negative effects are not
24 going to be because there's six tons of sargassum on a specific
25 beach. Right?

26
27 **EDWIN CRUZ-RIVERA:** I'm good with that.

28
29 **SENNAI HABTES:** María, you are recognized.

30
31 **MARÍA LÓPEZ-MERCER:** Thank you. I just wanted to add to this one
32 because there's two things. It's like, one is the effects, how
33 sargass perhaps as waste, affects the fisheries, right? When it
34 gets like closer to the coast and becomes a nuisance. Right?

35
36 And then the effect, how sargassum is acting as essential fish
37 habitat. And I think that's very relevant for management because
38 Sargassum has been designated as essential fish habitat for some
39 of the life stages of the species, in particular, for pelagic
40 species. So, I think it's very important for us to understand the
41 role that those influx effects of sargassum bring to the benefit
42 or the detriment of our fisheries.

43
44 **SENNAI HABTES:** Edwin, go ahead.

45
46 **EDWIN CRUZ-RIVERA:** If I may. That's a reason why this is phrased
47 as positive and negative effects. It was precisely considering
48 that. Do you see want that level of specificity in the notes?

1
2 **MARÍA LÓPEZ-MERCER:** I mean that's how I interpreted what you were
3 trying to say on your-- I just wanted to provide a little more
4 clarity that we were not just talking about the coastal effects.
5 You know, like there's two different things because we have that
6 distinction in NOAA, Sargassum as a living--

7
8 **EDWIN CRUZ-RIVERA:** Right. The [crosstalk] versus inundation.

9
10 **MARÍA LÓPEZ-MERCER:** Versus inundation. Yeah.

11
12 **EDWIN CRUZ-RIVERA:** Yeah. Okay. Hmm. So, how's this? Quantify
13 positives and negative impacts of sargassum.

14
15 **SENNAI HABTES:** Tarsila?

16
17 **EDWIN CRUZ-RIVERA:** Okay. So, Edwin, for the record. So, quantify
18 positive and negative effects of sargassum as critical habitat and
19 during inundations on local fisheries.

20
21 **SENNAI HABTES:** While Ori is doing that, I'll move to Tarsila
22 comment.

23
24 **TARSILA SEARA:** Yes. So, could we expand that? So, we're talking
25 about impacting fisheries and I'm assuming we're talking about
26 direct impacts, but could we consider some of the indirect impacts
27 in maybe fisheries and coastal communities? And that would be also
28 including the social economic impacts that these inundations have.
29 I think that that's a really, really important aspect of this as
30 well.

31
32 **SENNAI HABTES:** I mean, I think we can include that, but I know
33 four projects that are currently underway that are supposed to be
34 collecting data on those things. We've already had two groups that
35 came down. There's one from URI. There was also a group from
36 Alabama that was doing--

37
38 **TARSILA SEARA:** Just a quick comment because I know the group from
39 URI is not focusing on U.S. Caribbean, they're doing Caribbean as
40 other countries. And so, I don't know how much of that data is
41 being focused on the U.S. Caribbean. So, just a quick comment.

42
43 **SENNAI HABTES:** Yeah. I just know I've been interviewed by two
44 groups on perceptions and effects and socioeconomic impacts. I've
45 also connected them with specific fishermen and put out calls for
46 a lot of-- So, there's been a lot of collection of that data. Maybe
47 it's not being collected properly or maybe it's not being used in
48 the right way, but I would say it is far more important that, right

1 now, we are collecting information on landings areas and how it is
2 impacting habitat in nearshore areas and looking at trends
3 associated with it and how it can affect fisheries from that,
4 because we don't have any of that infrastructure in place to
5 collect data on it right now.

6
7 The socioeconomic stuff was what they wanted to fund first, because
8 it was an emergency. Now we're out of that emergency and funding
9 for that side of it is a little bit more difficult. But funding
10 for the long-term research aspects of it may be a bit easier
11 because people want to give the capacity for it. So, I would say
12 now is a good time for those and not so much the socioeconomic.

13
14 **ORIAN TZADIK:** Edwin, I changed your wording a little bit, I think.
15 How do, how do you like it?

16
17 **EDWIN CRUZ-RIVERA:** Yeah, I'm good with that. Thank you.

18
19 **ORIAN TZADIK:** Okay. Thanks.

20
21 **SENNAI HABTES:** I also think now we can maybe move on to the
22 fishery, social and economic research data. And that, I do think
23 is a very important aspect. You could possibly include sargassum
24 inundation information into that one and its impact on fishers,
25 but I think we should keep them as separate research priorities.
26 One, from the socioeconomic, because that in itself needs capacity
27 and infrastructure associated with it. And I think we should
28 separate those from something that is more of an ecological study.

29
30 **TARSILA SEARA:** Yes, that's a good point. I pulled up what I had
31 sent Richard in the context of the SSC recommendations for this
32 particular. I don't know if we just want to borrow some of that
33 language or if they already have it.

34
35 **SENNAI HABTES:** Copy and paste it and send it to Ori and put it
36 right-- [crosstalk]

37
38 **TARSILA SEARA:** Yeah, I could just do that. And that includes--

39
40 **SENNAI HABTES:** My apologies, all. What I had said, that did not
41 get on the record, was that we should copy and paste the same
42 priorities that Tarsila had sent Richard previously, for last
43 year's and if they merged well enough with everyone's view for it
44 here, just send them again. Even if it's already listed, our input,
45 saying that those are important priorities that the SSC may have,
46 I think helps benefit the need for them. Or helps identify the
47 need for them again.

1 **ORIAN TZADIK:** Are you putting it in the chat?
2
3 **TARSILA SEARA:** Oh, I sent it to you. okay. Ah, hold on.
4
5 **SENNAI HABTES:** I don't believe Tarsila is on the meeting that
6 way, so.
7
8 **TARSILA SEARA:** I am. I am.
9
10 **SENNAI HABTES:** Oh, you are? Okay.
11
12 **ORIAN TZADIK:** I'm just, I'm not on my comp-- I'm on Sennai's
13 computer.
14
15 **SENNAI HABTES:** Sorry. You would have to send it to myself, the
16 Chair.
17
18 What time is it?
19
20 **ORIAN TZADIK:** Three.
21
22 **SENNAI HABTES:** Okay. To be fair, I did say I would give everyone
23 a break at 3:00, and it is now 3:02. I apologize. So, we are going
24 to go ahead, and break and we're going to come back and try and
25 wrap up our priorities, but I do want to give enough time for
26 Tarsila and enough time for us to get down and at least present
27 these to the SSC. So, I need us to wrap up these at the latest by
28 like 3:30 or 3:45. So, we're going to need to kind of crank through,
29 really put in clarity on these and get them done. And that'll give
30 you, Tarsila, 45 minutes and then we can get downstairs and still
31 have time to present our priorities to the group. But for those of
32 you that are online, you can then just switch over to the SSC
33 meeting, we're not going to just dump you off.
34
35 So, we'll do a 10-minute break and we'll be back at 3:12. Exactly.
36 J.J. has a comment.
37
38 **JUAN J. CRUZ MOTTA:** An option, instead of rushing today, we could
39 talk to the SSC on Friday morning because, based on their agenda,
40 they will resume talking about research priorities on Friday.
41
42 **SENNAI HABTES:** Are you sure? I thought, I was told they were going
43 to wrap it up today because they had other things they needed to
44 do Friday morning.
45
46 **ORIAN TZADIK:** What about pushing Tarsila and just get this done
47 and get it down there.
48

1 **SENNAI HABTES:** I thought J.J. and Tarsila needed to be downstairs
2 tomorrow, or no?
3
4 **ORIAN TZADIK:** That's what I mean-- Oh, tomorrow.
5
6 **TARSILA SEARA:** Right.
7
8 **ORIAN TZADIK:** Oh, I don't know. You guys need to be in the SCC
9 tomorrow.
10
11 **TARSILA SEARA:** Oh wait. No, no, no. Tomorrow is SEDAR.
12
13 **JUAN J. CRUZ MOTTA:** No, tomorrow is SEDAR.
14
15 **SENNAI HABTES:** Okay.
16
17 **JUAN J. CRUZ MOTTA:** So, we don't need Kevin. [laughter]
18
19 **SENNAI HABTES:** Okay, let's take a break. We'll talk about this
20 over the break and make a decision when we come back. So, let's be
21 back in our chairs at 3:12, everyone, to continue the meeting.
22 Thank you all.
23
24 (Whereupon, a brief recess was taken.)
25
26 **SENNAI HABTES:** All right everyone, we are going to get going again
27 on the research priorities. This is Sennai Habtes for the record.
28 Just some updates. I believe María has left the meeting. She had
29 to attend, I think, the SSC at this point, so she will not be with
30 us for the rest of the afternoon. We checked, they do have it on
31 the schedule to continue talking about the research priorities for
32 Friday, but Friday, remember, is a half day a lot of people will
33 be traveling, most likely when people will be leaving early. So,
34 it's probably better that we finish these if we can today and try
35 and present them so they have some time with it before they
36 solidify things on Friday. So, my recommendation-- Yeah.
37
38 **LIAJAY RIVERA GARCÍA:** I'm sorry. Liajay, for the record. Just
39 now, at the break, I sent the EBFM TAP members the research
40 priorities that are right now being edited and updated by the SSC,
41 so you might have it on your inbox.
42
43 **SENNAI HABTES:** You sent the EBFM TAP ones or the SSCs priorities.
44
45 **LIAJAY RIVERA GARCÍA:** No. The SSC.
46
47 **SENNAI HABTES:** Okay. So, they've finalized what they are planning
48 to present so far.

1
2 **LIAJAY RIVERA GARCÍA:** I'm not sure if they have finalized them.

3
4 **SENNAI HABTES:** But anyway, my recommendation is that we try best
5 as we can to finish this by 4:30, so we can at least go down there
6 and show it to them and give them a draft version of it to
7 incorporate into theirs or decide on whether the ones they want to
8 incorporate.

9
10 **JUAN J. CRUZ MOTTA:** What you sent is the document they produced
11 today.

12
13 **LIAJAY RIVERA GARCÍA:** I'm That they updated. It was a previous
14 document already shared between them and they were modifying it
15 today. I'm, right now, asking if they have finished with that
16 document, with those priorities. So, I'll let you know in a moment.

17
18 **JUAN J. CRUZ MOTTA:** No, yeah. But it looks like--

19
20 **KEVIN MCCARTHY:** This is from ages ago. Just looking at the names
21 associated with them.

22
23 **JUAN J. CRUZ MOTTA:** Yeah, yeah, yeah.

24
25 **KEVIN MCCARTHY:** Yeah. Because Meaghan Bryan has been gone for
26 [crosstalk]

27
28 **JUAN J. CRUZ MOTTA:** And Bill as well.

29
30 **KEVIN MCCARTHY:** Yeah.

31
32 **JUAN J. CRUZ MOTTA:** And Joe.

33
34 **SENNAI HABTES:** Hence why I feel it is very important for us to
35 get our priorities to them and integrated as soon as possible and
36 be in the room while they're developing these. So that's why I'm
37 trying to get us to kind of get moving on these, if that's okay
38 with you all.

39
40 All right. So, I believe we're good with the fishery socio and
41 economic research data. We just need everyone to look at it and
42 make sure that they're good with the wording.

43
44 **ORIAN TZADIK:** So, can I just verify. Are we-- So, the part that
45 you see at the top of your screen in black is supposed to encompass
46 everything up to the red, I guess. No, sorry. Everything up to
47 taking the steps. So, are we good that I delete that bit about
48 fishery socio and economic research data with the three bullets

1 underneath? And how does everybody like the wording of the part
2 about it?

3
4 **KEVIN MCCARTHY:** Let's just read through it before you start
5 deleting.

6
7 **ORIAN TZADIK:** Okay. So, so we've got-- What we have written right
8 now is, "To support periodic systematic collection of data to
9 provide a baseline and comparative basis for social impact
10 assessments, in the context of management strategies and other
11 stressors, for example, hurricanes and sargassum. And then we've
12 got listed there some examples. We have examples of data include
13 wellbeing and job satisfaction; perceived vulnerability and
14 adaptive capacity; perceptions on governance; changes in fishing
15 activity, for example, changes in fishing grounds and target
16 species; data to understand aspects of reliance and dependence on
17 fisheries, including subsistence levels; and economic/market
18 cost/fishing cost data.

19
20 And then as part of that also is research to assess and integrate
21 local ecological knowledge into decision making; building upon
22 current conceptual models; support iteration and promote
23 continuation of efforts to engage and involve stakeholders. So,
24 also help to support and strengthen cooperative research efforts
25 for monitoring and surveying.

26
27 **SENNAI HABTES:** I'm fine with that. I do think you should break it
28 out into smaller sub-bullets. I think that's a long amount of
29 information associated with multiple data types that I feel are
30 hard to explain easily.

31
32 **TARSILA SEARA:** Yes. This is Tarsila. I mean, we don't necessarily
33 have to include all the examples. I had that because Rich had asked
34 for clarification, but we don't need to be that specific. We could
35 just shorten that to human dimensions and then have the economic
36 market cost fishing, specifically the economic, unless we want to
37 specify any of those but I feel like this could just be generally
38 data to collect important social human dimensions information.

39
40 **SENNAI HABTES:** I mean, I'm just-- Sorry. Kevin, go ahead.

41
42 Okay, I just meant, after the parentheses for species, make that
43 a period and make data to understand aspects, separate those two.
44 And then at the top you, "Examples of data include" column. And
45 then you have another bullet, "Wellbeing and job satisfaction".
46 Because that makes it clear how you separate it up into different
47 groupings and it's not causing people to read four sentences. They
48 can easily refer back to different separations and the type of

1 data.
2
3 And on the third bullet, "Research to assess and integrate LEK in
4 the decision-making building upon current conceptual models"
5 period. Another bullet, "Support iteration and promote
6 continuation of efforts to--" Yeah, exactly. Kevin?
7
8 **KEVIN MCCARTHY:** So, two things. The first, following up on that.
9 Are these examples? Well, let me back up even farther. Are we
10 saying we need to develop these programs and leaving it wide open?
11 Or are these particular kinds of data that need to be collected?
12 If so, I would be very specific about that.
13
14 **TARSILA SEARA:** Yeah, that's a good point. No, not necessarily.
15 Those are just examples. But I think a big part of this, and maybe
16 instead of having those, because that could be confusing. Instead
17 of having that, maybe we should stress that even developing the
18 surveys and figuring out what are the things that we need to
19 collect is part of this research priority.
20
21 **KEVIN MCCARTHY:** Right. So, I would rephrase the first one to get
22 at that and say something like--
23
24 **TARSILA SEARA:** Survey developing.
25
26 **KEVIN MCCARTHY:** "Develop periodic systematic data collection
27 programs. And then the rest of it."
28
29 **TARSILA SEARA:** Yeah. So, maybe instead of "support," "develop"
30 Yeah. Right?
31
32 **KEVIN MCCARTHY:** Yeah. Take out "support" and leave "develop" or
33 "design." Something like that, because that's what you're after,
34 right?
35
36 **TARSILA SEARA:** "Design." Yeah.
37
38 **SENNAI HABTES:** So, I think, the second bullet, under "Fisheries
39 socioeconomic research." So, "Review of economics, like Marksh--"
40 So you can, instead of that, put "Socioeconomic data collection
41 within the U.S. Caribbean to identify improved design for survey
42 of socioeconomic factors." And then below you can say "Examples of
43 data include."
44
45 **ORIAN TZADIK:** I didn't catch.
46
47 **SENNAI HABTES:** So, you see the--
48

1 **ORIAN TZADIK:** Yeah. What about it?
2
3 **SENNAI HABTES:** So instead of "review," you could say-- Kevin, I
4 used "assess" before, what was that other word that we used instead
5 of "assess"? Identify?
6
7 **KEVIN MCCARTHY:** Could be, might have been. Identify.
8
9 **SENNAI HABTES:** Yeah. So maybe, "Identify relevant socioeconomic."
10
11 **KEVIN MCCARTHY:** Where are we at this point? Where are you editing?
12
13 **SENNAI HABTES:** I was having an-- Under--
14
15 **ORIAN TZADIK:** Here. This.
16
17 **SENNAI HABTES:** Yeah.
18
19 **ORIAN TZADIK:** Yeah. But it's there. I already put it up. It's the
20 second bullet.
21
22 **JUAN J. CRUZ MOTTA:** I can imagine the guys doing the
23 transcription. [laughter]
24
25 **SENNAI HABTES:** Yeah. So, for that second bullet under "Fisheries
26 social/economic research data" down below, not this top one that
27 we were working on. That. That I think is a better means of what
28 Kevin was trying to get at for the overall thing that we were
29 trying to ask them to look at. And for that, instead of review, we
30 need to say, "Identify social impact assessments or socioeconomic
31 factors--"
32
33 **ORIAN TZADIK:** (Dr. Tzadik's comment is inaudible on the
34 recording.)
35
36 **SENNAI HABTES:** Yeah. "In the context of management strategies and
37 other stressors."
38
39 I was saying that as the header, instead of "Develop periodic
40 systematic collection programs to collect data and provide--"
41
42 **KEVIN MCCARTHY:** So, don't delete it, just put it underneath it so
43 we can compare and contrast.
44
45 **SENNAI HABTES:** I think instead of "Improved design of survey of
46 socioeconomic factors," maybe "Improved social impact
47 assessments." I don't know the right words for this.
48

1 **TARSILA SEARA:** Well, yeah. I think that, maybe the research
2 priority, part of that is to do the research that will help us
3 develop the survey. And the survey is what will provide the basis
4 for social impact assessments amongst other things. But yeah.

5
6 **SENNAI HABTES:** Tarsila, can you just repeat that, please?

7
8 **TARSILA SEARA:** Yeah. So, what I said was, the research priority
9 would be to design the survey to understand the socioeconomic
10 factors to provide the basis for social impact assessments. So, I
11 think that's-- Let me think. "Identify social economic factors
12 related to--."

13
14 maybe just add-- So, "Identify socioeconomic factors" and perhaps
15 we could move the specifics of the economics to the bullets but
16 there should just be "Identified socioeconomic factors to design
17 survey for social impact assessments" perhaps.

18
19 **SENNAI HABTES:** "Design survey" of what?

20
21 **TARSILA SEARA:** Because then we are repeating socioeconomic, right?
22 Yeah, that's-- Oh. So, "Identify factors to design socioeconomic
23 survey" right? Maybe?

24
25 **SENNAI HABTES:** I think if it's "Identified socioeconomic factors"
26 the survey is going to be--

27
28 **TARSILA SEARA:** Yeah, sure. Either/or. I guess either "Identify
29 factors to design social economic" or "To design survey to inform-
30 -"

31
32 **SENNAI HABTES:** To inform social impact assessment?

33
34 **TARSILA SEARA:** Yeah. But also, I mean, it's not the only thing
35 that it will do, but-- or, and maybe then "inform--"

36
37 I know why this is so difficult.

38
39 So yeah. So maybe, "Design survey to systematically collect data
40 to inform--" because I think that's a very important point, because
41 isolated efforts exist, but this is for the specific needs of
42 management and in the context of EBFM. So, yeah. So, maybe take
43 out just "Impact assessments in the context of management
44 strategies and other stressors." Does that make sense?

45
46 Now the problem is we lost the bullet point that we had for the
47 economics, the specifics.

1 **KEVIN MCCARTHY:** Do we need to go back? Like--
2
3 **TARSILA SEARA:** Does anyone remember?
4
5 **KEVIN MCCARTHY:** No. Do a bunch of Control Z.
6
7 **TARSILA SEARA:** But then we're going to lose-- Well, copy and
8 paste-- Well, yeah. Copy and paste that somewhere else because--
9
10 interesting.
11
12 Oh, there it is. Economic market.
13
14 **KEVIN MCCARTHY:** Wow. How do you do that? I don't know how to do
15 that.
16
17 **TARSILA SEARA:** Yeah, I need to learn that. Yeah.
18
19 **KEVIN MCCARTHY:** Who did that? Did you do that or Sennai did that?
20
21 **TARSILA SEARA:** So, that could go under the examples of data,
22 Sennai, if we want to keep that.
23
24 **SENNAI HABTES:** Here. This one.
25
26 **TARSILA SEARA:** Oh yeah, yeah, yeah. Well, but now--
27
28 **SENNAI HABTES:** Oh no, it did a lot of other stuff. So, now I have
29 to do this.
30
31 **KEVIN MCCARTHY:** Well, they can just start at ten because all of
32 these will be one to nine.
33
34 Would you like a cup of soothing tea? [Laughter]
35
36 **JUAN J. CRUZ MOTTA:** Perhaps today somebody had the idea of-- and
37 then working on that.
38
39 **TARSILA SEARA:** So, there's another priority document.
40
41 **JUAN J. CRUZ MOTTA:** Yeah, we're supposed to feed this one into
42 theirs.
43
44 **TARSILA SEARA:** No. So, they're working on one document, and they
45 have multiple documents?
46
47 **SENNAI HABTES:** Yeah. Sorry, I think I got it to the point where
48 we need to be now. Tarsila, where did you want those? You wanted

1 them next to "socioeconomic factors"? This is Sennai for the
2 record.
3
4 **LIAJAY RIVERA GARCÍA:** Sennai, do you have your mic on?
5
6 **SENNAI HABTES:** Yeah.
7
8 **TARSILA SEARA:** We are good. I think the last thing that we talked
9 about was bringing the "Specific economic--"
10
11 **SENNAI HABTES:** Right. So, those were-- that was--
12
13 **TARSILA SEARA:** "--to the examples of data" or yeah. So, we have
14 broadly identified socioeconomic factors to design. So, those
15 would be examples of data. And again, part of the research priority
16 would be to identify what those factors would be, where are the
17 specific needs? And so, the economic market costs, fishing costs,
18 all of that would be examples. Is that-- You know what I me-- So,
19 I wouldn't put it there, I would put it with the bullets.
20
21 **SENNAI HABTES:** Okay. But they already are in the bullets.
22
23 **TARSILA SEARA:** Are they?
24
25 **SENNAI HABTES:** Yeah, right here.
26
27 **TARSILA SEARA:** Oh. So, okay. So, I thought we didn't have that in
28 the bullets, so my bad. Okay. So, okay. So, yeah. So, that was the
29 only thing that I--
30
31 **SENNAI HABTES:** Okay, so this is good?
32
33 **TARSILA SEARA:** Yeah. Yeah. So, we can get rid of "The economic
34 market cost, fishing" whatever there. And I think we can get rid-
35 - If everybody's okay, we could get rid of that second-- because
36 I think that's all captured.
37
38 **SENNAI HABTES:** I'm just going to strike it through though, so we
39 can keep it on there in case we come back to that.
40
41 **TARSILA SEARA:** Good idea.
42
43 **SENNAI HABTES:** Just saying. Kevin?
44
45 **KEVIN MCCARTHY:** Sorry, about being the grammar grammarian but
46 there's-- Well, there's one minor issue and then there's one that
47 just makes it read very oddly. So, "To design," I guess "a survey"
48 or you could put parentheses "s" you know, at the end, because

1 maybe it takes more than one. Right.
2
3 And then, the second line "Impact assessment in the context of
4 management strategies and other stressors." We're saying
5 management strategy is a stressor, so it just—
6
7 **TARSILA SEARA:** Well, it kind of is a major stressor. [laughter]
8
9 **KEVIN MCCARTHY:** Right. Right. But not in the way that reads. So,
10 we just need to change it.
11
12 **SENNAI HABTES:** In the context of management strategies and what
13 about systems stressors?
14
15 **KEVIN MCCARTHY:** That's better. That's be-- Yeah, that's better.
16
17 I wanted to get that last bit right, because when Rich sees it, he
18 would've never let us hear the end of it.
19
20 **SENNAI HABTES:** Okay. Any other comments or changes to this one?
21
22 All right, so now we're on "Methods parameters to estimate
23 reference points from multi-species data." Unless people want to
24 go back to "Species and habitat climate vulnerability indices for
25 the U.S. Caribbean," which I don't think we need to.
26
27 All right. So, "Method/parameters to estimate reference points for
28 multi-species data."
29
30 **KEVIN MCCARTHY:** I would just add the word "developed" to the
31 beginning of that and let it go. But maybe J.J. has a better
32 option.
33
34 **JUAN J. CRUZ MOTTA:** I would--
35
36 **SENNAI HABTES:** "Multi-species data" for what, though? I think
37 would be a good thing to include.
38
39 **JUAN J. CRUZ MOTTA:** Okay. Before that, can you delete
40 "parameters," please? Develop methods or slash procedures if you
41 want.
42
43 **SENNAI HABTES:** Slash what? Method slash?
44
45 **JUAN J. CRUZ MOTTA:** Procedures.
46
47 **SENNAI HABTES:** Procedures.
48

1 **JUAN J. CRUZ MOTTA:** In multi-species data.
2
3 **SENNAI HABTES:** Can you say it on the record, Stacey?
4
5 **STACEY WILLIAMS:** This is Stacey. Maybe for ecosystem assessments.
6
7 **JUAN J. CRUZ MOTTA:** Okay. And another topic for research that I
8 would like to add after this one is--
9
10 **SENNAI HABTES:** How about that?
11
12 **JUAN J. CRUZ MOTTA:** Yeah. Otro "Developed methods--"
13
14 **SENNAI HABTES:** Is this a separate one or it's linked to the--
15
16 **JUAN J. CRUZ MOTTA:** It is linked to the one before, and it's
17 something that Sarah mentioned yesterday that is being done in
18 other Councils, but we are not doing it. And it's something that
19 we will need to solve for the FEP. I mean, like the future is "How
20 indicators can be used directly into a stock assessment, for
21 example, as estimators of uncertainty assumption or covariate."
22
23 And I would make it a dash instead of a circle. That's it. Yeah.
24 Go back. Like there. There you go.
25
26 **SENNAI HABTES:** So, then J.J., what would we put that, like, what
27 would be the name? Give me like a header for those two?
28
29 **JUAN J. CRUZ MOTTA:** That would be "within stock as-" I don't want
30 to call it stock assessment because the first one is trying to get
31 away from that.
32
33 **SENNAI HABTES:** How about "EBFM reference points for use in the
34 fisheries management decision support system within the U.S.
35 Caribbean"
36
37 **JUAN J. CRUZ MOTTA:** Oh, that's beautiful, man.
38
39 **SENNAI HABTES:** I just forgot what it was though. Can anyone
40 remember it? [laughter]
41
42 **JUAN J. CRUZ MOTTA:** You forgot?
43
44 **SENNAI HABTES:** I did. I can't type and think at the same time.
45
46 I really did forget every last word of what I just-- of what came
47 out of my mouth.
48

1 **ORIAN TZADIK:** Reference points. Develop EBFM reference points to-
2
3 **SENNAI HABTES:** Okay.
4
5 **KEVIN MCCARTHY:** There was a "the" in there. [laughter]
6
7 **SENNAI HABTES:** [laughter] Thanks, Kevin.
8
9 **KEVIN MCCARTHY:** Is this the third day, or have we been here our
10 entire lives?
11
12 **JUAN J. CRUZ MOTTA:** You have to use a different unit for time.
13
14 **SENNAI HABTES:** Tarsila?
15
16 **TARSILA SEARA:** Yeah, I just had a thought on the social economics.
17 Sorry to go back to that, but I think because when we were breaking
18 things down, the very last bullet it's not really a research
19 priority per se, but that was linked to the LEK-- So, I don't know
20 if we necessarily need to add that, but I just want to make sure
21 that what it says there is just a pour, it's not really, you know-
22 -
23
24 **SENNAI HABTES:** So, you want to remove it or do you want to leave
25 it as a sub-bullet or do you want to fix it?
26
27 **TARSILA SEARA:** Because that was more of an explanation for the
28 research to assess and integrate local ecological knowledge.
29
30 **ORIAN TZADIK:** That's a perfect sub-bullet.
31
32 **TARSILA SEARA:** So, yeah, that's fine. Yeah, just make sure that
33 that's clear.
34
35 **SENNAI HABTES:** All right, J.J. So, how about "EBFM reference
36 points for use in the fisheries management decision support system
37 in the U.S. Caribbean"? And we have two specific questions or
38 research priorities associated with those reference points.
39 "Methods/procedures to estimate reference points for multi-species
40 data for use in ecosystems assessment."
41
42 **JUAN J. CRUZ MOTTA:** Can you scroll down?
43
44 **SENNAI HABTES:** Oh, sorry. Oh, you guys are only seeing one side.
45 Hang on. No, no, I have a way to fix that. I'll just make it
46 bigger. Okay.
47
48 So, "EBFM reference points for use in the fisheries management

1 decision support system in the U.S. Caribbean." And then we have
2 "Developed methods/procedures to estimate reference points from
3 multi-species data for use in ecosystems assessments to support
4 fisheries management in the U.S. Caribbean." And then two, "How
5 indicators can be used directly in stock assessments (e.g.,
6 Estimators of uncertainty, assumption, or covariates.)"
7
8 Good? All right. Kevin?
9
10 **KEVIN MCCARTHY:** I'm just going to come in for the usual grammar
11 thing.
12
13 **SENNAI HABTES:** Yeah.
14
15 **KEVIN MCCARTHY:** So, rather than saying "how" we need some sort
16 of--
17
18 **SENNAI HABTES:** Assess?
19
20 **KEVIN MCCARTHY:** We need a verb.
21
22 **SENNAI HABTES:** Determine? Assess?
23
24 **KEVIN MCCARTHY:** "Determine how--"
25
26 **JUAN J. CRUZ MOTTA:** Use of indicators.
27
28 **KEVIN MCCARTHY:** Well, we need to say, "We want you to do this
29 thing."
30
31 So, it could be "determine how," or "assess how" something like
32 that.
33
34 **EDWIN CRUZ-RIVERA:** Evaluate?
35
36 **SENNAI HABTES:** Evaluate?
37
38 **KEVIN MCCARTHY:** "Evaluate" is even better.
39
40 **EDWIN CRUZ-RIVERA:** Edwin, for the record and the win.
41
42 **SENNAI HABTES:** How's that? "Evaluate the use of indicators
43 directly in stock assessments (e.g., estimators of uncertainty,
44 assumption or covariates.)"
45
46 **TARSILA SEARA:** This is Tarsila. I'm a little confused. J.J., can
47 you talk a little bit about what you mean? So, maybe we could think
48 of how to make that more specific. Is it "Evaluate the use of

1 indicators"? What do you mean by that?

2
3 **JUAN J. CRUZ MOTTA:** For example, the example-- that's redundant
4 --Sarah pointed out an example where trends on temperature were
5 used to modify the OFL.

6
7 **TARSILA SEARA:** So, what would we be trying to evaluate? Which
8 ones would be useful in the context of the Caribbean? Or if that
9 would be even useful at all?

10
11 **JUAN J. CRUZ MOTTA:** Yeah. Like basically start with one,
12 temperature seems like obvious candidate, and then how the
13 projections in DHW or maximum temperature during the summer can be
14 used to directly, as a quantitative information, into the stock
15 assessment. Like, for example, Shannon, the last two meetings, has
16 been saying, "Okay, diadema is important for triggerfish. How do
17 we use the data on abundance of diadema into this model?" So,
18 that's what I'm hitting. I don't know if that would--

19
20 **TARSILA SEARA:** Yeah, no, that makes sense. Does that capture,
21 because assess the feasibility of using real indicators, because
22 I think that that's what you just said.

23
24 **JUAN J. CRUZ MOTTA:** Yeah.

25
26 **TARSILA SEARA:** Okay.

27
28 **JUAN J. CRUZ MOTTA:** In this example and actually has been proposed
29 for other indices, densities of diadema is important, right? So
30 how can you use the density of diadema, if we decide that's an
31 indicator in the FEP, how can we put that directly into the
32 modeling that the Science Center is doing?

33
34 **JUAN J. CRUZ MOTTA:** Well, that makes sense. And I think, Sennai,
35 you did a good job at sort of making it clear. Yeah. J.J., do you
36 agree with that?

37
38 **JUAN J. CRUZ MOTTA:** Yes.

39
40 The other thing is, for example, another example is, that's a
41 covariate, but another example would be simpler is, based on the
42 re-- I'm just inventing this. Let's stick to the diadema. We know
43 that abundances of diadema are directly related to abundances of
44 queen trigger, because there is a paper that has shown a historical
45 trend, and that correlation is actually high. So, that can be
46 brought to the table when doing the assessment. but the assessment
47 of the queen trigger is done. And I say, "Okay, since this year
48 the levels of trigger are below some threshold, we recommend that

1 the buffer we put on these models is even higher" or something
2 like that.
3
4 **SENNAI HABTES:** Kevin? I also didn't get the last part. Like, what
5 is the example of the actual indicator that I'm using here in a
6 stock assessment?
7
8 **JUAN J. CRUZ MOTTA:** The indicator is the abundance of diadema
9 antillarum.
10
11 **SENNAI HABTES:** To the stock size of queen trigger?
12
13 **JUAN J. CRUZ MOTTA:** Yeah, but I wouldn't go that detailed in this
14 document.
15
16 **SENNAI HABTES:** Okay. So, what do you want me to put in that? Don't
17 put that example?
18
19 **ORIAN TZADIK:** Why don't, instead of an example, why don't we just
20 put, "Assess the feasibility of using EBFM relevant indicators
21 (e.g., temperature, coral cover.)" That's it. Just example,
22 temperature, coral cover. Sure.
23
24 **SENNAI HABTES:** Kevin.
25
26 **KEVIN MCCARTHY:** So, I think we need to rethink this one a little
27 bit. We already know it's feasible; we do it in the Gulf of Mexico,
28 so we need to get at this a little bit differently.
29
30 **SENNAI HABTES:** Hence, why I said [crosstalk]
31
32 **KEVIN MCCARTHY:** Right, exactly. Well, we know it's feasible. We
33 know, but what is, we need to develop the indices that would
34 actually inform.
35
36 **JUAN J. CRUZ MOTTA:** Oh, okay.
37
38 **KEVIN MCCARTHY:** Right. So, we know it's feasible. If you give us
39 one, we can use it. But what we can't use is, "Hey, more coral
40 cover is better. Right? But we don't have an index of coral cover."
41 Well, that we probably do. We'd have to demonstrate that there's
42 a connection. Right? And in in what way? Like a measurable, you
43 know, a number because in general we know. But even that is
44 probably fairly, could be fairly vague, so we have to develop those
45 indices. Like, identify and develop indices of EBFM relevant
46 indicators for use in stock assessment.
47
48 **ORIAN TZADIK:** (Dr. Tzadik's comment is inaudible on the

1 recording.)
2
3 **KEVIN MCCARTHY:** Right. I would replace bullet three with bullet
4 two.
5
6 **JUAN J. CRUZ MOTTA:** Good. Agreed.
7
8 **KEVIN MCCARTHY:** Because my boss is going to say, I need a number.
9
10 **JUAN J. CRUZ MOTTA:** Basically, what I was trying to convey is
11 that. Like, trying to answer Shannon's question.
12
13 **KEVIN MCCARTHY:** Mm-hmm.
14
15 **JUAN J. CRUZ MOTTA:** That's basically what we-- that would be our
16 research need.
17
18 **SENNAI HABTES:** How's that J.J.?
19
20 **JUAN J. CRUZ MOTTA:** Excellent.
21
22 **SENNAI HABTES:** Okay. Sennai, for the rec-- No, we're getting
23 beyond-- Everyone knows it's me because I keep talking.
24
25 We're going to move on to research into management. I think we
26 only have like four left, so let's kind of keep cranking through
27 and we might actually make our deadline at 4:30.
28
29 **JUAN J. CRUZ MOTTA:** Yeah. The only comment that I have there is
30 that then, bycatch discards should be put somewhere else. Perhaps,
31 more into-- we don't have an ecological section or--
32
33 **SENNAI HABTES:** I think bycatch and discard can be its own complete
34 separate area because it is already a strategic objective of the
35 CFMC in a lot of ways. There are aspects about developing that.
36 So, I think bycatch and discard research should be its own. I mean,
37 it is technically research associated with management, so it fits.
38 But I do agree that we should separate adaptive management and by-
39 cards and discards research because they're different types of
40 research.
41
42 **ORIAN TZADIK:** Can we back up? What is DSS? Decision's part, okay.
43 So, should it be "Research on how to"?
44
45 **TARSILA SEARA:** To "inform" maybe, or to "guide."
46
47 **ORIAN TZADIK:** "Research to guide the implementation of" how's
48 that?

1
2 **SENNAI HABTES:** I mean, isn't implementation already needing
3 inform-- Like, how many more adjectives do we want to put in,
4 right? I think it should either be re-- I think it should be
5 "Research to implement" or "Research to inform," but not "Research
6 to inform implementation of," right? Like I think we should have
7 a specific outcome for this one that we want. But I could be wrong.
8

9 **TARSILA SEARA:** So, "Research to guide adaptive management" or to--
10

11 **ORIAN TZADIK:** Well, they're separate things, right?
12

13 **SENNAI HABTES:** Yeah.
14

15 **ORIAN TZADIK:** So, what do we want? Right?
16

17 **SENNAI HABTES:** We can do separate two separate ones, but I think
18 we should choose. Are we doing research on how we are implementing
19 something? Are we doing research to create a process for developing
20 adaptive management?
21

22 **ORIAN TZADIK:** Right.
23

24 **TARSILA SEARA:** I thought it was that, the second. But that was
25 J.J.'s bullet point, I'm just-- I don't know what I'm talking
26 about. But I thought it was the second.
27

28 **ORIAN TZADIK:** If it's the second, then it stays how it is.
29

30 **SENNAI HABTES:** Kevin?
31

32 **KEVIN MCCARTHY:** What's above this? Have we dealt with everything
33 above this, or is this a sub-component of something else? Okay.
34

35 **SENNAI HABTES:** It's its own thing. So, it's a management research
36 associated thing. We do have some other management stuff, but this
37 was [crosstalk].
38

39 **KEVIN MCCARTHY:** Yeah, I just wanted to make sure we weren't
40 spending a lot of time on a sub-component of a larger thing.
41

42 **ORIAN TZADIK:** If we're doing research to implement, I think that's
43 kind of suggestive of the two ideas we were talking about. So, I
44 think "Guide the implementation" or "Guide to implement" or
45 something like that, or "Research on how to." You see what I'm
46 saying? Like I said, they're very separate, so I just want to make
47 sure that we--
48

1 **SENNAI HABTES:** So, I have a question. I'm confused as to what we
2 want here. Where are we on adaptive management strategies within
3 the U.S. Caribbean? Do we know which adaptive management strategies
4 we want to implement? Do we have a plan for adaptive management
5 strategies in Car-- we have nothing associated with adaptive
6 management.
7
8 So, if that is the case, my recommendation is "Develop an
9 implementation strategy for adaptive management to support
10 fisheries management in the U.S. Caribbean." Okay. Tarsila?
11
12 **TARSILA SEARA:** Just a quick question. Can we say that? That that
13 is a research priority. Who develops that? And, you know, shouldn't
14 it be--
15
16 **SENNAI HABTES:** Great question?
17
18 **TARSILA SEARA:** You know what I'm saying?
19
20 **SENNAI HABTES:** You know who does develop that? A Technical
21 Advisory Panel.
22
23 **TARSILA SEARA:** Oh, no.
24
25 **SENNAI HABTES:** I mean, I think we can--
26
27 **TARSILA SEARA:** I think that's why I'm saying--
28
29 **SENNAI HABTES:** You're right. That in itself is more a strategic
30 objective as opposed to a research priority.
31
32 **JUAN J. CRUZ MOTTA:** Yes.
33
34 **TARSILA SEARA:** That's why I think we were, sort of, going back to
35 the "Research to guide" this process rather than the actual
36 development of it itself.
37
38 **SENNAI HABTES:** Kevin, did you have a comment?
39
40 **KEVIN MCCARTHY:** I did, but I think I'm still giving it additional
41 thought.
42
43 **ORIAN TZADIK:** I'm going to use one of Kevin's favorite words,
44 maybe "Research to guide best available science" or "best--"
45
46 **KEVIN MCCARTHY:** That's not one of my favorite words.
47
48 **ORIAN TZADIK:** "Research to guide best strategies" kind of thing.

1 "For adaptive management," yeah. That's what you meant, right,
2 Tarsila?
3
4 **TARSILA SEARA:** Yeah.
5
6 **KEVIN MCCARTHY:** So, even though this may be a sort of a strategic
7 goal sort of thing, and it may fall to this group. I think it's
8 still useful to have it in there because now we can argue for money
9 because who's going to do that in all of our abundant spare time?
10 Right? But we can hire somebody.
11
12 **SENNAI HABTES:** Any edits or is this good as it is?
13
14 **ORIAN TZADIK:** I think so.
15
16 **SENNAI HABTES:** All right. I'm going to just delete the "Research
17 into management" header. I think that can stand alone on its own.
18
19 All right. Bycatch or discard research. What do we want to do with
20 this one?
21
22 **JUAN J. CRUZ MOTTA:** What we want is to-- the simplest of things,
23 characterize that because we have always assumed there is none.
24 So, is there one? And if there is one, what is it? Basically,
25 describe.
26
27 **ORIAN TZADIK:** Is it multi-gear fisheries or is it separate? Right?
28 Isn't it across gears? Isn't that what we were talking about? Like,
29 what is the bycatch and discard associated with lobster pots? What
30 is it associated with bandit gear? What is it associated with
31 trammel nets? Like, right?
32
33 **KEVIN MCCARTHY:** I would say just take out the gear reference.
34
35 **ORIAN TZADIK:** Associated with fisheries?
36
37 **KEVIN MCCARTHY:** In the U.S. Caribbean.
38
39 We don't need to limit it. I mean, that's a huge job and somebody
40 may go in and do it in pieces.
41
42 **ORIAN TZADIK:** Right.
43
44 **SENNAI HABTES:** Tarsila?
45
46 **TARSILA SEARA:** Yes. Do we want to be specific that we're talking
47 about both commercial and recreational? Or is that implied?
48

1 **ORIAN TZADIK:** I think it's implied, but I don't think it hurts to
2 put it in there because they're very different things. Right? Like,
3 I think that actually bycatch and discards, are probably going to
4 be much, much higher in the recreational sector.

5
6 And then, I would suggest deleting the next two bullets. However,
7 if you wanted to catch the second bullet, you could say something
8 about, you know, "Assessing the impact of bycatch on ecosystem
9 function." But yeah, I'd recommend doing that.

10
11 **KEVIN MCCARTHY:** I don't think we want to recommend research
12 until we know there's an issue, right? If there's nothing to
13 reduce, mission accomplished.

14
15 **SENNAI HABTES:** But what about, what about ecosystem function? So,
16 "assess--"

17
18 **ORIAN TZADIK:** No, he's saying no.

19
20 **SENNAI HABTES:** Don't include that.

21
22 **ORIAN TZADIK:** Yeah, we're saying to pause on it and not include
23 it right now because first step is doing those other things and
24 then--

25
26 **KEVIN MCCARTHY:** And you could [crosstalk] capitalize.

27
28 **SENNAI HABTES:** J.J.? Okay. I mean, I feel like it's there for a
29 reason, Kevin, recreational and commercial SECTors.

30
31 **KEVIN MCCARTHY:** Alright, I'm happy with that.

32
33 **SENNAI HABTES:** J.J.?

34
35 **JUAN J. CRUZ MOTTA:** Thank you, Sennai. I'm sorry, the previous
36 section, on management. There is something that Shannon keeps
37 mentioning when we're doing the stock assessment, which is an idea,
38 and perhaps Kevin can help me explain it in detail, which is the
39 idea of setting a reference point and instead of doing a stock
40 assessment once and again and review, we can do a performance
41 reports, is that the name? And she associates that with the concept
42 of flexibility. Can we do something to promote-- is there something
43 that we can put here in the research interest that would facilitate
44 what she wants to do?

45
46 **KEVIN MCCARTHY:** Yeah. So, what she's getting at is, once you
47 have a stock assessment, you don't need to constantly do that. You
48 can put in these sort of performance metrics, like an index of

1 abundance, and then look at the behavior of that now that you've
2 got a stock assessment to sort of ground it. And I don't know that
3 that's a research recommendation so much as sort of a standard
4 practice that the Council could implement. Because the SSC, that's
5 really for the SSC to say, "Hey, Science Center, try it. Try it
6 with queen triggerfish now that we've got an assessment in Puerto
7 Rico and then we'll review it."

8
9 So, I think it's a great idea and something we would love to do
10 because it's not so labor intensive. Right? And beat up on all the
11 time and energy of the Caribbean Fishery staff. So, I fully support
12 it. I think it's something that we-- Luckily, we've got two SSC
13 members here who can champion it in the future, because I think
14 it's the right way to go.

15
16 **SENNAI HABTES:** Okay. Functionality of ecosystem restoration
17 within the U.S. Caribbean. Is "functionality" the right word? Do
18 you want to "Assess the impacts," or do you want "Assess how good
19 some--" success, yeah.

20
21 **ORIAN TZADIK:** Well, I would suggest "impacts" because then it
22 could be success or failure. Right?

23
24 **EDWIN CRUZ-RIVERA:** How about effectiveness? Instead of impacts.
25 Just a suggestion.

26
27 **ORIAN TZADIK:** Can I ask the expert on ecosystem restoration, is
28 there any thought that maybe it's doing damage?

29
30 **STACEY WILLIAMS:** I don't think they even-- I mean, as I think
31 somebody's mentioned, like, NOAA's now trying to understand some
32 of the-- it's a pretty new. Yeah, I don't know if there's actually
33 any data to support if it's damaging or it's actually--

34
35 **ORIAN TZADIK:** Right. So, we're saying that we want to prioritize
36 research that evaluates whether-- So, are we asking whether it's
37 good or bad or whether it's the percent good that it is. Because
38 then it would be efficacy. But if we think there's a possibility
39 that it could be bad, I think that's impacts. But I don't know. I
40 just don't know if that's even a possibility. If you outplant
41 corals, is it possible that's bad for the reef?

42
43 **STACEY WILLIAMS:** No, I don't-- I wouldn't think that would be
44 possible.

45
46 **ORIAN TZADIK:** So, then we should use-- I think then we should go
47 with Edwin's suggestion. I think he said "efficacy," right?

1 Tauna, you had a comment.

2
3 **EDWIN CRUZ-RIVERA:** No, I was having a bad English and said
4 "effectiveness" when it should have been a "efficacy."

5
6 **TAUNA RANKIN:** I like "efficacy". And I guess to elaborate, I think
7 there's two pieces that we're especially interested in. One, if
8 the restoration actually restores all the same ecosystem services
9 that the natural pristine habitat would've, but beyond that, is
10 how much is it increasing fish productivity?

11
12 **KEVIN MCCARTHY:** So, Tauna, do you want to add those as very
13 specific elements? Like, if you're going to compete for-- Like, if
14 this went out as an RFP, you have to do these two things as part
15 of, you could do other stuff, but you have to do those two things.
16 Should that go in that way?

17
18 **TAUNA RANKIN:** I hesitate to go that far because these are two
19 questions that have alluded us for a while, and so there might be
20 some more basic information that can be gleaned. But yeah, these
21 are the ultimate.

22
23 **KEVIN MCCARTHY:** Mm.

24
25 **TAUNA RANKIN:** This is what we'd want to work towards
26 understanding.

27
28 **KEVIN MCCARTHY:** So, could we phrase it that way? That the ultimate
29 goal or the desired goal, end goal, is bullet one, bullet two? Or
30 research should lead to this, which gives them a little wiggle
31 room.

32
33 **TAUNA RANKIN:** Yeah. Yeah. I like that.

34
35 **KEVIN MCCARTHY:** Thank you.

36
37 **TARSILA SEARA:** I just have a quick question. This is more out of
38 curiosity. I mean, is it possible to answer these questions? I
39 mean, how new is it?

40
41 **STACEY WILLIAMS:** I mean, right now, it's all the research-- I
42 mean, restoration that is occurring is in small scale. So, it's
43 really hard to assess. I mean, there are small studies showing
44 that, yeah, restoration does have positive impacts on fish
45 assemblages and, yeah, there's studies. So, there are studies that
46 support that it does work, but like, on a larger ecosystem scale,
47 larger scale, there's very few.

1 **SENNAI HABTES:** Well, also the big question right now too is, is
2 it scalable for a lot of these, right? For a lot of the new-- do
3 these smaller projects work at a scale large enough to actually
4 create original ecosystem services that are necessary?
5

6 **TARSILA SEARA:** Yeah. And I think that's part of the reason why.
7 I mean, is there a research question that comes before these ones
8 that's more important? Because if we can't, at this point, even
9 assess if it is restoring it and impacting fish productivity,
10 because we don't have it at the scale that would actually do that,
11 is there something that precedes those questions that would be
12 more pressing?
13

14 **ORIAN TZADIK:** Yeah, I think that what Sennai said, "Is it's
15 scalable?" You know, there's no reason to think that if it works
16 at small scales, then it wouldn't have a positive impact on a large
17 scale. There's definitely nuances to that, and there might be
18 differences and everything, but I think the question that we're
19 getting at is, is it scalable? So, I think maybe that's the first
20 question. So, that's the first bullet right there. Just assess
21 efficacy of ecosystem restoration within the U.S. Caribbean,
22 should lead to bullet one. Is it scalable? Or are positive effects
23 scalable? Or something like that.
24

25 **SENNAI HABTES:** It's not just money, right? There are projects
26 that have gone to larger scales and failed, right? Because they
27 can't keep up the same productivity as well as the same impacts in
28 a larger system. You know? And I think those go directly to, are
29 we measuring the correct reference points, right? Money is a good
30 reference point too that I don't think is often measured before we
31 start putting money into the smaller scale. So, I think all of
32 those are great questions. Tauna?
33

34 **TAUNA RANKIN:** One thought that touches on the scale issue is, if
35 it is self-sustaining. Like, can you actually restore a reef enough
36 that it's going to replenish and continue to function? I know one
37 of the challenges with the acropora restoration, over the years,
38 is that eventually they succumb to some event, some disease event
39 or bleaching or whatever. And so, this kind of gets to the sort of
40 resilience question also. Like, can you put resilience back into
41 the system through restoration? Which is another one of those big,
42 too big for this list, questions, maybe.
43

44 **ORIAN TZADIK:** I think we're getting at a lot of good major themes
45 about restoration, but I think that we're capturing the first steps
46 right here, and I think maybe this is the list we should go with.
47

48 **KEVIN MCCARTHY:** So, I have a bigger picture, maybe. Do we even

1 know what we need to measure to determine efficacy? Should we be
2 asking that first? Right? Because all of these things are aspects
3 of that, but maybe the question, maybe the research is, what do we
4 mean by efficacy? How do you measure it and how do you determine
5 success?

6
7 **ORIAN TZADIK:** Well, we have the ecosystem services part, restoring
8 ecosystem services. That would be a quantifiable measurement.

9
10 **KEVIN MCCARTHY:** Right? But what does that mean? Right? That you
11 can measure. So, what aspects of that. So, I'm wondering if we
12 shouldn't take it farther back and say, how do you determine
13 success?

14
15 **TARSILA SEARA:** I agree with that. And I think that, you know,
16 going back to your point, or maybe, I think you made this point a
17 couple of times, but in terms of the funding, right, because if
18 you want to generate funds for this, I think it's so important
19 that the question is, not right, but you know, that it's at its
20 right stage, I guess. You get what I'm saying?

21
22 **STACEY WILLIAMS:** There are some levels that NOAA have defined as
23 what success is, you know? Like reference points to reach when
24 doing restoration. So, they have defined these and we could use
25 those if necessary. But there are some definitions of like, okay,
26 what should you reach in restoration and how successful should it
27 be when you out planting corals and that?

28
29 **KEVIN MCCARTHY:** So, I'm just looking at the clock and we want to
30 get these two. So, this is the last one? What I was going to get
31 at is, is this something that's going to require more time and we
32 table this and bring it back at the next SSC meeting, or do you
33 think we could power through in the next 10 minutes? I don't know
34 enough about this, which is why I'm asking these sort of over
35 larger scale questions.

36
37 **SENNAI HABTES:** I think we're done. I think we need to just polish
38 this last one and then the wording regarding the letter that the
39 Council should create and then we send J.J. down to present.

40
41 **STACEY WILLIAMS:** In just another bullet, like right under, what
42 should we be restoring? Because people have always focused on
43 corals, but there's so many other things that are important, like
44 herbivores. So, maybe just a small bullet saying--

45
46 **SENNAI HABTES:** I think that's a different question.

47
48 **STACEY WILLIAMS:** Okay.

1
2 **SENNAI HABTES:** Yeah. I mean, I think if you want to make that a
3 research priority, we can, but I think that's separate from
4 assessing the reference points and measurements necessary. You
5 know, that's identifying what are the ecosystems we want to target.
6 And for us, those are pretty clear, from a fishery standpoint. You
7 know? Kevin.

8
9 **KEVIN MCCARTHY:** So, if you can just scroll up a little bit so we
10 can see the whole bullet.

11
12 So, I think we want to say-- We don't want to limit them to the
13 list that we come up with today, right? So, we need some kind of
14 yeah, clarity on the questions, "but not limited to," something
15 like that.

16
17 **SENNAI HABTES:** All right, last one. Enhancing support and capacity
18 for mariculture in the U.S. Caribbean. I feel like that stands
19 alone and is good as is.

20
21 **ORIAN TZADIK:** What is the question? What's the research? "How to"
22 enhance?

23
24 **SENNAI HABTES:** I think it's enhancing support and capacity for
25 maricultural production in the U.S. Caribbean. So, understanding
26 how to reproduce organisms in captivity, which is a broad
27 definition for mariculture.

28
29 **ORIAN TZADIK:** Right. But--

30
31 **SENNAI HABTES:** So, do I need to put reproduce?

32
33 **ORIAN TZADIK:** No, no, that's not what I meant. I think that that
34 part-- I'm saying that--

35
36 **STACEY WILLIAMS:** [crosstalk] it's not a really research.

37
38 **ORIAN TZADIK:** Yeah. What is the research? To me, that's like an
39 objective and that's like, let's put money into something to
40 enhance it, versus if we're talking about a research priority, you
41 know, what are you researching, how to do it?

42
43 **SENNAI HABTES:** No. What is the correct capacity and support
44 necessary to increase maricultural production in the U.S.
45 Caribbean?

46
47 **ORIAN TZADIK:** I would write it like that then, "What is," instead
48 of answer.

1
2 **KEVIN MCCARTHY:** How about just develop capacity? And that stays
3 pretty wide open.
4

5 **ORIAN TZADIK:** Yes, I agree with that. Yeah.
6

7 **SENNAI HABTES:** Done.
8

9 **ORIAN TZADIK:** Yeah.
10

11 **SENNAI HABTES:** Okay.
12

13 **JUAN J. CRUZ MOTTA:** No habla inglés. [laughter]
14

15 **ORIAN TZADIK:** Motion to take this to SSC. I'm sorry. Motion for
16 J.J. to take this to the SSC.
17

18 **TARSILA SEARA:** Second.
19

20 **SENNAI HABTES:** Any opposed? That you can do. So, we have one
21 opposition from J.J. Any abstentions? So, motion has passed
22 approval from all members, with the exception of J.J.
23

24 Okay. So, for everyone online, just to let you know we are now
25 going to be moving down to the SSC meeting to present the research
26 priorities that we are working on. You can find the link for the,
27 that zoom meeting on the federal register for the SSC meeting from
28 May 3rd to 5th. With that, I am going to adjourn our EBFM TAP meeting
29 for the day. We'll be meeting again tomorrow at 9:00 AM. Same bat
30 place. Same bat channel.
31

32 **ORIAN TZADIK:** Well, no, we're downstairs. Downstairs, right?
33

34 **LIAJAY RIVERA GARCÍA:** Yes. You are downstairs.
35

36 **SENNAI HABTES:** They don't-- You guys don't need to know that.
37 They're on the zoom. So, thanks all you can join us on the next
38 meeting. We hope to see you there.
39

40 (Whereupon the meeting recessed on May 3, 2023.)
41

42 - - -
43

44 MAY 4, 2023
45

46 THURSDAY MORNING SESSION
47

48 - - -

1
2 **SENNAI HABTES:** Good morning, everybody. We're going to go ahead
3 and get started for the May 4th session of the EBFM TAP or
4 Ecosystem-Based Fisheries Management Technical Advisory Panel of
5 the Caribbean Fisheries Management Council. I will welcome
6 everybody to our second day. Buenos días a todos. Unfortunately,
7 we have a lot of shuffling back and forth that we need to do today
8 because there are some aspects of the SSC that some of our members
9 need to attend.

10
11 So, myself, J.J., and Kevin, unfortunately will not be with us for
12 this first part of the meeting. I assume we will be back probably
13 at the break, around 10, 10:30. In that interim, I'm going to have
14 our Vice Chair, Orian Tzadik, lead the meeting. I think what we
15 can do is get into some of the working groups.

16
17 Today's and tomorrow's sessions were all going to be organized
18 towards the working groups and the framework that we need to
19 develop. What I think we can focus on; I can give just a quick
20 overview. What we need to get done for the remainder of the meeting
21 is to finalize the outline with subtasks within it for writing by
22 the technical writer. And then we need to organize the framework
23 by which we want all of our working groups to work on, as well as
24 our tasks within each of those working groups and leaders for the
25 working groups.

26
27 If we can complete all of that in the next two days, we will have
28 successfully accomplished all of our goals for this meeting. I
29 think we can do it. I think we just need to be focused and identify
30 the tasks that we need to progress with and the most important
31 aspects.

32
33 So, I'm going to step away. I'm going to turn over chair control
34 to Orian. I suggest that in our absence you guys can talk about
35 one of the working groups that doesn't have a lot of input from
36 myself and J.J. at present, which was the risk assessment working
37 group. I think identifying-- since Tauna is on and María is on,
38 and Orian and Tarsila are here, I think you guys can kind of come
39 up with the ways that you want to work within that working group
40 and possibly talk about the framework that we would use for the
41 risk assessment that we want to put into the outline. And I think
42 that will help us move that forward later in the day.

43
44 So, if that's okay with everybody, I'm going to turn over chair
45 responsibilities to Orian and I'm going to step out.

46
47 **ORIAN TZADIK:** All right. Thanks, Sennai. Good morning, everyone.
48 This is Orian Tzadik, NOAA Fisheries. If we wouldn't mind,

1 everybody in the chat, if you could just type in your name and
2 affiliation for everybody online and let's do a quick round in the
3 room starting over there, in the corner.

4
5 **TARSILA SEARA:** Hi. Tarsila Seara, EBFM TAP.

6
7 **STACEY WILLIAMS:** Good morning. Stacey Williams, EBFM TAP.

8
9 **LIAJAY RIVERA GARCÍA:** Buenos días. Liajay Rivera García, Council
10 staff.

11
12 **ORIAN TZADIK:** Okay, fantastic. All right, so as Sennai said, let's
13 go ahead and work with the risk assessment working group.

14
15 **LIAJAY RIVERA GARCÍA:** Pardon. For the record, to have them on the
16 verbatim transcript, the roll call.

17
18 **ORIAN TZADIK:** Sure. Go for it.

19
20 **LIAJAY RIVERA GARCÍA:** We have-- I'm sorry, let me pull out the
21 participant list. It disappeared. Okay.

22
23 We have María López-Mercer, Alida Ortiz Sotomayor, Edwin Cruz-
24 Rivera, and Tauna Rankin. That is all.

25
26 **ORIAN TZADIK:** Great. Thanks. Okay, so as Sennai mentioned, what
27 we thought we would do would be to discuss the risk assessment
28 working group. Yep. Thank you very much Liajay. So, I don't think
29 we need to worry, we were just discussing in the room before the
30 meeting started, but for everybody's benefit online, I'll kind of
31 repeat what we had discussed.

32
33 Throughout the course of the day, at some point, we're going to
34 figure out how these working groups are going to move forward in
35 terms of, how often they're going to meet, what we're going to do
36 and membership and that sort of thing. So, I suggest we don't worry
37 about that right now in terms of the schedule moving forward and
38 in terms of membership but with these working groups, we have the
39 four working groups. We have ecosystem indicators, conceptual
40 models, this risk assessment, and the data repository.

41
42 I think the conceptual models and the ecosystem indicators, we
43 have a clear idea of where we're going with them and what we're
44 going to be using them for in the FEP. So, I thought maybe what we
45 should do right now is discuss how we envision this risk
46 assessment, how we envision using it and what exactly we expect to
47 do. Tarsila?

1 **TARSILA SEARA:** One thought is that I think the work that's going
2 to be done by this group, a lot of it will depend on what the
3 outcomes of the other two groups are going to be.

4
5 Right? So, I think one thing that we need to keep in mind is how
6 we're going to coordinate so that we're smart about how we're doing
7 that and what that means in terms of how much work this group can
8 do before we finalize the outcomes of the other two groups. Because
9 one of the things that we have discussed is that the conceptual
10 models is going to be one of the ways that we're going to inform
11 what the risk factors are going to be.

12
13 So, I just wanted to put that out there so we can think about how
14 we're going to coordinate.

15
16 **ORIAN TZADIK:** Absolutely. Thanks for bringing that up. Yeah. I
17 agree and I envision that a lot of the risk elements will be
18 derived based on the indicators and the conceptual models and the
19 outputs from that. But I was thinking more along the lines of
20 trying to coordinate between Tauna's project and then also, again,
21 just how we envision use of this.

22
23 Because there's been discussion for the use of the risk assessment
24 in terms of analyzing the risk upfront, and deciding, "Okay, let's
25 have all these risk elements and let's put this thing together and
26 then give it to the Council." There's been other ideas that are
27 more kind of ongoing, and then there's been others that maybe the
28 whole point is just to develop a risk assessment, so that we can
29 hand it to the Council, and when they want to make a decision they
30 say, "Okay, let's use this to evaluate risk." Go ahead.

31
32 **TARSILA SEARA:** Could we maybe get a little bit of a-- And this
33 could be my bad, maybe I missed this. --but just get a little bit
34 more context for Tauna's work and her project.

35
36 **ORIAN TZADIK:** I think that's a great idea. Tauna, are you online?

37
38 **TAUNA RANKIN:** So, the project's been on hiatus for a number of
39 years. Back in 2018, 2019, I developed a framework for a risk
40 assessment that was going to be expert opinion by the SSC. The
41 idea was, at the time, that it would identify those high risk and
42 high uncertainty drivers or risk elements or, whatever you want to
43 call them, to focus on. And so that could mean, develop management
44 objectives around them. That could mean include them in research
45 priorities.

46
47 My thought was that since we were at the very early stages of the
48 FEP development, that it would be a good kind of scoping tool but

1 it became a kind of a daunting task. And the decision was made to
2 focus on the conceptual models first. And so, because we've
3 progressed since, really, if we wanted to follow the Lenfest model,
4 you would develop your strategic objectives first, and then you
5 would evaluate your risk elements or factors against needing your
6 strategic objectives and that will allow you to decide on what
7 strategic objectives to focus on. That could mean only developing
8 operational objectives for those strategic objectives. That could
9 mean focusing on certain species or habitats, depending on how we
10 organize the risk assessment.

11
12 The Mid-Atlantic Council, you know, the way they structured theirs
13 now, they evaluated risk by species and fisheries, but they only
14 managed 12 species, so it was a lot more straightforward. And so,
15 they ended up focusing on summer flounder, then did a conceptual
16 model around the risks to summer flounder, and then did a
17 management strategy evaluation.

18
19 So, I see that the risk assessment can kind of point you to where
20 you use different management tools such as management strategy
21 evaluation. It could direct the Council where they want to develop
22 policy statements that might play into ESA and EFH consultations.
23 There's, you know, kind of a lot of different ways you could use
24 it. I feel good about developing the strategic objectives first,
25 evaluating risk against those, and then using it as a way to
26 further prioritize.

27
28 **LIAJAY RIVERA GARCÍA:** Mr. Chair, you have a question from Alida
29 Ortiz. If you want to us to read it out loud?

30
31 **ORIAN TZADIK:** Sure, I can do that. Thank you.

32
33 **LIAJAY RIVERA GARCÍA:** Okay.

34
35 **ORIAN TZADIK:** Tauna, Alida is asking if you could give us a
36 reference to the document that you mentioned and how it can be
37 accessed.

38
39 **TAUNA RANKIN:** Sure. Can you clarify, Alida, which document? I
40 have a lot that I can point you to.

41
42 **ALIDA ORTIZ SOTOMAYOR:** The one that you said that you developed
43 for the risk assessment?

44
45 **TAUNA RANKIN:** Okay. Yes. Yeah. So, I developed kind of methodology
46 document. It's not online, but it might be in the Google Drive or
47 if not, can I email it to you, Liajay, and maybe you can make it
48 accessible to folks.

1
2 **LIAJAY RIVERA GARCÍA:** Yes, of course.

3
4 **TAUNA RANKIN:** Okay, great. And then also I'd like to share kind
5 of a recent tech memo that I co-authored that has case studies of
6 different risk assessments done around the nation, and that can
7 kind of show how different Councils have used their risk
8 assessments to give people some things to think about how we could
9 use this one.

10
11 **ALIDA ORTIZ SOTOMAYOR:** That would be great. Thank you.

12
13 **TAUNA RANKIN:** Sure.

14
15 **ORIAN TZADIK:** Great. All right. Thank you, Tauna. All right. So,
16 what I heard you say was that you think it would make sense to
17 define the strategic objectives first. And let me just clarify,
18 we're planning to do that today, right? Okay, great. What was that?

19
20 **TARSILA SEARA:** Sorry, I said I think so, but yeah.

21
22 **ORIAN TZADIK:** But that's the plan. From the conceptual models,
23 we're going to get the strategic objectives. That's fantastic. And
24 then Tauna, you said then evaluate the risk against those strategic
25 objectives and move forward.

26
27 So, I thought maybe we could kind of, let's work through an example
28 so that maybe everybody understands what we're doing. You know, I
29 know that would help me a lot.

30
31 So, for example-- Tarsila, help me out here. --maybe a strategic
32 objective would be something along the lines of increased coral
33 cover. Yes? Okay. So, why don't we work with that as an example.
34 If we had increased coral cover as a strategic objective, what
35 would it mean to then evaluate risk against that? And then how
36 would we move forward with that?

37
38 **TAUNA RANKIN:** We identify different risk elements from the drivers
39 in the conceptual model. So, for instance, I know land-based
40 sources of pollution was a common one, and maybe we would, you
41 know, even separate it out to point a non-source, nonpoint source
42 pollution. And so, depending on if we have any indicators related
43 to those, we might look at that. We would try to identify criteria
44 for different levels of risk. And then, I think I might be
45 forgetting a step here, but basically what you're trying to do is
46 look at what the risk of those elements are to meeting that
47 strategic objective of increasing coral cover.

1 And another element could be coral restoration. So, it's not all
2 things that we think of as negative drivers. It can also be things
3 that we consider positive drivers but may have unintended
4 consequences. And so, you would, using the Australian approach,
5 you'd sort of separate what's the expected intensity of that
6 activity in the area and what the expected impact would be. And
7 so, if with the pollution example, say we determined that was high
8 risk and we had half a dozen high risk elements, we might want to
9 focus on that strategic objective and think through what Council
10 actions can be to mitigate those risks.

11
12 And so, with the pollution one they might develop a policy
13 statement that they could provide to NOAA Fisheries to use in
14 consultations. They might engage EPA and other agencies with
15 authorities over those stressors. That's kind of what I was
16 envisioning.

17
18 **ORIAN TZADIK:** Okay, great. Thank you. That's very helpful.

19
20 So, this model, it sounds like is kind of the upfront model, where
21 we are evaluating the risk in this FEP and then making suggestions
22 to the Council of how they can mitigate that risk. Would that be
23 an accurate sum-up, Tauna?

24
25 **TAUNA RANKIN:** I think so. I'm a little fuzzy on how this document
26 will ultimately be used. I mean, I think it is a sort of a guidance
27 document that is providing recommended actions the Council could
28 take.

29
30 **ORIAN TZADIK:** Yeah, absolutely. It is definitely a guidance
31 document. I guess my question was more along the lines of-- well,
32 no, the previous question you answered very well.

33
34 My next question is, so that's a static risk assessment, right?
35 That's not revisited at all? Tauna is shaking her head saying yes.

36
37 Okay. So, is there another model that you're aware of that kind of
38 more like what Sarah was presenting, where it's something that is
39 continuously evaluated and actually used during the management
40 decisions. So, in her case, I mean, I didn't realize-- Did you say
41 they only manage eighteen species? Is that what it was?

42
43 **TAUNA RANKIN:** They only manage twelve species.

44
45 **ORIAN TZADIK:** Twelve, yeah. Fantastic. All right. We have 82.

46
47 **TAUNA RANKIN:** And two, they share with the commission.

1 **ORIAN TZADIK:** All right. And we have 82, so that's fun. And
2 obviously by three islands, which makes it more than 82, it makes
3 it's like-- it's like 40-something and 40-something and 60-
4 something.

5
6 So, I'm not sure that that's necessarily the best approach to look
7 at all these strategic objectives for each of those species by
8 each of those islands. I'm trying to think though, what would be
9 the most effective in terms of--

10
11 **TAUNA RANKIN:** I agree. So, a couple of thoughts on that. The Mid-
12 Atlantic Council is the main Council that has continually updated
13 their risk assessment. They do it as part of their ecosystem status
14 report, which they call State of The Ecosystem Report, and they
15 put, the Northeast Center, puts one out every year. So, it's kind
16 of simple because their risk assessment is relatively simple. They
17 have their criteria set. Most of them are based on some kind of
18 data, so they just update the data and reassess.

19
20 I think that would be the ideal approach, if it could be
21 incorporated into the ecosystem status report and that document
22 was updated on some regularity, maybe not annually, but. And so,
23 they use it for context, of course. And then they also use it to
24 determine ecosystem related issues to focus in on and do their
25 EAFM process.

26
27 So, I think you said something else that I was going to respond to
28 and I can't remember. I see María has her hand up.

29
30 **ORIAN TZADIK:** Yeah. Let's hear from María.

31
32 **MARÍA LÓPEZ-MERCER:** Thank you. I was just thinking. In terms of
33 the species, if you guys were to use the species, we can always do
34 some sort of-- like, we have indicators and we can also, because
35 we have 42 species and whatever, but we have different functional
36 groups. So, we could work through the functional groups, like have
37 representatives from each one of the functional groups or within.
38 Like for example, if we have groupers, we have a ton of groupers,
39 and then within the groupers, we have indicators for each one of
40 the groups too. So, it doesn't necessarily have to be a whole bunch
41 of species, it can be representatives. Because, you know, one of
42 the ways that we group them together is because of similarities,
43 like the same habitat and the same characteristics in term of
44 reproduction or things like that, or where are they in the water
45 column, if they are benthic, etcetera. So, some sort of a
46 representation like that, if we were to go that route.

47
48 **TAUNA RANKIN:** Thanks, María. Tauna here. That was exactly what I

1 was going to say, so thank you. And to add on to that, I don't
2 know what went into identifying those indicators species. I wonder
3 if it was because they're the more abundant and have more data
4 available for them. If that's the case, they may or may not be the
5 best for indicators of risk assessment. I would say you'd probably
6 want the more sensitive or vulnerable species in your risk
7 assessment.

8
9 **ORIAN TZADIK:** Yeah. But Tauna, for reference, that is what they
10 did. It was a very arbitrary and subjective and a lot of it had to
11 do with data availability, but it was the SSC looking at the
12 different units that the species group was divided into and then
13 they decided on the indicator within that, typically of what was
14 targeted and what had the highest landings. But, Stacey, you wanted
15 to say something?

16
17 **STACEY WILLIAMS:** Yeah, this is Stacey. What Tauna was mentioning,
18 maybe taking it like an ecosystem or habitat assessment. So, a lot
19 of these species are using the same resources or same habitat, so
20 we could take it either as an indicator or functional group or
21 just looking at ecosystem.

22
23 And I remember like doing the risk assessment before, and we were
24 looking specifically at the ecosystem, which simplifies a lot of
25 things and might make our lives a little bit easier. So, yeah.

26
27 **ORIAN TZADIK:** I agree, Stacey, that sounds like a potential idea.
28 One thing I'll offer with that is I'm trying to think of the
29 functionality of this risk assessment, and I think that, you know,
30 we're kind of discussing a few different models, but the one that
31 we're currently discussing is more of a model that could be used
32 by Council members during their decision-making process. And then
33 they would kind of say-- You know, with the mid-Atlantic example,
34 they would say, "All right, fish X, we're making a decision about
35 this thing. What happens, you know, what is it susceptible to and
36 how should we think about variability, etcetera, etcetera.

37
38 So, if we were going to, in your idea, would we classify the fish
39 into different habitats? And so, you do the risk assessment on
40 let's say six habitats, and then each of those fish is associated
41 to that habitat. And so you say, "Okay, so we're looking at the
42 queen parrotfish and that's a mid-level shallow reef." That's the
43 habitat. And so, the risk assessment for that habitat says X, Y,
44 and Z. And we're going to use those factors to make a decision
45 about queen parrotfish now? Okay.

46
47 **STACEY WILLIAMS:** And also include their nursery habitats. So,
48 yeah.

1
2 **ORIAN TZADIK:** Well, that's what I was going to say, right? So,
3 then each species would likely have two or more of those habitats
4 that you'd have to evaluate the risk. Okay.

5
6 It might not be as clean. Does that make sense? Tauna?

7
8 **TAUNA RANKIN:** Yes. And back in 2018, 2019, one of the things we
9 discussed was overlaying a productivity susceptibility analysis
10 done on all the species on top of the risk assessment to get that
11 species level look at risk. One of the things that appeals to me
12 with that is what I've seen in other Councils, when they actually
13 do incorporate ecosystem risk into their stock assessment, it's
14 because they've brought the ecosystem information down into the
15 context of the species. And so that seems to be the easiest, most
16 palatable way right now. That's so challenging for the Caribbean
17 that manages so many species, and I wish there were better tools
18 for the multi-species approaches.

19
20 I know the SSC did a kind of informal PSA that could also be sort
21 of a second tiered project to this.

22
23 **ORIAN TZADIK:** Thanks, Tauna. One more question for you. I remember
24 when I looked at the mid-Atlantic-- what do they call it, the mid-
25 Atlantic guidance document or something like that?

26
27 **TAUNA RANKIN:** Yeah. The ecosystem approaches fishery management.
28 Maybe it is guidance documents.

29
30 **ORIAN TZADIK:** So, when I looked at that, a while ago, I remember
31 that their process involved identifying these risk elements and
32 then when they made decisions at the Council level, they said,
33 "Okay, how does it affect these six factors? So, we're going to
34 take this action. How does that affect factor one, bycatch? How
35 does that affect factor two, forage fish?" Am I remembering that
36 correctly? And if so-- because that sounds very different than
37 what Sarah said, what Sarah presented.

38
39 **TAUNA RANKIN:** Could you say that again? Cause I'm not sure--

40
41 **ORIAN TZADIK:** I was saying that I remember that the method they
42 used was very simple and it was only like five steps, and it was,
43 "How does this management action we're about to take influence the
44 following five risk factors? I believe one of them was bycatch,
45 one of them was forage fish, and I don't remember the rest. But is
46 that-- am I just making that up, or is that something they used to
47 do and don't do anymore? Because that sounds very different from
48 what Sarah presented.

1
2 **TAUNA RANKIN:** Yeah, I don't think it was quite that simple. They
3 had more than five factors, but it wasn't a lot more, it was like
4 10 to 20. I don't know exactly how they were able to narrow it
5 down to so little. Now, one of the things is they don't have a lot
6 of biogenic habitats the way the Caribbean does, and so they just
7 had like one habitat factor that was like estuary habitat. They
8 narrowed things down maybe based on what they had some data to--
9

10 So, it was definitely much more simplified. And then they used
11 management objectives, but they basically pulled from Magnuson,
12 and there was like one other source. So, they were like optimum
13 yield and-- I don't know, this wasn't it exactly, but like fishery
14 resilience kind of stuff, very, you know, broad.
15

16 So, it ended up being very elegant, but I would've been concerned
17 that we would've left out a lot of key risks in a Caribbean
18 assessment if we tried to narrow it down that far. Although, using
19 the conceptual models, if we zeroed in on those common drivers,
20 that a lot of different stakeholders identified, that could
21 simplify things greatly.
22

23 **ORIAN TZADIK:** Right. Thank you, Tauna. So, one of the things that
24 I had discussed with a couple people, at this point, with regards
25 to the risk assessment, and I wonder, I want to hear your thoughts
26 on this is a-- because it's very obvious. I mean, our system is
27 just more complicated than the mid-Atlantic, which we're talking
28 a lot about. Also happens to be much more complicated than New
29 England. And I'd venture to say any of the cold-water places where
30 they're, you know--
31

32 And you guys learned this well in the Lenfest stuff. If you're
33 looking at data sets that have to do with fish communities, you're
34 going to be looking at ten species versus several hundred. Right?
35 And we run into this all the time with multivariate statistics on
36 these communities and likewise, we run into the problem when we're
37 talking about EBFM because EBFM is the entire ecosystem, right?
38

39 So, Tauna I had kind of discussed this idea with a couple people,
40 which is a tiered approach to a risk assessment. And so, when you
41 say that you're worried about that we wouldn't be inclusive, let's
42 say, of certain risk elements, I wonder if there's a way where we
43 say, "Okay, this management action that we want to evaluate right
44 now, we're going to evaluate at a tier one risk level" which means
45 we're not too concerned. We don't think it's a very risky action.
46 And so, all we're going to do is evaluate these seven factors as
47 identified in the conceptual models, the drivers, like you just
48 said, Tauna.

1
2 And then maybe-- okay, but then, down the line, we've got something
3 a little bit more risky that we are, or not risky, but a management
4 action that's going to have much higher impact and we don't just
5 want to, you know, kind of loosely evaluate the risk, we want to
6 really hammer down and really find out what it's all about. Maybe
7 that risk assessment has something more like 40 risk factors.

8
9 Of course, this is all operating under a model of the Council using
10 a risk assessment as a tool. Whereas we've discussed, I believe,
11 three models so far, with regards to risk assessment. One model
12 would be developing it, evaluating the risk, putting it in the
13 document as a static something. As a static report, I guess, to
14 say, "This is the risk that we've identified, that your
15 stakeholders have identified. These are the risks to the
16 ecosystem."

17
18 Model two, is similar to what the mid-Atlantic does, and we have
19 risk factors that we go either by species or by functional group
20 or by indicator species or by habitat. And those risk elements are
21 informed by the strategic objectives, which then we will find a
22 data indicator that theoretically can and should be updated on
23 some basis, on some temporal basis.

24
25 And then the third model is the one I just threw out there, which
26 was using the risk assessment as a tool completely blank and giving
27 it to the Council and saying, "This is the risk assessment."
28 Doesn't have to look like what I just said. It could be a wide
29 variety of different things, but here is the risk assessment.
30 Here's how you evaluate risk when you want to evaluate it.

31
32 So, I think maybe one of the things, and Tauna, I'm not a hundred
33 percent sure on the project that-- you know, we have this
34 opportunity with this project that you've got funded. That project,
35 my understanding is that we're going to hire a contractor. And so,
36 it would be really nice to have the contractor hit the ground with
37 very clear objectives and very, you know, "This is what we're
38 doing, and this is what we need."

39
40 So, Tauna, you had mentioned something about the writing aspect
41 potentially, so how much of the contractor do we need to actually
42 develop something versus how much do we need them to just help us
43 put it into the FEP?

44
45 So, I don't know, Tauna, do you think we're at a level right now
46 where we could make the decision on what one of those three models
47 I was looking for? And before you answer, I think Tarsila wants to
48 say something.

1
2 **TARSILA SEARA:** Yeah. Is there value in potentially exploring the
3 possibility of having more than one of those where we would have
4 the static and also a tool?
5

6 **ORIAN TZADIK:** Yeah, I mean, everything's on the table right now.
7 I think that's a good idea. Edwin?
8

9 **EDWIN CRUZ-RIVERA:** Oh, I think that I just got beaten to a punch.
10 My question was going to be whether those approaches were mutually
11 exclusive. If we had to pick one and that was it.
12

13 **ORIAN TZADIK:** I will say that I don't think we should do all
14 three. I think one or two makes sense and if we're going to do
15 two, it kind of makes sense to do the first and the third, right?
16 Not the one that the mid-Atlantic does. But I don't know. That's
17 just my opinion. Tauna?
18

19 **EDWIN CRUZ-RIVERA:** So, as a follow up. Edwin, for the record. How
20 are we going to decide on this? Are we just going to straight up
21 vote or are we going to have to explore what each of these entails
22 within the next, I don't know, I guess few hours?
23

24 **ORIAN TZADIK:** I would like to come away from this section of the
25 working group, right now, in the next few hours, you know, happy
26 to discuss and, you know, beat it over the head and whatever. But
27 I think we should try and get on track here and try to figure out
28 exactly what we're looking for. Tarsila?
29

30 **TARSILA SEARA:** So, what is the timeline for Tauna's funding?
31

32 **ORIAN TZADIK:** Tauna?
33

34 **TAUNA RANKIN:** It's a year, but it doesn't start until the Council
35 gets the money, which is probably going to be within a month from
36 now. So, through May, June of next year and my guess is they will
37 have the ability to extend, on a kind of no cost extension if they
38 need to. So, it could go a little bit longer depending on how long
39 it takes to hire someone.
40

41 So, I think it would be a missed opportunity if we didn't do some
42 kind of risk analysis with this project. So, I'm not in favor of
43 just doing number three. My personal opinion is that just providing
44 a tool for the Council without showing them any results and how
45 the results could potentially be used in a tangible way, it's just
46 going to kick the can down the road and make it harder to pick up
47 later on.
48

1 I think we've missed the boat for number one. I think that would've
2 been more useful at an earlier stage in this process and I still
3 would've seen it as a tool to do something with, not just have a
4 static product. Let me backtrack a little bit. I mean, I also think
5 that we can't ensure that this is going to be updated on any
6 regular basis the way the mid-Atlantic one has been done. It kind
7 of depends on how simple it ends up being and if there's available
8 data that can be easily updated year after year.

10 Regardless, I think that I echo what Sennai has been saying. With
11 the results is a framework of how the results can be used and where
12 the information can plug into and that is what I thought was a
13 great idea to have the contractor work on.

15 So, I don't know if that helps clarify. I definitely think
16 providing the blueprint on how it can be updated and how that
17 information could be used is good, but also that there should be
18 some initial analysis done, even if it's not for the full suite of
19 risk factors that we can imagine.

21 **ORIAN TZADIK:** Stacey?

23 **STACEY WILLIAMS:** I kind of like option two because we've been,
24 throughout these two days, or however many days we've been in this
25 room-- well, we were upstairs --we were talking about this as being
26 actionable. And number two, I know there's going to probably be
27 more work involved and the long run because if it has to be updated,
28 but I see that as more in an actual document that the Council can
29 use.

31 And I mean, if we're thinking about an ecosystem-based approach to
32 management, like the ecosystems are changing at a rapid pace. So,
33 I could see that if it is reviewed on a yearly or bi-annually or
34 whatever basis, that would help, I would imagine, management and
35 also anybody who is using that document for any type of
36 conservation or measurements.

38 **ORIAN TZADIK:** Tarsila?

40 **TARSILA SEARA:** Ori, would you mind explaining in a different
41 shading, number two and three again, for my tired mind? Thank you.

43 **ORIAN TZADIK:** Yeah, no problem. So, we had these-- and I'm
44 oversimplifying and I'm doing this from an outsider, non-expert
45 space. So, I'm doing this as I heard it, which was, you know,
46 there's three models for risk assessment that we've been
47 discussing.

1 Model one is a static risk assessment that was done by an expert
2 group and that is just put into the FEP and that's the end of it.
3 Option two was along the lines of what Sarah presented to us. I
4 was actually about to ask if we could work through an example. So,
5 maybe I will do that quick and I think that would illustrate it.
6 So, it would be something, again, let's say the strategic objective
7 i.e., risk factor was coral cover or no, what did I say?

8
9 **TARSILA SEARA:** Yes, it was coral cover.

10
11 **EDWIN CRUZ-RIVERA:** You said coral cover.

12
13 **TARSILA SEARA:** Increased cover.

14
15 **ORIAN TZADIK:** But coral cover was the indicator? It was--

16
17 **TARSILA SEARA:** No, you said the strategic objective was increased
18 coral cover.

19
20 **EDWIN CRUZ-RIVERA:** No, the action was increased coral.

21
22 **ORIAN TZADIK:** Increased coral cover. Okay. So then we would decide
23 by species or functional group or whatever the perceived risk of
24 decreasing coral cover on that species. And then that box would be
25 informed, continuously updated by, for example, NCRMP coral cover
26 values. And then, the third option would be, anytime the Council
27 makes a management decision, they have a risk assessment tool that
28 they can use that basically asks those questions. So, they're going
29 to make a management decision coming up here with regards to, or
30 I guess they just did it, sorry María, something with bandit gear
31 and the amount of hooks and all that, right? And so, they would
32 then take that and say, "All right, we're going to make this action
33 of increasing the amount of hooks on a bandit gear that you're
34 allowed to have, how will these risk elements be affected? And in
35 our case, how will that affect coral cover? But then of course it
36 would have all the different elements. How would it affect coral
37 cover? How would it affect climate change? How would it affect,
38 you know, all these different things or how would it be affected
39 by those risk factors? So those are kind of the three models I
40 saw. Tarsila?

41
42 **TARSILA SEARA:** So, just a sort of a quick question. How and at
43 what stage, for each one of these things, do you envision the
44 involvement of the SSC?

45
46 **ORIAN TZADIK:** I think that's open. Personally, I don't know if
47 we're obligated somehow, but I think that that's open for
48 discussion.

1
2 **TARSILA SEARA:** And I guess just to clarify. If we present this as
3 a tool, is this something that the SSC will be using to provide
4 recommendation to the Council? Or is it something that the Council
5 will be using without-- I'm assuming it would be the first.

6
7 **ORIAN TZADIK:** Yeah, again, I mean, I envision this-- My
8 understanding is that I think we could do either. And if we did
9 that tiered approach that I was talking about, I would say, "Well,
10 tiers one and two could be a Council level decision. But once we
11 start going to tier three and four, let's say it needs to be SSC
12 decisions."

13
14 **TARSILA SEARA:** I think that's important to consider, because if
15 we're developing a tool for the SSC rather than developing a tool-
16 - you know where I'm going with this? And how much involvement in
17 developing that tool will the SSC have so that it will be a smoother
18 process.

19
20 **ORIAN TZADIK:** I think one thing that we have going for us here--
21 and Tauna I'll get to you in a second. I think one thing that we
22 have going for us here is that we have a way to develop all these
23 risk elements, which is really nice. And so, I think that maybe
24 that question will answer itself once we kind of evaluate what the
25 risk-- I mean, but again, I do think we should decide on where
26 we're trying to go with this before we pull those out. Tauna?

27
28 **TAUNA RANKIN:** Thanks. Yeah. So, what you described, Ori, different
29 Councils have done. For instance, the North Pacific Council did
30 your number one in their Aleutian Islands FEP, and they basically
31 didn't end up using the results. They found it hard to figure out
32 what to do with it and they ended up going the route of species-
33 specific risk tables and they have a more manageable list of
34 species as well and a lot of capacity. So, they were able to go
35 that route and they do risk tables for all their stocks like every
36 year.

37
38 I think the reason they didn't use the broader ecosystem risk
39 assessment is because they didn't have a framework. So, I think we
40 can address that problem in this document by pointing out how the
41 results could be used. And we've talked a lot about what the Mid-
42 Atlantic has been doing.

43
44 Your third option is more like what the North Pacific is doing
45 with their Bering Straits FEP, where it's very much a process
46 document, and they talk about how they can use risk assessment.
47 They actually haven't done another risk assessment. And it's not
48 completely clear to me how they prioritize issues, but basically

1 when they have an ecosystem issue that they want to prioritize,
2 they form what they call a module and then they go through the
3 process.

4
5 And this, when you're describing number three, what I think of is
6 doing management strategy evaluation and it can be more simple
7 than a full scale stakeholder driven management strategy
8 evaluation. It can be, you know, there's a continuum of what it
9 could look like. But I would think you'd be standing up a working
10 group or using the EBFM TAP. I'm not envisioning that it becomes
11 a responsibility of the SSC. It's probably more like some kind of
12 working group and trying to engage the Science Center and other
13 partners to develop projects to do. Right? Because otherwise I
14 don't think it would get done.

15
16 So, these are those process pieces that we need to think through.
17 But I don't know, like, I feel like, what we're talking about at
18 this stage, is maybe a blend of all three, but maybe more on the
19 two and three and I don't, until we start writing out the process,
20 I don't know if we're going to know exactly how it's going to end
21 up.

22
23 **TARSILA SEARA:** No, I was just going to add that the more we talk
24 about the--I'm thinking the same thing. I think two and three sound
25 like the two most useful options.

26
27 **ORIAN TZADIK:** Yeah. Thank you. I was actually about to say
28 something similar, which is that I think, and please anybody online
29 or in the room, correct me if I'm wrong, my understanding of what
30 we're listening to right now is that we don't think option one is
31 particularly palatable and that we would likely want to pursue
32 option two, three, or a blend of the two.

33
34 I'm getting yeses in the room. Everybody online, make your voice
35 heard if you disagree, please.

36
37 Okay, great. So, it sounds like we're getting somewhere at least.
38 That's good. Okay. So, I think then what we need to do is kind of
39 think through this and see how, again, it sounds like Tauna, this
40 contractor that's going to be in place, in my opinion, is a nice
41 time, actually, a nice timing. Assuming we don't need the no cost
42 extension.

43
44 That was Sennai's timeframe, pretty much. He said March of 2024,
45 we should have the whole thing done. Tarsila's looking at me like
46 a little suspect on that one, but that's kind of, right? That's
47 the goal. And if you're saying that maybe this contractor will be
48 through June of 2024, that seems a little better.

1
2 And, you know, if we actually need to develop any of these things,
3 then I think we're on a good timeframe there. Okay. And like I
4 said, I don't have them in front of me, but we do have the strategic
5 objective-- We will have the strategic objectives that will then
6 identify our risk elements and so that's pretty nice.
7
8 One more thing for the group to consider is that when we talk about
9 options two and three, and we say it's a continuum and that sort
10 of thing. I wonder if doing option two and doing it the first time
11 but having it available for use by the Council and the SSC as we
12 progress is a combo of the two. Right? And so, we have this risk
13 assessment that we've done. Liajay, do you have it?
14
15 Okay. So, what I want to look at, really quick-- by the groups.
16
17 **LIAJAY RIVERA GARCÍA:** By groups.
18
19 **ORIAN TZADIK:** Perfect. That's what I wanted.
20
21 **LIAJAY RIVERA GARCÍA:** (Ms. Rivera's comment is inaudible on the
22 recording.)
23
24 **ORIAN TZADIK:** Okay. Sorry. What I want to look at is--
25
26 **LIAJAY RIVERA GARCÍA:** Let me share the screen. (Part of Ms.
27 Rivera's comments are inaudible on the audio recording.)
28
29 **ORIAN TZADIK:** While Liajay's sharing the screen, Tarsila or
30 Stacey, do you know offhand how many of the risk-- how many of the
31 conceptual model elements were shared in that red color, where
32 they were all six?
33
34 **TARSILA SEARA:** Just give me two seconds.
35
36 **ORIAN TZADIK:** And five. six, and five just to--
37
38 And let's use-- Yeah. This is Puerto Rico. Let's use this one
39 because it's the largest.
40
41 **LIAJAY RIVERA GARCÍA:** So, what I'm showing you right now is the
42 Island-Based Fishery Management Plan for Puerto Rico, specifically
43 chapter five where you can see the species managed. But right now,
44 María's getting me the file separately without the list, so it
45 could be easier to look at them. So, for now we can see this and
46 then I can change into the other file once sent.
47
48 **ORIAN TZADIK:** Okay. And then, can you just orient us. So, snapper

1 unit-- go back up. Snapper unit one.
2
3 **LIAJAY RIVERA GARCÍA:** This is also part of it.
4
5 **ORIAN TZADIK:** Yeah, I know, but I'm just asking, snapper unit
6 one, how do we read this? What's one, two, three, and four? Why is
7 there a line?
8
9 **LIAJAY RIVERA GARCÍA:** Um...
10
11 **ORIAN TZADIK:** Maybe that's a María question.
12
13 **MARÍA LÓPEZ-MERCER:** Yeah, I'm right here. yeah, so snapper one,
14 is just the numbering of the species. That's it. So, snapper one,
15 is black snapper, blackfin snapper, silk snapper, vermilion-- can
16 you scroll down. Sorry, I'm having a lot of issues with my computer
17 --and wenchman. So, that's number one.
18
19 **ORIAN TZADIK:** Okay. So, that line in the middle between two and
20 three, that was just like--
21
22 **MARÍA LÓPEZ-MERCER:** What line in the middle? Like where it says
23 number?
24
25 **ORIAN TZADIK:** No, there's one and two and then there's a-- Yeah.
26 What Liajay's highlighting.
27
28 **MARÍA LÓPEZ-MERCER:** Oh, that's just the way it came out.
29
30 **ORIAN TZADIK:** Okay, no worries.
31
32 **MARÍA LÓPEZ-MERCER:** Don't worry about that. So, I'm having a lot
33 of computer issues, but I will get you a better list. In the
34 meantime, you can scroll down a little bit. So, the ones that have
35 the asterisks are the indicator species, as we mentioned earlier,
36 based on the criteria that we used in the management plans.
37
38 One thing I wanted to mention earlier is, there were some, I
39 believe, some sensitivity analysis done to these species and that's
40 included in the amendment too. So, I don't know if that's something
41 that you guys may want to use for anything, for the risk
42 assessment.
43
44 So, anyway, this is how it is. And then, the species that are in
45 black-- can you scroll down, Liajay, all the way? Just real quick.
46 I don't remember what the black is. Maybe a new species. I honestly
47 don't remember, but let's see. If you scroll down one more, I'll
48 tell you because the pelagic species are new. Keep going. Yeah.

1 So, that's probably the species that are new to management. Okay.
2 In the meantime, I'll look for a better one.
3
4 **ORIAN TZADIK:** Can you just-- okay. And then we got-- Hold on. Go
5 down further. Barracuda's the last one? The rays, also.
6
7 **MARÍA LÓPEZ-MERCER:** So, in here they're divided by functional
8 groups, right? So, the tables are obviously divided by, we have
9 the rays, pelagics, reef fish. And then, we have spiny lobster,
10 queen conch, and then the coral reef resources, which includes all
11 of that, everything in there.
12
13 **ORIAN TZADIK:** All right. So, by my count we have 30 groups, which
14 each have their own indicator or individual.
15
16 **MARÍA LÓPEZ-MERCER:** You mean stocks? Uhhuh.
17
18 **ORIAN TZADIK:** No, like, you know, snapper units. Snapper unit
19 one, two, three-- So, snappers, we have six stocks, right?
20
21 **MARÍA LÓPEZ-MERCER:** We're calling those stocks or stock complexes.
22
23 **ORIAN TZADIK:** Stock complexes.
24
25 **MARÍA LÓPEZ-MERCER:** Mm-hmm.
26
27 **ORIAN TZADIK:** Okay. So thirty, is that accurate? Do you know?
28
29 **MARÍA LÓPEZ-MERCER:** I don't know. I have to count it again.
30
31 **ORIAN TZADIK:** Okay, well, whatever. It's around thirty. I just
32 did a quick jot down of numbers. Tarsila?
33
34 **TARSILA SEARA:** Just while she does that, if you want to jot down
35 the number of components. So, for all seven stakeholder groups,
36 there are nine drivers and nine receivers that are common. For six
37 stakeholder groups, there are 13 drivers and eight receivers. And
38 for five, just for good measure, there's 13 and 14.
39
40 **ORIAN TZADIK:** Thirteen and fourteen, what?
41
42 **TARSILA SEARA:** Drivers and receivers.
43
44 **ORIAN TZADIK:** And those thirteen and fourteen include the ones
45 that are all included, that like-- No. Those are separate.
46
47 **TARSILA SEARA:** No, but they can overlap. So, for all nine drivers
48 and receivers, for all seven stakeholder groups, six of them

1 overlap. They're the same.
2
3 **ORIAN TZADIK:** Right.
4
5 **TARSILA SEARA:** So, for the other ones, I don't know how many
6 overlap, but they certainly do. So, it's less than the sum of those
7 numbers.
8
9 **ORIAN TZADIK:** All right. So, this, I don't know, maybe seems
10 palatable, right? We would have a matrix that would be 30 complexes
11 by, call it, 18 risk factors.
12
13 **TARSILA SEARA:** Except for some of these risk factors, there are
14 definitely going to need to be unpacked into multiple things.
15
16 **ORIAN TZADIK:** Multiple. Okay.
17
18 **TARSILA SEARA:** Yeah.
19
20 **ORIAN TZADIK:** Still 30 by 25? Then the question is whether we'd
21 have to do it by island and do it three times. And we'd have to
22 identify what data sources we can use to inform each one of those...
23 squares? no, each one of the risk elements, right. Tarsila?
24
25 **TARSILA SEARA:** But we are not necessarily set on doing this by
26 the species group yet. Right? We also discussed the habitat option.
27 So, maybe once we have a better idea of what these indicators would
28 look like from the conceptual models, we could decide whether or
29 not we would be able to do it by the species group and if that's
30 the way to go or not, right?
31
32 **ORIAN TZADIK:** Yeah, I think that makes a lot of sense.
33
34 I don't see the participant list. Do we have any hands up at all?
35
36 **LIAJAY RIVERA GARCÍA:** No, we don't.
37
38 **ORIAN TZADIK:** Okay. Alright, so let's do this. So, okay. I think
39 then, it sounds like we've got at least a path moving forward for
40 the next couple hours, which is that we need to identify the
41 strategic objectives. Once we've done that, we can kind of look at
42 those and how they would be put into risk elements. And then, once
43 we have the risk elements, we decide how we want to evaluate them,
44 whether by species, functional group, or by habitat.
45
46 How does that sound for everybody? Anybody online? I got shaking
47 heads in the room. How about online? Okay. Tauna's got a thumb up.
48 Perfect. Okay, great. So, I should probably write that down. All

1 right. Gimme one second.
2
3 Okay, so I have written down here that the plan is to identify the
4 strategic objectives, breakout risk factors from those strategic
5 objectives, decide how we want to evaluate each risk factor, either
6 by species, by stock complex, by habitat, and then I wrote,
7 "etcetera" because we could have something new that pops up.
8
9 Okay, great. Liajay?

10
11 **LIAJAY RIVERA GARCÍA:** I just received María's--
12
13 **ORIAN TZADIK:** Oh, okay. Thank you.
14
15 **LIAJAY RIVERA GARCÍA:** Thank you María. I just received her list.
16 I don't know if the people in zoom can see it, but this will be
17 the list of the managed species for the three islands, for the
18 record.
19
20 **ORIAN TZADIK:** Okay. Thank you. Tauna, I see your hand up.
21
22 **TAUNA RANKIN:** I would like to have a discussion, if it's possible,
23 of the common drivers and receivers, because depending on what the
24 receivers are, those may be what we examine the risk against,
25 right? If the stakeholders are feeling that those are the elements
26 of the ecosystem that are being affected most by the drivers, then
27 there's rationale for looking at those.
28
29 But I'd like to discuss them before making that decision because
30 we also want to make sure that they're relevant to the management
31 objectives and that, you know, if we understand the risk to these
32 things, are any of them things that the Council can do anything
33 about, either through their direct authority or through working
34 with partners?
35
36 **ORIAN TZADIK:** Yeah, that's a great point, Tauna. I think that I
37 had envisioned that discussion occurring under this step of
38 breaking out risk factors from the strategic objectives. So, we
39 used a ballpark. I just asked Tarsila what the common elements
40 among the conceptual models were, and we got ballpark numbers
41 because I wanted to just see, you know, how palatable this process
42 was.
43
44 And so, absolutely, I think if she had mentioned nine receivers,
45 nine drivers for all seven that were common among all seven. Yeah,
46 so that might be, you know, 18 risk factors. It could be 25, but
47 it could also be, you know, 12. It just depends on what they are.
48 I don't know those offhand and so I think though-- but your point's

1 well taken.
2
3 And I think that one of the things that you mentioned, that I'd
4 like to reiterate, is that, yeah, if we can't actually-- if there's
5 nothing to be done about it you know, hurricanes, for example--
6 Well, I guess there is something to be done. Like, I guess the
7 idea there is that, if we have a particularly bad hurricane year,
8 we could, you know, whatever, increase uncertainty or something
9 like that. But if there are actions, I guess coastal de-- well,
10 no, again, we can choose how we manage our fish in light of
11 something like that, right?
12
13 So, yeah. But if it's not in line with management actions, if we
14 can't actually do anything about it, then, you know, is it worth
15 putting into the, you know, burdening this risk assessment with
16 that? Alright. So, what do we think about that?
17
18 **TAUNA RANKIN:** Right. I think we would have a mix of both.
19
20 **ORIAN TZADIK:** Yeah. And obviously some things are going to be
21 easier than others, right? If we find that a huge risk factor is,
22 you know, decreased in prey species, for example, that's something
23 that Council can try and do something directly about, can make an
24 action about. But if it's something where we're just coming up
25 with, "Well, the Council can write a letter to the water quality
26 board" or something like that, that's a different story. So, yeah.
27
28 All right. So, we've got-- The original slide, I think, we've
29 discussed this through, and my recommendation would be to start
30 over on this. I don't think that that's our goal and I don't think
31 those are the steps. How do people feel about that?
32
33 All right. So, why don't we start with the blank part of this slide
34 and identify what our tasks are. I think we need to break this
35 down into two steps. So, Liajay, can I share my screen?
36
37 **LIAJAY RIVERA GARCÍA:** Of course. I think you are.
38
39 **ORIAN TZADIK:** I'm on the thing.
40
41 **LIAJAY RIVERA GARCÍA:** Okay. You're a co-host now. You should be
42 able to share.
43
44 **ORIAN TZADIK:** Okay, so share screen. Not letting me do it.
45
46 **LIAJAY RIVERA GARCÍA:** You're already co-host. So, maybe it's slow.
47
48 **ORIAN TZADIK:** Oh, there we go. I'm getting it.

1 **LIAJAY RIVERA GARCÍA:** Okay.
2
3 **ORIAN TZADIK:** That was the problem. Okay. Sorry. Technical
4 difficulty.
5
6 **LIAJAY RIVERA GARCÍA:** No worries.
7
8 **ORIAN TZADIK:** Okay, so what are we seeing?
9
10 **LIAJAY RIVERA GARCÍA:** I'm going to stop sharing then. Okay.
11
12 **ORIAN TZADIK:** Okay. It says I'm sharing. What are the people
13 online seeing?
14
15 **LIAJAY RIVERA GARCÍA:** Yeah, I'm going to move the screen, the
16 zoom screen to the--
17
18 **ORIAN TZADIK:** You're seeing my notes?
19
20 **LIAJAY RIVERA GARCÍA:** People on Zoom can see it.
21
22 **ORIAN TZADIK:** Perfect. Okay, great. So, I think we've got-- we
23 can define this as tasks for today, or whatever this meeting, and
24 then tasks for the working group moving forward. Does that seem
25 appropriate to people? All right.
26
27 **LIAJAY RIVERA GARCÍA:** You have a thumbs up from Tauna.
28
29 **ORIAN TZADIK:** Thumbs up. Awesome. Thank you, Tauna.
30
31 All right. So, let's talk about the tasks for the current meeting.
32 And I will just, from what I've heard, I'm going to offer that we
33 have-- Oops, that didn't work. All right. We are going to identify
34 the strategic objectives and we are going to break out risk
35 elements based on the strategic objectives, and then we are going
36 to identify how we want to evaluate the risk elements.
37
38 How does that look to people? Yeah.
39
40 **LIAJAY RIVERA GARCÍA:** You have a raise hand from Tauna.
41
42 **ORIAN TZADIK:** Tauna, go ahead.
43
44 **TAUNA RANKIN:** I think it looks overly ambitious. I mean, we can
45 try, but yeah, if we get the strategic objectives and we get a
46 starting list of risk elements, I would be impressed.
47
48 **ORIAN TZADIK:** Would you recommend then bullet three becoming

1 bullet two? Because I think that is-- one and three are kind of
2 decisions that should be made by this group, I think. Whereas,
3 number two, as it's written there, could potentially just be worked
4 on in the future and then brought back to the group. So, for
5 example, the contractor could bring that stuff back to the group
6 at a later date.

7
8 But I do think it's important to identify how we want-- Maybe even
9 that third one should be first. Well, no, because we decided we
10 wanted to look at the objectives and see what they were. Okay. So,
11 the third one, I think that's, to me, the important part of what
12 we want to get out of this meeting.

13
14 **TAUNA RANKIN:** I am not sure we're going to be able to completely
15 articulate and agree on that. In my mind we need to come up with
16 the risk elements, determine whether we have data on them and
17 whether we can basically use indicators or if we are going to have
18 to resort to literature and expert opinion. So, I mean, if that's
19 the level that we're going to agree on, how we'll evaluate the
20 risk elements, and I think we can do that today but I see a lot of
21 detailed legwork to flush it out more fully.

22
23 **ORIAN TZADIK:** Okay. So, do you want me to change this to write
24 "*Ambitious* tasks for this current meeting"? Like these are the
25 ideal tasks we would do. I mean, the question is, I mean, does
26 this look like the first step that we need to do? Because then I
27 think that the task for the working group moving forward is going
28 to be complete whatever wasn't done.

29
30 And then-- but then what, right? So, okay. So, let's say task for
31 the working group moving forward is, complete tasks above that
32 remain after the meeting. And then, and then we would need to
33 probably meet regularly, whatever that means, to actually perform
34 the risk analysis, right? Or to develop, well, develop it or--

35
36 **TAUNA RANKIN:** I do think that there needs to be a discussion of
37 criteria or thresholds for what's high versus low risk and that's
38 definitely something we're not going to get to today. So, that's
39 a task for the working group. And then, yeah, complete the risk
40 assessment.

41
42 **ORIAN TZADIK:** Great. We can all go home now, right? That's it.
43 Yeah. So, yeah, I actually had a question about that, Tauna, with
44 the threshold's idea. I didn't want to burden the conversation
45 earlier, but since you brought it up just now, I'm thinking.

46
47 So, if we're talking again, back to our great example of the coral
48 cover, let's put our pre-Stony Coral Tissue Loss Disease hats on

1 and say that, you know, we identified risk thresholds of decrease
2 in coral cover by over 2%, if we want to devalue it that way. Or
3 if we were saying, you know, total coral cover of less than 25%
4 equals a certain level. I would argue then, five years later, now
5 that we have Stony Coral Tissue Loss Disease, we have a problem
6 with those thresholds and I don't think there's a lot of utility
7 to just having red everywhere and say, "Well, now we have Stony
8 Coral Tissue Loss Disease, nothing's ever going to be more than
9 25% ever again. So, it's always high, high, high." Stacey?

10
11 **STACEY WILLIAMS:** But you can frame it in another way saying,
12 "Okay. Yeah, less than 25% is bad, but let's strive to have coral
13 cover above 25% or 20%. And then, that would lead the Council to
14 support projects like coral reef restoration or management or
15 support letters to fight climate change or something.

16
17 So, framing it in a different way could be more beneficial than
18 saying, "Well, we have less than 20% we're all screwed and
19 everything." So, maybe it's more actionable, like, "Okay, let's
20 support implementation or mitigation to improve coral cover."

21
22 **ORIAN TZADIK:** Right. Yeah. I think I was, though, thinking
23 specifically with regards to thresholds, I think we have to be
24 smart in how we, because I think Tauna's point from earlier is a
25 really valid one in that we can't expect-- I think we have to set
26 this up in a way that it could continue to exist and function
27 without any further support.

28
29 And so, if we were smart about how we set up these thresholds,
30 like percent change, for example, as opposed to total coral cover,
31 you know, maybe that would allow more flexibility. And I know Tauna
32 has a hand raised. Go ahead, Tauna.

33
34 **TAUNA RANKIN:** Yeah, and that's how I think the indicators are set
35 up for the ESR and so certainly the risk as assessment could be
36 framed similarly as per percent change, percent loss or whatever.
37 But you know, if things are really bad, they should be red. And I
38 mean, yeah, we hope that everything on the risk assessment isn't
39 going to be red, because that's not going to be very useful then,
40 you know, for the Council to focus on, the really high-risk things.

41
42 But, you know, thanks to Stony Coral Tissue Loss, maybe that is
43 one thing that's going to be red for a while and should be. There's
44 a reason why we would have a strategic objective around it, because
45 it's important EFH that we need to worry about.

46
47 **ORIAN TZADIK:** Yeah, very, very good points. I think my concern
48 is, as I put it up there, just I want to make sure these thresholds

1 function continuously, right? I don't want this to turn into a
2 situation like you were talking about in the North Pacific where
3 fantastic, you know, we developed this risk assessment and then
4 the Council members kind of look at it and then that was the end
5 of it. And then five years from now, it's completely irrelevant
6 because of something new that comes up, you know, Reverse Stony
7 Coral Tissue Growth Disease, and all of a sudden, all of our stuff
8 is blown out the window and our thresholds don't count anymore.
9
10 That's what I was trying to get across. I also, Tauna, you'll
11 recall that when we did do the risk assessment exercise, whatever
12 it was, five years ago now, one of my concerns is that we had the
13 risk elements and so you're asking-- And this was also a concern
14 when we were doing the conceptual models, where we said, "Okay,
15 score this with one, two, or three, how important is it?" And
16 everybody's like, "Well, three. That one's a three. That one's a
17 three. That one's a three." You know, so what are we doing? That
18 doesn't do anything because it doesn't give us a relative strength.
19 It just says everything's important. And so, I think, you know,
20 that was more of what I was trying to get across.
21
22 Right. I think we've got a very nice agenda for moving forward and
23 how we should move forward with this. I'm going to recommend, I
24 think at 10:30 we were supposed to take a break. I'm going to
25 recommend that we do that one minute and thirty seconds early,
26 unless there's anything else somebody would like to say before we
27 drop off for a minute here.
28
29 All right. So, let's go ahead and why don't we reconvene let's do
30 11 minutes. We'll do 10:40. Thanks guys.
31
32 (Whereupon, a brief recess was taken.)
33
34 **LIAJAY RIVERA GARCÍA:** Hi everybody on zoom. We will resume
35 shortly. Right now, we are trying to figure it out when some of
36 the TAP members in person will be back.
37
38 **SENNAI HABTES:** I'm done over there. I just need to be there for
39 the [inaudible].
40
41 **ORIAN TZADIK:** Okay. Are you going to step out for a second?
42
43 **SENNAI HABTES:** I'm going to go to the bathroom.
44
45 **ORIAN TZADIK:** All right. So, do that and come back and I'm just-
46 - All right. Hello everybody online. Just to give you an update of
47 what's going on. We've got some logistical issues because the SSC
48 is having a concurrent meeting and several of our TAP members are

1 also SSC members.
2
3 So, for the next steps in this process would be very useful to
4 have J.J. in the room and he's currently not in the room. So,
5 Sennai, who was in the SSC should be here in the next minute or
6 two and we're probably going to switch gears and do one of the,
7 probably, I think he said we are going to hear a presentation from
8 Tarsila.
9
10 So, for now we're going to table this risk assessment. I personally
11 think we did a very good job in the absence of some of our key
12 members, but I think we have a really nice plan moving forward.
13 Tauna, to your point, you might be right. These tasks may have
14 been exceptionally ambitious, but I do think that we have it laid
15 out now in a way that we can move forward as opposed to it being
16 this kind of nebulous idea. And also, identifying the strategic
17 objectives is a huge part of the other working groups too.
18
19 So, I think that once we finish Tarsila's presentation, and once
20 we then address the outline, the needs of the outline, I think the
21 first thing we should do as part of the working group breakout
22 everything, is identify those strategic objectives. And then
23 that's going to help us with the indicators. That's going to help
24 us with the conceptual models and that'll obviously help us with
25 the risk assessment.
26
27 So, if everybody's good with that, unless there's anything else to
28 say, I believe, Tarsila, are you going to get ready here? All
29 right. Yeah, and I'm going to go ahead and turn everything back
30 over to Sennai as well.
31
32 For everybody's reference, I'm just bringing Sennai up to date. I
33 was reiterating that the first step of a lot of these working
34 groups is going to be to identify the strategic objectives. So, we
35 think that the plan moving forward would be that Tarsila presents,
36 then we discuss the outline, finalize that, and then the first
37 part of the breakout working groups everything is to identify the
38 strategic objectives and then that will lead into the conceptual
39 models, the ecosystem indicators, and obviously the risk
40 assessment.
41
42 So that was our plan for moving forward. And like I said, now I'm
43 turning it back over to you.
44
45 **SENNAI HABTES:** Yep. Thank you, Ori. I think that sounds great. I
46 look forward to seeing what you guys did with the risk assessment.
47 and I think after Tarsila's presentation, which will help inform
48 a lot of the objectives that we're going to need to put into the

1 outline, that will likely get us probably to lunch after
2 discussion.

3
4 I think J.J. will likely be back after lunch and we can use that
5 time to inform the outline. Once that is finished, we'll use the
6 rest of the meetings to finalize the stuff for the working group.
7 So, I think what you guys came up with and the plan sounds great.
8 And with that I'm going to turn it over to Tarsila to present,
9 except Liajay has a question or something I need to note.

10
11 **LIAJAY RIVERA GARCÍA:** More of a comment from Edwin Cruz. He will
12 step out for a moment in case you'll need his participation.

13
14 **SENNAI HABTES:** Okay. I think that's fine, Edwin. Thanks for
15 letting us know.

16
17 **LIAJAY RIVERA GARCÍA:** Of course.

18
19 **Stakeholder Perceptions of Environmental and Climate Change in**
20 **the USVI-Tarsila Seara**
21

22 **TARSILA SEARA:** Good. All right. Okay. So, the, this presentation
23 is based on work that we did between 20-- I actually can't remember
24 when it was because it was interrupted by COVID. We got the funding
25 in 2018, but we couldn't do much, and we got an extension. But in
26 any case, I think I have the dates in the next slide. But the data
27 that I'm going to present is select data from this project that
28 was funded by the Council.

29
30 The objective of the project was to better understand the impacts
31 of climate and environmental change on fisheries from a
32 stakeholders perceptions. We collect a lot of data, and this
33 presentation is really just a few examples of the data that we
34 collected.

35
36 I was trying to keep it short. I think I got overly excited because
37 what I was trying to do here was to select some of the results
38 that linked really well with the work that we're doing with the
39 conceptual models. I was thinking about this presentation more as
40 a way to provide an example of using these social science methods
41 of data collection to continue our stakeholder engagement process.
42 And so, I purposely selected results that sort of match really
43 well with everything else that we're looking at, but I have a lot
44 of results and I put the reference to the full report that we wrote
45 to the Council up there.

46
47 And also, this work was sort of a continuation of a similar effort
48 that was done previously in Puerto Rico, and that was funded by

1 the Coral Reef Conservation Program. We also have a pretty
2 extensive report on that, and I'm currently working on some
3 analysis combining and comparing that data so we have a better,
4 bigger picture for the whole U.S. Caribbean. There are publications
5 based on the Puerto Rico work, and soon there will be publications
6 based on U.S.V.I. and both combined. So, it's a sort of a work in
7 progress. Like I said, I really wanted to just give an example
8 here of using this type of methodology to help us achieve our
9 objectives.

10
11 So, just a quick overview on the data collection process. What we
12 did was we conducted key informant interviews at a first stage.
13 So, we interviewed 20 key informants, and these were representing
14 five different stakeholder groups. Part of the reason for doing
15 the key informant interviews was for us to have a better
16 understanding of the system and the issues and those interviews
17 also helped us to develop our survey.

18
19 So, with a lot of the information that we got, we adjusted the
20 survey to be specific for the U.S.V.I. The survey is purposely
21 very similar to the Puerto Rico survey. We did the same process in
22 Puerto Rico, key informant interviews to help inform the surveys.
23 But with the key informant interviews, we have hundreds of pages
24 of transcripts of these interviews. So, we have a lot of
25 qualitative data that we are still analyzing, and I have some
26 examples of that here too. That's a lot of really interesting and
27 rich information that we have with that.

28
29 The survey that took place after the key informing interview
30 process was conducted with 48 commercial fishers in Saint Thomas,
31 and Saint Croix. So, that actual field work was conducted between
32 July 2021 and January 2022. We had a lot of challenges like COVID,
33 other challenges and so I also wanted to acknowledge the help of
34 our fisheries liaisons. They were absolutely crucial in getting
35 this data collected. They helped us. They were basically in the
36 field for us.

37
38 The sample size is not great. but considering that we are also
39 talking about in terms of active fishermen in the U.S.V.I., that
40 number is not very high. So, based on our results I think this is
41 a pretty good, in terms of representativeness, this is a pretty
42 good sample. It's just not very large.

43
44 So, the questionnaires included a lot of questions, and we covered
45 a lot of different topics. Like I said I selected just a few of
46 those here and focusing mostly on the status of fishery resources
47 and the environment and perceptions of climate change because those
48 matched pretty well with what we're seeing in some of our other

1 efforts. But like I said, I have a lot of information and one of
2 my slides will sort of show the breadth of information that we
3 have.

4
5 So, here I was just talking about in terms of representativeness,
6 but just this, I'm not going to get into details, but this is just
7 to show that of the fishermen that we surveyed, we sort of covered
8 you know, different gear types and different target species and so
9 this is just to illustrate that. So, to get into the results, and
10 again, my point is not to really get into detail of all the results
11 that we got, but just to give you an overview of the type of
12 information that we obtain and how it sort of matches with what
13 we're seeing with some of our other efforts.

14
15 So, we asked the fishers about their perceptions of the status of
16 the fishery resources. Here is just to show you what we got and
17 that we use a Likert scale. We asked them to rate them in terms of
18 being in very good shape, to in very bad shape. We got a result
19 that's somewhere in between, between neither good or bad and good.
20 But we also asked them to compare those resources within the last
21 10 years and the overall opinion was that it's somewhere between
22 equal and worse.

23
24 Then we asked them to give us some of their reasons for the change
25 that they're observing. The most significant reasons had to do
26 with the impact of hurricanes, the impact of overfishing but also
27 some answers that pointed to other environmental changes
28 specifically related to climate change. This was a simple open-
29 ended question. Why do you think the resources are declining? So,
30 we did not list any boxes for them to check or anything like that.
31 This was just based on their opinion on what they're seeing. And
32 so, going down this list, of course there are lots of idiosyncratic
33 responses, but still, we can recognize a lot of the same issues
34 that we're seeing with the conceptual models and other of our
35 efforts.

36
37 So specifically, we asked them also about their perceptions of
38 climate change and what they are seeing out there. Even though
39 they did not show very high levels of concern when we asked them
40 about the changes that they are observing and that they would
41 relate to climate change, they listed a number of changes that we
42 know are related to global climate change. So, I have them listed
43 here. They have to do with changes in water temperatures, changes
44 in currents. They've observed algae growth but also some other
45 more specific impacts on species and habitat.

46
47 And just to, you know illustrate a little bit of what we also got
48 from the key informant interviews. We asked similar questions about

1 environmental changes. This is including everybody, all the
2 different stakeholder groups. The top responses had to do with
3 coral reef degradation, loss of habitat, diseases, storms, global
4 warming, over harvesting, over development, land-based sources of
5 pollution, sedimentation, runoff, decrease in water quality. So
6 again, that matches pretty well with what we're seeing with the
7 conceptual models. Likewise with changes that were directly
8 attributed to climate change, we also got responses that match
9 pretty well with what we're seeing. Most of the key informants and
10 the fishers were sort of in agreement with the changes, the most
11 significant changes that they're seeing out there.

12
13 We also asked them specifically about some issues that are related
14 to climate change and other anthropogenic impacts. So, we asked
15 them directly, do you think that your fishery activity is being
16 impacted by any of these things? And as you can see here, they
17 were mostly concerned about the increase in seaweed, increase in
18 frequency of storms, coral bleaching and pollution, but also water
19 temperature and overfishing came up as significant. But, like I
20 said, we specifically asked them to point to whether these were
21 impacting their fishing activity or not.

22
23 We also asked them an open-ended question or what are the most
24 significant issues that are affecting the fisheries? So not related
25 to anything specifically, just, like I said, open-ended. And for
26 the surveys, the top responses that we got had to do with
27 management and lack of enforcement. Those were the two top concerns
28 from the fishers.

29
30 We also asked them a number of questions about their perceptions
31 on governance. These had to do with their ability to influence
32 government decisions, but we also asked a series of questions about
33 their views on fairness and a number of other things that are all
34 in the report. But I just selected this one slide right here that
35 when we specifically asked them about opportunity to influence and
36 their opinion on availability of information by state and federal
37 government. This was on a scale of one to four in terms of how
38 they rated opportunity and availability. In general, the mean is
39 relatively high. One area where we saw a difference here was for
40 fishermen in Saint Thomas that believed that their ability to
41 influence federal government was less so than other fishers and
42 responses the other questions. The reason why I put that here is
43 because I think, you know, we keep talking about stakeholder
44 engagement. We keep talking about the importance of this
45 collaborative approach, so I thought it was important to point out
46 that there are perceptions where there are areas for improvement,
47 from the perception of the stakeholders, from their opportunity to
48 influence decisions or to be involved in decisions.

1
2 We asked the same questions about issues to all stakeholders. And
3 again, what we see are responses that are not surprising. Lack of
4 enforcement was one of the top issues that stakeholders mentioned.
5 But also, pollution was one of the top issues. And runoff. And the
6 reason why I put that here is because this was the only issue that
7 was mentioned by all five stakeholders. And again, that matches up
8 with what we're seeing with the conceptual models.
9

10 So, I'm not going to get into details of what we're seeing here.
11 This slide had sort of a twofold goal. One was to show that we, as
12 I mentioned before, I selected some results, but we got a good
13 amount of data on a number of different factors with our surveys.
14 This is only based on the survey results, and this is just a
15 correlation model of different variables. And this is something
16 that we're working on right now for a specific publication.
17

18 I just wanted focus on this one variable here. Our main dependent
19 variable in the model, which is wellbeing and what the factors
20 are. Wellbeing was a simple self-anchoring scale. We literally
21 asked the fishers to rate their level of wellbeing on a scale of
22 one to 10. What we found that was interesting is that this variable
23 was directly influenced by how much time they spend out there
24 fishing, by their perceptions of the fishery resource and whether
25 or not it has decreased in the past 10 years, by their basic needs,
26 which includes their satisfaction with income and predictability
27 of income, and self-actualization, which has to do with challenge
28 and adventure, and the ability to be their own boss. Those were
29 the four things that mostly influenced their wellbeing.
30

31 And the other thing that I wanted to point out here is how their
32 perceptions on the shape of the resource also influenced their
33 levels of concern about climate change and also other variables
34 that had to do with perception of risk. And so, since I'm sort of
35 outing myself here as a hardcore human dimension, social scientist,
36 I want to say that this means that wellbeing is actually a pretty
37 good indicator of ecosystem health. Fisher's wellbeing relates to
38 resource health, and it relates to the perception of risk of the
39 ecosystem. So, this is just one interesting thing that I wanted to
40 throw out there, and I think it sort of emphasizes the importance
41 of collecting information, that relates to human wellbeing.
42

43 So, again, just, I keep saying this, but sort of the point of my
44 presentation was to show that a lot of our findings did relate
45 closely to the Lenfest findings and the sheer volume of qualitative
46 data that we have that could really help to interpret some of those
47 results that we got, that can also be helpful. And this is and can
48 be used as a method to continue to collect local ecological

1 knowledge and socioeconomic data to complement our efforts, given
2 that is sort of validates what we're seeing in the conceptual
3 models and what we're seeing when we are collecting data using
4 these methods.

5
6 So, that's pretty much all I wanted to present. I think it'd
7 probably be more useful for us to have a discussion or a
8 conversation if you want. Want me to go back? because I know I
9 went kind of quick, so if you want me to go back to any slides,
10 I'm happy to.

11 12 **Questions/ Comments** 13

14 **SENNAI HABTES:** Thanks, Tarsila. I'm going to leave it. I think we
15 can manage ourselves, so just jump in and if it starts to get
16 crazy, I'll stop you and call on people's names. Then, I think I
17 see Alida's hands up as well, so since she's online, I'm going to
18 say, why don't we have her ask her question first and then I'll
19 try and monitor for online if I have to jump in to cut you guys
20 off. Okay? So, Alida, go ahead.

21
22 **ALIDA ORTIZ SOTOMAYOR:** Thank you. Tarsila is there a difference
23 between the place, the area, where the fishers are getting the
24 catch? Is there a difference between the gears they use? Are they
25 related to the result that you get?

26
27 Because in Puerto Rico it's very different, but even in Saint
28 Thomas, Saint John and in Saint Croix, they might be differences
29 in the place they fish. Is that in the data that you included in
30 this report?

31
32 **TARSILA SEARA:** So, that's a good question, Alida, and yes, I mean,
33 in Puerto Rico we were able to do all sorts of regional comparisons
34 because we had a much larger sample size with the U.S.V.I.

35
36 I mean, I do have information on where the surveys took place and
37 where the fishers are from, but I don't have, I did not do
38 comparative analysis between the different locations simply
39 because it didn't have enough of a sample size to do that. But all
40 that information is in the report. And I of course can, you know,
41 share more of that data with you.

42
43 **ALIDA ORTIZ SOTOMAYOR:** Please. Thank you so much.

44
45 **STACEY WILLIAMS:** You mentioned seaweed, is that sargassum or is
46 it the seaweed on the reef that's influencing or affecting?

47
48 **TARSILA SEARA:** Are you're talking specifically about this, right?

1 **STACEY WILLIAMS:** Yeah. Increasing seaweed.

2
3 **TARSILA SEARA:** Yeah. So, this was not specified. I regret it, not
4 specifying it. We took this, this was exactly what we did for
5 Puerto Rico, and we had it this way in the survey because this was
6 a question that was informed by our conversations with the Key
7 informants. And in the Key informing context, it was seaweed on
8 the corals. Right? So, we had it this way and then, but when we
9 did the survey, we did not specify. But a lot of the conversations
10 that we had and a lot of the key informants, during the surveys,
11 when we asked about issues, a lot of the fishermen did talk about
12 sargassum. And so, I think that might reflect both and that's
13 problematic because we can't-- but, I think it reflects a concern
14 for both.

15
16 **ORIAN TZADIK:** Quick question, Tarsila. So, you had that slide on
17 the key informants, is that what they're called? Yeah. So I'm
18 interested in this because I've heard other social scientists go
19 about their methods in a similar way where they use key informants,
20 they say. I haven't really heard a good explanation for how those
21 key informants are selected.

22
23 One in particular, I'm thinking, said something along the lines of
24 we use the key informants because we all know who they would be.
25 In my opinion, that's kind of the problem, right? Because that
26 just means you're maintaining the status quo and you're going--
27 The whole point, I mean, in this Lenfest project, for example, you
28 said you had a hundred and something fisher participants outside
29 of the DAPs and that was the whole point. The DAPs are the ones
30 whose voices we always hear, which is good and whatever, but you
31 wanted to also then get the voice of everybody else.

32
33 So, I'm wondering if you could just speak to that. And I don't
34 know about this project, but how were these key informants
35 selected?

36
37 **TARSILA SEARA:** Yeah, that's a great question. So, this was a mix
38 of purpose of sampling, which was basically what you're describing.
39 You start somewhere, and you just identify key people that have
40 the knowledge that you're looking for, essentially. So
41 knowledgeable people on the system. And then, we used a snowball
42 approach where we asked people to refer or to give us lists.

43
44 We ended up with a long list of names for each one of those
45 stakeholder groups. I still have this spreadsheet where we have
46 all these contacts and I think that was one of the sources of
47 contacts for the Lenfest expert. I literally contact everybody on
48 that list. But you just don't get positive responses for most

1 people. I did with the fisher, what I'm calling the fisher
2 stakeholder groups, I did start with the DAPs and I emailed and
3 contacted and called everybody and from there I also snowballed
4 from the DAPs.

5
6 Now with U.S.V.I., we did all the key form interviews, either on
7 Zoom or over the phone. In Puerto Rico, I also went out and when
8 we were sort of doing the reconnaissance part of the projects,
9 when we go out and we look for the locations and we talk to people
10 and we say, "Hey, we're coming back to do the survey." In that
11 process we also identified key informants.

12
13 I believe in the U.S.V.I., we did that with one of the fisher key
14 informants. With somebody that we talked to during the
15 reconnaissance process. So, we try to diversify. But what we're
16 trying to get here is really just, like I said, is a purposes
17 sampling. You're looking for people with specific expertise when
18 you do the key informants because what you want there is to inform
19 that larger effort that you're going to go out and try to get a
20 representative sample. So, that's essentially what we're doing
21 here. It was more of the first step in the methodology.

22
23 **ORIAN TZADIK:** Thank you.

24
25 **SENNAI HABTES:** Okay. I don't see any more questions online. Any
26 other questions in here? Do we want to discuss this more? I mean,
27 I have one question, Tarsila. This will be one, I think, that will--
28 - Oh, never mind. Tauna has a question. So, I'll let Tauna ask
29 first and then I'll go.

30
31 **TAUNA RANKIN:** Tarsila, I found that really interesting, about the
32 Saint Thomas fisher's perceptions about opportunity to influence
33 federal government, because I am in no way an expert or strongly
34 connected to the fishermen community in V.I., but the Saint Thomas
35 Fisherman's Association is the one I've interacted with and have
36 knowledge of and have heard about.

37
38 And so, I don't know if you've tried to interpret these results at
39 all, but I almost wonder if it's because they're better connected
40 that they have less confidence in the system and maybe that's
41 telling us something about how we need to engage stakeholders where
42 they understand and feel like they do have a voice and can affect
43 the system for positive change.

44
45 **TARSILA SEARA:** Yeah, that's a good, very good comment. I mean,
46 this is not-- I don't want to try to necessarily explain what is
47 going on here. With that, the sort of next step in this process is
48 to ask more questions, right? When we do any kind of research to

1 end up with more questions than, than answers.

2
3 And so, I think this is an area that's a really important place to
4 explore. I think we only ask them about their perceptions and their
5 ability to influence, but we did not-- You know, a good follow up
6 would be, "Okay. Why, and what do you see as an important avenue
7 for change there?" And we did not do this as part of this.

8
9 But with the key informant interviews, we have a lot more
10 information. They did explain a lot more about-- and again, this
11 is just a much smaller select group of people that we interviewed
12 in that, but we asked specific questions about the relationships
13 between the communities and the government, and we got a lot of
14 information.

15
16 And what I thought was interesting too, is how they contrast
17 relationships with the state and with the federal government and
18 how it has been changing. So, there's a lot of rich information
19 about what they they're seeing. But that specific difference that
20 we're seeing there, I don't have anything that would explain per
21 se why we're seeing that. But that's a good question for the
22 fishers.

23
24 **SENNAI HABTES:** I think an easy way to answer that is asking "why?"
25 We have a very small active fishery or active number of fishers
26 within the Saint Thomas/Saint John District. I mean, I know the
27 answer to this question but I'm hesitant to say it on the record.
28 So, Tauna, if you ever want to have an offline question, an answer
29 to that question, let me know.

30
31 I think what it really comes down to is what we need to look at is
32 the structure by which we are engaging fishers to have information
33 provided at the federal level. Oftentimes when you have chunk
34 points, meaning an individual or a single person representative of
35 a larger group, it is going to exclude information from some parts
36 of that group. And so, I think what we have to do, if we want to
37 continue using this structure of Councils, is to make sure that
38 the way these groups are represented as more equitable and allows
39 for a lot more engagement of those populations, not by simply
40 people that are better suited for engagement, meaning know all of
41 the rules and how to interact on things like the Council, but
42 creating structures for information to be disseminated both ways.
43 Tarsila?

44
45 **TARSILA SEARA:** Yeah. Just following up on that. It's just
46 something that I forgot to mention or didn't really trigger that
47 thought. These results or my experience doing this work in the
48 U.S.V.I., and previously in Puerto Rico, was a huge part of the

1 reason why when we started doing the conceptual models, I said,
2 "We absolutely need to go out and make sure that we do conceptual
3 models with the-- we cannot consider the fisher's box checked
4 because we did our conceptual models with the DAPs."
5

6 And so, I think that's another important part of being out in the
7 field and talking to the fishermen and, you know, I feel like you
8 just get a much better sense, as you were saying, from what is
9 actually happening out there. And so, it also makes us better at
10 what we do. And so I just wanted to point that out.
11

12 **SENNAI HABTES:** Any other questions?
13

14 Okay. If not what I will ask, Tarsila, can you summarize what you
15 think, from these stakeholder perceptions, are the most important
16 needs that they have that we need to address within an EBFM TAP
17 context?
18

19 **TARSILA SEARA:** Well, I think that, you know, trying to prioritize
20 this answer. From my perception after doing this is that all of
21 the environmental changes, environmental concerns that all
22 stakeholders have been expressing is absolutely, you know, a major
23 priority. It's something that the fishermen are concerned.
24

25 They are seeing these changes; they are experiencing these changes.
26 Whether, whatever they want to attribute those changes to, they
27 are concerned about how that's affecting the fisheries. So, I think
28 you know, the purpose of selecting their views on the environment
29 and climate aspects that are affecting the fishery here and how
30 they match up to everything else was sort of my point of stressing
31 that.
32

33 I think the other aspect that's important is, you know, when we
34 just asked them about issues, what really came up was their
35 concerns about management and enforcement. And so, I think that's
36 another-- and one of the things that did not show up in the melded
37 conceptual model was their concerns about these aspects. I think
38 they maybe got masked by, you know, other issues.
39

40 And so, in the fisher's conceptual models, that is something that
41 comes up as an important issue. So, I think that that is something
42 that we need to be-- and I know that this may not necessarily be
43 a very sort of direct objective when we're thinking about
44 ecosystem-based management, but we certainly need to make sure
45 that we are addressing if we want to engage the fishermen in a
46 positive way, I think this is something that we need to show that
47 we are you know concerned about and addressing and taking into
48 consideration. Ori, Is that a follow up?

1
2 **ORIAN TZADIK:** Just to quickly clarify. It says at the top there,
3 poor governance and management. Is that a catchall term or is that
4 exactly what was said?
5

6 **TARSILA SEARA:** No, it's a-- I mean, the word "poor" was used. But
7 it is, it combines a number of different answers. These were open-
8 ended.
9

10 **ORIAN TZADIK:** Right. So, then to Sennai's point, I know that in
11 Saint Croix, what I've heard from a lot of fishers, when I ask a
12 similar type of question, it's closed areas. It's all about closed
13 areas. I hear that a lot from a lot of the fishers in Saint Croix
14 that say, if you ask them what the problem is, they'll say, "too
15 many closed areas" a lot of people would say. And so, that is
16 definitely EBFM related. So, I just wondered, if that's a catchall
17 term, I'm sure there's parts in there that are kind of easy.
18

19 **TARSILA SEARA:** Yeah, that is a good point because, yes, I
20 absolutely, for the purposes of summarizing things here, just put
21 everything in that broader category. But we have all that, you
22 know, it would be easy to go back and pinpoint those specific
23 issues. And this is just from the surveys, but also in the key
24 informant interviews we spent a lot more time talking about these
25 issues, and so there's a lot more detail that we can use to maybe
26 pinpoint what would be some of the most significant issues.
27

28 Lack of enforcement was definitely one thing that a lot of the
29 different stakeholders and a lot of the fishermen pointed out too,
30 that it is a concern, but again, it's nothing new. But yeah, I
31 think, and again, based on conversations and just to go back to
32 your question too, the idea of engagement and decision making was
33 also something that came up during both efforts. And so, yeah, I
34 think that's a good way to, if I were to prioritize or come up
35 with sort of top issues, I would say probably those.
36

37 **SENNAI HABTES:** So environmental concerns and lack of enforcement
38 would be the top two.
39

40 **TARSILA SEARA:** Yeah. And the engagement part too.
41

42 **SENNAI HABTES:** I don't disagree. They're the two things that I
43 hear the most from stakeholders, not just fishers, from pretty
44 much every group you've interviewed. I think they're also the two
45 that as a fisheries agency I have the least control over. Right?
46

47 What I can manage, right? Tends to be-- You basically, as a
48 fisheries manager, have two tools, right? Like, I can create bag

1 and size limits, or I can create catch limits, right? Or I can
2 shut down areas or shut down fisheries. That's it. Those are the
3 tools that we have.

4
5 So, I think, you know, finding ways under the EBFM to actually
6 work on these aspects are beneficial. But I think reminding people
7 of what fisheries management actually can work on is very
8 important. So. Okay. That's all I had.

9
10 **TARSILA SEARA:** Just quickly to your point. During the key
11 informant interviews, and again, if we can go back to the
12 conceptual models, outreach and education is all the way up there
13 also in terms of, and I think that that relates to what you're
14 saying too. I think that that is also a major concern of everybody.

15
16 **SENNAI HABTES:** All right. Well, if we don't have any more
17 questions for Tarsila, I think it would be useful for us to move
18 back to our outline and start populating that with more specific
19 information based on the information that we now have. So, I can-

20
21 Yeah, J.J., you have that one. So, I'm going to ask you to share
22 your screen so we can kind of work on that. And I'm going to let
23 you drive the bus for that one, J.J.

24
25 So, for those online, just bear with us a moment. We are opening
26 up our outline documents. So, J.J. is just trying to find the last
27 version we were working on yesterday, and then he'll share his
28 screen and then we'll get started populating that. So, for those
29 just joining us, we are going to be trying to populate the specific
30 information that we want in the outline sections that are going to
31 be written into the FEP. I think at this point we really want to
32 clarify it based on, like, you know, get down into the nitty gritty
33 as much as we can, such as objectives that we think are important
34 within each of those sections, and organizing the document into a
35 final framework.

36
37 **ORIAN TZADIK:** So that we can see the first section, so we can all
38 reorient and then we can dive in wherever we are.

39
40 Yeah. J.J., do you want to just maybe walk us through what we've
41 done and what we're thinking for all this stuff?

42
43 **JUAN J. CRUZ MOTTA:** Yeah. From our discussion yesterday, we talked
44 about, first, having an introduction, which is brief one page on
45 the purpose of the document, two purposes. And then a general
46 theoretical background on EBFM and what exactly we understand by
47 EBFM. What specific criteria we going to use out of the EBFM. We
48 going to base that on Marshak review for the specific case of the

1 United States. I mean, the nice work by Marshak. It's like he went
2 through all FEPS and EBFM documents in the U.S. at the different
3 Councils, and then that's it. You have a very good reference there.
4 That work should be linked. It is a book. I don't know if we will
5 have to pay right? Well, at least to the reference. Anyhow.
6
7 The second is about--
8
9 **SENNAI HABTES:** Sorry, J.J., can you just put the reference into
10 the like--
11
12 **JUAN J. CRUZ MOTTA:** Yes. Hold on. Let me open it up.
13
14 **SENNAI HABTES:** I would say either-- I mean, just put the name so
15 it's a reminder and then we'll go back and add the links and stuff.
16
17 **JUAN J. CRUZ MOTTA:** Okay. It is a book. Marshak and somebody else.
18
19 **ORIAN TZADIK:** Link, correct?
20
21 **LIAJAY RIVERA GARCÍA:** Jason Link.
22
23 **JUAN J. CRUZ MOTTA:** Link and Marshak.
24
25 **LIAJAY RIVERA GARCÍA:** February 5, 2022.
26
27 **ORIAN TZADIK:** '22, yeah.
28
29 **JUAN J. CRUZ MOTTA:** That's the one. A beauty. That's it.
30
31 **SENNAI HABTES:** Can you just put Marshak and Link, 2005 there, and
32 then we'll go back to the full reference.
33
34 So, just put "Marshak and Link, 2005."
35
36 **ORIAN TZADIK:** '22.
37
38 **SENNAI HABTES:** or "'22" for now. And we'll go back and add a link
39 to more specific information on that. But I want to make sure that
40 we populate this with as much references as possible while we have
41 people with the information where those resources are in the room.
42
43 **JUAN J. CRUZ MOTTA:** So, a pending task is to then choose what
44 would be the criteria, but then we can cheat our way out of that.
45 Like, we develop the document, and we see what criteria we actually
46 use and then we go back and put it there. Then the second point
47 here is the general vision. We mentioned that we can have the
48 vision of the Council or a more specific one that we develop. We

1 can keep that one. And then we are going to move into strategic
2 objectives. Those will be derived, I mean, needs to be written
3 down, but they can be easily picked from the consensus in the
4 conceptual model. Like, for example, again, I mean, I used two
5 examples in my presentation. There are two big bubbles there. One
6 is coral reef; the other is recreational fisheries. Obviously,
7 they should be strategic objective about those two. Yeah?

8
9 **ORIAN TZADIK:** You were next door during earlier morning session,
10 but the plan is to basically, this afternoon, we're going to have
11 all those written down.

12
13 **JUAN J. CRUZ MOTTA:** Beauty.

14
15 **ORIAN TZADIK:** Yeah.

16
17 **JUAN J. CRUZ MOTTA:** And then we are going to specify a general
18 framework for the FEP here. Then, there comes the section that has
19 always been there, which is a synthesis in the U.S. Caribbean.
20 Here, the suggestion is to start with a general description as we
21 have in the Island-Based Fisheries Management Plan. I would suggest
22 just linking to those documents and perhaps add a graph like Puerto
23 Rico and the U.S.V.I. culturally diverse islands, just very brief
24

25 **ORIAN TZADIK:** Sorry, I want to stop you just because I think this
26 is important. I've worked on a lot of documents over the last
27 several years where, you know, general description of the
28 difference between the islands and I think there's so many
29 directions we can go with this that maybe we should discuss just
30 a little bit what we're trying to get out of that section.

31
32 Because I happen to disagree. I don't think we need to talk about
33 you know, the cultural differences between the isl-- Everything
34 that's in the IBFMPs, I don't think we need to even mention it.
35 But things that are relevant to EBFM, like, you know, the
36 differences-- Go ahead.

37
38 **JUAN J. CRUZ MOTTA:** I'll tell you the words that should be in
39 that paragraph that summarize what makes the region unique and
40 deserve to be mentioned there.

41
42 Highest-- It is the region of the U.S. with the highest number of
43 managed species, which is related to the naturally high ecological
44 diversity. I mean, like, this is important because we're talking
45 here with an audience, in the rest of the U.S., that haven't been
46 in a coral reef. I mean, they might have seen documentaries. Okay.

47
48 So, highly diverse, highly diverse in terms of the species we're

1 managing, highly diverse on naturally ecologically, because of the
2 habitat, then that's related in multi-specific fisheries. That has
3 to be mentioned, multi-gear, opportunistic fisheries, artisanal,
4 100% artisanal and coastal. And because it's coastal is subject to
5 many other drivers of non-natural sources of fish mortality.

6
7 So, those aspect needs to be, like, summarized in one paragraph.
8 Highlighted. Because that is what makes our region unique. And
9 then, when we talk about the framework, given those
10 characteristics, that are unique for the Caribbean-- Of course,
11 you can also put other general things about the Caribbean, which
12 it is the smallest in productivity, the smallest on value, the
13 small-- I mean, you can also put that stuff, which is the other
14 side of the coin. No?

15
16 But anyhow, the framework is to address how to manage a fishery
17 with those characteristics. EBFM, and this is my own opinion, is
18 the way to go if you want to do it in an efficient manner.

19
20 **ORIAN TZADIK:** So, again, Kevin, I'm going to channel my Kevin
21 here and say, who's the audience for this? The audience is the
22 Council. So, if the audience is the Council, then I don't think we
23 need to go through and discuss current management.

24
25 **JUAN J. CRUZ MOTTA:** No.

26
27 **ORIAN TZADIK:** Right. We don't need to say, "Currently we manage
28 under IBFMPs" and whatever.

29
30 **JUAN J. CRUZ MOTTA:** Yep, totally right.

31
32 **ORIAN TZADIK:** Okay.

33
34 **JUAN J. CRUZ MOTTA:** But anyhow, those will be the things that I
35 will particularly add to that general description. Again, it is
36 one paragraph.

37
38 But then, comes a description of the conceptual models. How do the
39 stakeholders see the system. I would propose that's the definition
40 of the system that we are going to manage, you know. I mean,
41 the object of the management actions will be what is defined under
42 that conceptual modeling.

43
44 You will be able to extract that from your paper, right? Yeah. So,
45 that will be contained on Tarsila's paper that we have to produce
46 the first draft at be before June the 30th, is that right?

47
48 **ORIAN TZADIK:** Well, wait a minute. I think she's already presented

1 those.

2

3 **JUAN J. CRUZ MOTTA:** Yeah, yeah, yeah, yeah.

4

5 **ORIAN TZADIK:** Like, isn't that-- I mean, I think that part of it,
6 because we're going to go into, later down, we go into indicators
7 and then, you know, at some point, we're going to actually present
8 more on the conceptual models, right?

9

10 **JUAN J. CRUZ MOTTA:** Yeah. And the conceptual model is brought up
11 at several stages during the FEP.

12

13 **ORIAN TZADIK:** Right. So, I think at this point, this is just that
14 table that you presented that was like-- I mean, well, whatever.
15 I mean, more or less. I'm saying we have the information.

16

17 **JUAN J. CRUZ MOTTA:** Yes. Yes, yes. And then our suggestion would
18 be to have one model per island, because it's the way it is set up
19 now, we are doing an island-based management.

20

21 No, what I'm saying is, talking about the links, no, we won't give
22 all the details that went into building those conceptual models,
23 but then say, "Okay, these tables or these network analysis were
24 done based on Sarah et. al 2023. And then you have the link to the
25 full description again. But to trying to make this document very,
26 very, very short. Well, let's say short.

27

28 And then, you do have the same, what's the description of the
29 system based, and now I'm talking about 3C, based on existing data.
30 And that's where Stacey's work comes into play. Then, what I
31 envision is a general description of how the structure and
32 composition of fish assemblages have changed through time. Right?
33 But again, all that links to the paper that-- well, there will be
34 one paper led by Stacey, one by me, and then we can link whatever
35 goes into that section.

36

37 **ORIAN TZADIK:** Attributes. You glossed over that. If I remember
38 from your presentation, attributes are when we talked about, for
39 example, our strategic objective of increasing coral cover, the
40 attribute would be coral cover.

41

42 **JUAN J. CRUZ MOTTA:** That's correct.

43

44 **ORIAN TZADIK:** We're going to do that here. We're going to put the
45 attributes, because that looks like my-- the way I'm envisioning
46 this is, 3B, you would say, or whatever. 3A, you would say all
47 that stuff you talked about with "This is a fishery that is highly
48 diverse and all that." Then you would go, "The way that the

1 stakeholders view their fishery is this way, but on a very high
2 level." And you would say, "The way that they view their fishery
3 is, you know, these are the main drivers, these are the main
4 receivers for each of the islands. And then, the major
5 relationships that we saw were these." And so that then, the
6 attributes, to me, doesn't fit in right there.

7
8 **JUAN J. CRUZ MOTTA:** I mean, like, I was following your logic and
9 I totally agree with you, Orian, and perhaps that will be something
10 that should be related to when we talk about the indicators, right?

11
12 So, I'm going to just put it tentatively here, right?

13
14 **ORIAN TZADIK:** Yes.

15
16 **JUAN J. CRUZ MOTTA:** And let's see if it actually fits there. Okay.

17
18 Now, based on existing data. So basically, what's the idea here?
19 And I would suggest doing this for only a few indicators. Even
20 though indicators are down below. What I envision is something
21 like we saw in the ESR, right? Look what has happened with the
22 coral cover in Puerto Rico through the years. Look what has
23 happened to the diversity. I mean, that's the type of description
24 that perhaps we should mention in that 3C.

25
26 The only challenge that I have found is that there is so much to
27 say, so much to say that I wouldn't know where to start and what
28 exactly will be worth showing there. One option is whatever is
29 related to the strategic objectives. But anyhow, that's, I guess—

30
31 **SENNAI HABTES:** My comment was going to be exactly that. It has to
32 be limited. I think the way to limit it is to look at what is
33 available and what is usable, right? You can give a list, which
34 we're going to do above in the description of all of the things
35 that go in. You summarize them. You say, "These are all of the
36 things that we were able to take and say are important from the
37 conceptual model. Of those, these drivers have available data and
38 importance within our system that we need to use as part of this
39 process."

40
41 Remember, everything we are doing here in the FEP is to provide a
42 paradigm for the Council to make decisions in an EBFM context. The
43 only indicators that we then summarize in C should be the ones
44 that can be used in that process.

45
46 **JUAN J. CRUZ MOTTA:** Yeah, that sounds like a plan. So,
47 description-- can you repeat what you said?
48

1 **SENNAI HABTES:** Sure. I would say, "Only on those that are
2 available and relevant to fisheries decision support systems made
3 by the CFMC." So, "Fisheries, DSS used by the CFMC."
4

5 **STACEY WILLIAMS:** Many of these might already be summarized by
6 other reports, like what Reni and his crew are doing. NCRMP always
7 comes out with a report, so it might not be as long as we think it
8 will be, so we can maybe just hyperlink to those reports.
9

10 **SENNAI HABTES:** So, I would say that it's important for us to
11 identify those now because if we have ideas of which ones might
12 be, create a separate section, say possible references, and let's
13 start listing them out. Even if we don't know the hyperlinks, give
14 the names and then either I or Orian or a technical writer will
15 try and track down what we were talking about, but we need to
16 summarize that information somewhere, here is a good time to start
17 doing that.
18

19 Ori, you had a question?
20

21 **ORIAN TZADIK:** Yeah. So, first of all, I think that that added bit
22 that we put on should be for the drivers, not for the description.
23 That's a minor thing, but I think it's worth mentioning. Because
24 you're saying description of patterns of temporal and spatial
25 variation, right? So for example, the PRCRMP. So we're not going
26 to say, "only those--" I mean, okay. I guess we can say it for
27 both though. Like, that part about only being relevant and
28 available for fisheries, I think we discussed at four drivers,
29 right?
30

31 **SENNAI HABTES:** I thought the C is all drivers, correct? I thought
32 that was the point of the A to B to C. A, talks about the
33 description of the system. B, was like, what are the components?
34 And C, is the drivers; the data that is used to give trends
35 associated with the components in the models. Is that not what we
36 talked about yesterday?
37

38 **JUAN J. CRUZ MOTTA:** Basically, the idea is, when you say
39 "components" are the elements, like coral reef and then say
40 fishing. And then the relationship implies a driver and a
41 consequence. It is saying that the fishing is reducing coral cover.
42 Right?
43

44 And the difference between B and C, is that in B, that relationship
45 is established by perception. In C, it is established by analysis
46 of data. So, for example, when Stacey said, "Okay, this is a change
47 when I see at all the sites in the west of Puerto Rico using the
48 PRCRMP and then I see that that change in the structure and

1 composition of fish assemblages is related to temperature. So those
2 will be the drivers here.
3
4 What is making change the fish assemblages, which at the end is
5 our response variable. For example, in there, very likely, will
6 be-- I mean, when I did preliminary analysis using that data set
7 coral cover, when I correlated benthic data with the fish
8 assemblages from the same program, there was a strong correlation
9 with coral cover.
10
11 **ORIAN TZADIK:** Right. So, what I was going to say-- So, yeah,
12 that's how I understood it. So, what I was going to say is that we
13 have to be careful here, because what I'm picturing is what you
14 presented, right? The MDS plots and influence vectors and those
15 sorts of things. And then you said that you're not sure because
16 where do we start with it all? And my argument would be that we
17 shouldn't start it at all because if we show one thing that would
18 be perceived as everything. And it happened, in the conversation
19 the other day, where everybody took whatever data set was on the
20 board and started arguing about it and it's because of this and
21 it's because of that. Right? But that was, let's say, that was the
22 NCRMP data or something.
23
24 That wasn't necessarily all of everything we want to say. What we
25 do want to say here is that based on the existing data, we have
26 seen differences of spatial and temporal variability related to
27 the drivers.
28
29 Right? Exactly. But I'm hesitant to say anything else on it.
30 because then it would be, especially if we're looking at this, as
31 Kevin said, if you hand the Council a 500-page document, nobody's
32 going to read it. If you hand them a 10-page document, they'll
33 flip through it and make decisions based on it. And if they make
34 a decision based on the one graph we have on there, which is NCRMP,
35 for example, that's hugely biased.
36
37 Yeah. And unfortunately, I think this is a really good visual.
38 Visually this is very understandable, but I think we shouldn't put
39 any graphs right there.
40
41 Maybe Sennai had a good idea though, that we should identify--
42 Because we're hyperlinking the papers, but then we're using those
43 same data sets. So, if you're talking about Reni's paper or
44 whatever, that is PRCRMP. And if you're talking about the NCRMP
45 drivers there's a paper for it.
46
47 Yeah. Okay. So, yeah, I think-- yeah, exactly. Instead of listing
48 them all out, we do the hyperlinks and then--

1 **JUAN J. CRUZ MOTTA:** For example, and I don't know if this is
2 within the scope of the technical writer, but perhaps she can help
3 with getting those papers and then summarizing information, put it
4 in there. I don't know, what do you reckon?
5
6 **ORIAN TZADIK:** What summaries?
7
8 **JUAN J. CRUZ MOTTA:** Of those papers. Because--
9
10 **ORIAN TZADIK:** So, I think-- Yeah. Okay. Within this, you're
11 saying.
12
13 **JUAN J. CRUZ MOTTA:** Yes.
14
15 **ORIAN TZADIK:** Yeah. I think that it should be based on existing
16 data, perhaps at very general state and the main changes in drivers
17 were, and I think basically what you want to say there is that,
18 changes over time have been noted in the following data sets with
19 hyperlinks. Like, that's it. Right?
20
21 **JUAN J. CRUZ MOTTA:** Perfect.
22
23 **STACEY WILLIAMS:** Because a lot of these paper don't describe the
24 drivers. They just describe the change, the trends. So, yeah, we're
25 not going to-- like, Reni's reports and that, describe the changes
26 and PRCRMP describe the changes. They don't describe the drivers
27 to the change.
28
29 **ORIAN TZADIK:** Right. Your report does though. You have influence
30 vector.
31
32 **JUAN J. CRUZ MOTTA:** Yes.
33
34 **ORIAN TZADIK:** Right. So, do we just link to the paper in prep?
35
36 **JUAN J. CRUZ MOTTA:** Yes, but the thing is, I envision-- So far,
37 we are visual-- I mean, we have to produce at least three papers
38 for this project. And then out of those three, the one that I
39 envisioned will be first to come, like next week. No, just kidding.
40 It's Tarsila's, right?
41
42 And then then the second and third will be either the one that
43 stays is leading, the one I'm leading, but definitely in all of
44 them, the main conclusion is about the drivers of the system, based
45 on a qualitative approach, based on a quantitative approach ,on
46 the independent data, on a quantitative approach on the fisheries
47 dependent data.
48

1 **ORIAN TZADIK:** Right. But first paper is 3B.
2
3 **JUAN J. CRUZ MOTTA:** That's correct.
4
5 **ORIAN TZADIK:** Papers two and three are 3C.
6
7 **JUAN J. CRUZ MOTTA:** That's correct.
8
9 **ORIAN TZADIK:** So, that's it. We link to those papers. They're
10 just not available yet. They will be, by the time we're done with
11 this thing, hopefully, in March of 2024 everything will be
12 published.
13
14 **JUAN J. CRUZ MOTTA:** I know definitely for March 2024 they should
15 be. If not, we won't get more money from Lenfest, ever again.
16
17 **ORIAN TZADIK:** [laughter] Deal. All right. So, good though. I think
18 that makes a lot of sense then to do it that way.
19
20 **TARSILA SEARA:** Just to make sure I'm following this outline. So,
21 does that mean that we're getting rid of one and two under C? No?
22
23 **ORIAN TZADIK:** Yeah. Unless we want to literally write almost
24 verbatim what's written there, I think we do get rid of one and
25 two because then it's, you're basically saying, based on the
26 existing data we see patterns of change and we see drivers of
27 change based on those data sets. Here's all the links.
28
29 **JUAN J. CRUZ MOTTA:** No, she said 3B.
30
31 **TARSILA SEARA:** No, 3C.
32
33 **JUAN J. CRUZ MOTTA:** Ah, 3C. Okay. Yeah.
34
35 **SENNAI HABTES:** I do think those are still necessary because
36 they're different than what is being described in A and B. C is
37 the indicator, A and B are the relationships and components. What
38 I was saying is, in C, for one, one is where we describe the
39 trends, but these need to be the important ones. It can't be 50
40 indicators. It has to be the available ones that are the most
41 necessary for making the decision support system. And then two, is
42 simply a list of those drivers.
43
44 I do think we have to summarize the trends. It should be a single
45 sentence. It can be for coral reef percent cover, decreased in
46 nearshore reefs over the last 10 years, link, right? For the CSVIs,
47 you list each one quick, link of the trend and there. Why? Because
48 this is a reference document and if people do not see the trend

1 that they're going to be using to make the decision just ahead of
2 the framework, they will not look it up. They will make decisions
3 based on improper ideas about the trend. I see it happen all the
4 time. We, we say one, one line on the trend and then we list them
5 again below. So, there's a nice little table that says these are
6 the 25 indicators that should be used based on the recommendation
7 for the EBFM, in EBFM decision support systems for fisheries
8 management in the U.S. Caribbean. That doesn't take up a lot of
9 space, but it provides a lot of information. Ori?

10
11 **ORIAN TZADIK:** Yeah, I think that's actually a really good way to
12 go about it. We're just going to have to, as we develop this, we're
13 going to have to discuss how we want to present some of those
14 trends, because like the multivariate trends we see the fish
15 community move from this side of the graph to that side of the
16 graph and the trend is that it's changed, it's moved in
17 orbital space, right? So, that's not a clear, something
18 happened. It just says that something changed.

19
20 **JUAN J. CRUZ MOTTA:** One of the things that I have on my task and
21 after talking to Alida, because she has been insisting, okay, J.J.,
22 you're telling me that the community is changing, right? And yeah,
23 I trust you that because you did that analysis. But how can I show
24 somebody that we had a lot of groupers and few blennies and now we
25 have a lot of blennies and no groupers, yeah?

26
27 So, basically, I'm meeting, in first week of June, I have this
28 workshop to analyze this data. One of the people that we invited
29 to the group is an illustrator to whom we are going to explain
30 what we want to convey and then let's see if she can come up with
31 a picture of what's happening. And perhaps you have the same MDS,
32 with the same length of changes but then instead of having just a
33 dot or a pie, she will do a nice picture. Like, for example, I
34 have seen papers that actually show what is a degraded reef versus--
35 - That type of thing, no?

36
37 But definitely we need that type of graph, of representation, to
38 be there, not the MDS. Of course, the hyperlink is to the
39 scientific paper, but it needs to be something that we can
40 communicate easily. But we're working on that. I mean, we're not
41 working on that yet, that's too over-- I mean, like, we will be
42 doing it.

43
44 **SENNAI HABTES:** So, I think this is an important conversation,
45 which I think we can return to, but I'm going to make one comment
46 and then I think we need to break for lunch. This conversation
47 that you guys just had is the difference between B and C. Orian,
48 what you were talking about are components and relationships.

1 That's not an indicator.
2
3 What has to come out clear from that is a specific indicator that
4 can be used to indicate a trend in decision support systems. And
5 that is the difference between what we summarize in B and what we
6 write clearly in C.
7
8 **ORIAN TZADIK:** Not B and C, one and two.
9
10 **SENNAI HABTES:** No, no, I'm talking about-- No. Even one and two,
11 both in C are only indicators. That's it.
12
13 Temporal and spatial variation is in the indicators, right? So,
14 like all of that information for part C has to be a specific
15 indicator that we are talking about. And so, from a non-metric
16 MDS, you can create a specific indicator that can tell you how it
17 drives the spatial patterns, or you can create one that tells you
18 how it changes abundances across, or diversity. Each one of those
19 can be a separate indicator depending on how you're using the
20 information from the MDS.
21
22 But we're not going to be putting MDSs as an indicator. We are
23 going to be putting similarity, right? or a change in the
24 similarity. And that's what has to be decided on before we get to
25 that part two. Part two is which of all of those types of indicators
26 are the most, we feel, are the most important ones for us to list
27 that describes either the spatial variation, temporal variation,
28 abundance variation, composition variation for a species
29 assemblage. Because right there, those are four different
30 indicators I just listed that can be pulled out of the information
31 that J.J. and Stacey are comparing.
32
33 And so, that's what I'm getting concerned on, is like, for each
34 one of those things that we've combined, you have four to five
35 indicators that you can pull out from it. And we've yet to even
36 discuss which of those are the ones that we want to do. So, I think
37 it's important for all of us to kind of think about it clearly in
38 that determination. Yeah. J.J.
39
40 **JUAN J. CRUZ MOTTA:** I think Tarsila. Thank you. One work that
41 Stacey and I have to do is to sit down, eventually, very likely
42 when I come back from this trip, and then not only for the FEP,
43 especially for the FEP, but also for the papers we need to write.
44 We have to be, I mean, we cannot say everything about all that
45 data. We need to come up with clear questions that we going to
46 answer. And then out of that exercise, I think we will be able to
47 provide input or guidance on how to select the final things that
48 we are going to show there. Because we actually need to do the

1 exercise of trimming down what we are going to capture about what
2 is going on. So that's something that will be done mid-June.
3
4 **TARSILA SEARA:** Just wanted to say that this all makes sense, but
5 I don't think it's what's reflected in the outline. I just want to
6 make sure that that's really clear, because as I'm reading right
7 now, that's not what I'm reading there. I'm just reading that C
8 one and two are basically the same thing. So, just for the sake of
9 the outline, let's just make sure that that is clear, because you
10 know, going back to that later. We will want to know what we talked
11 about.
12
13 I don't know but--
14
15 **ORIAN TZADIK:** Yeah, I agree. And just quickly though-- No, Sorry.
16
17 **TARSILA SEARA:** Go ahead. No, that's fine.
18
19 **ORIAN TZADIK:** Well, I'm just wondering when we're talking about
20 the derivation of these indicators, my understanding was for 3C--
21 So, okay. Just to back up a second, my understanding of what this
22 whole paragraph is, is that B is components, relationships,
23 indicators, drivers of conceptual models. C is components,
24 relationships, indicators, drivers of data sets.
25
26 **SENNAI HABTES:** No.
27
28 **ORIAN TZADIK:** That's how it's written up there.
29
30 **SENNAI HABTES:** No, I think it's written-- Three is the synthesis
31 of the fishery system. To do that, we create, A, a general
32 description of all components within the fishery system that we're
33 using. B, from the conceptual model, we identify what the most
34 important components are of that system and the main relationships
35 that need to be described by data. Those are summaries. That's a
36 written statement of the conceptual models, but only as it relates
37 to the fishery system. C is where we talk about the existing data.
38
39 Now in one, the description of patterns, temporal trends, and
40 spatial variation. In my opinion, that is linking the main
41 components and the relationships to specific indicators. That is
42 what is being done in part one.
43
44 **ORIAN TZADIK:** The components of the conceptual models.
45
46 **SENNAI HABTES:** Yeah. Well, the conceptual models all deal with
47 our fishery system. Does it not? That's what we're doing this for.
48

1 **ORIAN TZADIK:** Right. Yeah.

2
3 **SENNAI HABTES:** So, the components and the relationships that are
4 found from the conceptual models, you can bring other things in,
5 right? If there's stuff that is relevant that was not really
6 identified in Lenfest, but we feel is important to the fishery
7 system in the U.S. Caribbean, those can be included. But I think
8 the Lenfest model, and all of the other conceptual models do a
9 really good job of capturing all of the things that we think are
10 important for the fishery system within EBFM. Yeah, J.J.

11
12 **JUAN J. CRUZ MOTTA:** What I'm going to say is, when I sat down, I
13 was imagining myself writing this. When I thought about 3C, it was
14 like, okay, in the Caribbean we have these data sets, right? And
15 this is something that we already know, which are available, and
16 this should be here in the FEP and are available here. And that's
17 all the discussion of where we going to host all this data. So,
18 the people that want to look at that data, the raw data, can click
19 the hyperlink and go to the-- The Council can, "Oh, look. These
20 guys are saying that temperature is important. Boom, let's go and
21 see what's happening and extract the data and put it in the models,
22 right?

23
24 So, this is the data and then, just to put an example, one of that
25 data is a Puerto Rico Coral Reef Monitoring Program. What is that
26 dataset telling you historically? There is already a paper on that,
27 so you can hyperlink. That paper says that we're losing coral
28 cover. Boom, one sentence. The landings data or the NCRMP data.
29 That data says that number biomass of herbivores is increasing.
30 That's why I ask. That will be C1.

31
32 Then when you go on C2 is what we have done, right? Or what Stacey
33 and I will be doing, which is okay for the NCRMP data or for the
34 Puerto Rico Coral Reef Monitoring Program, those changes are
35 related to this, this, this, and that. Those changes are related
36 to this and that. You know?

37
38 **ORIAN TZADIK:** And where are you getting those changes are related
39 to this, that, and the other?

40
41 **JUAN J. CRUZ MOTTA:** From the analysis that will be done with the
42 Lenfest project.

43
44 **ORIAN TZADIK:** Right. Okay.

45
46 **JUAN J. CRUZ MOTTA:** So, it's a description of what has happened
47 with the system and what the date is telling you is driving those
48 changes.

1
2 **ORIAN TZADIK:** So, I think this is the disconnect. I think what
3 you just said makes B and C different things. What Sennai has been
4 saying, makes them run into each other and using the same kind of
5 overall vision and overall concept of what the ecosystem looks
6 like.

7
8 **JUAN J. CRUZ MOTTA:** Okay.

9
10 **ORIAN TZADIK:** I'm sensitive to the time. I know we have to stop,
11 but I think we need to figure that out. I don't know, now or after,
12 but whatever.

13
14 **JUAN J. CRUZ MOTTA:** We can retake that, because again, that was
15 only me, but happy to change this as whatever we see fit.

16
17 **ORIAN TZADIK:** Yeah, that's what I'm saying.

18
19 **JUAN J. CRUZ MOTTA:** Because for me, when I thought about this,
20 they were different because then you can do a gap analysis out of
21 that. For example, and the example that will pop up is recreational
22 fisheries. Everybody's saying this is important. We don't have the
23 data to evaluate the trends in this system.

24
25 **ORIAN TZADIK:** Is your paper going to identify those things?

26
27 **JUAN J. CRUZ MOTTA:** Not the three that I mentioned, but the follow
28 up paper will be.

29
30 **ORIAN TZADIK:** Sennai's paper? [laughter]

31
32 **SENNAI HABTES:** I'm no longer an academic. I do not have time to
33 a write paper. I can maybe get to one a year, at most.

34
35 **JUAN J. CRUZ MOTTA:** By the way, everybody in the TAP will be
36 invited to [inaudible] because perhaps somebody say, "No, I'm not
37 interested" and that's it.

38
39 **ORIAN TZADIK:** Sorry, just to clarify, joking aside. So, I've heard
40 you talking about that for a long time. The difference between the
41 conceptual model and the data models.

42
43 What are the gaps? Identifying those gaps? What I think is very
44 important to clarify and decide, is that analysis of what those
45 data gaps are going into the FEP? Or do we not want to present
46 that? Do we not want to say to the Council, here are the
47 discrepancies and this, that, and the other, and just present this
48 kind of unified vision?

1
2 **JUAN J. CRUZ MOTTA:** Yeah. No, I think it would be worth saying,
3 "Look, people are saying this is important. We don't have the data.
4 We created some strategic objectives that try to solve that
5 problem."

6
7 **SENNAI HABTES:** So, I think that's different than here. I think
8 here we are summarizing what comes out from the conceptual models,
9 identifying the indicators that can be used in a decision support
10 system. And then, later, where we are talking about like the
11 process, the risk assessment, those are where you identify gaps
12 and specify the strategic objectives to fill those gaps.

13
14 **JUAN J. CRUZ MOTTA:** Perfect. You know? Yeah. And actually, I was
15 trying to argument what I envisioned being different, because then
16 it sets the table to talk about that in a later chapter. Right?
17 That's all. If you want, we can do the break now and then--

18
19 **SENNAI HABTES:** Yeah. Why don't we do that. We've run over a little
20 bit. All of you online, we are going to go ahead and take our break
21 because lunch is being served. And so, let's do an hour break for
22 lunch and we will reconvene at 1:15 pm. This is Sennai Habtes for
23 the record.

24
25 So, thank you all for your attention and time and we will see you
26 back in an hour. Thanks all.

27
28 (Whereupon, the meeting recessed for lunch on May 4, 2023.)

29
30 - - -

31
32 MAY 4, 2023

33
34 THURSDAY AFTERNOON SESSION

35
36 - - -

37
38 **SENNAI HABTES:** Okay. Good afternoon, everyone. We are going to
39 try and go ahead and get started. So, those of you online, please,
40 go ahead and return to your desks and put on your thinking caps.
41 Those in the room, thank you. I apologize, we're a little behind
42 schedule, but I think we have more than enough time over the course
43 of this afternoon to get done what we need to get done.

44
45 My plan is we're going to continue to work on the outline, try and
46 clarify the framework that we've set up in the outline. Then we
47 can work on the strategic objectives. I figure we can do that from
48 1:30 until 3:30. Or we can do it till-- Let's do it from 1:30 until

1 3:00. We can take a break at 3:00 and come back and finish the
2 strategic objectives until 4:00. And at 4:00, I think we should
3 talk about the framework that we're going to use to develop our
4 working groups so that we can come in tomorrow, go straight into
5 the working groups, put in the strategic objectives, determine
6 leadership and move forward.

7
8 Does that sound good to everyone? Excellent. So, with that, I'll
9 turn it back over to J.J. if you want to share your screen and we
10 can continue working on the outline of the FEP. I believe where we
11 left off is we were talking about 3C, one and two, and how we
12 wanted to use the wording for that.

13
14 The issue, I think, was that we were talking about whether we were
15 going to use it as simply outcomes for the conceptual models and
16 then discussing the framework under which we would talk about
17 indicators. What I recommended is we talk about that framework
18 later on. Here we simply focus on identifying the components and
19 relationships, giving a quick statement of the indicators that are
20 relevant, and then giving a list or a table with the drivers,
21 meaning, those direct indicators that can talk about those drivers
22 with links to where they can be found.

23
24 **ORIAN TZADIK:** Can I offer, I don't know if it's a suggestion, or
25 just a thought that we could all think about, and then decide if
26 we want to suggest. The relationships are, in effect, drivers,
27 right? Of the conceptual models? One is a driver of the other, I
28 guess, right? Okay.

29
30 So, I wonder if when we list those out, we have, like, these are
31 the main components and the main relationships. These are the main
32 drivers. These are the main receivers. For information on these
33 trends, as we've seen in the data, hyperlink, hyperlink, hyperlink,
34 and like, specify, right? So, these relationships are going to be
35 spelled out. It's going to say, "Coral cover, with fish." You know,
36 it correlates to fish coverage or something like that. And then we
37 say, parentheses, you know, Reni's reports hyperlinked. So, on and
38 so forth for that bit.

39
40 And then C, instead of all this stuff we have for C, we just write
41 data gaps. And we say, "So this is, these are the conceptual
42 models. These are the things that we've identified from the
43 conceptual models." And then C is "These are the things that we're
44 not seeing in the data we reviewed, but are being mentioned in the
45 conception models."

46
47 **JUAN J. CRUZ MOTTA:** J.J. here. So, basically, what you're saying
48 is to convert C into what are the things that the people are saying

1 are important, but we don't have data to show.

2
3 **ORIAN TZADIK:** Correct. And. The data that we do have, so what's
4 currently written there under 3C one and two would be incorporated
5 into B. Without showing the patterns and describing like MDS plots
6 and showing differences in fish communities and all that. But when
7 we say things like, we're losing coral cover, then we have a link
8 to it. And when we say thing "These are all components that were
9 identified in the conceptual models," and then we say as a third
10 thing, "However, this can't tell us everything. The data we have
11 currently doesn't tell us everything, and here's, you know, what
12 it's not telling us."

13
14 Again, that was just a thought exercise. I'm not saying that that's
15 how we got to do this, but that could be a way to, kind of, you
16 know, smooth over whatever, whatever we've been talking about.

17
18 **SENNAI HABTES:** Tarsila, did you have a comment? Tarsila?

19
20 **TARSILA SEARA:** So, now I'm reading through that, and it says,
21 "Only on those are available," which makes sense. But "The relevant
22 to fisheries DSS used by the CFMC," is that really-- do we want to
23 limit our description of the components and relationships to that?
24 And who decides what is relevant?

25
26 **SENNAI HABTES:** I think we do. And I think we, at present, are the
27 ones that are going to decide which indicators we are putting in
28 for use by the DSS for the CFMC.

29
30 **TARSILA SEARA:** Because part of what we've been talking about in
31 terms of all of those things are outside the Council jurisdiction,
32 and a lot of them are going to be considered very important from
33 the conceptual model findings.

34
35 So, does that mean we would not describe those there. And then
36 we've been talking about how this could provide the basis for our
37 recommendations that the council would try to influence decisions
38 outside, so if we're limiting that to-- And again, like, relevant,
39 we have to define relevant, obviously. But you know, that's just
40 a-- I just wanted to discuss what we mean by that.

41
42 **SENNAI HABTES:** Yeah, I mean, I think that's a good question. And
43 so, relevancy is used in the decision support system, does not
44 mean things that are only relevant to actual management
45 prescriptions that the Council can do. We often use things like
46 sea surface temperature, chlorophyll, variability in terms of non-
47 point source pollution outputs, water quality measurements in the
48 decision support system, because they do affect aspects of the

1 fisheries. We don't have direct control over management or
2 legislation that influences those, but we can use them to make
3 informed decisions on stock assessment. By that standpoint, I think
4 those still are relevant to the DSS that we're using for fisheries
5 management in the U.S. Caribbean. Ori?

6
7 **ORIAN TZADIK:** So, when you were next door earlier, we had a
8 similar conversation and I was like, "Yeah, just not this" and
9 then, "Oh, wait, I guess that is relevant" and "Not this" and then
10 "That is relevant." So, what would be something that isn't
11 relevant? That you would find in a conceptual model or driver or
12 something.

13
14 **SENNAI HABTES:** I need to see a list.

15
16 **ORIAN TZADIK:** That's what I'm saying. That everything I was
17 thinking of that I saw, it ends up being, like, let's say, coastal
18 development, which you wouldn't, but then it's, "Oh, but wait,
19 that is supposedly influencing the nursery habitats."

20
21 **SENNAI HABTES:** So, do you have, for coastal development, is there
22 a relevant indicator that has data for it currently? Well, both of
23 those are, I think those are the two things that we have to ask
24 ourselves that make it relevant for the list in C.

25
26 **TARSILA SEARA:** But, if, whether or not indicators exist, is a
27 question, but not describing something that don't have indicators
28 for, then we cannot then pinpoint the data gaps. So, those would
29 be two different things. We would still want to describe those
30 things that we don't have data for because we want to make a point
31 with the data gaps, right?

32
33 **SENNAI HABTES:** Right. But that was my point is not here, right?
34 You put that in the process further down, right?

35
36 **TARSILA SEARA:** The data gaps?

37
38 **ORIAN TZADIK:** In Section 5?

39
40 **SENNAI HABTES:** Yeah, gaps, as well as a process for how to identify
41 and indicate relevancy for more data or indicators to be included.
42 That has to be part of the process that we are developing. But it
43 doesn't go when we are summarizing the available and relevant
44 indicators here in Part 3. In my opinion, that should go into the
45 process below.

46
47 **TARSILA SEARA:** So, now I think I need to take then a step back.
48 I didn't think that under 3, we were-- or whatever, I can't-- B3,

1 that we were just listing indicators. Yeah. That's not what we're
2 doing there.

3

4 **SENNAI HABTES:** So, prior-- we changed this. we did have-- C had,
5 like, indicators, which was, but we--

6

7 **TARSILA SEARA:** Because indicators are down fiv-- four now.

8

9 **SENNAI HABTES:** He moved it. But yeah, now, I mean, now we can do
10 it. We could do it this way. I think that's fine.

11

12 Like, I think we had indicators, but we did say-- So, like, where
13 it's four, where it has identified drivers of those changes, we
14 had like two bullets. One was drivers. One was indicators.

15

16 **ORIAN TZADIK:** We were using the word drivers. But I would just
17 challenge us all for a second, not look at the screen and say,
18 "What do we want to talk about in this section?" And so, what I've
19 got that we're talking about is a general description of the
20 fishery system as we have it in other documents. Like, you were
21 talking about, J.J., very high level. This region is this and it's
22 not that. Then you go on and you've got the conceptual models and
23 you're identifying the main components and the main drivers.

24

25 The question that we've been grappling with for over an hour is,
26 do we then want to describe those same sorts of drivers and
27 components and relationships in the data that we found, or do we
28 want to not do that and recognize data gaps that exist between the
29 conceptual models and the hard data?

30

31 **JUAN J. CRUZ MOTTA:** Okay. What about we get rid of-- I think the
32 whole issue is this one here. That might get mixed with the
33 indicator that comes out below. So, perhaps, in what is now 3B(3),
34 the only thing we say is "The data shows a decrease in coral cover,
35 increase in biodiversity," and that's it. We don't attempt to
36 identify the reasons of the change, because then that will be
37 explored into detail in indicators. What about that?

38

39 **ORIAN TZADIK:** I like that. Once again, I want to ask though, is
40 your paper going to dive into the drivers?

41

42 **JUAN J. CRUZ MOTTA:** Yes.

43

44 **ORIAN TZADIK:** Okay, so that can be linked, and people can look at
45 the drivers. That's fine.

46

47 **JUAN J. CRUZ MOTTA:** Yeah, but I would suggest link it here in
48 indicators.

1
2 **ORIAN TZADIK:** Sure. Well, that's fine. But yeah, I agree then. I
3 like that strategy. And then C is still the gaps? Right.

4
5 **STACEY WILLIAMS:** Maybe we should revisit the gaps because if we're
6 not describing the drivers of the-- we're just describing the
7 patterns and not the drivers above, then there's no context for
8 describing the gaps. So, maybe that could be for further--

9
10 **JUAN J. CRUZ MOTTA:** Yeah. I would like to go back to the 3C for
11 the following reason, because I think that would be a good idea in
12 3C, the old 3C, to say what data we have. And then, in that section,
13 just extract some interesting patterns on that data.

14
15 The gap analysis comes out of comparing then 2B with the data
16 available, regardless of whether we identify the driver or not.
17 For example, in the conceptual model, an important component is
18 recreational fisheries. We describe all our data. 3C, "Look, we
19 don't have data to test the hypothesis on recreational fish, or to
20 evaluate the effects of recreational fisheries."

21
22 So, what you reckon, Stacey? Does it make sense?

23
24 **STACEY WILLIAMS:** Yep.

25
26 **SENNAI HABTES:** My recommendation then, if that is what we are
27 trying to get at in this section, would be, after B, you have a
28 section that's C. And in C, you are saying, "Data associated with
29 drivers of patterns in temporal and spatial variation relevant to
30 fisheries DSS." Then, you can have separate sections that are
31 representative of each of those drivers and the available data in
32 D associated with those drivers.

33
34 And then you can specify the gaps in E. That then allows us to
35 frame what we're talking about in the indicators based on the
36 available data, as well as gaps that need to be filled that we can
37 talk about later in a process formula, further down.

38
39 **ORIAN TZADIK:** I like that idea. I would just recommend getting
40 rid of the word drivers altogether. I think that it's just the
41 data available for whatever you want to write. But it's the data
42 available for the purpose of description of patterns of temporal
43 and spatial variations.

44
45 **SENNAI HABTES:** In what though? Patterns of temporal and spatial
46 variation in?

47
48 **ORIAN TZADIK:** In components that are relevant to fisheries DSS

1 used by the CFMC.
2
3 **SENNAI HABTES:** Okay. And then-- So, we specify specific components
4 of fishery systems. And then, we talk about the relationship
5 between those components. And then, we talk about just the patterns
6 in the components.
7
8 **ORIAN TZADIK:** No, no. Then we talk about the data that's
9 available. The components and the relationships is all conceptual
10 models. There's no data associated with that.
11
12 **SENNAI HABTES:** Right.
13
14 **ORIAN TZADIK:** Then we say-- You know, basically we're saying, "We
15 looked at this in a couple ways. One, was by asking the
16 stakeholders, and this is what they identified as components and
17 relationships." And then we're saying, "These are the data that we
18 have that we can actually look at any of these components and
19 relationships." You know, these are the data that we've identified
20 that exist to make descriptions of spatial and temporal patterns
21 and how they vary, and how those components vary over time.
22
23 **SENNAI HABTES:** Okay, so we're going to talk about it only in terms
24 of components identified from the conceptual models or components
25 that we know are important to the U.S. Caribbean fisheries system.
26
27 **ORIAN TZADIK:** Right.
28
29 **SENNAI HABTES:** And we just summarize the data available for each
30 of those components.
31
32 **ORIAN TZADIK:** In like a single sentence, like you said.
33
34 **SENNAI HABTES:** Okay.
35
36 **ORIAN TZADIK:** And then say, "Notice how a huge component was
37 recreational fisheries and we don't have data for recreational
38 fisheries." Notice how, whatever, and we don't have those data.
39
40 **SENNAI HABTES:** Okay. I'm fine with that.
41
42 **TARSILA SEARA:** So, now you can get rid of existing data
43 [inaudible] to make sure it's clear.
44
45 **JUAN J. CRUZ MOTTA:** Looking good? So, now, we go to Section 4,
46 which is indicators and that has to do with the factors, processes,
47 I know we just deleted drivers, but the drivers of changes in the
48 fishery system. And then, those indicators can be selected from

1 three sources. So, far, one, the ecosystem status report. We just
2 list them here and then hyperlink to the ESR document. From 2B is
3 the conceptual models, and then we only concentrate on those driver
4 components, where the effects are coming from. And then, 2C is
5 basically a list that will come out of the analysis that Stacey
6 and I will be doing.

7
8 **ORIAN TZADIK:** You're going to want to change that. It's not 2B
9 and 2C anymore. It's 3 something.

10
11 **JUAN J. CRUZ MOTTA:** Ah, 3B.

12
13 **ORIAN TZADIK:** I think it's-- yeah, 3B and 3C.

14
15 **JUAN J. CRUZ MOTTA:** Yep.

16
17 And then, we could come up with the consensus list out of those
18 three, or just point out, look, this indicator is really strong
19 because it was identified in all three lists. And then, for any
20 assessment or any action that the council would like to take, can
21 choose one, two, three, whatever they want, from that table, using
22 that table as a reference. And then--

23
24 **SENNAI HABTES:** Hey, J.J., before we go on. Can you increase the
25 size of the text on the screen? Just go down to the bottom of the
26 Word document and-- Yeah, just bottom right, make it a little
27 bigger. Wait, no, that's the wrong document.

28
29 **JUAN J. CRUZ MOTTA:** Oh, yeah. Oh, man. What is my generation?
30 Dinosaur generation, or?

31
32 **STACEY WILLIAMS:** And you were using it before.

33
34 **JUAN J. CRUZ MOTTA:** Exactly. No, I get nervous.

35
36 So, anyhow. Here, we have 4E, no? Identify attributes. I don't
37 know if this would be the right place to do it, or after we define
38 the operational objectives.

39
40 **ORIAN TZADIK:** I feel like we haven't discussed Section 3 long
41 enough, so I want to bring us back there.

42
43 Should those gaps be for Section 4? Identify gaps. Because if we're
44 talking about, we're doing a big thing about the components and
45 the relationships and then all the data that's available. We're
46 talking about the gaps there, or are we talking about the gaps in
47 what we've then siphoned down into the indicators? After all of
48 that stuff we did, now we've got a list of 10 indicators here and

1 15 here, there's a clear gap and there's these five-missing kind
2 of thing.

3
4 **SENNAI HABTES:** I think it's good where it is, personally. I think
5 if we discuss the gaps up above, we're talking about large scale
6 data gaps associated with components from the conceptual models of
7 the fisheries system. That will help them understand why we have
8 limited the list of indicators to the ones that we have in Section
9 4.

10
11 **ORIAN TZADIK:** Okay. Yeah. That makes sense.

12
13 And then, we're going to have to discuss this when we actually
14 talk about how we're going to write this thing, but when we
15 identify gaps, does that mean no data exists, some data exists, we
16 don't think the data is good enough? You know, where do those gaps
17 lie?

18
19 **JUAN J. CRUZ MOTTA:** I don't know. But I wanted to make a comment
20 on the outline.

21
22 I strongly believe, as we start populating this with actual
23 writing, that it will become apparent, obvious, whether that text
24 belongs there or should be moved. I mean, once we start filling it
25 up, it will give us-- You know, some of the uncertainty that we
26 have now about "should it be here" will be finally answered when
27 we actually write whatever we're going to write.

28
29 And identify gaps. That's a very good question, Ori. It's just
30 like no data or partial data. It will depend on the criteria. Like,
31 for example, ESR has very specific criteria, how you select
32 something to be included in the document. We could use one of those
33 criteria.

34
35 Actually, Lenfest has a longer list of criteria to select. I never
36 mentioned those on my presentation on the second day. However,
37 Lenfest proposed a list of criteria that something, like, I mean,
38 in this case, an attribute, has to, or an indicator, has to have
39 in order to be an indicator. But we could choose any, any of those
40 lists, but the final list will vary depending on the criteria we
41 used to--

42
43 **SENNAI HABTES:** That is exactly the reason we have working groups.
44 Within the working group, you will determine what is the best
45 criteria to select for indicators. You will also write up the
46 methodology that you are proposing so that it can go into the
47 procedure that we are using to recommend to the CFMC for making
48 decisions on this. Because data will become more available, and

1 they will have to make iterative decisions on whether to bring
2 them in or not.

3
4 For now, what we are just trying to do is build the framework that
5 will help us write those things in. So, my recommendation in the
6 indicators is that we add little changes to the language. One, I
7 think, in A, we need to have a general description of indicators.
8 Like, it doesn't have to be long, but like, the list that J.J.
9 kind of described as to what they are and why they are important
10 for this process.

11
12 **ORIAN TZADIK:** Quickly. And how they were derived for each of the
13 following sections. Because, again, the 3B and C were mathematical
14 processes. 4B is a list of why something gets included or not.

15
16 **SENNAI HABTES:** Well, so I would recommend that as a hyperlink,
17 right? Meaning they are coming from specific areas, whether it's
18 Lenfest report or the ESR report or NCRMP or TCRIMP. All of which
19 have really clear descriptions for quantitative and qualitative
20 data indicator development.

21
22 That is not, I think, under our purview. I think we simply want to
23 list them, list where they are, and list their utility for
24 components of the U.S. Caribbean fishery system.

25
26 **JUAN J. CRUZ MOTTA:** I mean, that new section there is very
27 important because then you say, okay, indicators can acquire
28 different meanings depending on the tool we're using.

29
30 In this specific case, we're using three tools, too. And then,
31 we're using the ESR approach as defining NOAA 2000 whatever
32 hyperlink and then we might, if we there is a space, say what are
33 the criteria, like, boom, boom, boom. Then also, from conceptual
34 models, following Lenfest procedure, hyperlink, and then from a
35 quantitative analysis of existing data as well with the references.
36 I mentioned one during my presentation.

37
38 So, just to make sure that B, C, and D have different criterion to
39 select indicators. We use three. They're not the only ones, but
40 we're using those three. And that's why--

41
42 **SENNAI HABTES:** I don't want to-- I want to interrupt you just
43 because you're saying some really important stuff and we're not
44 capturing it on here. I would think it would be useful to create
45 a larger heading right at B, where we are saying criteria for
46 selection of indicators from these sources. Right. And then
47 exactly.

1 **JUAN J. CRUZ MOTTA:** So, and then, the amalgamated list will be
2 4C, right?
3
4 **SENNAI HABTES:** Correct.
5
6 **JUAN J. CRUZ MOTTA:** Okay. Ay, no. Actually. No, now we have to
7 actually say what the indicators are for all these things, right?
8
9 **SENNAI HABTES:** Yeah, you can do it one of two ways. We can do
10 them in separate sections, or you can list the indicators after
11 describing the criteria and the component they fit under B.
12
13 **JUAN J. CRUZ MOTTA:** Okay, so would you like to say in for the
14 criteria and indicate-- No. Criteria for selected indicators and
15 list of indicators, or would you like to make it a different
16 section here?
17
18 **ORIAN TZADIK:** I think it's fine how it's written. Those two things
19 will be included. And then, like you said, once the writing starts
20 then we'll figure it out. It'll be natural. We'll figure it out.
21
22 **SENNAI HABTES:** Ori, have we satisfied discussion on Section 3?
23 Can we move on? And 4, I guess, because we created a new 4. Could
24 we move on to 5?
25
26 **ORIAN TZADIK:** I'd like to make a motion to move on to number 5.
27
28 **SENNAI HABTES:** I don't think we need a motion, but let's just
29 keep it moving.
30
31 **JUAN J. CRUZ MOTTA:** Okay, now this is, this is a section that
32 actually before was number four, now it's number five. And it could
33 be moved anywhere, because it's at any single stage we need this.
34 You know, like information of stakeholders and all. Tarsila.
35
36 **TARSILA SEARA:** So, I was just going to suggest that we put it
37 toward the beginning, because then we can just have a general
38 statement of the importance of stakeholder involvement and maybe
39 the sub-bullets there can be moved to the end because I think those
40 are-- What did you have in mind J.J., actually, before I continue
41 talking? When you created this section and those two bullet points
42 that you have there, were you thinking of them in terms of
43 recommendations or were you hoping that we would have information
44 at that point for those two things that we could add to this?
45
46 **JUAN J. CRUZ MOTTA:** Again, I don't know. Sorry. No, no, no. But
47 I'll lend you my thoughts about it. My personal thoughts about
48 this section. Let's talk-- I cut, so let me paste them here so we

1 don't lose them.
2
3 Okay, let's say, fisher's performance report. It is something that
4 Sarah mentioned. They use it, it's very simple, and we don't have
5 it, right? This is a tool that we can use at any stage and from
6 processes that we currently have, like for example, the single
7 stock assessment in the Mid-Atlantic, they're using these. To
8 inform whatever they are doing with the stock assessment, right?
9 To inform new procedures that will be described in this FEP. Yeah?
10 Go, Tarsila.
11
12 **TARSILA SEARA:** I just had a thought now that you were explaining
13 that. So, since, as you said, we don't have these, but they can be
14 extremely important tools, but to me what you're describing, it's
15 almost like, these are tools under the adaptive-- Yeah. Or the
16 adaptive attributes of this FEP or the process, right? So, these
17 are things that can continue to add and continue to-- Does that,
18 does that make sense?
19
20 So, as you're saying, I'm thinking maybe we could have a section
21 that describes the importance of stakeholder involvement and maybe
22 we go back to those points later. So, we could have one general
23 section for describing, as you said, it's important in every step
24 or it will, you know. Essentially, it's important for multiple
25 steps in this document.
26
27 So, we could have a short section somewhere that just talks about
28 it and talks about our strategies, strategies that were actually
29 used and, perhaps, by the time we finish this, some of these will
30 actually be a reality. Maybe we will have implemented some of-- I
31 don't know, this is just, you know, me, sort of, wishful thinking,
32 but we could have this section include everything that has been
33 done, right, that is informing everything that we have below in
34 terms of the conceptual models and what not.
35
36 And then later, we could describe how stakeholder involvement will
37 provide input in iterations to make the process adaptive and to
38 make the process collaborative into the future. Does that make
39 sense?
40
41 **ORIAN TZADIK:** Can you go up, J.J., to section two, I believe it
42 is? I guess not.
43
44 **JUAN J. CRUZ MOTTA:** Based on what Tarsila was describing, I just
45 took the liberty to move it to the introduction.
46
47 **ORIAN TZADIK:** Right. What I'm saying, yeah, and I agree with the
48 approach. What I'm thinking is that, basically, you put under this

1 "importance of stakeholder involvement" and then you put under
2 this sub-bullet formal LEK-- What is it? What was it? Formal LEK,
3 right? And then, the evaluation reports, to me, that's-- an
4 operational performance report, that would be one of the
5 operational objectives.
6
7 So, this is where you describe. The importance, how we used it,
8 how we turned this idea of local ecological knowledge into data,
9 formalized it, and then we go through the rest of the stuff, and
10 then it's an operational objective to include further stakeholder
11 involvement in these ways.
12
13 **TARSILA SEARA:** Yeah, I think that's a good approach. The one thing
14 that I'm thinking is that the "formalizing" local ecological
15 knowledge input is not, that's not something that we have. So, it
16 would also be sort of an operational objective in a way. It would
17 be-- You know what I'm saying? And I think that the performance
18 report is part of that process.
19
20 **ORIAN TZADIK:** So, what would you call, what we did, or what you
21 did, what would you call that?
22
23 **TARSILA SEARA:** So, what we did-- So, I mean, what we did so far
24 is the conceptual models, right? Which it is local ecological
25 knowledge, but it's not, I mean, it's not a formal process yet.
26 It's not something that we have adopted formally to do every so
27 often. Does that make sense?
28
29 **ORIAN TZADIK:** Right. So, maybe "The importance of stakeholder
30 involvement" something about, like, "and how it's used in this
31 document" or whatever.
32
33 **TARSILA SEARA:** That's what I'm saying, much more general, yeah.
34
35 **ORIAN TZADIK:** And then, the operational objectives become, "Do it
36 more often." Okay.
37
38 **JUAN J. CRUZ MOTTA:** Yeah, actually, when I was thinking about
39 this, for me strategic objective is to increase stakeholder
40 involvement. The operational objective associated to that is
41 through LEK, which makes it frequent, periodic, and--
42
43 **ORIAN TZADIK:** Yeah, I agree with that.
44
45 **JUAN J. CRUZ MOTTA:** So, look, I move for the time being, those
46 two examples that I-- but now Tarsila says that the consequence of
47 LEK is the fishery status report, so it's only one thing. To a
48 section down below that I called, "immediate actions," you know,

1 things that in the short term the council could help implement.
2 Well, we will get to it, but it's like out of whatever operational
3 objectives we lined up, we say, these four are actions that need
4 to be taken if you really want to take this road *seriously*, no,
5 no, I mean, this road further down. [laughter]
6
7 I keep forgetting we're being recorded. Anyhow, J.J. for the
8 record.
9
10 **SENNAI HABTES:** Yeah. I mean, I think that sounds great. I would
11 leave it in there now. We'll get to that, and we can kind of do
12 some word smithing on it to make it more palatable. But let's--
13 Yeah, let's go back and keep moving down the list.
14
15 **JUAN J. CRUZ MOTTA:** So, we are fine with four. Let me delete this
16 here. So, the next step is the threats and stressor, and here is
17 where the risk assessment will play out. In that sense, I don't
18 know, I would like to leave the mic to anybody that was in this
19 morning while I was in a very interesting discussion on stock
20 assessment.
21
22 **SENNAI HABTES:** J.J., it's recorded.
23
24 **JUAN J. CRUZ MOTTA:** Yeah, I know. I'm saying it's very
25 interesting. Yeah, and I declare my-- I'm sorry. Beep. [laughter]
26
27 Who wants to talk about risk assessment?
28
29 **SENNAI HABTES:** So, can Ori, Tauna, can either of you maybe
30 summarize your discussion for the risk assessment working group
31 and where you guys landed?
32
33 **ORIAN TZADIK:** Yeah, so for the risk assessment, we kind of
34 discussed different ideas and different ways to develop a risk
35 assessment and what you could do for a risk assessment. And what
36 we landed on was a risk assessment that will use the strategic
37 objectives as the risk elements. And we still have not decided
38 exactly how we're going to evaluate each one of those risk
39 elements, but it will be against either a single species, a species
40 group, a stock complex or something like that. And then we'll have
41 direct data sources that can inform each one of the risk elements
42 so that they can be updated through time.
43
44 So, that's the product that we decided we'll be going into the,
45 into the FEP. And basically, theoretically, it could get updated
46 by itself. It doesn't need another iteration to be updated. It
47 just needs updating of the data. So, that was kind of where we
48 left it. Tauna, did I explain that all right?

1
2 **TAUNA RANKIN:** Yeah, mostly. Small clarification. That risk element
3 refers to the driver activity that causes risk to the strategic
4 objective. So, we're going to draw from the drivers in the
5 conceptual models to gather risk elements and assess them against
6 achieving those strategic objectives. Yeah.

7
8 **SENNAI HABTES:** Okay. So, why don't we see if we-- I like that
9 approach. I think it sounds like a very valid way and I'm sure it
10 will get refined over time in the working groups. What I'm going
11 to recommend then for the threat set stressors section is that we
12 use that as a place to define the risk assessment approach for the
13 FEP.

14
15 And then, I think there, that can be a general, so the A will be
16 a general definition. I think the wording you have there is
17 perfect, J.J. B, can be, in my opin-- So where do we define the
18 strategic objectives? We were doing that up in Section 2, correct?
19 So, our strategic objectives have already been identified.

20
21 And so, I think, next, what we have to do is for B, it would be,
22 "Summarize elements of risks associated with drivers from
23 conceptual models." Or do we-- if we don't want to use drivers,
24 you can keep using the term "components," whatever-- I mean, driver
25 seems to work here.

26
27 **ORIAN TZADIK:** That's not what we're going to do. "Elements of
28 risk associated with" we haven't defined what it will be, but it'll
29 be elements of risk associated with, like, individual species or
30 groups of species.

31
32 **SENNAI HABTES:** That's not-- Tauna said that the elements of risk
33 were drivers from the conceptual model that, and then the risk is
34 associated with implementing them against strategic objectives
35 that we defined above.

36
37 **ORIAN TZADIK:** Now I'm confused.

38
39 **SENNAI HABTES:** Tauna?

40
41 **TAUNA RANKIN:** You're both kind of right. I like how you put it,
42 Sennai, but what I did leave out is that you are doing this analysis
43 for a particular unit, so to speak. If that's a species, a fishery,
44 an ecosystem, a habitat. So, I kind of liked how you put "Summarize
45 elements of risk associated with the drivers." I mean, maybe
46 there's a more concise way, but the drivers are those activities
47 or processes that are interjecting risk into the system, right?
48 They're the things that could create risk to achieving your

1 objective.
2
3 And a simple example is, okay, say the objective is, maintaining
4 optimum yield. And so, in this case, it's an optimum yield for
5 what? It's for a stock. So, you would define the stock. And then,
6 the risk element are your drivers, you know, your climate
7 processes, your pollution, your management activities. So, I hope
8 that helps.
9
10 **SENNAI HABTES:** Yeah, that does. I think. I mean, for me, based on
11 that description, what I think we need here is simply a table.
12 Right? A single table that identifies the unit, the risk element,
13 and the strategic objective, and then a section where we provide
14 an example of how a risk assessment for that unit is undertaken.
15
16 So, I think we have a general risk assessment approach definition.
17 And then in "Summarizing the elements of risk," that can be a table
18 that has each of these. The risk, the unit that's associate-- the
19 risk element, the unit that's associated with the strategic
20 objective that is evaluated on the risk for the system.
21
22 And then below that, an example based on the framework that we've
23 developed on how to use this information in a risk assessment
24 approach.
25
26 **TAUNA RANKIN:** Just to add, under your proposed C.
27
28 **JUAN J. CRUZ MOTTA:** Tauna, Tauna, sorry. I just want to go back
29 to what Sennai said to take notes. Hold your--
30
31 **SENNAI HABTES:** So, I think for the outline, you can leave A and
32 B, right? So, A is define it, general definition. B is summarizing
33 the elements of risk associated with the drivers.
34
35 Yeah, so under B, for the sub-element, I would say for one, put
36 "Table, which contains the unit of the fishery system, risk element
37 being evaluated, and strategic objective by which risk element is
38 assessed, as individual columns, for all risks being used in the
39 FEP."
40
41 You put strategic objective? I can't see. Strategic objective by
42 which the risk is being assessed. And then, you put it as
43 individual colu-- I don't think that's necessary. People can figure
44 that out, probably.
45
46 **ORIAN TZADIK:** Sennai, the other thing that came up in this
47 morning's session is that the funding that Tauna received is likely
48 going to be implemented in June and will run through next June.

1 The possibility of extension if needed, but ideally not. We like
2 the time frame. And, you know, this is going to have to be fleshed
3 out, but we have a long time to do that. But I think that what
4 we've got here does capture what we were discussing this morning.
5 So, this is a good start.

6
7 **JUAN J. CRUZ MOTTA:** Do you think it's necessary to specify the
8 units here or just delete it?

9
10 **SENNAI HABTES:** I mean, I think people know, right? When we get
11 into the working group, it's going to be an exhaustive list of the
12 risks that are going to be associated with possible assessment. I
13 think, leave it as is, and then in C, you could just do "Example
14 of using the table to fit risk assessment process for FEP."

15
16 Tauna, Ori, what do you think? Or anybody else.

17
18 **ORIAN TZADIK:** I think this looks good for now. I mean, like I
19 said, I think that this is one of the things that we don't have
20 all this stuff, like, even the operational objectives coming next.
21 We know how we're getting them. We know exactly, you know, the
22 path that's going to be taken in order to get there, but the risk
23 assessment is going to be a bit of a working progress. So, we'll
24 see. But I think what we have there now it captures what we were
25 discussing this morning, where we want to go with this.

26
27 **TAUNA RANKIN:** I don't have my head fully wrapped around bullet C,
28 the example. One other thing which we can leave out for now is
29 just that we are going to want to include the criteria that we use
30 for the different risk levels. And it'll probably link back to
31 some of the indicators previous in the document, but I see that as
32 another table in this section.

33
34 **SENNAI HABTES:** I would say put it in.

35
36 **JUAN J. CRUZ MOTTA:** Yeah. So, that would be like B2 here, Tauna.
37 How would you phrase that?

38
39 **TAUNA RANKIN:** Probably. Yeah.

40
41 **JUAN J. CRUZ MOTTA:** How would you phrase that? How would you write
42 that?

43
44 **TAUNA RANKIN:** I would say "Criteria for different risk levels.
45 Or-- I'll come back to you. Let's leave that for now.

46
47 **TARSILA SEARA:** Are you the chair, Ori? Just making sure.

1 I just wanted to clarify because this morning, I'm trying to
2 remember this correctly, but this morning we were discussing a
3 couple of options and I think where we left off was the possibility
4 of doing some, possibly, a combination of what we were discussing
5 as option two and three, right? Is that still what we're thinking
6 or is that something that's going to be discussed within the
7 working group so we're not even going to get into that in detail
8 here.

9
10 **ORIAN TZADIK:** I think where we landed was that my rudimentary
11 classification of one, two, and three was more of a spectrum
12 continuum and that we're going to be, we kind of settled on two
13 but understanding that it will have elements of three. And so, I
14 don't think we decided that we weren't going to do two different
15 things. We weren't going to create one that was static and then
16 one for use. But instead, we were going to do one that had all
17 these elements that we were talking about, has the data sets that
18 can inform those elements, and then could continue to kind of
19 evolve as the data evolved.

20
21 And then, yeah, Sennai added in there, the ability to then, okay,
22 well, how could a Council use this? And, you know, throw an example
23 out there.

24
25 **TARSILA SEARA:** Yeah, because I think that's what I liked about
26 what we were discussing, is just making something that's a very
27 clear tool that can be used so that this doesn't end up, just like,
28 oh, very nice, it's in this document, and it's just-- You know?
29 So, if that's something that is still on the table, I think that's
30 great.

31
32 **ORIAN TZADIK:** Yeah, I agree. And I think that is exactly what the
33 impetus is behind B3, whatever section we're in.

34
35 **TAUNA RANKIN:** Maybe it's what was intended under B3, but it could
36 be framed as, "Application of risk assessment results" or "Decision
37 framework for risk assessment results." Something to, you know,
38 show the steps of how it's expected to be used and by the
39 [inaudible] could be used.

40
41 **SENNAI HABTES:** Tarsila, you had a comment?

42
43 **TARSILA SEARA:** Yeah, I was just going to say, let's make sure
44 that we have something there that will definitely make sense to us
45 in the future, because, right now, it just says "drivers of--" I'm
46 just confused as to-- and then, we have "table." So, yeah.

47
48 **SENNAI HABTES:** I believe it was the U.S. Caribbean fisheries

1 system or something like that, because-- or you could either put
2 it as that, or components from the conceptual models and fisheries.
3 We have wording up above. In the component section. I think we
4 should use the same wording there. So, scroll up and see what we
5 have in the general description for that.

6
7 Yeah. Nope, a little higher. Here. General description, basics--
8 Oh yeah, we deleted that. Never mind.

9
10 **TARSILA SEARA:** There too?

11
12 **SENNAI HABTES:** Yeah. So, I think, yeah, we decided we'd keep
13 drivers. Scroll back down, J.J. I think what we want to put there
14 is "The drivers from conceptual model or relevant to U.S. Caribbean
15 fisheries system." Might as well make it plural, U.S. Caribbean
16 fisheries systems.

17
18 And then I think, we should switch the order for four and three.
19 I think four should be, you know, make application first. Because
20 you described the process, and then three can be an example of
21 that process.

22
23 **JUAN J. CRUZ MOTTA:** So, we continue with number six, which is
24 about operational objectives. Basically, the only thing that we
25 need to do here is just to populate it once we define the strategic
26 objectives. If you ask me, this could be just a table, right? I
27 mean, the same table that we're using in-- I mean, whatever list
28 we had on the strategic, we bring it down here, we create a table
29 and then for each strategic objective, we have one, two, three
30 operational objectives.

31
32 We can do that together this afternoon if you feel like we are at
33 that stage. When we do the strategic objectives. It will be nice
34 if we can, I don't know if today, but complement those operational
35 objectives with tasks. Who will be the responsible for task.

36
37 One thing that, during my presentation, I was mentioning that some
38 of the strategic objectives that we might identify here might not
39 be, when we develop the operational objective, those might not be
40 under the CFMC realm, so under CFMC control. However, it would be
41 nice, in that table in number six, to identify which ones are,
42 which ones are not, and those that are not, perhaps, identify the
43 agency that the information should be forwarded to.

44
45 **SENNAI HABTES:** So, we've discussed that particular issue a couple
46 times at the Council level. They are hesitant for us to specify
47 authority associated with problems to other agencies, whether
48 local or federal. I think it would be useful, we can leave it in

1 here, in the outline stage.
2
3 What's a better way, maybe, of doing that is identifying the code
4 of federal regulations or territorial or commonwealth regulations
5 associated with those particular objectives that identifies
6 authority and then let people make their own decision from that.
7 That seems more like a tactful or a more politically feasible
8 approach to this.
9
10 But I think your suggestion of the table, that indicates the
11 strategic objective, operational objectives, multiple, I would say
12 have another column for literature or data sets associated with
13 information that's needed for that, and then the rules or
14 regulations associated with it should be the components for that
15 table.
16
17 I think you can also put a bullet point after you finish that one
18 where we identify which working groups are required to develop
19 those particular operational objectives under our work going
20 forward. I think just leave it in this outline, so we're
21 continually reminded of that.
22
23 **JUAN J. CRUZ MOTTA:** So, I'm going to change the structure.
24
25 **SENNAI HABTES:** Tarsila?
26
27 **TARSILA SEARA:** Sennai, maybe this is something we can address
28 some other time, this might not be the right time, but since it
29 occurred to me, I just figured I'd ask it and we can continue this
30 conversation if it's relevant or not, but what are established
31 mechanisms to increase this interagency collaboration? And is
32 there anything that is sort of a low hanging fruit that we could,
33 at the very least, point in that direction to promote things that
34 are tangible? Does that make sense?
35
36 **SENNAI HABTES:** Ori?
37
38 **ORIAN TZADIK:** I'm just going to say that, from my understanding,
39 based on some of the conversations I've had with Miguel and others,
40 letter writing, is the kind of existing approach that I'm aware
41 of. What was the second, sorry, you said, what was the approach,
42 and then?
43
44 **TARSILA SEARA:** No, just what are the mechanisms that already
45 exist?
46
47 **ORIAN TZADIK:** Yeah, We've been, I'm sure I'm not the only one who
48 was approached by Marcos, whose idea was to have a stakeholder

1 forum on a semiregular basis, and hear concerns from stakeholders,
2 and then based on that, the CFMC would write letters.

3
4 **SENNAI HABTES:** I mean, I think that's part of it. I would say,
5 the biggest low hanging fruit for this would be through outreach
6 and education.

7
8 The majority of agencies that are working on these other aspects,
9 meaning, non-point source pollution associated with the coastal
10 areas, protection and management of coral reefs for Puerto Rico,
11 not so much the Virgin Islands, freshwater discharges and nutrient
12 discharges. They have public facing ways of getting data from the
13 public. It's usually public hearings and meetings. Those do not
14 generally get integrated into our decision support system or our
15 interactions with our stakeholders.

16
17 In addition, our stakeholders generally are not that engaged with
18 those other agencies because they do not regulate them. Identifying
19 ways that provide them with the information to connect more so
20 with those agencies would probably be the best approach.

21
22 Trying to get us engaged with those agencies and managing aspects
23 of their public information dissemination is not going to work,
24 because other agencies are very, very hesitant to do that if you're
25 coming at it from a standpoint of, hey, you need to be doing this.

26
27 **TARSILA SEARA:** Just to follow up on this. This is really helpful
28 because I think, you know, with that in mind or knowing that we
29 could write this in a way that's going to make it most useful for
30 the section that you were specifically talking about. Not that we
31 don't need to explicitly say this is what we're recommending, but
32 we can write it in a way that's just going to make it, you know,
33 easier for everything that you were describing. So, that's just my
34 thought.

35
36 **SENNAI HABTES:** Yeah, I mean, I think that is probably a good way
37 to go. I would say additionally, we do work with other agencies
38 that work on these topics.

39
40 We have a voice in the room at times, so summarizing these
41 approaches that need to be put out there on an annual basis through
42 an organization like the CFMC into things like priorities for
43 managers to take into those rooms would be very beneficial.
44 Unfortunately, the way we do this right now is through unofficial
45 talks and unclarified goals or objectives that need to be met and
46 I can't take that into a room for another agency. I'm sure for
47 federal, they can't either. Alida, did you have a comment?

1 **ALIDA ORTIZ SOTOMAYOR:** Yes, I do. I totally agree with you. I
2 have a few things to say now about this issue, the fact that the
3 federal government, the Council Fishery Management deals only with
4 the exclusive economic zone, and then the local government deals
5 with the local areas up to the nine miles off. That's one of the
6 big problems for managing.
7
8 Actually, next week will be the first time that the council has
9 been invited to a presentation on a public hearing to the
10 legislature. So, these are some of the things that, you know, we
11 have to deal with. And that's my comment.
12
13 **SENNAI HABTES:** Thank you, Alida.
14
15 **ORIAN TZADIK:** Just to second what's been said. I think that's a
16 good approach and it won't create false expectations. Importantly.
17
18 **SENNAI HABTES:** J.J.
19
20 **JUAN J. CRUZ MOTTA:** You mentioned a fourth point here and I didn't
21 take note. I don't know if you can remind me, please, to include
22 it.
23
24 **ORIAN TZADIK:** Was it not, avenues towards outreach and education?
25
26 **JUAN J. CRUZ MOTTA:** No, it was something that Sennai said before.
27 And you ended up the comment by saying "This is to remind us that
28 we have to come back."
29
30 **SENNAI HABTES:** Oh, yeah. So, that was to identify working groups
31 whose tasks it is to develop the operational objectives tied to
32 specific strategic objectives. And in parentheses, you can put
33 "For EBFM TAP members, not for writing into FEP."
34
35 **JUAN J. CRUZ MOTTA:** So, that's with operational objectives. Number
36 7. This is a section that I don't know. I see it as an immediate,
37 something immediate that we can do. Which is, take what is, like,
38 for example, what they're doing in the mid-Atlantic. What they're
39 doing in the mid-Atlantic is using ecosystemic information
40 directly in the stock assessment process.
41
42 So, it's basically to create a section where we-- we haven't done
43 it, but where we propose how, one or perhaps two indicators, I
44 guess, coral cover, for example.
45
46 For example, coral cover, now, we're going to do an assessment on
47 ocyurus chrysurus. And we know that the ocyurus chrysurus uses a
48 lot of this habitat. Why don't, for example, use coral cover

1 through time as a covariate in the models? I'm not a model expert,
2 but I think it would be easy to parametrize percentage coral cover
3 or heterogeneity, that information we also have.

4
5 **SENNAI HABTES:** So, for those of you online, we had a situation
6 where some cookies were brought into the room and immediately
7 removed from the room, which caused some consternation on J.J.'s
8 part. But we're dealing with that, and J.J. will get back to the
9 outline. Apologies.

10
11 **JUAN J. CRUZ MOTTA:** Serious. Serious consternation. Not just
12 consternation. Ah, okay. We're fine.

13
14 **SENNAI HABTES:** Kevin?

15
16 **JUAN J. CRUZ MOTTA:** It's even better. Now we have brownies as
17 well. Sorry, let's go back to the seriousness.

18
19 **KEVIN MCCARTHY:** So, sorry for spending all morning in the other
20 group, but I feel like you made much more progress without me than
21 had I been here. Just, SSA, what does that mean?

22
23 **TARSILA SEARA:** Single Species Approach.

24
25 **KEVIN MCCARTHY:** Thank you.

26
27 **SENNAI HABTES:** So, J.J., just for clarity, because the other
28 people that will be using this are people like our technical
29 writer, I think you should put single species stock assessment
30 approach.

31
32 And so, just to continue the discussion on it. I agree. I think
33 this would be a great low hanging fruit that we can bring from
34 EBFM TAP into current assessment approaches. I think it should be
35 a recommendation, however, of either indicators or data sets that
36 can be utilized during the SEDAR process. Because that currently
37 is the only process that we are utilizing for stock assessments
38 within the U.S. Caribbean.

39
40 And I think to have them use that, what we will have to do is
41 provide a description of that data set along with any caveats.
42 Start, end of time series, where it's associated. What type of
43 coefficient of variation is associated with that data set? It needs
44 all of that information so it's in an easy, utilizable place for
45 them. And then, during the SEDAR process, they can select whether
46 that is an indicator that can go into the stock assessment.

47
48 **JUAN J. CRUZ MOTTA:** Yeah, what I envision of this document is to

1 have that list of indicators with the hyperlink to the data. So,
2 in the data, the first step of the SEDAR process, which is
3 identifying the data, we not only concentrate on the data of the
4 ocyurus chrysurus, I'm using that as an example, but also data
5 that we have identified that might be used as covariates or used
6 to increase or decrease uncertainty, you know, to estimate all
7 these other things you estimate.

8
9 So, it'll basically be a little bit more complicated data workshop
10 because you not only look at the data of the ocyurus chrysurus,
11 but this other stuff that we list here.

12
13 **SENNAI HABTES:** So, just before Kevin speaks, there's a comment
14 from Edwin Cruz Rivera, who is saying, for the benefit of the
15 technical writer, a table of acronyms and abbreviations will go a
16 long way.

17
18 So, I think, yeah. I think the only ones that I still see on there
19 are the ones that we all should remember, which are CFMC and EBFM
20 TAP, but SEDAR is one we just added, the LEK we can probably write
21 out. And so, before we disseminate this, I'll go through it and
22 make a pass and make sure all of those are clarified.

23
24 For the actual FEP, a list of abbreviations, as well as definitions
25 it's a requirement that goes into any CFMC document. We don't have
26 that clearly listed, but those will be a part of whatever document
27 we produce. Kevin?

28
29 **KEVIN MCCARTHY:** So, I like the idea of this ecosystem information
30 being used in stock assessments. We have a clear demonstration of
31 that in the Gulf of Mexico with a red tide index. But before we go
32 too far down that line of thinking, because what you're describing
33 is a lot of work, right? So, I think it would be beneficial to
34 meet with some people who know a heck of a lot more about stock
35 assessment than I do, which is a lot of people, but to help guide
36 that process. Right?

37
38 Because the group could spend a lot of time coming up with what we
39 think are useful things and it turns out that either they-- you
40 know, they would have been had you done it this other way. So,
41 that's one scenario and there are many. Right. But in some stuff
42 we may think would be beneficial, but turns out it probably won't
43 be, you know, because there's not a clear way to incorporate into
44 a stock assessment.

45
46 So, we think maybe getting a couple of examples and then working
47 with some of the people at the Science Center to make sure we're
48 on the right track before we just go charging in and then say,

1 "Hey, we got this whole list. We've put in ten thousand people
2 hours. Isn't it great?" And they say, "You know, it almost is."

3
4 So, in order to avoid that, I think it'd be helpful to loop in the
5 assessment people early in the process because I think it's a great
6 idea and I think they will love it too. We just don't want to go
7 down the wrong path. And that's an easy thing to do, to get them
8 involved.

9
10 **TARSILA SEARA:** Isn't one of our working groups an indicator
11 related group? So, maybe we could put that under that, that that
12 group could engage with the stock assessors early on.

13
14 **SENNAI HABTES:** I'm pretty sure, Kevin, you were assigned to that
15 working group as well.

16
17 **KEVIN MCCARTHY:** As well?!? [laughter]

18
19 **SENNAI HABTES:** Yeah. There are two. I think you're on two. But I
20 believe you're on-- I think you're on that one, and the conceptual
21 model one.

22
23 **ORIAN TZADIK:** Just quickly, Kevin, who are we talking about. Who
24 would be people to-- You said the stock assessment people. Like,
25 I thought you were a stock assessor.

26
27 **KEVIN MCCARTHY:** No, I'm a misplaced benthic ecologist. So, we
28 could figure it out, but certainly I'd want to have Adyan involved.
29 We're going to have a new hire eventually, hopefully by-- I mean,
30 it takes forever for us to hire people. You know, Shannon would
31 probably be interested in being involved.

32
33 We could talk to the Gulf and Atlantic branches to get some of
34 their folks because they've got people who've got a heck of a lot
35 of experience. You know, Kyle Shertzer, who was on the on the call
36 today, who's helping out Adyan would be terrific. But I'll ask the
37 other branch chiefs, "Hey, give me a person or two that maybe has
38 a little bit of time." You know, like Skyler Sagarese would be
39 fabulous. So, there are a lot of folks who could do it.

40
41 The Caribbean branch, we don't have the level of stock assessment
42 experience that some of the other branches do but, I mean, Adyan
43 is great. It's no slight on her. This is a great opportunity with
44 her working with Kyle. But we can assemble a group and it would
45 not necessarily be all from the Caribbean branch. We can bring in
46 some other folks because, one, it's nice to get different
47 perspectives and their expertise is pretty extensive.

1 **ALIDA ORTIZ SOTOMAYOR:** Whoever is talking, we can't hear him.

3 **SENNAI HABTES:** J.J., I don't think you're mic is on.

5 **JUAN J. CRUZ MOTTA:** I just added an explanation there about-- the
6 first part of Section 7 should be an explanation on what criteria
7 or what characteristics should an indicator have in order to be
8 formally used in the SEDAR process. But that section will need to
9 be, not written, but at least informed by the personnel from the
10 Science Center.

12 **SENNAI HABTES:** I think, one, just an interesting comment, I feel
13 like after five days of pushing this microphone to speak, I'm going
14 to go back to my daily life and just start doing that every time
15 I open my mouth. But secondly, I think this looks good, J.J. I
16 would say we use seven as a general framework for this, and then
17 we have two subcomponents. A, would be a description informed by
18 members from the SEFC that describe the characteristics of relevant
19 and useful indicators or data sets from EBFM that can be
20 incorporated into stock assessment. And then, the second would be
21 a table summarizing those attributes and indicators.

23 **ORIAN TZADIK:** Would the idea there be so that future data sets
24 could then be incorporated that are not available currently?

26 **SENNAI HABTES:** Correct.

28 **ORIAN TZADIK:** Okay.

30 **SENNAI HABTES:** So, this obviously is like-- and that's a process
31 that we'll have to describe as well in the framework, is like, how
32 are we adding things to this list?

34 **JUAN J. CRUZ MOTTA:** Sennai, so that list will be only those that
35 fit the criteria or do we do a list with all the indicators and
36 perhaps we add a column with those that are-- You know, we already
37 have a table in section three, perhaps just adding a column there
38 saying "Fit to be used in a stock assessment" and then yeah, yes,
39 no, no, no, no. Okay.

41 **SENNAI HABTES:** I think that would be fine. But, I mean, the
42 difference is though, the table I was talking about here describes
43 the attributes that make them relevant for stock assessment.

45 **JUAN J. CRUZ MOTTA:** Ah.

47 **SENNAI HABTES:** Which we aren't technically putting up above.

1 **JUAN J. CRUZ MOTTA:** Okay. So, it's a different table.

2
3 **SENNAI HABTES:** I think it's a different table. And that's
4 something we could discuss whether that's relevant or not. But I
5 think summarizing those attributes make it much more likely that
6 going forward, people will be able to add new indicators into that
7 list. Tarsila?

8
9 **TARSILA SEARA:** So, does this need to be part of this document or
10 could that be one of those things that like supplemental material.
11 Because I feel like it's getting long.

12
13 **SENNAI HABTES:** I think it depends how important we think this is
14 to the EBFM process. If this is something that we want to come out
15 of this TAP as going directly into things the CFMC is going to be
16 using when we're done, it needs to go into this document. If it's
17 something that we hope they take on and we're just providing
18 addendum information to make it a useful process, it can be outside
19 of the FEP.

20
21 **TARSILA SEARA:** I was referring just to the criteria part, not the
22 whole thing.

23
24 **SENNAI HABTES:** No, that's what I mean. I mean, The criteria, I
25 think, is as important as the list of indicators if we want to see
26 other things make it onto that list. Otherwise, in my opinion, if
27 we list ten, those are the only ten that will ever go into stock
28 assessments in perpetuity.

29
30 **ORIAN TZADIK:** I agree with that. I was going to say a pretty
31 similar thing, but just want to add that, if we're going to in--
32 God, I don't know what section it was now, but in one of the
33 sections we talk about EBFM and our approach and how we see it in
34 this document and everything, and one of the things that I had
35 mentioned about that was that I envision us writing something along
36 the lines of like, this is going to be a stepwise process and we're
37 not going to go from single species to EBFM, boom, just like that.

38
39 The step, to me, that seems like most likely, first thing, is this
40 bit at the end that we're talking about. So, I think it's very
41 important, and honestly, if this is a 20-page document and this
42 takes 5 pages of it, to me it's worth it, because it sets the stage
43 for immediate action of what is produced out of this EBFM, out of
44 this process, and out of this FEP.

45
46 **TARSILA SEARA:** I can see that. What makes me a little bit nervous
47 is that if that takes up the level of importance, and it sounds
48 like this is what we're going for, which is not, hopefully.

1
2 **JUAN J. CRUZ MOTTA:** I'm totally with Tarsila on this because at
3 the end what we envision as EBFM is managing the whole species.
4 However, having said this, I also understand that we have to--
5 this is not, one day we're doing this and the other day we're doing
6 that. So, I think we need to, we should facilitate the transition
7 process, that is from nothing to, at least, things that are
8 familiar to what is being currently done and won't be-- I mean,
9 for the SSC it would be easier to understand a little bit more
10 complex model, still, a single species model, however, ah, now we,
11 look, the importance of coral cover, right? Look how the model
12 changes if you put it in or not. Is it important, the coral cover?
13 This is like trying to get people on board. But I'm with you, for
14 me that's not EBFM.

15
16 **TARSILA SEARA:** Yeah, I mean, I totally agree. I just wanted to
17 express my concern that this is all they're going to hear, and
18 that's where it's going to stop.

19
20 **SENNAI HABTES:** Kevin.

21
22 **KEVIN MCCARTHY:** I agree with everything that I'm hearing. And now
23 that I spend a lot of time worrying about things like strategic
24 planning, one of the things that I've learned is, set yourself up
25 for early wins because then you become relevant. Right? It doesn't
26 mean it's the end of it. I do think we have to be careful about
27 how it's put into the document but this is an obvious direct, I'm
28 not going to say quick, but, relatively quick way to make it
29 relevant, make it clear that it's relevant.

30
31 And so, that's the way I would think of it. This is a steppingstone.
32 We want to go over there, but right now we're here and it's relevant
33 and we can use it. And, you know what, if we keep doing this, we're
34 going to build to that. So, if we couch it in those terms, maybe
35 that works.

36
37 **ORIAN TZADIK:** And also, I would just say that looking this over
38 now, it doesn't actually need to be that long. If we get a nice--
39 You know, this can be a two-sentence thing. In order to be included
40 in stock assessment one of these ecosystem considerations must be
41 A, B, C, and D. And that's it, you know?

42
43 **SENNAI HABTES:** I think that looks good. I think we all have come
44 to an agreement on that. I say let's move on and try and finish
45 this before three. We've got seven minutes.

46
47 **JUAN J. CRUZ MOTTA:** And number eight, approved. No, no. [laughter]
48 This section here has to do with selecting from six-- In six,

1 remember, we set up the operational objective and actions --select
2 four that, as a group, or perhaps coming back and consulting with
3 the stakeholders we find are the most important to be tackled,
4 like, let's say, three or four. And those things I could put an
5 example there, "Create the Caribbean data center," right? And
6 "Create an app that the managers can use to directly--" You know,
7 an app that you can say, "Give me the report on the health of the
8 reef," and the app just pulls the data down from-- and we have
9 done that for fish assemblages, to estimate the BCG, right?

10
11 So, there is an app and that's it. You switch it on, update, with
12 only one button and it give you an index of the health of the reefs
13 based on these databases. Then as the databases are updated, you
14 update, and the app will give you the new estimation of health.

15
16 But anyhow I put as immediate action formal local ecological
17 knowledge. Immediate action is, collect recreational fisheries
18 data. I don't know. These are-- and of course, what goes in there
19 is just a selection of three or four out of section six with a
20 brief argument on why.

21
22 **SENNAI HABTES:** Tarsila.

23
24 **TARSILA SEARA:** So, just, I think, a couple of things. I was
25 thinking maybe we could work on the strategic objectives before we
26 think about this. And then, I was thinking, maybe, and I will
27 apologize in advance. Can I get some clarification on operational
28 objectives, because I'm getting confused as you're talking about
29 this. Are these operational objectives? Are they separate from
30 operational objectives? Can we just clarify, because I'm getting
31 confused.

32
33 **JUAN J. CRUZ MOTTA:** No, those are actions.

34
35 **SENNAI HABTES:** Actions are things that can come out of things
36 that we're trying to do for operational objectives.

37
38 **TARSILA SEARA:** Okay. So, what we wanted to accomplish today was
39 to work on the strategic objectives, right? And that those are
40 going to inform our operational objectives, right? And the way I
41 see them, then those would then inform these actions, right? So
42 maybe we could hold off on that until we've gone through that
43 process. That's kind of where I was going with that.

44
45 **SENNAI HABTES:** I think you're absolutely correct on that. I think
46 what we should work on though is the title for 8, and some more
47 information in there.

1 So, I mean, no, you can leave, I think leave those in. Those are
2 good examples of possible projects, but I think at the top, the
3 header for 8, I would say "Prioritized actionable projects that
4 will," I need another word for complete. So, just put complete in
5 there.

6
7 **JUAN J. CRUZ MOTTA:** To implement?

8
9 **SENNAI HABTES:** "To implement operational objectives for the U.S.
10 Caribbean." We can wordsmith that a little later, but I think
11 that's more descriptive.

12
13 **ORIAN TZADIK:** I think if you just put-- A, is just, you know,
14 examples, plural. And then, those three things are sub-bullets,
15 then we can just leave it for now. We don't have to revisit this.
16 This is something that will be revisited based on the working
17 groups and, you know, potentially, our next meeting or something.
18 But, you know, that's it, that's what we are talking about.

19
20 **SENNAI HABTES:** I personally want to give it to one working group
21 to decide on. So, I would put it into the conceptual models group
22 to--

23
24 **JUAN J. CRUZ MOTTA:** I [inaudible]. One of the aims of the
25 conceptual model is that. To define strategic objectives for your
26 [inaudible].

27
28 **SENNAI HABTES:** So, I would put in parentheses "TBD--"

29
30 **JUAN J. CRUZ MOTTA:** By?

31
32 **SENNAI HABTES:** "by--" Yeah, I was going to use another term, like
33 when you give responsibility. So, like "Responsibility of
34 conceptual models working group." We can come up with a better
35 name for that working group at some point, but that's the one.

36
37 **JUAN J. CRUZ MOTTA:** The last section, which is optional, I know
38 a lot of plans, they have a section on audit, on evaluation of the
39 plan. What will be the procedure in five years' time, three years'
40 time to evaluate whether the plan is working or not? Whether you
41 keep with the plan, you throw the plan away, or you change the
42 plan.

43
44 I know those sections are in place, but I have no idea how to do
45 an evaluation tool for a plan.

46
47 **ORIAN TZADIK:** I think that we've discussed, several times, about
48 adaptive management, and we all agree it's very important, and we

1 want to see it in this plan, and we want to see it outlined in
2 this plan. However, I'll go back to what I was saying this morning,
3 is that I don't think we can depend on additional resources for
4 this project after the completion of the FEP. We could suggest it.

5
6 We could put it in that, at section nine, that we suggest a
7 reconvening of a specialized working group that would reevaluate
8 this plan every X amount of years. That's perfect. I think that
9 ticks the box. I don't think we should say that we should have the
10 SSC reevaluate this every now and again. I think it would have to
11 be-- I mean, it would have to be an EBFM TAP type group.

12
13 **TARSILA SEARA:** I think, Ori, you pretty much answered my question,
14 because I was going to say, could we suggest sort of, at the very
15 least, a time frame, and could we have suggested time frames for
16 specific tasks, like, risk assessment every so often, this other
17 thing every so-- could we even go that far?

18
19 So, we could suggest time frames for evaluating different sections
20 of this. So, the risk assessment we could suggest being conducted
21 every so often, conceptual models-- You know, whatever we think
22 makes sense there.

23
24 **ORIAN TZADIK:** Yeah, I think at the end of the day that's what
25 we're going to have to do, is just make a suggestive section at
26 the end, and I think that might be a really good way to do the
27 suggestions is that. You know, we recommend that this be, the
28 entire thing, be reevaluated every five years. The risk assessment
29 should be updated every year. The operational objective, the
30 conceptual model should be updated however often and, you know.

31
32 And maybe-- No, I think we just leave it at that. I was going to
33 say maybe we say, like, the conceptual model should be performed
34 by the OEAP or something like that. Like, trying to assign tasks
35 like that, but I don't think we should. I think we just leave it
36 as the time frame.

37
38 **JUAN J. CRUZ MOTTA:** I'm going to suggest this, but this is not my
39 idea, this is from Bill Arnold when he was setting up this group.
40 He reckoned that the EBFM TAP should be a permanent advisory group
41 to the Council whose task is to make sure that whatever was on the
42 plan is being implemented or help the Council for those things to
43 be implemented. Just to give advice to the Council so that that
44 plan follows through. Should we add that?

45
46 **TARSILA SEARA:** Certainly, that's a suggestion.

47
48 **ORIAN TZADIK:** Yeah. And considering that NOAA, Sustainable

1 Fisheries has put into place EBFM road map implementation plans
2 and made the assertion that NOAA fisheries would like to change to
3 EBFM. You know, as long of a process as that might take, that is
4 the assertion by NOAA fisheries. I don't know that that's such a
5 bad suggestion because then it's saying, we suggest you, as a
6 Council, have an EBFM working group, which would make sense.

7
8 **SENNAI HABTES:** Kevin?

9
10 **KEVIN MCCARTHY:** I think the only-- I completely support the idea.
11 We probably need to talk to GC and make sure we're not stepping on
12 the toes of the SSC or something like that. Because the SSC exists
13 by, you know, they have to exist, but other groups don't. I don't
14 think it infringes on their role and responsibility, but GC needs
15 to inform that. General counsel. General counsel. Sorry for the
16 jargon.

17
18 **JUAN J. CRUZ MOTTA:** SSC is too busy doing stock assessment.

19
20 **SENNAI HABTES:** So, I'm going to recommend that we just, if you
21 can zoom back out, J.J., and we just take a look at this. We can
22 clean it up a bit, but I think if we can maybe vote if everyone is
23 fine with this as a general framework for the outline to move
24 forward, then we can move on to strategic objectives after we take
25 a break. So, if everyone's okay with that, I would ask for a motion
26 and a second. We can open it up for discussion and then vote.

27
28 **JUAN J. CRUZ MOTTA:** I would like to motion for this outline to be
29 adopted.

30
31 **EDWIN CRUZ-RIVERA:** Second.

32
33 **SENNAI HABTES:** Okay, is there any discussion, questions, comments,
34 edits, revisions that we need to make to this before we vote on
35 it?

36
37 **ORIAN TZADIK:** I would just offer to the group, to take another
38 look and just make sure we're not forgetting something that we had
39 in previous outlines or anything. Nothing's jumping out at me right
40 now, I'm just wanting to make sure, like, you know-- Again, we cut
41 out a lot.

42
43 This outline compared to the first outline. I mean, the first
44 outline was half background information. I completely support the
45 idea to not have all that background information. However, that is
46 a lot of stuff we cut out. So, I would just suggest that we kind
47 of, you know, think that over. Not that particular example, but
48 all, if there's anything we're missing or--

1
2 **SENNAI HABTES:** I think we cover a lot of those, but in significant
3 less detail in Section 1. So, I think the main broad components
4 are there. We're just not putting in a lot of the information and
5 we can link to the documents that have a lot of that information.
6 So, I think we're fine. I see Edwin has his hand up.

7
8 **EDWIN CRUZ-RIVERA:** Yes, if I could request that this be emailed,
9 because it's a lot easier to open it in your own computer if you
10 want to do any kind of editing. Oh, it's already there? Okay.

11
12 **JUAN J. CRUZ MOTTA:** No, it's not Edwin. I'll email it.

13
14 **SENNAI HABTES:** Yeah, Edwin, we will email this out afterwards.
15 And also, it will be on the Google Drive once we're done with this
16 meeting. I will send an email after the meeting summarizing where
17 all of the documents are from the meeting, as well as other
18 additional documents when we finish populating it. So, that will
19 be an area for all of the working groups, to be up there, and
20 Liajay will email this out, I'm sure, shortly. Okay?

21
22 **EDWIN CRUZ-RIVERA:** Thank you.

23
24 **SENNAI HABTES:** No problem. Ori?

25
26 **ORIAN TZADIK:** Okay. So, I'm looking at the original outline. We
27 put together. A lot of this, like I said, is background information
28 we're choosing to cut. And again, I support a lot of that, getting
29 rid of things. Like we have environmental setting, all the
30 different regulations that currently exist, things like that we've
31 cut out. The only thing--

32
33 **SENNAI HABTES:** I don't think we did. We just We shortened it. Go
34 back up to part one in the introduction.

35
36 **ORIAN TZADIK:** Right, but no, I mean, in here we have stuff about,
37 like, the differences between the culture of each island and the
38 economics of each island.

39
40 **SENNAI HABTES:** Yeah, but we have those as bulleted sections where
41 we can then point to other directions.

42
43 **ORIAN TZADIK:** Okay. Okay.

44
45 **SENNAI HABTES:** Like, all that information's still in there. We're
46 just, if you scroll up a little bit, we make a concise-- So,
47 summarized information to understand the status of the fishery
48 system.

1
2 **ORIAN TZADIK:** All right. Yeah. Okay. So, then the thing that I'm
3 seeing that we're not including are what we had here was called
4 coordination of ecosystem approaches to fisheries management. So,
5 things like FMP amendments, CFMC policy statements, identifying
6 potential management strategies. Oh, I guess that's in there.
7 Integrated ecosystem assessment. Is that the ESR? Ecosystem status
8 report? No, those are different, right? Yeah.

9
10 **SENNAI HABTES:** J.J.

11
12 **JUAN J. CRUZ MOTTA:** Yeah. Those sections, those that you just
13 mentioned now, are not here. But since this is supposed to be a
14 supportive document to whatever the plans are, this is not supposed
15 to change the plan, my recommendation is to add one or two lines
16 in the introduction. Since this is a supportive document, all the
17 legal framework that supports this document is the same as the
18 EBFM piece that you can find here. Because we should use the same
19 legal framework. We cannot create--

20
21 **SENNAI HABTES:** I think we take care of that in the synthesis of
22 the U.S. Caribbean fishery system, but I think we have it as a
23 general description. I think what we need to do, and this can be
24 done in the working group. The drafting working group is to create
25 specific bullet points to the most important aspects from that
26 original one and highlight what documents summarize it and put
27 them into that.

28
29 And I think that will go in part three where we're doing the
30 synthesis of the U.S. Caribbean fishery system. So, we can do
31 something like a single line can simply say, "A summary of the
32 ecosystems and their statuses can be found in the ecosystem
33 integrated assessment report that was done by so and so. Here's
34 the hyperlink, and here is the reference." And that could also
35 just be in the summary of references at the end. But I think that
36 will go in 3A.

37
38 We can have a lot of that information simply summarized by a single
39 line. You know? And so, I think if we wanted to take that
40 information now, we can just quickly list those. So, if you want
41 to just hit enter and do sub-bullets for the ones that we had
42 originally, just as a reminder so we don't lose it, or copy it
43 from the previous one and put it into that one. Or just put--
44 Actually, you know what, to save us some time J.J. why don't you
45 just put right there, under one, "Copy information from original
46 or from EBFM or FEP outline under 622."

47
48 Yeah, that's the one in our-- I have changed the document framework

1 to that in the Google Drive, so Kat can find it there and I can
2 find it there. So, 6, 2022, yeah. And then, what section is that
3 in, Ori?

4
5 **ORIAN TZADIK:** Well, which one? The regulations and stuff?

6
7 **SENNAI HABTES:** Regulations, as well as the ecosystem integrator
8 report. So, just whichever ones are related.

9
10 **ORIAN TZADIK:** It's all over. There are a few different spots for
11 it, but it's section 2 and section 8. Section 2 and then section
12 8A. I would write it like that.

13
14 **SENNAI HABTES:** Perfect.

15
16 **ORIAN TZADIK:** Considering that adjustment, I am happy and ready
17 to vote.

18
19 **SENNAI HABTES:** Other comments, concerns?

20
21 Okay, with that, I'll consider the discussion on this closed, and
22 I will, since we've already motioned and seconded, I would
23 recommend that we vote to approve the framework outline for the
24 FEP as written. We will clean it up a little bit and send back out
25 to everyone for review. Obviously, we will continue to make changes
26 on this as it is a working document but for the purposes of the
27 current meeting, we will consider this as a finalized outline for
28 the FEP. With that, I will call for any objections to approving
29 the draft as written. Do I hear any objections? Hearing none,
30 seeing none, are there any abstentions?

31
32 **KEVIN MCCARTHY:** Well, I'm sure the document is brilliant since I
33 wasn't here for it, I'm just going to abstain and not muck up the
34 works.

35
36 **SENNAI HABTES:** Understandable. Thank you, Kevin. So, one
37 abstention, Kevin McCarthy. Having those in the record, the motion
38 is approved to accept the draft version as is, \ with yay votes
39 from Tarsila, J.J., Stacey, Sennai Habtes, Ori Tzadik, Edwin Cruz
40 Rivera, Alida Ortiz, and one abstention from Kevin McCarthy. Oops,
41 sorry, and one other yay from Tauna Rankin. My apologies, Tauna.
42 For the record. Is Tauna not on it? Oh, she's not? Okay.

43
44 **ORIAN TZADIK:** She's integral to the process.

45
46 **SENNAI HABTES:** Tauna, you are integral to the process on the
47 record, but are not a voting member of the EBFM TAP. Just wanted
48 to clarify that. So, let me try that again.

1
2 Yay votes from Tarsila Seara, J.J. Cruz Motta, Stacey Williams,
3 Sennai Habtes, Ori Tzadik, Edwin Cruz Rivera, and Alida Ortiz. One
4 abstention from Kevin McCarthy.
5

6 All right. So, with that done it is now 3:15, we will take our
7 afternoon break for 15 minutes and reconvene at 3:30 p.m. Thank
8 you all. At which point we will discuss and hopefully finalize
9 strategic objectives. See you guys in 15 minutes.
10

11 (Whereupon, a brief recess was taken.)
12

13 **SENNAI HABTES:** Okay, good afternoon, everybody. We are going to
14 go ahead and get started. We've had a request from the SSC to go
15 back over our research priorities, so we're going to do that really
16 quickly, and then Tarsila and I will go back over to the SSC and
17 represent those. So, I'm going to just share my screen.
18

19 I think it would be prudent for us to quickly prioritize, at least
20 identify the top four that we want to be promoting under two
21 categories. One is Ecosystems based fisheries management. The
22 human dimensions, luckily the way we summarize them, it has just
23 one kind of priority, but it kind of encompasses a lot of the
24 important aspects that we need to do.
25

26 So, quickly, I just kind of based on the time we spent on the
27 discussions, I kind of organized them a little bit in terms of an
28 order that we could use.
29

30 **ORIAN TZADIK:** What was the ask of us? That we just read them
31 again?
32

33 **SENNAI HABTES:** No. Prioritize.
34

35 **ORIAN TZADIK:** Oh, that we prioritize them. Okay.
36

37 **SENNAI HABTES:** So, prioritize and then describe them a little bit
38 more and give them more information over there while they're going
39 through their priorities. Kevin?
40

41 **KEVIN MCCARTHY:** So, how-- My understanding, in the way they
42 prioritized was it was a one, two, or three, not this is our top
43 one of the lists, this is our second one of the list. So, one, I
44 suppose was the highest. Oh, three is the highest. It's not a golf
45 score. It's a football score. Okay, so, keep that in mind as we go
46 through it.
47

48 **SENNAI HABTES:** So, we're just giving it a ranking as one, two or

1 three, whether it's a low priority, medium priority or high
2 priority. That's what they want?
3
4 **KEVIN MCCARTHY:** I think that's what they did.
5
6 **SENNAI HABTES:** Okay.
7
8 **KEVIN MCCARTHY:** so, I presume we ought to follow suit.
9
10 **SENNAI HABTES:** Okay, I'm fine with that.
11
12 **ORIAN TZADIK:** Should we verify that? Do you want me to run next
13 door?
14
15 **SENNAI HABTES:** I'll do it. You guys start talking about these and
16 giving them priorities. Ori, come drive the train over here.
17
18 **KEVIN MCCARTHY:** I'm trustworthy. Well, it is rumored [inaudible].
19
20 **SENNAI HABTES:** I didn't put it on the record, but I'm just saying.
21
22 **ORIAN TZADIK:** Alright, well let's start with number one then.
23 Develop species and habitat climate vulnerability indices for the
24 U.S. Caribbean. Is that an exclamation point? Yeah. Okay, so wait,
25 sorry. Vulnerability indices for the U.S. Caribbean! There we go.
26 Okay. So, what? Three? Three?
27
28 **TARSILA SEARA:** Sorry, yes.
29
30 **ORIAN TZADIK:** A lot going on there. Alright. J.J. said three.
31 Stacey, three. Kevin? Alright. Alida, Edwin? We get threes from
32 you on that one?
33
34 **EDWIN CRUZ-RIVERA:** Yes, I put it in the chat.
35
36 **ORIAN TZADIK:** Okay. Apologies. I can't see the chat. Okay, it's
37 coming here. Three. Perfect. All right. Kevin?
38
39 **KEVIN MCCARTHY:** I'm just thinking, a way to speed it up is if
40 somebody throws out a number unless there's dissent we accept.
41
42 **ORIAN TZADIK:** Okay, perfect.
43
44 **KEVIN MCCARTHY:** Does that work for everybody. Give seven seconds
45 for dissent.
46
47 **ALIDA ORTIZ SOTOMAYOR:** Yes.
48

1 **SENNAI HABTES:** So, that's correct.
2
3 **ORIAN TZADIK:** Yeah. All right. Well, we decided on a three for
4 the first one and we decided that the method by which we're going
5 to go about this is that somebody's going to throw out a number,
6 and unless there's dissension, we're going to go with it.
7
8 So, alright, number two. EBFM reference points for use in the
9 fisheries management decision support system in the U.S.
10 Caribbean. J.J. says three. Anybody? Discussion? Opposition?
11
12 **EDWIN CRUZ-RIVERA:** [crosstalk] for me.
13
14 **ALIDA ORTIZ SOTOMAYOR:** It's fine with me.
15
16 **ORIAN TZADIK:** Perfect. Alright. Bycatch and discards research.
17
18 **JUAN J. CRUZ MOTTA:** One.
19
20 **ORIAN TZADIK:** Hearing one.
21
22 **KEVIN MCCARTHY:** I'm going to call that a three.
23
24 **ORIAN TZADIK:** Okay. Discuss.
25
26 **KEVIN MCCARTHY:** So, it's a three because it will have instant
27 impact in stock assessment. It can inform, presumably, some of our
28 other EBFM areas. And, like I said earlier, early wins are helpful.
29 So, we're going to find a way to do this anyway. So, let's just
30 jump on the bandwagon. Again, it won't stop the Science Center
31 from moving forward. So, if you all really feel strongly about it
32 being low priority, I can live with that.
33
34 **JUAN J. CRUZ MOTTA:** Question for you, Kevin. When we were
35 discussing this point, an argument that I heard a lot here, in the
36 region, is that there is no discards, that whatever is caught is
37 used in one way or another. So, what do you reckon about that? Is
38 that perception true? Is not? What's your take on that?
39
40 **SENNAI HABTES:** Guys, I'm sorry, I'm going to cut you off. Me and
41 Tarsila have to go over there in two minutes to present these. So,
42 I think we can-- I understand it's relevant. I'll give you a quick
43 answer to that. There is definitely discards. They're just not
44 reported. And the conversation usually does not include an
45 understanding of that from a fisheries versus a fisherman's
46 perspective.
47
48 The second thing I would say for the bycatch, my recommendation

1 would be to place it at a two. I agree with Kevin, it has immediate
2 priorities. There are funding aspects availability, but we are
3 already moving down that pathway. Most territorial and federal
4 agencies are going to do it. If you want to look at it from an
5 EBFM standpoint, is it as important as some of the others? Probably
6 not, but it is an easy win. So, I would put it at a two rather
7 than a three.

8
9 **KEVIN MCCARTHY:** I can live with a two.

10
11 **ORIAN TZADIK:** Okay. Sounds like everybody's good with two. Great.
12 Restoration?

13
14 **ALIDA ORTIZ SOTOMAYOR:** I do.

15
16 **ORIAN TZADIK:** Stacey?

17
18 **STACEY WILLIAMS:** I would put it as a three, if it's me.

19
20 **ORIAN TZADIK:** Maybe I asked the wrong person. Put it on the
21 record. Put it on the mic.

22
23 **STACEY WILLIAMS:** Like looking at the list, I would put it as a
24 two.

25
26 **ORIAN TZADIK:** Any disagreement? Okay. Assessing ecological
27 sustainability and managing herbivores.

28
29 **SENNAI HABTES:** I'm going put that as a three. I think that is a
30 very important question for the ecosystems associated, especially
31 with EBFM and especially with stock assessment right now in the
32 U.S. Caribbean, and there's research that's ongoing, but no data
33 that I can use in a management decision support system right now.
34 So, I still think it's important.

35
36 **EDWIN CRUZ-RIVERA:** Yeah.

37
38 **ORIAN TZADIK:** Okay.

39
40 **ALIDA ORTIZ SOTOMAYOR:** I say two also.

41
42 **ORIAN TZADIK:** We had it written as a three, Alida.

43
44 **ALIDA ORTIZ SOTOMAYOR:** Okay. No, no, but I agree with what he was
45 saying.

46
47 **ORIAN TZADIK:** Right. Okay.

1 **ALIDA ORTIZ SOTOMAYOR:** That's three.
2
3 **ORIAN TZADIK:** Excellent. Thank you. Okay. Positive and negative
4 effects on Sargassum. Edwin, what do you think?
5
6 **EDWIN CRUZ-RIVERA:** I would put that as a three. It's beginning.
7 It's getting worse. We don't know much.
8
9 **ALIDA ORTIZ SOTOMAYOR:** Yes.
10
11 **ORIAN TZADIK:** Yeah, I think everybody's in agreement there.
12
13 **ALIDA ORTIZ SOTOMAYOR:** Yes.
14
15 **ORIAN TZADIK:** Okay. Best strategies for adaptive fisheries
16 management. I'll take that one. I'm going to say two. Anybody have
17 a different opinion on that? Great. All right. Human dimensions.
18
19 **SENNAI HABTES:** That's a three, but it's its own category, so you
20 can make it a five if you want. That's the one we're recommending.
21 It's separate from the other ones.
22
23 **JUAN J. CRUZ MOTTA:** Five.
24
25 **ORIAN TZADIK:** This one though, identifying socioeconomic factors,
26 that's what we're talking about?
27
28 **SENNAI HABTES:** One is the only priority that we listed, so you
29 can-- Yeah, three. Okay, gotta go.
30
31 **ORIAN TZADIK:** Three plus, how's that? Alright, there you go.
32
33 All right. Let's all calm ourselves down. I would say, why don't
34 we dive into those strategic objectives and try. So, J.J., can you
35 drive on this one?
36
37 **JUAN J. CRUZ MOTTA:** Well, I'll try because who was going to drive
38 this was Tarsila, because she's familiar with the results of the
39 conceptual models. But I have at least three to start with while
40 they come back.
41
42 **ORIAN TZADIK:** Okay.
43
44 **JUAN J. CRUZ MOTTA:** One has to do with the habitat.
45
46 **ORIAN TZADIK:** Alright, hang on. You're doing this off the top of
47 your head, so why don't I get it on a Word document, and we'll
48 start creating a thing. Alright.

1 **JUAN J. CRUZ MOTTA:** Beautiful. Ah.

3 **ORIAN TZADIK:** I'm actually not signed into the meeting anymore.

5 **JUAN J. CRUZ MOTTA:** Also, we should-- well, I propose that we
6 start splitting these strategic objectives by area. For example,
7 management, ecological, socioeconomic, anthropogenic impacts, and
8 etcetera. Adelante.

10 **STACEY WILLIAMS:** This is Stacey. I have the list, her combined
11 list of drivers and receivers. I don't know if you want it. And
12 you have it in the presentation to bring ring it up. Maybe that
13 will help us guide.

15 **JUAN J. CRUZ MOTTA:** Ah, and I have it in the presentation. Yeah,
16 as well. That one, right?

18 **STACEY WILLIAMS:** Yeah.

20 **JUAN J. CRUZ MOTTA:** Yeah. So, you want to put the document on the
21 screen? No, he has to share. Ah, you want me to write it down?

23 **ORIAN TZADIK:** No, no. I can write it. I'm wondering what the--

25 **JUAN J. CRUZ MOTTA:** Yeah, you type a lot faster than I do. Your
26 English is better.

28 **ORIAN TZADIK:** You already got me to agree. It's all right. Am I
29 in the meeting? Okay, perfect. Oh, it's waiting room, that's why.
30 Great, okay. So, J.J. had mentioned-- there we go. All right.

32 J.J. had mentioned some categories, so why don't we start with
33 that. What are your suggestions for categories?

35 **JUAN J. CRUZ MOTTA:** Ecological/habitat, socioeconomic,
36 environmental, anthropogenic drivers, or anthropogenic source of
37 impacts or something like that. And we're missing one, Stacey.
38 Management and policy, or governance. Management and governance.

40 You will see there are perhaps there will be some strategic
41 objective that have to do with education, outreach. However, I
42 don't know if we should make a category on that. For example when
43 we say management, policy, governance, we just say human decisions
44 or human endeavors, you know, where we put everything that is
45 related to the way we do things. I don't know.

47 But definitely there are--

1 **ORIAN TZADIK:** Well, I think management and governance and policy
2 is the way we do things, right?
3
4 **JUAN J. CRUZ MOTTA:** Yeah.
5
6 **ORIAN TZADIK:** I think that what you're saying is that some of
7 these are going to have-- I don't think that outreach and education
8 should be its own category because it sounds like those are going
9 to be objectives, right? Increase outreach and education towards
10 a specific goal. Am I correct?
11
12 **JUAN J. CRUZ MOTTA:** Perfect. That sounds--
13
14 **ORIAN TZADIK:** So, let's leave it like this. Okay raised hand.
15 Edwin, go ahead.
16
17 **EDWIN CRUZ-RIVERA:** Yeah, I'm just not seeing-- Can you define
18 this category a little better? I don't see a real difference
19 between environmental and anthropogenic sources of impact. I mean,
20 is it really-- is one really different than the other? One is
21 actually nested on the other one.
22
23 **ORIAN TZADIK:** J.J.
24
25 **JUAN J. CRUZ MOTTA:** Yeah, for example, environmental, let's say
26 temperature, right? Which is a parameter that will fluctuate,
27 whatever it fluctuates, but then the anthropogenic source of
28 impetus, for example, climate change that then will affect that
29 temperature. For example, sediments in the water, that's also a
30 normal parameter, but then on the anthropogenic source of impact
31 is the sedimentation or runoff or stuff like that.
32
33 So, the difference between those two are thought on what we
34 actually measure in the field that would be more like the receiver
35 when we were talking about conceptual models versus what is making
36 change to those-- or the source of change for those. But I'm happy
37 to fuse them if you think that's a better way to go. Actu--
38
39 **ORIAN TZADIK:** Kevin. Oh, sorry.
40
41 **JUAN J. CRUZ MOTTA:** Yeah, actually, I was going to say we could
42 also consider to do the strategic objective and then see if we can
43 classify them later.
44
45 **ORIAN TZADIK:** Kevin.
46
47 **EDWIN CRUZ-RIVERA:** I don't know if-- I'm still-- Off the top of
48 my head I don't see a real distinction between ecological and

1 environmental, for example, or between environmental and
2 anthropogenic and maybe that is, in fact, what you expect to not
3 see clear cut differences. So, I'm just going to let it go on.
4 Edwin, for the record, I keep forgetting to say that. Let's just
5 continue the conversation and maybe this is going to make perfect
6 sense to me by the end of it.
7
8 **ORIAN TZADIK:** Kevin.
9
10 **KEVIN MCCARTHY:** I'm wondering if we need maybe a different title
11 for that, because what I'm hearing is physical, like physical
12 component, as opposed to, when I look at ecological habitat, I
13 think biological, right? And so, the environmental are things like,
14 the physical oceanography, the chemistry, but not biological
15 chemistry.
16
17 **JUAN J. CRUZ MOTTA:** That, that's correct. Yeah, yeah.
18
19 **KEVIN MCCARTHY:** So, I'm wondering if it's physical.
20
21 **JUAN J. CRUZ MOTTA:** Yeah.
22
23 **KEVIN MCCARTHY:** I don't know a good. I don't know a good--
24
25 **EDWIN CRUZ-RIVERA:** Biotic versus abiotic?
26
27 **KEVIN MCCARTHY:** Yeah, abiotic, that's a good one.
28
29 **JUAN J. CRUZ MOTTA:** Abiotic, exactly. Exactly. That's what I was
30 aiming for. Yeah, that's much better, abiotic. Thank you.
31
32 **ORIAN TZADIK:** Can I suggest that we just start populating it, and
33 if we don't like the category names, we'll change them.
34
35 **JUAN J. CRUZ MOTTA:** Sounds like a plan.
36
37 **ORIAN TZADIK:** I think that-- I don't know why it's not-- oh, there
38 we go, okay. So, maybe we can just kind of start, and if they don't
39 fit exactly into these categories, we can worry about that
40 afterwards.
41
42 **JUAN J. CRUZ MOTTA:** So, the first one, one of the first common
43 concerns when we ask everybody is definitely the habitat
44 represented mainly on coral reef, even though mangroves and
45 seagrasses were also mentioned, but on the specific category of
46 nurseries.
47
48 **ORIAN TZADIK:** So, let me just get my head around this. Would a

1 strategic objective be increasing the quality of habitat? Or sorry,
2 stopping the degradation of habitat?
3
4 **JUAN J. CRUZ MOTTA:** Yeah, we could phrase it either maintain,
5 increase, or reduce the degradation. Yeah. For example, if we say
6 increase, an obvious operational objective will have to do with,
7 with restoration, for example. Anyhow, but let's worry about that
8 later.
9
10 **ORIAN TZADIK:** I think we can go back to the, you know, whether
11 it's reduce, or increase doesn't really matter. I think we're going
12 to have the same effect. It's still going to be restoration if I
13 write it like this, right? So, okay. great. So, I think, did I
14 capture that? Does that look good to you guys?
15
16 **JUAN J. CRUZ MOTTA:** Yeah, I don't know. I'm not sure, but let's
17 say-- we should say something about improving as well, because
18 let's say we stop what is happening now for some magical reason.
19
20 **ORIAN TZADIK:** It's not good enough.
21
22 **JUAN J. CRUZ MOTTA:** It's not good. We need to recover some of the
23 coral cover we had before.
24
25 **STACEY WILLIAMS:** Maybe reduce and enhance like resistance. A lot
26 of people don't like to use resilience, but resistance.
27
28 **ORIAN TZADIK:** Like that? How's that look?
29
30 **JUAN J. CRUZ MOTTA:** Good.
31
32 **ORIAN TZADIK:** Alright. Okay, from who? Tauna, go ahead.
33
34 **TAUNA RANKIN:** This might be too optimistic at this point, but
35 what we used for the original risk assessment framework was
36 maintained structure and function of essential fish habitat. So,
37 I don't know if there's pieces of that we want to keep.
38
39 **ORIAN TZADIK:** Why don't I just-- who are we seeing right now? I
40 stopped sharing somehow. Oh, I think I got disconnected. No. Why
41 are you kicking me out? Okay. So, why don't we just put them like
42 that for now? And let's just get the list going. Edwin, go ahead.
43
44 **EDWIN CRUZ-RIVERA:** It's just a very quick question. Stacey, why
45 is resilience falling out of favor? I didn't get that memo.
46
47 **STACEY WILLIAMS:** Well, people say that with resilience, it
48 includes recovery and resistance. I mean, we could say resilience,

1 but I think it should be outlined here as recovery and resistance.
2
3 **EDWIN CRUZ-RIVERA:** Okay. I got it.
4
5 **STACEY WILLIAMS:** Yeah. So, if you want to put recovery and
6 resistance.
7
8 **ORIAN TZADIK:** I remember hearing from all your presentations about
9 the recreational fishing. So, what exactly are we trying-- What's
10 the strategic objective there with the recreational? Just getting
11 a handle on it.
12
13 **TARSILA SEARA:** Yeah, just understand what's going on there. Yeah.
14
15 **ORIAN TZADIK:** Go ahead, Sennai.
16
17 **SENNAI HABTES:** So, if I may, I remember from like the first day,
18 J.J. had our original mission statement and the corollary goals
19 and he had separated that out into what could be put into strategic
20 objectives. Also, what are other ones that should not, but those
21 have a lot of the information I think that we are trying to populate
22 here. So, I would recommend looking at that sheet and transitioning
23 that into a list of strategic goals rather than trying to populate
24 it from the top of our heads.
25
26 **ORIAN TZADIK:** Yeah, fair enough.
27
28 **JUAN J. CRUZ MOTTA:** Oh, yeah, I agree with Sennai, but can we--
29 You have to go back again. Yeah, Tarsila and I have to leave for
30 like five minutes but try starting there and then hopefully I can
31 come back with more positive and helpful tips for you.
32
33 **KEVIN MCCARTHY:** And they would like more cookies.
34
35 **JUAN J. CRUZ MOTTA:** That's something constructive and proactive.
36
37 **EDWIN CRUZ-RIVERA:** For more tips, follow my YouTube channel.
38 [laughter]
39
40 **ORIAN TZADIK:** Alright, so J.J.
41
42 **JUAN J. CRUZ MOTTA:** No, but I would like to finish the fisheries
43 because that's important.
44
45 **ORIAN TZADIK:** So, what I have it here is quantify recreational
46 fishing effort and impacts.
47
48 **JUAN J. CRUZ MOTTA:** Perfect.

1
2 **ORIAN TZADIK:** That sound good?
3
4 **JUAN J. CRUZ MOTTA:** Yeah.
5
6 **ORIAN TZADIK:** Okay, can you share your screen and we can see that
7 list?
8
9 **JUAN J. CRUZ MOTTA:** Sure.
10
11 **ORIAN TZADIK:** Alright, so you got a-- Okay, so the green is what
12 we think we could turn into some strategic objectives here.
13
14 **JUAN J. CRUZ MOTTA:** Yes.
15
16 **ORIAN TZADIK:** Okay, so that bullet-- Are those sub-bullets under
17 one?
18
19 **JUAN J. CRUZ MOTTA:** No, no, no. It's just like out of place.
20 That's it. But number one is increasing human community resilience
21 within the context of changing ecosystems.
22
23 **ORIAN TZADIK:** Does that mean like sea level rise and stuff?
24
25 **JUAN J. CRUZ MOTTA:** Yeah, climate change in general. But I would
26 shorten that one to the strategic objective is to increase human
27 community and resilience. That's it. Regardless of the context.
28
29 **ORIAN TZADIK:** And then we've got promote ecosystem resilience in
30 the context of changing ecosystems. I think we already captured
31 that, right?
32
33 **JUAN J. CRUZ MOTTA:** Ecosystem. Yeah. But before we were very
34 specific about the habitat.
35
36 **ORIAN TZADIK:** Yeah.
37
38 **JUAN J. CRUZ MOTTA:** This will be-- yeah, I think it's--
39
40 **ORIAN TZADIK:** It's better the way we have it in the document
41 already.
42
43 **JUAN J. CRUZ MOTTA:** Yeah. Yeah. Yeah.
44
45 **ORIAN TZADIK:** Okay. So, then seven, identify additional ecosystem
46 essential species and needs of conservation and management. Is
47 that something that came out of the conceptual models? Did we--
48

1 **JUAN J. CRUZ MOTTA:** No, it did not.
2
3 **ORIAN TZADIK:** Yeah, I don't remember. I'm going to put that down
4 here, as something to consider getting rid of, if we're okay with
5 that.
6
7 **JUAN J. CRUZ MOTTA:** Yeah.
8
9 **MARÍA LÓPEZ-MERCER:** Hi, Ori, sorry to interrupt. This is María.
10 I think this is probably an ecosystem component species because
11 back in the day we were thinking about bait, species that work for
12 bait. For example, the flying fish and other species like that,
13 that provided a service. So, I think that's what we're trying to
14 do in here, that were identified through the conceptual models,
15 too.
16
17 **ORIAN TZADIK:** Yeah, perfect. Thank you María. So, that would be
18 then the ecological and habitat again. I'm not crazy about that
19 wording, but we'll figure that out later.
20
21 **EDWIN CRUZ-RIVERA:** I thought we were going to say biotic.
22
23 **ORIAN TZADIK:** Oh, okay. Sure. Okay. You guys are going to have to
24 trust me for now that it's on the list. I'm just going to keep
25 going here though. So, what is that? 12, incorporate ecosystem
26 considerations into stock assessments.
27
28 **JUAN J. CRUZ MOTTA:** That's definitely what we said in item number
29 seven in the FEP.
30
31 **ORIAN TZADIK:** Right.
32
33 **JUAN J. CRUZ MOTTA:** And actually, thinking about it. I know we
34 have already approved the outline. However, if we make this a
35 strategic objectives, right, which will have several operational
36 objectives, then we don't need to create section seven for this.
37 Because the actions related to those operational objectives will
38 be in those that we will select as first thing we need to do. But
39 anyhow, we can come back to that.
40
41 **ORIAN TZADIK:** Yeah, except that I personally would go back to the
42 argument that we were making when we made Section 7, which is just,
43 if we want it to happen, let's put it in there as the first step
44 of what we expect to happen, in the stepwise process to eventually
45 get to EBFM.
46
47 **JUAN J. CRUZ MOTTA:** Now, I would like to go back to, if that's
48 okay, Ori, to number 10, which I said it was an operational

1 objective, but based on what we have been doing, perhaps could
2 stay as a strategic objective, which is also in the EBFM.
3
4 **ORIAN TZADIK:** Yeah, I agree with that. Put that also as a biotic.
5 No, the anthropogenic, sorry.
6
7 What do we think about number 13, bringing ecosystem considerations
8 into the decision-making process? Is that something we need to
9 list?
10
11 **JUAN J. CRUZ MOTTA:** For example, we can put that as strategic
12 objective and then the operational objective is to incorporate
13 indicators into the stock assessment. Like 12 would be an
14 operational objective of number 13.
15
16 **ORIAN TZADIK:** Mm hmm.
17
18 **JUAN J. CRUZ MOTTA:** No, because the 12 is more specific about
19 selecting an indicator and then putting it into the stock
20 assessment.
21
22 **ORIAN TZADIK:** I'm going to put them both. And then, we can always
23 eliminate stuff.
24
25 **JUAN J. CRUZ MOTTA:** And 14 definitely in.
26
27 **ORIAN TZADIK:** Okay. So does that takes care of this list.
28
29 **MARÍA LÓPEZ-MERCER:** Um, María here.
30
31 **ORIAN TZADIK:** Go ahead, María.
32
33 **MARÍA LÓPEZ-MERCER:** What did you guys say about 14? I couldn't
34 hear.
35
36 **ORIAN TZADIK:** That we think it's a no brainer and yes, put it in.
37
38 **MARÍA LÓPEZ-MERCER:** Okay, but when we're talking promoting
39 adaptive management policies, are we talking about at that high,
40 such a high level, such as to revise MSA, national SSC and the
41 CCC? That's very ambitious. I was just thinking about-- I don't
42 know, when I said adaptive management, I was not thinking that
43 big, right? How much influence would you have or do we have with
44 something like that?
45
46 **ORIAN TZADIK:** Yeah, I agree.
47
48 **JUAN J. CRUZ MOTTA:** I also agree, María, we should delete that,

1 what is in brackets.

2
3 **ORIAN TZADIK:** Yeah, and I think that what we had in mind with
4 promoting adaptive management is section nine of our outline.

5
6 **MARÍA LÓPEZ-MERCER:** From before.

7
8 **ORIAN TZADIK:** Yeah, from before. Where we can go ahead and suggest
9 a revision of the document every five years, etcetera.

10
11 **JUAN J. CRUZ MOTTA:** You're totally right, María. I wasn't--

12
13 **MARÍA LÓPEZ-MERCER:** It wouldn't be policies either.

14
15 **ORIAN TZADIK:** Yeah, she said it shouldn't be policies then. It
16 should be adaptive management, practices?

17
18 **JUAN J. CRUZ MOTTA:** Practices.

19
20 **MARÍA LÓPEZ-MERCER:** Practices sounds better to me. Policies is
21 more like higher level, the way I see it.

22
23 **JUAN J. CRUZ MOTTA:** Excellent.

24
25 **MARÍA LÓPEZ-MERCER:** Thank you.

26
27 **JUAN J. CRUZ MOTTA:** Excellent, María.

28
29 **ORIAN TZADIK:** Kevin. Oh, Tauna.

30
31 **TAUNA RANKIN:** I was going to save this for later, but the last
32 three, 12 through 14 really read like more operational objectives
33 to me. I've been thinking about how, for instance, we would use
34 any of those in a risk assessment and it doesn't quite make sense.
35 Because what's the risk of-- I mean, it makes sense in what's the
36 risk of not incorporating ecosystems into stock assessment, but
37 not what is the risk of this other driver to not achieving
38 incorporating ecosystem considerations in the stock assessment.
39 Does that make sense?

40
41 **ORIAN TZADIK:** I think it makes sense. I can say from my perspective
42 that I think-- Remember, the strategic objectives are going to
43 inform the risk elements, right? I don't think we're going directly
44 each strategic objective. So, I think basically, from my
45 perspective, what this would boil down to is when we talk about
46 ecosystems, some fish would likely be more or less impacted by not
47 taking these considerations into account. That's how I view that.

1 **TAUNA RANKIN:** Okay, that makes them more risk element than a
2 strategic objective. Not to be too pedantic but I'll just say what
3 we would look for objectives to use for risk assessment would be
4 more outcome based. So, it's fine if we want to have a mixture,
5 but we would use the outcome ones for the risk assessment.

6
7 **ORIAN TZADIK:** So, as we defined it, what, yesterday or two days
8 ago, as strategic objectives, were those that were very wish list
9 oriented. So, these are the objectives that the stakeholders,
10 including ourselves, I guess, have said would like to see
11 incorporated into the process and we would like to see these
12 objectives met in order to manage our ecosystems better.

13
14 How we then get to risk elements? I think we still need to kind of
15 discuss and go through a little bit, but I don't see it as a one
16 to one. I don't see it as, okay, incorporate ecosystem
17 considerations into stock assessment. How does that lead to a risk
18 for a bi-color damselfish or something? What do other people think?

19
20 **JUAN J. CRUZ MOTTA:** Yeah, no. On Ori's line, this strategic
21 objective based, obviously, on the Lenfest loop are general
22 statements of what we want and actually cannot be directly used
23 into management. That's when we create the operational objective.
24 And then the risk analysis can be done on those operational
25 objectives, not on these strategic objectives. What do you reckon,
26 Tauna?

27
28 **TAUNA RANKIN:** I don't agree with that. The operational objectives
29 are going to be likely at a lower level. I mean, maybe I need to
30 see an example of one to-- But when, what we want to think about
31 with the risk assessment are what are the states that we're trying
32 to get towards. We're trying to get towards sustainable fisheries.
33 We're trying to get towards resilient communities, resilient
34 ecosystems, and what is the risk to achieving those states. That's
35 the approach that at least we've been talking about for years and
36 the approach that many of the other regions took.

37
38 It's not the only approach, but if we're going to go down that
39 route, I think we at least need to have some objectives framed
40 that way.

41
42 **JUAN J. CRUZ MOTTA:** So, in terms of the example, no, and this is
43 based, again, on the Lenfest document. Let's see.

44
45 Okay, here, for strategic objectives, based on what the
46 stakeholders were saying, we use as an example to maintain
47 integrity of coral reef habitat. So, that's the wish list. Now,
48 for operational objective. That, you're totally right. It is a

1 lower level than the strategic objective, would be something like-
2 - So, you have here the strategic objective, maintain integrity.
3 Then the operational objective is to increase total cover to
4 improve fish habitat.

5
6 The operational objective has two components. One, something that
7 you will do, improve, to change something that you can actually
8 measure. In this case total coral cover. And then, which will
9 have a consequence, improve fish habitat. And then, the risk
10 analysis is done on whether, okay, did I met the objective of
11 increasing total cover? If not, what will happen to what I wanted
12 to achieve, that was improving the fish habitat? And then-

13
14 **TAUNA RANKIN:** Yeah.

15
16 **JUAN J. CRUZ MOTTA:** I don't know if it coincides with how you
17 have been using the strategic objectives. But this is basically
18 the difference that I took from the Lenfest loop, which is what we
19 decided we will be using in our reference. We can always change
20 the definition of strategic and operational objectives.

21
22 **TAUNA RANKIN:** Your first example works fine at both levels. The
23 second one, to understand the effect of recreational fisheries on
24 the fisheries system, does not work. Because we would be
25 evaluating, for instance, let's say-- it's hard to even come up
26 with a good example. We would be evaluating something like, let's
27 say, the current regulations. The risk of current regulations, not
28 allowing us to achieve understanding recreational fisheries on the
29 fisheries.

30
31 **JUAN J. CRUZ MOTTA:** So, sorry.

32
33 **TAUNA RANKIN:** You understand? Yeah.

34
35 **JUAN J. CRUZ MOTTA:** Sorry, Tauna, to interrupt you. But in this
36 example, to understand is the strategic objective and then the
37 operational objectives over which you will do the risk analysis is
38 to create a fisheries information data center to increase the data
39 availability. So, under--

40
41 **TAUNA RANKIN:** Yeah, my point is, neither of them are outcome
42 based. So, I mean, the strategic objective should probably be
43 something, like, ensure recreational fisheries are sustainable, or
44 are productive or, that accessibility is ensured for recreational
45 fishers, something like that. And then you can have these things.
46 First you need to understand them, in order to ensure that. And
47 you have these lower level activities.

1 Yeah, I don't want to take any more time but I just have some-- I
2 see some potential challenges with framing a risk assessment around
3 some of these.

4
5 **JUAN J. CRUZ MOTTA:** Yeah, just a brief comment. Yeah. Thank you.
6 Thank you. You're not taking time. I mean, this is very important
7 that we define things that we can actually use. If that doesn't
8 work, there is no sense on leaving that. I just use that on my
9 presentation on Tuesday to represent the nestedness. And I
10 acknowledge that, yeah, based on your explanation, it's not the
11 best example that I could pull. But then, what I would say is then
12 let's write it up as you think we should do it. You've seen Ori's
13 document.

14
15 **ORIAN TZADIK:** So just, all right, a couple of things. One, based
16 on this example right here, the way I have it written in the
17 document already, based on what Tarsila said earlier, is to
18 quantify recreational fishing effort and impacts, which I think is
19 more in line with what Tauna had in mind. However, what I think we
20 should do right now is operate under our previous definition of
21 what we agreed upon, which is that strategic objectives are wish
22 list objectives that we identify from conceptual modeling and
23 stakeholder input.

24
25 And let's just get all that on a document that I suggest we then
26 review. And then we can look at it through different lenses. But
27 I think that part of it is going to be hard enough. And so instead
28 of worrying about whether then it's going to be, you know, whether
29 it's going to fit our other boxes, I think that we should just get
30 down what the stakeholders said on paper in one place as we
31 understand it, as strategic objectives.

32
33 So, with that in mind, I think maybe slide 35 is going to be
34 particularly relevant. No, that's the wrong one. The one that has
35 the-- So, again, this right here, the reason we went through this
36 in the first place, is because this is what we had originally
37 identified as our own objectives, right? So, that's why they're
38 even in the mix in the first place.

39
40 So, if we want to mess with the language and everything, I suggest
41 we do that. But let's try and get a lot of these other things in
42 there first.

43
44 **JUAN J. CRUZ MOTTA:** So, let's go back to your screen.

45
46 **ORIAN TZADIK:** Well, I want to look at this is the thing first. if
47 we can look at what's on the screen right now. Kevin, go ahead.

1 **KEVIN MCCARTHY:** So, I'm getting a little lost in all the jumping
2 around. I did have a question about the really colorful slide with
3 the green and the red and all that. We were chatting about that
4 and now we've apparently moved on from it, but what I'm confused
5 about here is, so looking at it as it stands right now, we've got
6 more strategic objectives than operational, which is weird and
7 backwards.
8
9 **ORIAN TZADIK:** Right.
10
11 **KEVIN MCCARTHY:** I don't know what the difference between
12 strategic, well, I can guess, but I want to be clear. Strategic
13 objective and strategy and what does the red mean?
14
15 **ORIAN TZADIK:** Red, I believe was--
16
17 **JUAN J. CRUZ MOTTA:** Can I.
18
19 **ORIAN TZADIK:** Go ahead, J.J.
20
21 **JUAN J. CRUZ MOTTA:** Kevin, this is something that we wrote three,
22 four years ago.
23
24 **ORIAN TZADIK:** A long time ago.
25
26 **JUAN J. CRUZ MOTTA:** And then my point was like, based on the
27 Lenfest loop, these doesn't fit exactly the framework that we're
28 using. So, I just used it as an example of precisely that. I mean,
29 we cannot have more strategy objective. We're mixing up strategy
30 with operational.
31
32 **KEVIN MCCARTHY:** So, we are not going to spend any more time on
33 this?
34
35 **JUAN J. CRUZ MOTTA:** No, no, no, no.
36
37 **KEVIN MCCARTHY:** Perfect.
38
39 **JUAN J. CRUZ MOTTA:** Sennai suggested, let's go back, at least to
40 rescue some of the things that we wrote back then and put it in
41 this new document.
42
43 **KEVIN MCCARTHY:** Okay. Okay. That makes sense. But we're not going
44 to-- we have yet to classify them.
45
46 **JUAN J. CRUZ MOTTA:** Yes. Yes.
47
48 **KEVIN MCCARTHY:** So, the colors don't mean anything at this point.

1 **JUAN J. CRUZ MOTTA:** No.
2
3 **KEVIN MCCARTHY:** Great. All clear to me.
4
5 **JUAN J. CRUZ MOTTA:** No. That was to say, look, we are mixing a
6 few things here and then we need to rephrase-- I mean, all that
7 is, yes, I agree we have to do that, but let's put it in this tool,
8 in this context that we-- And then--
9
10 **KEVIN MCCARTHY:** Okay. Then I'm clear on what we're doing.
11
12 **JUAN J. CRUZ MOTTA:** Perfect.
13
14 **KEVIN MCCARTHY:** Okay, thank you.
15
16 **JUAN J. CRUZ MOTTA:** So, then what Ori mentioned is, let's go back
17 then to the results of the conceptual modeling to see what are the
18 important things for the stakeholders. Right?
19
20 **ORIAN TZADIK:** Right. And I think maybe-- Well, no, let's look at
21 this first. Yeah. So, we've got here recreational fishing. And
22 again, I'll repeat. I put quantify recreational fishing effort and
23 impacts. Does that represent what the stakeholders were talking
24 about in those conceptual models?
25
26 **JUAN J. CRUZ MOTTA:** Yes. Yes. Yes. I mean, the concern, and I
27 will tell you the concern as it was put forward, right? We received
28 a lot of-- The commercial fishers said, "We have a lot of
29 regulation. We have a lot of things, and we need to pay for the
30 license and things like that. These people, the recreational
31 fishers, are fishing at least equal or more than us, and they're
32 not being regulated, their catch is not being quantified, they're
33 not being considered in any strategy." That's their vision.
34
35 So, basically, the concern is that the recreational fishing or
36 fisheries is not taken into consideration in this process of
37 managing the fisheries in the Caribbean. That's the concern.
38
39 **ORIAN TZADIK:** Right. So, I think we captured that when we say
40 quantify it and the efforts and the impact.
41
42 **JUAN J. CRUZ MOTTA:** Yeah. Tauna, question. The way we rephrase
43 that strategic objective, do you reckon will work?
44
45 **TAUNA RANKIN:** I'm still not convinced. And now that I'm looking
46 at this slide, I feel like we're going to end up in some kind of
47 do loop, because we have recreational fishing as a driver, we have
48 it as a receiver, and we're writing a strategic objective. And so,

1 I mean, I guess we can look at it from multiple different angles,
2 but, what I heard from what you described, J.J., was that there's
3 a concern that recreational fishing is having an impact on the
4 sustainability of the fisheries and it's not being kept in check.
5
6 And so, I mean, it could be a risk element to another management
7 objective of maintaining sustainability of fisheries, or it could
8 be, I still think that the ultimate goal is ensuring the
9 sustainability of recreational fishers. And the first step is
10 you've got to quantify what the recreational fishing effort is in
11 order to do that.
12
13 I know I'm not helping much, and so you can still keep it on the
14 list, but this like-- Yeah.
15
16 **ORIAN TZADIK:** Well, maybe Tauna, my previous suggestion that I
17 stopped myself from was, instead of looking at this list, why don't
18 we look at the list of the top relationships? Because that would
19 get much more to what the objectives could be.
20
21 **JUAN J. CRUZ MOTTA:** In this presentation, we didn't pull them
22 out, but perhaps we can--
23
24 **ORIAN TZADIK:** You have it on the Lenfest. That's the one you gave
25 a month ago. You had it in that.
26
27 **JUAN J. CRUZ MOTTA:** Okay, perhaps we can get it from here. This
28 would be a relationship. Like, marine disease will affect
29 negatively coral reefs.
30
31 **ORIAN TZADIK:** Right. So, with that, I think that we could, we
32 could kind of come to an easier strategic objective than if we
33 just had coral reefs, for example, as one of the main components,
34 right?
35
36 **JUAN J. CRUZ MOTTA:** Yeah. And then with the list below is what we
37 were trying to say. It is like, how often was that component on
38 the first part of that relationship, or the second part of the
39 relationship?
40
41 **ORIAN TZADIK:** Right.
42
43 **JUAN J. CRUZ MOTTA:** So, let's see how--
44
45 **ORIAN TZADIK:** Well, so for example, I'm seeing water quality and
46 its effect on--
47
48 **JUAN J. CRUZ MOTTA:** Coral reefs.

1
2 **ORIAN TZADIK:** Coral reefs and marine diseases and non-point
3 pollution on mangroves, which is, you know, water quality on
4 mangroves. So, I think we need to have some sort of strategic
5 objective with regards to water quality and its effect on habitat.

6
7 **JUAN J. CRUZ MOTTA:** Yes, that's another thing that everybody,
8 most people agree is important.

9
10 **ORIAN TZADIK:** Alright, perfect. So, let's put Tauna on the spot.
11 Tauna, how would we make a strategic objective that quantifies
12 what we just said?

13
14 **TAUNA RANKIN:** Well, you really are putting me on the spot. I mean,
15 I would say something like, water quality is, I want to say
16 sufficient, but that's not a great word. Water quality is-- I'm
17 just going to use it --is sufficient for--

18
19 **ORIAN TZADIK:** How about optimize water quality.

20
21 **TAUNA RANKIN:** --for healthy reef and fishery populations. Or
22 healthy habitat and fishery populations. But I keep thinking about
23 this in a different way that when you would do the risk assessment,
24 normally, your management objective would be something like we had
25 reduce degradation of habitat, right? Or ensure structure and
26 function of habitat. That would be your objective and then the
27 risk assessment would be looking at, to what extent are you
28 concerned that water quality or specific sources of pollution are
29 impacting that objective for a particular habitat, like coral
30 reefs.

31
32 **ORIAN TZADIK:** Right. All right, Stacey.

33
34 **STACEY WILLIAMS:** What if the strategic objective would be like,
35 improving water quality in the coastal marine habitats. And then,
36 the operational one would be like, reduce land source pollution or
37 reduce runoff, or reduce coastal development.

38
39 **ORIAN TZADIK:** So, what I suggest right now is, we've got 30
40 minutes, Liajay just informed me we've got a hard stop at 5:00.
41 So, let's throw that on there. I put the one that Tauna mentioned,
42 it's on the list right now too. Let's just put it all on there.
43 Let's use this more as a, not brainstorming session necessarily,
44 but something where we throw everything on the wall and then
45 afterwards, we can just see what sticks. J.J.?

46
47 **JUAN J. CRUZ MOTTA:** Yeah, Tauna, I have a question for you. Based
48 on the loop, on the Lenfest loop, the risk assessment is done on

1 the operational objectives, which-- I don't know, you used that
2 term just now, you called them management objectives, right? So,
3 I mean, would that make sense? Like, we conducted the risk analysis
4 on what we're calling the operational objective, that will be
5 equivalent to what you're calling the management objectives.

6
7 **TAUNA RANKIN:** I'm struggling a little bit because when we were
8 having the risk assessment discussion this morning, that you missed
9 J.J., Ori was describing an approach that I hadn't really thought
10 of, which is valid, which is looking at, so say our operational--
11 just humor me, and let's say our operational objective is
12 quantifying the recreational fishing effort.

13
14 It could make sense to say, well, what is the risk, if we don't do
15 that, what is the risk to meeting a management objective? I mean,
16 you're always looking at this in terms of what is the risk to not
17 meeting our management responsibilities or objectives or this
18 future state that we're aiming for? So, I think that's a reasonable
19 approach if we want to go about it that way.

20
21 But an ecosystem risk assessment is really looking at how the
22 different components of the ecosystem are, applied, you know, have
23 risk associated with them and can affect your ability to meet your
24 management objectives. You know, anything you do, any activity
25 that happens, any input into the system has some risk associated
26 with it. And we're trying to zero in on the highest impact, risk
27 items, that are going to affect our fishery management, objectives
28 or goals, and then probably overlay that with what can the Council
29 do about it.

30
31 So, yeah, this conversation is just making me think about it
32 differently and maybe that's what Lenfest is using risk assessment
33 for, as what is the risk of not achieving the operational
34 objectives to our higher-level goals. Maybe that's the way they
35 approached it. I missed that, if that's the way. That's not what
36 I think of, of an ecosystem risk assessment, though.

37
38 Actually, the Lenfest loop accounts for both. It says that you can
39 conduct the two of them, but they will happen at different stages
40 of the process. And then, in their section one, when they talk
41 about stressors and drivers and then they talk about conducting a
42 risk assessment at that level, is related to the second option
43 that you are given.

44
45 But then in their third step, they're talking about doing a risk
46 assessment on achieving the objectives. In particular, the
47 operational. So, they have room for both risk assessments. The
48 thing is that they will be plugged in different stages of the

1 process.
2
3 I left that open when we were talking about stressors in the
4 outline, and then, yeah, we decided to do the second one, the one
5 that Ori was-- But I don't see any problem on bringing back the
6 second type you were describing that is what you understand is
7 the--
8
9 Actually, during my presentation, I presented the two types of
10 risk assessment that you could do under the Lenfest. But anyhow,
11 now I don't know--
12
13 **ORIAN TZADIK:** Well, hang on, hang on. So, we've discussed, over
14 the course of the last couple days, developing strategic objectives
15 to inform operational objectives. That's one thing we're going to
16 develop these for. The second thing that we've discussed is
17 deriving risk elements from the strategic objectives. To me, that
18 does not mean that the risk element is the strategic objective, or
19 the risk element is the operational objective.
20
21 So, we don't have to necessarily think about it in those terms.
22 And when we're developing a strategic objective, such as, improve
23 water quality in the coastal marine habitats, that can then inform
24 our risk elements, and we can then decide once we actually boil
25 down the risk assessment a little further, we can then decide,
26 Okay, does that mean the risk element is simply water quality? And
27 what is the risk of-- or let's say poor water quality? What is the
28 risk of poor water quality on our component that we've decided?
29 The complex, the species, the habitat, whatever.
30
31 And I think that that at least then, you know, we're talking very
32 theoretical here, because we don't actually have any strategic
33 objectives. And so, once we have those, I think deriving the other
34 products that we want from them, it doesn't mean that they have to
35 be verbatim exactly what it comes from. It means that they are
36 being derived from that.
37
38 So, I think that that would satisfy this conversation. I think
39 we're trying to word things in the correct way in order to fit the
40 next steps. But what I'm proposing is that we don't do that, and
41 that we try to just get what the stakeholders have said out of
42 this. And then, we derive the following products after we're done
43 with that.
44
45 **JUAN J. CRUZ MOTTA:** Okay, let's do that Ori.
46
47 **ORIAN TZADIK:** Does that seem [crosstalk]
48

1 **JUAN J. CRUZ MOTTA:** Yeah, I agree. Let's follow that path, yeah.

2
3 **TAUNA RANKIN:** Can I just add one thing?

4
5 **ORIAN TZADIK:** Please.

6
7 **TAUNA RANKIN:** Just a suggestion is that I think we do need to
8 bring these things back to the fishery management context, right?
9 So, when we're thinking about what our strategic objectives are,
10 why? Why do the stakeholders ultimately care about those things?
11 And why are there things that the Council should even worry about?

12
13 So, if there's ways that we can tweak the objectives so it is clear
14 how they connect to fishery management, I think that would be
15 helpful.

16
17 **ORIAN TZADIK:** Sure. Yeah, that makes sense. Thanks, Tauna. So,
18 we've got Tarsila back in the room. Do you have a list in-- I know
19 you have it in the presentation you gave about a month ago, of the
20 top relationships?

21
22 **TARSILA SEARA:** Yes, and no. So, what do you mean by that?

23
24 **ORIAN TZADIK:** Like these relationships.

25
26 **TARSILA SEARA:** A list as in like a--

27
28 **ORIAN TZADIK:** The top ones.

29
30 **TARSILA SEARA:** Yes. I mean, that's why I keep saying "depends"
31 because I think we had a couple of iterations of this. But this is
32 the most recent. The thing is, is what we're looking at here, is
33 the by island by stakeholder group, right?

34
35 So, it depends on how you're looking at it. You're going to have
36 different top relationships. So, that's why I'm asking. Yes and
37 no.

38
39 **ORIAN TZADIK:** Okay, let's continue with what we have on the screen
40 then, because like I said, looks like we have 20 minutes now. So,
41 all right. The next thing I'm seeing here, we could do something
42 with regard-- and I liked Tauna's suggestion.

43
44 So, the last one, improve water quality in the coastal marine
45 habitats; that would be to promote healthy fish communities.
46 Because, up there, we have a lot of habitats with fisheries
47 resources.

1 **TARSILA SEARA:** No, I'm just wondering if you could catch me up.
2 What specific top, like where are we at with the--

3
4 **ORIAN TZADIK:** So, we're trying to pull out strategic objectives
5 based on the conceptual models. We've already gone through the
6 original kind of vision statement that we had and pulled out some
7 strategic objectives from that. And then I'm taking notes, but I
8 thought it would be more important to have this kind of stuff on
9 the screen so that we could discuss, and the idea was to get
10 basically anything and everything, and then we'll eliminate later.

11
12 **SENNAI HABTES:** So, I was going to say, on things like that, where
13 you're trying to separate them out from, like, fisheries and the
14 habitat, these are strategic objectives. They're the higher-level
15 ones. We're later going to have to create the operational ones
16 where you'll have to split the baby, so to speak. I think what you
17 should do here is just simply improve nearshore water quality to
18 support, more resilient fisheries and the habitat upon which they
19 depend.

20
21 And like that gets you both in a single, larger strategic
22 objective. And then, when you move to your operational objectives,
23 you list it out for habitat, you list it out for fisheries
24 resources.

25
26 **ORIAN TZADIK:** Perfect. Okay. So, then, the education and outreach
27 component. How could we quantify-- what I'm seeing here, it has to
28 do with habitat and has to do-- So, education and outreach on
29 habitat. What's the strategic objective there? Kevin?

30
31 **KEVIN MCCARTHY:** So, are we going to go through every one of these
32 things? Because we're going to be here well into next summer.

33
34 **ORIAN TZADIK:** I'm looking at what jumps out because, like, water
35 quality, for example, there was non-point pollution on mangroves,
36 water quality on marine diseases, marine diseases on coral reefs,
37 water quality on coral reefs. There's a lot of water quality
38 associated things, and that's why we--

39
40 **KEVIN MCCARTHY:** But how many of these diagrams exist? That's what
41 I'm getting at.

42
43 **ORIAN TZADIK:** One. But this is the one that's all inclusive, isn't
44 it?

45
46 **TARSILA SEARA:** Go ahead, J.J. I was just going to say, because
47 there are so many different ways that you can--
48

1 **JUAN J. CRUZ MOTTA:** Yeah, there are so many ways, but then we, at
2 the end, decided-- Yeah? Like, yeah, no? --that we would, since
3 we're in an island-based fisheries management plan approach, we
4 would produce three of those. One per island, and then melded
5 everybody, which is that one there. So, there are four.
6
7 And then, ideally, not to spend one more year, but at least three
8 more years, Kevin. I mean, like one exercise that we will be doing,
9 when we write this up in the paper, is whether those relationships
10 are the same across islands and across stakeholder.
11
12 Actually, if you look at these. There are more differences between
13 stakeholders than island. You can see that all fishers are-- and
14 this is what we were trying to say. So, what is showing you is
15 that perhaps there is a great deal of commonalities on the
16 relationships among the--
17
18 But for the sake of the structure of the Council, perhaps it would
19 be nice to have the three lists and then say, "Look, they're very
20 similar."
21
22 **ORIAN TZADIK:** But J.J., for our purposes right now, this is not
23 a melded model. This is not-- this is including everybody in it,
24 but it points very clearly to who thinks what. This is not a
25 combined--
26
27 **JUAN J. CRUZ MOTTA:** And actually, I'll take back. This is actually
28 a comparison on the perceptions. This is an analysis. If you want
29 to look at the melded model, it is this one.
30
31 **ORIAN TZADIK:** I don't want to look at the melded model. Kevin
32 does.
33
34 **JUAN J. CRUZ MOTTA:** No, it's actually this one. It's even better.
35 Look. We can clearly see here--
36
37 **KEVIN MCCARTHY:** Well, that one we can't do anything with.
38
39 **JUAN J. CRUZ MOTTA:** Don't worry. I mean, this was put in there to
40 see the complexity of opinions we're dealing with. That's all.
41
42 **KEVIN MCCARTHY:** But go back to the one you showed beforehand. Not
43 that one, the one that sort of intermediate one.
44
45 So, this, I actually think you can do something with, right?
46 Because this one, here's the way I look at this and I may be
47 completely off the mark, but this is what we've been doing with
48 strategic planning. So, I've got that on the brain and this

1 approach, maybe there's a much better and different way to do it.
2
3 What has all the arrows going in and what has all the arrows going
4 out? Because all the arrows going out is a driver of things. And
5 that's where you want to start, at least in strategic planning.
6 That's where you start looking at that as a, you know, what's going
7 on with that? And your strategic objective may involve that,
8 because it will impact all the other stuff that it points to,
9 right?

10
11 It's not that we don't care about where all the arrows are going
12 in, but we'll get to that by tackling the drivers. So, that's how
13 I'm looking at this. And so, if I can understand what's happening
14 in this, or if we've got arrow, maybe we don't have arrows, but I
15 think we do have arrows. No, well, maybe not here, but somewhere
16 there are, and that's how I'm thinking of it. So, maybe I'm off
17 the mark here.

18
19 **TARSILA SEARA:** So, what you're looking at here is just drivers.
20 So, these were only the components that had arrows going out. The
21 next figure, it's only receivers. So, these are all the components
22 that only had arrows going into. And now you're looking at the
23 different stakeholder groups and both agreement in terms of what
24 are drivers and what are receivers. And also, the size means just
25 the frequency with what those were included in relationships, I
26 think.

27
28 **SENNAI HABTES:** And the color is important too because those are
29 the ones across, which red is the only one that had all groups.

30
31 **TARSILA SEARA:** That's right. Yeah.

32
33 **SENNAI HABTES:** And so, I think those two that you're just showing
34 you can easily get the list of drivers that incorporated all
35 stakeholder groups and we're the most important, by size. That's
36 what Ori was trying to get you to show. That's what we need. That
37 right there.

38
39 **ORIAN TZADIK:** That where we started.

40
41 **SENNAI HABTES:** How did you guys not create strategic objectives
42 for each one of those?

43
44 **ORIAN TZADIK:** Because it's going to-- Go ahead.

45
46 **KEVIN MCCARTHY:** Here's the problem that I have with this. How is
47 it a driver and a receiver?
48

1 **TARSILA SEARA:** Right. Because you have to think, and we're going
2 to have to interpret, right? Because, for instance, let's take
3 coral reefs as an example. When coral reef is a receiver, we have
4 things that are impacting coral reefs. However, coral reefs are
5 contributing to the health of the ecosystem in so many different
6 ways. So, coral reefs have arrows going into fishery resources,
7 into all sorts of stuff that coral reefs are contributing to. So
8 that makes coral reefs a driver.

9
10 So, that's the interpretation that we're going to need to make.
11 And same thing. Sometimes, you are going to see things, for
12 instance, that are just contributing to, so you have runoff
13 impacting the fishery resources, but you have all sorts of stuff
14 like rivers and, I don't know what else, sedimentation, blah, blah,
15 blah, all going into runoff because those are things that are
16 contributing to runoff. So, that makes runoff a receiver.

17
18 Does that make sense?

19
20 **KEVIN MCCARTHY:** Yeah, I get that. I mean, I might quibble with
21 the interpretation of rivers.

22
23 **TARSILA SEARA:** That was off the top of my head. Sorry.

24
25 **KEVIN MCCARTHY:** Right, but-- No, that's fine. But I guess, what
26 I would go back to and what we have done is to say, where there
27 more arrows going in or more arrows going out. And we do that for
28 every one of these things. And so, the ones where there was a clear
29 20 arrows going out, 3 going in, that's a driver. It's still a
30 receiver too, but it's a driver, right?

31
32 If you're 50/50, not only is it more problematic to say what it
33 is, but maybe that's not one you want to try and deal with right
34 away. At least this is the way we did it. And you'll see this in
35 a couple weeks.

36
37 You know, the ones that are the most important drivers because
38 they're 90 percent driver, right? That's what I would go towards,
39 especially if there is a zillion arrows going out of it. Because
40 we can't do everything right.

41
42 **TARSILA SEARA:** I mean, that would be then, probably, the size of
43 the circles in that figure. And so, when they are repeated, if
44 they're bigger in the driver figure, then. But some of them are
45 going to be difficult to tease out that way. And I think that
46 that's when the interpretation comes into play, because is it they
47 are drivers in the sense that they impact things that are important
48 in the context of management, or is it that they are receivers,

1 because they are things that are contributing to increasing that
2 component. And that, that's the problem.

3
4 You know what I'm saying? You get what I'm saying? Because there
5 are two different ways that people are thinking of connections.
6 One is, here are things that are all contributing to this thing
7 and here are things that are impacting these things. You know what
8 I'm saying? So, it's adding to and then there is impacting. And
9 all of that in the end are just arrows going into things. And so,
10 yeah.

11
12 **KEVIN MCCARTHY:** Yeah. And I think when you have a hundred people
13 contributing, you have a hundred interpretations. So, I think you
14 just have to keep it simple, or we'll--

15
16 **TARSILA SEARA:** And so, I think, part of that, will be us. We're
17 going to have to make a decision. You know what I'm saying? And we
18 can go back to a lot of the information that came out of notes and
19 everything if we have major questions, but some are pretty obvious.

20
21 You know, the, oh, yeah, well, this is a major receiver because it
22 really is all of these things that are contributing or adding to
23 that pollution, for instance. There are all sorts of things that
24 are going into pollution because they were adding to pollution.
25 You get what I'm saying?

26
27 **ORIAN TZADIK:** So, we kind of took this full circle, right, where
28 we said, "That was the slide we started with."

29
30 The reason we went to the relationships in the first place was
31 because things like runoff, it's, yeah, you know, it can definitely
32 be a driver and it can also be a receiver. But what was everybody
33 talking about with runoff? What did that matter? What did it-- you
34 know? And so that's why we went to the relationship slide. We
35 ultimately got back here. Sennai's been waiting. What's up?

36
37 **SENNAI HABTES:** I mean, I think you guys are just diving way, way,
38 way too in depth on that. For each one of these, these are clear
39 drivers, clear receivers that have either a positive side or a
40 negative side. And I can promise you the number of arrows to each
41 one can be grouped into either positive or negative.

42
43 For coral reefs, as a driver, degrading coral reefs, negative to
44 fisheries production. Improved coral reefs, positive to fisheries
45 production. Right? Recreational fishing, lack of data, negative
46 towards like-- It's a positive or negative driver and for a
47 receiver, positive or negative things happening to it, impact that.

1 If we simply create our strategic objectives based on these
2 groupings as the positive or negative side of the thing, from a
3 large-scale strategic objective, this is upper level, that will
4 get us to creating operational objectives that address all of the
5 things in those drivers.

6
7 Right now, we just need the strategic objectives. Then we can move
8 on to the operational that digs into how many actual arrows you
9 have associated with, you know, lack of data for recreational
10 fishing, or recreational fishing taking too much of the resource,
11 or recreational fishing degrading coral reefs, right? We're not
12 there yet. Where we are now are the upper-level strategic
13 objectives. For those, positive, negative. State the strategic
14 objective, then we use the arrows, count of the arrows, size of
15 the balls and the things to develop the operational objectives
16 associated with stakeholder input. That's my take.

17
18 **ORIAN TZADIK:** Okay, so what I'll suggest in the interest of time,
19 why don't we do that exercise with this list right here? And
20 that'll get us somewhere where we've got a little bit of a document
21 here with about 20 strategic objectives. Because we've already got
22 12, I think. And that'll take us to the end of the day. And then
23 we can all think about this. Maybe we can pass this around and see
24 what we all think.

25
26 **SENNAI HABTES:** Also, this is a fisheries ecosystem plan, right?
27 So, that's what we're drafting. That's what we're developing
28 strategic objectives for, right?

29
30 So, fisheries, ecosystem plan. The strategic objectives that we're
31 creating now should deal with fisheries or the ecosystem that
32 supports fisheries. That's it

33
34 **ORIAN TZADIK:** Yeah. And that's what Tauna mentioned when you guys
35 were out of the room. I don't know that we need to do. what we
36 were doing in the sense of like justifying it but we'll worry about
37 that later.

38
39 Let's just go straight into this. We've already dealt with
40 recreational fishing. What I have here is, quantify recreational
41 fishing effort and impacts. That's our strategic objective because
42 it's very important. All right. Coral reefs. What we have for that
43 one is to reduce the degradation and enhance the recovery and
44 resistance of marine habitats, particularly coral reefs. And
45 maintain structure and function of essential fish habitat.

46
47 All right. Runoff. We have not dealt with yet. Except that, we do
48 have ensure water quality. So, one of these will probably be

1 booted, but we have, ensure water quality sufficient to promote
2 healthy habitats and fish populations. And then we also have, as
3 probably a different way of saying this, improve water quality in
4 the coastal marine habitats to promote more resilient fisheries in
5 the habitats in which they depend. I don't think that gets at
6 runoff yet.

7
8 **JUAN J. CRUZ MOTTA:** Well, I think, implicitly it's-- I mean,
9 because the concern is that the runoff brings pollution.

10
11 **ORIAN TZADIK:** Poor water quality. Which degrades the habitats
12 and, as we're discussing, limiting runoff is not in the purview of
13 the CFMC.

14
15 **JUAN J. CRUZ MOTTA:** No, but then--

16
17 **ORIAN TZADIK:** Water quality, we can at least address it and we
18 can talk about operational objectives that get-- Okay. Great.

19
20 **SENNAI HABTES:** Can you read the first one again?

21
22 **ORIAN TZADIK:** Ensure water quality is sufficient to promote
23 healthy habitats and fish populations.

24
25 **SENNAI HABTES:** I would go with that one. Setting "improved"
26 indicates that we've measured the fact that it's been degraded
27 over time, which I don't think we have enough data to really
28 support that to the extent that it would be good to create
29 operational objectives based on it.

30
31 **ORIAN TZADIK:** Okay. Yeah, and I think that was the idea behind
32 wording it that way too.

33
34 Alright, so now we've got tourism. Suggestions.

35
36 **SENNAI HABTES:** What were the stakeholders saying on tourism? I
37 don't remember. Do you guys remember?

38
39 **JUAN J. CRUZ MOTTA:** I mean, for some aspects was positive. For
40 others were negative. And this is where the multi objective goals
41 of the system, place in, right? So, these-- go ahead, please.

42
43 **ORIAN TZADIK:** Okay, Tauna.

44
45 **TAUNA RANKIN:** How about something like tourism is compatible with
46 healthy fisheries. I don't know.

47
48 **ORIAN TZADIK:** Yeah, actually, Tauna, that's exactly what I was

1 about to say because I remember tourism having a double effect,
2 right? People standing on reefs, people not knowing what they're
3 doing, people doing that sort of thing, but then also, tourism
4 bringing in the money to support this and that.
5
6 So, something along the lines of what Tauna just said, promote
7 sustainable tourism that enhances fishery productivity or
8 something like that. What did you say, Tauna?
9
10 **TAUNA RANKIN:** I said tourism is compatible with healthy fisheries,
11 or you could say productive fisheries.
12
13 **ORIAN TZADIK:** All right, so I have it. Tourism is compatible with
14 healthy fisheries. How about-- Well, we need to see this is the
15 problem. Okay. I keep getting booted. I'm getting booted is the
16 problem.
17
18 **SENNAI HABTES:** Never mind. Just finish up.
19
20 **ORIAN TZADIK:** I will share this. At this point we are just getting
21 the ideas down.
22
23 **SENNAI HABTES:** My recommendation would be developing support or
24 develop tourism opportunities that are sustainable to fisheries
25 resources and habitat within the U.S. Caribbean.
26
27 **ORIAN TZADIK:** Support tourism opportunities, what?
28
29 **SENNAI HABTES:** I don't know. That was stream of consciousness.
30
31 **ORIAN TZADIK:** Support tourism opportunities that promote healthy
32 fisheries and habitat.
33
34 Well, you do a reef smart, fish smart, like which fish to eat,
35 that sort of thing. That would promote healthy fisheries.
36
37 **SENNAI HABTES:** We do that now.
38
39 **ORIAN TZADIK:** Good. Then we're halfway there.
40
41 **SENNAI HABTES:** Yeah, leave that, we'll wordsmith it later.
42
43 **ORIAN TZADIK:** Let's leave it and we'll rework it. Alright. So,
44 then, education and outreach.
45
46 **SENNAI HABTES:** Develop education and outreach opportunities
47 within the U.S. Caribbean that support sustainable fisheries
48 practices and habitat. You gotta put fisheries and habitat and

1 everything. Just put those two things in and we'll fix that later.

2
3 **ORIAN TZADIK:** I just have "Develop education and outreach
4 opportunities that support sustainable fisheries and habitat." Did
5 I miss something?

6
7 **SENNAI HABTES:** Nah.

8
9 **ORIAN TZADIK:** Okay. Marine diseases?

10
11 **SENNAI HABTES:** Were there any positives with marine diseases?
12 Right, so that one's all negative.

13
14 **ORIAN TZADIK:** Limit marine disease?

15
16 **SENNAI HABTES:** Reduce. Reduce. Marine.

17
18 **EDWIN CRUZ-RIVERA:** Should monitor be one of the things here?

19
20 **ORIAN TZADIK:** Reduce and monitor. Yes. I'm going to just leave it
21 like that for now and we'll come back to that.

22
23 Alright, disturbances was climatic disturbances, right?

24
25 **TARSILA SEARA:** No. So, that was a little bit of a catch all for--
26 Pretty much every conceptual model had some sort of anthropogenic
27 human impact disturbance, some kind of a general component that
28 just dealt with anthropogenic impacts, and so that's what's
29 reflected there.

30
31 So, I don't know if we necessarily need to address that for a
32 specific strategic objective, because it might be reflected in
33 other strategic objectives, for as long as, I guess, we make sure
34 that, I guess, minimizing impact. And maybe, you know, under
35 coastal development, we could expand that to minimize other
36 anthropogenic threats, but those had to do with anthropogenic
37 threats. They were not climate or, yeah.

38
39 **SENNAI HABTES:** I think disturbance is a better term for the larger
40 strategic and then that, I think, we could throw in anthropogenic
41 and coastal development. My recommendation would be to create a
42 strategic objective that either limit the impact of natural
43 anthropogenic and other disturbances on fisheries and their
44 supportive ecosystems within the U.S. Caribbean. Or, you know,
45 something that is, not even limit, ensure minimal impact from
46 disturbances on, you know-- Either those two words at the front.

47
48 **TARSILA SEARA:** But maybe add the word anthropogenic, because that

1 was not including natural, or I guess, if there is such thing,
2 like hurricanes or whatever.
3
4 **SENNAI HABTES:** Mm hmm. Okay. Thanks, Tauna, for your support.
5
6 **EDWIN CRUZ-RIVERA:** I have a question.
7
8 **ORIAN TZADIK:** Edwin, go ahead.
9
10 **EDWIN CRUZ-RIVERA:** In disturbance, does that also include invasive
11 species? My gut says yes, but—
12
13 **TARSILA SEARA:** No, we have a separate component for invasive
14 species. Yes, that's why I'm saying that that was a sort of, if
15 there's anything that the stakeholders themselves were sort of
16 just throwing out there as like human impacts, human disturbances,
17 anthropogenic. I can go back to the actual list, but we try to
18 make sure that we didn't lose detail at this stage, so anything
19 that was more specific or that had way more importance, we kept to
20 separate components.
21
22 So that's not like a huge catch all for anything that disturbs
23 the-- You know, it was just something that captured when
24 stakeholders talked about stressors, in general.
25
26 **EDWIN CRUZ-RIVERA:** A black box. Thank you.
27
28 **ORIAN TZADIK:** All right. So, how we have it right now is, "Ensure
29 minimal impact of anthropogenic impacts and disturbances on
30 coastal marine habitats and fisheries." And then, that would
31 include coastal development.
32
33 And then, I'm just going to note that the three receivers that we
34 haven't discussed "Water quality, mangroves and seagrass" have
35 already been captured in other strategic objectives. So, our last
36 thing here is this local, cultural and religious traditions.
37
38 **TARSILA SEARA:** Yes, and I think, here, this was the impact of
39 that on fisheries, was one of the main relationships. And I think
40 this could be, perhaps, sort of transformed into a more general
41 statement about maintaining social, cultural, and economic
42 resilience of fishing communities, or something that's a little
43 bit broader. Because you maintain and promote.
44
45 **ORIAN TZADIK:** Sorry, maintain and promote what?
46
47 **TARSILA SEARA:** Social, cultural, and economic resilience in
48 fishing communities. And I think that that will capture the-- Yeah.

1
2 **ORIAN TZADIK:** Go ahead, J.J.

3
4 **JUAN J. CRUZ MOTTA:** So, I know mangroves and seagrasses are
5 included whenever we say habitat. But I just want to mention that
6 whenever these two systems were brought up, most of the time was
7 related to the nursery concept. So, perhaps add something related
8 to nurseries.

9
10 **ORIAN TZADIK:** So, would that be, like, identify, maintain, and
11 what? And conserve?

12
13 **JUAN J. CRUZ MOTTA:** And actually, which is interesting, is that,
14 when Stacey did the quantitative analysis, one of the variables
15 that showed up was the distance to these places as a predictor of
16 fish change, fish assemblages.

17
18 **ORIAN TZADIK:** Would it be appropriate to say that that has to do
19 with-- I have it here as "Identify, maintain and conserve nursery
20 habitats of commercially and ecologically important fishes." Yeah?

21
22 **JUAN J. CRUZ MOTTA:** Beautiful.

23
24 **STACEY WILLIAMS:** Can we just put, like, in parentheses about the
25 disturbances, like, coastal development? Like, because it's a huge
26 problem here in Puerto Rico right now.

27
28 **ORIAN TZADIK:** Well, and the V.I.s, I think.

29
30 **STACEY WILLIAMS:** And the V.I.s, yeah.

31
32 **SENNAI HABTES:** Again, I think that is when you do operational
33 objectives, when you want to split it into specific ones that you
34 want action items on, yes.

35
36 And the strategic ones, the longer you make these, the harder it's
37 going to be to really get them into a simplified document format.
38 And I think if you can get a catch all that has them all in there
39 and the strategic and we can remember how they relate to ones that
40 we want for specific outcomes.

41
42 So, an operational could be reduced the impact of coastal
43 development on fisheries, or limit coastal development to
44 regulate-- yeah, increased regulation. But again, this is a
45 fisheries ecosystem plan for the Caribbean Fisheries Management
46 Council, right? There is a very limited amount that the CFMC can
47 do to stop coastal development. We have to bear that in mind for
48 the action items or the operational objectives that we are putting

1 into this plan.
2
3 So, I think, you know, I hate to beat a dead horse, but I don't
4 want us to spin our wheels on things that aren't going to be useful
5 as management objectives for the Council, because that is who we
6 are developing this for.
7
8 **ORIAN TZADIK:** For the record, Liajay.
9
10 **MARÍA LÓPEZ-MERCER:** Sorry. María López wrote in the chat that she
11 agrees with your comment.
12
13 **ORIAN TZADIK:** Fantastic. And so, these are everything I took down.
14 I don't stand by this categorization. I just threw them where I,
15 you know, first instinct. Um. I'm going to send this to Liajay
16 right now, and then she'll disseminate it amongst us and I'm
17 guessing this is where we'll pick up tomorrow. So, back to you.
18
19 **SENNAI HABTES:** Thank you, Ori, and all of you guys for your hard
20 work on this, while Tarsila and I was explaining something again
21 to the SSC, which I appreciate the opportunity for, because I think
22 it will get a lot of the things that we're trying to do here into
23 the research priorities.
24
25 So, I will take the time now for us to go ahead and adjourn for
26 the evening, and we will reconvene tomorrow morning at 9:00 a.m.
27 in this same room, and for those of you online, it'll be the same
28 Zoom link.
29
30 Our plan tomorrow is to complete these strategic objectives and
31 then, you know, finish up the rest of the-- Hopefully, we can do
32 this in an hour and use the rest of the three hours to organize
33 ourselves and create a plan for the working groups moving forward.
34 If we can get all of that completed in the time frame that we have,
35 I think this will be a very, it already has been a very successful
36 meeting, but I think it will continue to make it even more
37 successful.
38
39 I see Edwin has his hand up, Edwin, did you have a question?
40
41 **EDWIN CRUZ-RIVERA:** Just very quick, the categorization that we
42 did in 1, 2, 3, was that what the other committee wanted, or was
43 that way off?
44
45 **SENNAI HABTES:** No, that was what they did, so we just did our
46 prioritization the same way that they had done it.
47
48 **EDWIN CRUZ-RIVERA:** Okay. Thank you.

1
2 **SENNAI HABTES:** Yep. No problem. All right, everyone, well, have
3 a good evening, and we'll see you tomorrow morning at 9:00 a.m.
4

5 **EDWIN CRUZ-RIVERA:** Should we motion to adjourn?
6

7 **SENNAI HABTES:** I don't-- do we need a motion? I think we only
8 need a motion to adjourn at the end of the full meeting. At the
9 end of the day, I can just adjourn the meeting for the day. We
10 only need a motion to adjourn the full meeting.
11

12 (Whereupon the meeting recessed on May 04, 2023.)
13

14 - - -

15
16 MAY 05, 2023
17

18 FRIDAY MORNING SESSION
19

20 - - -
21

22 **SENNAI HABTES:** Good morning, everyone. This is Sennai Habtes, the
23 EBFM TAP, or Ecosystems Based Fisheries Management Technical
24 Advisory Panel Chair. I am also the Chief of Fisheries for the
25 Virgin Islands Department of Planning and Natural Resources
26 Division of Fish and Wildlife. I'm going to go ahead and call this
27 session, or today's session of the EBFM TAP meeting to order.
28

29 I'm going to go ahead and just do a quick roll call of all the
30 members that will be present today to save us some time because we
31 have a lot to get done. So, in the room is Sennai Habtes, EBFM TAP
32 chair. Orian Tzadik, EBFM TAP member. Kevin McCarthy, EBFM TAP
33 member. Liajay, CFMC staff. Tarsila Sierra, EBFM TAP member. Stacey
34 Williams, EBFM TAP member. And J.J. Cruz Motta will be joining us
35 shortly. He went to check out, but he's also an EBFM TAP member.
36

37 Online we have Alida Ortiz Sotomayor, EBFM TAP member, and Edwin
38 Cruz Rivera, EBFM TAP member. We also have Tauna Rankin, from NOAA.
39 María López from NOAA. Am I missing anyone, Liajay? No.
40

41 So, with that roll call, we will go ahead and get started with
42 today's meeting objectives. As you guys know, we are only meeting
43 until about noon today and we still have a good bit to get done,
44 so we're going to roll right into completing that strategic
45 objective sheet from yesterday. Upon completing that, we can go
46 into working group designations, formations, and order, and
47 hopefully wrap up some things from that. And if we can get both of
48 those done before noon, I think we'll be in good shape for the

1 things that we need to complete over the course of the rest of the
2 year.

3
4 Last but not least, we'll need to talk about when we want to meet
5 next, and if it needs to be before, next May, which would be when
6 we would usually meet for an annual meeting.

7
8 So, with that, I'm going to open it back up to Ori, who is kind of
9 leading the order and discussion of these strategic objectives.

10
11 **ORIAN TZADIK:** All right, thanks, Sennai. This is Ori. These are
12 the ones that we developed yesterday. They're on the screen. I'm
13 sure everybody on Zoom can read this pretty easily. Everybody in
14 the room, are we good? What do you want? Zoom in, but then we're
15 going to have to do it in kind of twos.

16
17 All right. What's up? Okay. Well, oh, it's not. It just takes a
18 minute. Yeah. The internet's not the fastest. It's got like a real
19 lag to it.

20
21 All right. So, this was done, as we all know, pretty rushed towards
22 the end of the day. I sent this out yesterday for everybody to
23 take a look at. I don't think this is a complete list, nor do I
24 think we necessarily are going to keep everything on this list.

25
26 So, if we want, one question I had for the group is whether we
27 want a specific number of these things? Or if we want to try and
28 limit it? I mean, if we're making strategic objectives for the
29 document, are we trying to limit that to 20, or are we open ended?
30 How does the group feel about that? J.J.?

31
32 **JUAN J. CRUZ MOTTA:** First of all, sorry I'm late. Second, my
33 suggestion would be, as many as we can think of, because then,
34 when we prioritize, we can then choose those priorities to only
35 work on the operational objectives related to that priority that
36 could be something like, I would say, minimum five, maximum 10.

37
38 **ORIAN TZADIK:** Okay, that makes sense to me. That seems like a
39 good approach. Does everybody-- I'm seeing a lot of shaking heads.
40 Yes? Anybody online think differently?

41
42 **ALIDA ORTIZ SOTOMAYOR:** No, I think it's great.

43
44 **ORIAN TZADIK:** Okay. So one, Kevin brought up a point to me
45 yesterday, outside the meeting. I think he wants to add a strategic
46 objective here, which I think makes a lot of sense. So maybe you
47 want to take it away? Yeah?

1 **SENNAI HABTES:** I think it's under the socioeconomic, the first
2 bullet. And then also there is another one further down--

3
4 **KEVIN MCCARTHY:** I think that we can't simply focus on recreational
5 fishing and ignore commercial fishing. So, commercial needs to be
6 in there and we could just make that, fishing effort and impacts,
7 quantify fishing effort and impacts rather than limiting it to
8 recreational. So, I would recommend striking out recreational so
9 that we get the whole fishery.

10
11 It doesn't mean we can't tackle them separately because obviously
12 they operate differently. But do we need to split hairs at this
13 stage since it's a strategic statement or a strategic goal?

14
15 **ORIAN TZADIK:** I'll just say I think that makes sense because we
16 have the word impact in there. So, it's quantifying, you know, so
17 I think, theoretically, we have a very good handle on quantifying
18 commercial fishing, but there is a lot of study that does need to
19 go into the impacts of fishing and that's I think that was
20 definitely pointed to in the conceptual models and pointed to in,
21 you know, a lot of other locations. I mean, that's what the Council
22 does.

23
24 So, I think it makes sense. I'm happy to include that. And if you
25 want to just do-- Kevin, what do you think, quantify fishing effort
26 and impacts, and then in parentheses, both recreational and
27 commercial?

28
29 **KEVIN MCCARTHY:** I mean, if you wanted to--Yes, but you could also,
30 I mean, if we want to list all the sectors, it would be rec,
31 commercial for hire.

32
33 **ORIAN TZADIK:** Okay, great. So, thanks Kevin. Let's just start
34 from the top then, and we'll go through. I think the real question
35 here is, is there another source that we want to draw strategic
36 objectives from? Because right now the sources that we have are
37 one, us, I guess, our original vision. Two, was the components,
38 the major components of the conceptual models. And then, a few of
39 the relationships we looked at, and we derived a few things from
40 that to do with. Yeah. Tarsila?

41
42 **TARSILA SEARA:** Did you email this to everybody?

43
44 **ORIAN TZADIK:** Yeah, I did, yeah.

45
46 **TARSILA SEARA:** Okay, alright. I just want to pull it up so I can
47 see the whole thing. Okay, alright.

1 **ORIAN TZADIK:** So, from the Lenfest group, would you guys, I mean,
2 we've been talking for a long time that we want to derive
3 indicators from the conceptual models, we want to derive strategic
4 objectives from the conceptual models. So, again, is there another
5 form or, you know, another list we want to look at? Go ahead.

6
7 **STACEY WILLIAMS:** We do have the quantitative data analysis. and
8 I don't know if we want to hold off. I don't know. Are we going to
9 set these in stone today? Or can we wait like a month? and then
10 revisit the quantitative analysis, and we might want to add
11 something from that.

12
13 **JUAN J. CRUZ MOTTA:** Yeah, I would like to support the idea that
14 further strategic objective can be taken out of the analysis. Just
15 thinking, temperature is showing up in the fisheries dependent
16 data. So, we don't have something there related to climate change
17 or in temperature or acidification and it might be worth putting
18 them in. Thank you.

19
20 **SENNAI HABTES:** I think we got, we really need to think about what
21 steps we're talking about, right? These are strategic objectives.
22 You can easily put in a strategic objective that would incorporate
23 a lot of the information that later you will create specific
24 operational objectives based out of the analysis that's going to
25 be done.

26
27 What we need are the higher-level strategic objectives that will
28 inform the work that we do in the working groups, as well as how
29 we are going to create priorities that CFMC can use in the
30 operational framework for doing EBFM. So, in this instance, if
31 you're interested in understanding how the assemblages are changed
32 based with like climate induced impacts, create a strategic
33 objective that is, understanding climate variability and its
34 effects on assemblages of reef fish or all fish within the
35 Caribbean region. Done.

36
37 Do not get far into the weeds at this point. We can update the
38 strategic objectives and clarify them, but what we need now are
39 the frameworks, meaning the most important large-scale questions
40 that we think this document needs to be focused on. And those we
41 should complete today.

42
43 **JUAN J. CRUZ MOTTA:** Okay, but the thing is that out of the
44 analysis, you can come up with those general wish list if you want.
45 I mean, there might be a strategic objective that we might identify
46 after we look at the data. So, we were talking, I think, yeah? We
47 were talking about the strategic objective.

1 **ORIAN TZADIK:** I would offer that these are definitely not set in
2 stone, to answer Stacey's questions. However, we've set this up in
3 a way that the strategic objectives are kind of going to then
4 inform everything else. So, at least the operational objectives,
5 the risk assessment, you know, all these sorts of things.

6
7 So, I would suggest that we get this list to what we feel is a
8 complete list today, with the option to change it as we feel. And
9 I would agree with Sennai that maybe putting something-- You know,
10 climate variability will encompass a lot of these abiotic factors
11 that we're thinking about, but at least then it's there and we can
12 then create sub-operational objectives and importantly, we can
13 pull out what we think we need to pull out for the indicators and
14 therefore then the risk assessment.

15
16 **JUAN J. CRUZ MOTTA:** Sounds like a plan.

17
18 **TARSILA SEARA:** Is it okay if we just do this? Okay. So, I just
19 had a couple of suggestions here. So, I was looking at, if you
20 scroll down, under anthropogenic sources of impact, the very last
21 bullet, I think that needs to be moved to socioeconomic and that
22 could replace the increase human community resilience point up
23 there, if that makes sense to everybody.

24
25 Maybe before that, I have a question. I was thinking we shouldn't,
26 and now some of this discussion, also, sort of mentioned-- Because
27 one of the things that I was missing in this list was something to
28 do with climate change. And I was going to also mention that the
29 reason why climate change doesn't show up in that table of the
30 seven stakeholders is because the SSC, believe it or not, never
31 used that term, but talked about climate change in all these
32 different ways, but the word climate change didn't show up in that.
33 So, that's why it's not there, but it's very present in the SSC
34 conceptual model. So, climate change is definitely one of the
35 issues that would be a consensus between all seven stakeholders,
36 and I forgot to mention that yesterday.

37
38 So, one of the things from a socio-economic viewpoint, I would
39 like to have something that deals with increasing adaptive capacity
40 to climate change impacts, if everybody agrees. And so, we could
41 figure out the wording for that, but I think that would be an
42 important thing to add.

43
44 **ORIAN TZADIK:** Do you want to spitball some wording?

45
46 **TARSILA SEARA:** I just said increase adaptive capacity to climate
47 change impact of fishing communities.

1 And the way the first bullet here is phrased, I was going to ask
2 if that shouldn't actually be-- I understand why it's there, but
3 since we're talking about impacts there, and then we have an
4 anthropogenic impact, I don't know if this is even necessary to--
5 You know, I don't know if that could maybe be moved to impacts.

6
7 **ORIAN TZADIK:** Yeah, like I said, we were doing it fast yesterday
8 and I was just throwing them in categories. None of this is set in
9 stone. One question I have, is the one you moved and the one we
10 just put in, right? So, in the socioeconomic, the first and the
11 fourth, I guess. Would the first not include climate change? Or
12 can we put it as a--

13
14 **TARSILA SEARA:** Yeah, it could. Certainly. But I think it needs to
15 be maybe-- I think it's important enough that the idea of
16 increasing adaptive capacity to these impacts, I think it is the
17 key there that I think, in my--

18
19 **ORIAN TZADIK:** So, then my question is, what is number one about?
20 Just maintaining that based on, like, making sure through changing
21 economic times that fishing communities are resilient kind of
22 thing?

23
24 **TARSILA SEARA:** Yeah. I mean, so that would encompass all other
25 aspects of other stressors. But I think the specific threat of
26 climate change and the fact that we really don't have anything in
27 place that's specific to increasing adaptive capacity to those
28 specific threats, I think that's important enough that, at least
29 I think, it should be a separate bullet, but.

30
31 **ORIAN TZADIK:** Okay. And then one other question I had for the
32 data team over there. Do we have enough on here about how the
33 habitat-- Understanding how the habit-- because I think this is
34 what you're saying. You haven't analyzed it yet. But, like, how
35 habitat or abiotic factors-- but I think we included the climate
36 stuff. So, how habitat influences fish assemblages. Is there
37 something you'd like to add about that, or do you think we've
38 captured it? And I think Tauna's got a hand up.

39
40 **STACEY WILLIAMS:** I think you've captured it. There is something
41 that also stands out, right now, from the data analysis, and that's
42 larval connectivity. And I know that there are a couple studies
43 out there, but not much is mentioned, and I think that's a really
44 important factor in this.

45
46 **ORIAN TZADIK:** Can I ask either Stacey or, I know this is Sennai's
47 field, if one of you guys wants to offer a strategic objective
48 with regards to larval connectivity?

1
2 **SENNAI HABTES:** I mean, I think you could do "Understand and
3 identify larval connectivity pathways within the U.S. Caribbean
4 and its effects on recruitment success for commercially and
5 recreationally important species."

6
7 **ORIAN TZADIK:** Almost had it. What'd you-- "Understand and ID
8 larval connectivity." And its impacts on?

9
10 **SENNAI HABTES:** Yeah. "On recruitment success on ecologically and
11 commercially important fish in the U.S. Caribbean." We can clean
12 that up to better wording later, but that's the idea, I think.

13
14 **ORIAN TZADIK:** All right. Thanks.

15
16 **SENNAI HABTES:** Does that work for you?

17
18 **STACEY WILLIAMS:** Yes.

19
20 **ORIAN TZADIK:** I think we had Tauna.

21
22 **SENNAI HABTES:** Tauna, you've been waiting patiently. Do you have
23 a comment or question?

24
25 **TAUNA RANKIN:** A couple of things. One, I really liked what Tarsila
26 just suggested. If you could scroll back down to socioeconomic. I
27 guess there's a delay because I don't see it.

28
29 **ORIAN TZADIK:** Yeah. Sorry. We're having internet problems, but
30 it's there now.

31
32 **TAUNA RANKIN:** Yeah. Increase adaptive capacity of fishing
33 communities to climate change impacts. I like that better than
34 understanding climate variability. I don't know if that makes sense
35 to be under the abiotic. I was going to propose something different
36 under the one that's currently under abiotic because, again, I'm
37 going to sound like a broken record here. But the objectives that
38 related to understanding and identification, I don't think are
39 strategic objectives, I feel like they're operational. They're an
40 action on the path to achieving our management goals.

41
42 I think something strategic under climate would be more like,
43 minimizing the impacts of climate vulnerability or enhancing
44 resilience on fisheries to climate vulnerability. So, I don't know
45 if we want one related to fishing communities and one related to
46 the resource. That sounds good, but I-- And so related. Yeah. Yeah.
47 That's great.

48 And then, related to larval connectivity, it seems like that, we

1 would want it to be "Maintain larval connectivity pathways." No?
2
3 **ORIAN TZADIK:** And then just to be clear, Tauna. The idea there is
4 that in order to maintain it, you'd have to understand it. That's
5 kind of what you were saying yesterday.
6
7 **TAUNA RANKIN:** Yeah.
8
9 **ORIAN TZADIK:** Great. Okay.
10
11 **TAUNA RANKIN:** Exactly. I feel like that's a step. So, it's one
12 step below ensuring that we maintain these ecological processes
13 that are necessary to keep our fisheries functioning.
14
15 So, yeah, I just think a couple of these could be moved a step up
16 and then the operational objective, or one of the operational
17 objectives is doing the research to better understand these things.
18
19 **SENNAI HABTES:** Kevin, hold on a second. Edwin had a question
20 online. So, Edwin and then Kevin.
21
22 **EDWIN CRUZ-RIVERA:** Well, my point was really minor. Edwin, for
23 the record here. I was just wondering in the phrasing about larval
24 connectivity and such, if we wanted to use supply-side. But it's
25 a very minor thing, I think is okay as it is.
26
27 **ORIAN TZADIK:** If we wanted to use what?
28
29 **EDWIN CRUZ-RIVERA:** Supply-side.
30
31 **JUAN J. CRUZ MOTTA:** Supply-side ecology is the branch of ecology
32 that actually looks at connectivity and all that. Oh, how to phrase
33 it.
34
35 **SENNAI HABTES:** Yeah, I think, for us, that's abundantly clear. I
36 think for other people, that maybe will be reading it, I think you
37 want it to be more directional.
38
39 **EDWIN CRUZ-RIVERA:** Yeah. Fair enough. Yeah, there's always that
40 balance between accuracy and common sense. So, I'm good.
41
42 **TAUNA RANKIN:** I see now that since you adopted that change on
43 larval connectivity, the second half of the sentence doesn't make
44 so much sense. So, maybe it's "Maintained larval connectivity
45 pathways in the U.S. Caribbean necessary for recruitment success."
46 Instead of "and its impacts on."
47
48 **ORIAN TZADIK:** It's just lagging. We got it.

1
2 **TAUNA RANKIN:** Okay. Thanks.
3

4 **KEVIN MCCARTHY:** So, a couple comments. I'll stick with this one.
5 Is it implied in maintain larval connectivity? We say U.S.
6 Caribbean. Do we want to limit it that way? Because everything may
7 be coming from outside, the U.S. Caribbean.
8

9 So, that's one thing and in keeping with what Tauna said a little
10 earlier, I would say the one that I recommended changing, the "What
11 had originally been quantified recreational fishing impacts and
12 efforts" that, as Tauna is saying, that that's a step towards a
13 larger goal, right? So, what are we quantifying it for? You know,
14 to what end?
15

16 **ORIAN TZADIK:** Hang on. Can I just back up to the larval one
17 quickly? Because I know this other one's going to give us a bit of
18 a conversation. I was thinking, how about "Maintain larval
19 connectivity pathways necessary for the recruitment and success of
20 ecologically and commercially important fishes in the U.S.
21 Caribbean." Just move it, right? Because--
22

23 **EDWIN CRUZ-RIVERA:** I would argue. "Successful recruitment" sounds
24 better to me.
25

26 **SENNAI HABTES:** Tarsila, then María.
27

28 **KEVIN MCCARTHY:** Yep, Kevin, that's a really good point. I was
29 thinking about that too. The more I think about it, I mean, the
30 quantifying the recreational effort and the fisheries effort in
31 general, I mean, it's going toward everything, essentially. To
32 maintain resilience of fishing communities, to maintain habitat,
33 you know? So, that could just be an operational objective. I think
34 it links to everything without us having to spell out, right?
35 Because when we say, "Fishing communities," we're including
36 everybody, so.
37

38 **ORIAN TZADIK:** I was just going to say that we-- I mean, I think
39 it is important, though, to spell it out here, because of the gap,
40 right? I mean, if we were in a different region and MRIP was going
41 strong and all that sort of thing, we could use it as an operational
42 objective.
43

44 I think there is a larger goal and maybe that larger goal is
45 something about ensuring the use of fisheries statistics to achieve
46 all our other goals. But I think that it should be spelled out
47 just because of how glaring of a hole it is.
48

1 **SENNAI HABTES:** Hang on. María had a comment online and then we'll
2 go back to here. María?

3
4 **MARÍA LÓPEZ-MERCER:** Yeah. Hi, good morning. María López-Mercer.
5 Yeah, I agree with Ori. I think it has to be there in some capacity
6 because of the importance that you have for everything else. I'm
7 thinking about the way that we evaluate management actions is
8 usually from different categories. We see, what is the effect of
9 the management action of the physical component? What is the effect
10 of the management action on ecological, biological component,
11 which includes protected species? And the physical component and
12 in the biological component, we include EFH in there, we include
13 habitat per se, like physical effects, direct or indirect physical
14 effects, mostly direct. And then we go to socioeconomic,
15 administrative, etc.

16
17 So, in a matter, like, if this is meant to serve, eventually and
18 operationally, as something that we could use in our management
19 actions, like to evaluate the effects, anything that goes towards
20 that goal should be part of the strategy that this plan is using,
21 because that's what we are using the plan for.

22
23 And then, I have one question. If you could scroll up a little
24 bit, please, to the ecological biotic. There must be a lag, I can't
25 see it, right?

26
27 **ORIAN TZADIK:** Yeah, we're lagging. It's there on my screen.

28
29 **MARÍA LÓPEZ-MERCER:** Okay. Yeah. And I have the other one. So, my
30 question for you guys is, number two says, "Maintain structure and
31 function of essential fish habitat." But then in number five or
32 whatever, "ID, maintain and conserve nursery habitats of
33 commercially and ecologically important species," which falls under
34 essential fish habitat, right?

35
36 I'm assuming that's on purpose, right? So, you want to bring that
37 out as something that is very, very particularly important to deal
38 with, but it falls under the essential fish habitat, too.

39
40 **ORIAN TZADIK:** I can answer that. Thanks for pointing that out. I
41 think the reason that they're both in here, is because they were
42 derived from different sources. So, the EFH one was part of our
43 original vision statement. And then, the nursery habitats was to
44 do with, that was what was presented in the conceptual models with
45 seagrass and mangroves, and that's how we quantified it.

46
47 So, I think the question to the group is if we agree with what
48 María said she assumed, right? She said that she assumed we pulled

1 it out to highlight its importance. And so, the question is, do we
2 want to keep it pulled out, or do we want to do an example or
3 something, or combine them? Tauna?

4
5 **TAUNA RANKIN:** I like the idea of combining them. Something like
6 "Maintain structure and function of essential fish habitat,
7 especially sensitive near shore nursery habitats" or something
8 like that.

9
10 **MARÍA LÓPEZ-MERCER:** I'm going to interrupt really quick, if I
11 may. Remember that federal waters are not near shore. So, I don't
12 think we should just focus on near shore, like, maybe, everything
13 because essential fish habitat-- I get it. We're talking about
14 nursery, but if we're going to combine it, maybe we should just
15 keep it general.

16
17 **TAUNA RANKIN:** We could take near shore out. I think we need
18 nursery.

19
20 **ORIAN TZADIK:** Again, the lag. That's what I put, Tauna. What do
21 you think?

22
23 **TAUNA RANKIN:** Oh, okay. Sorry.

24
25 **ORIAN TZADIK:** I put "Especially sensitive nursery habitats." What
26 do you think?

27
28 **TAUNA RANKIN:** Perfect.

29
30 **ORIAN TZADIK:** Alright. María, that sounds good to you too.

31
32 **MARÍA LÓPEZ-MERCER:** Yeah, if you guys agree with it there. I'm
33 good. Good.

34
35 **ORIAN TZADIK:** Yeah. Everybody in the room. What do we think? Yeah.
36 Okay.

37
38 **MARÍA LÓPEZ-MERCER:** Well, one thing. You know, we're missing the
39 ID part, right? and I don't know if ID'ing is part of operational
40 or not. And I think part of the issue that we have with essential
41 fish habitat is we need to refine it. Right. Because right now we
42 basically have all waters from the main water line, up to 200
43 nautical miles that includes this and that. And that's kind of
44 like, not that acceptable in terms of, we do want to be
45 [inaudible]. So, if we can add that in there, or if it is
46 understood. But thanks.

47
48 **ORIAN TZADIK:** I would offer just that, in the spirit of the way

1 we've been doing things throughout, right? With the same argument
2 of you need to understand something in order to maintain it, I
3 would say that we don't need it there, and that it is understood.
4
5 **MARÍA LÓPEZ-MERCER:** Sounds good to me.
6
7 **ORIAN TZADIK:** Right, that's an operational thing. Right.
8
9 And then, was there something further down that we were speaking
10 about, or did I-- Tarsila?
11
12 **TARSILA SEARA:** Yeah, I think we need to go back to the recreational
13 one, because as it is stated right now, it is an operational
14 objective.
15
16 **JUAN J. CRUZ MOTTA:** Did you have a suggestion on how to rephrase
17 it?
18
19 **TARSILA SEARA:** I'm thinking about it.
20
21 **JUAN J. CRUZ MOTTA:** I've been thinking about what Kevin said, how
22 to make that a strategic objective. Since we put that there,
23 because of the generalized concern that the recreational fisheries
24 is having a a greater impact on the resource than actually the
25 commercial, the ultimate goal is to minimize that potential threat
26 to the fishery system. So, it would be something like "Minimize
27 the potential impact of recreational fisheries into the system."
28
29 **TARSILA SEARA:** The problems is that we don't have the data to
30 even say that it is greater than the commercial.
31
32 **JUAN J. CRUZ MOTTA:** That's why I say potential impact.
33
34 **ORIAN TZADIK:** Does this go into the bullet three down? Prevent
35 overfishing and/or ecosystem overfishing? I mean, that, you do
36 that through--
37
38 **TARSILA SEARA:** Yeah, that's what I'm saying. Like, I think it
39 goes to a whole bunch of different ones and creating one that is
40 specific-- I don't think we even understand the sector enough to
41 create. So, it's either really something general, like "Promote
42 sustainable recreational fisheries" or something that is, you
43 know, because I don't think we can be-- To me, it links to
44 everything else. The quantifying of it, links to everything else
45 that we already have.
46
47 **ORIAN TZADIK:** What about something like, "Ensuring the use of
48 data from all sectors to inform management decisions," something

1 like that. Did I just get kicked out again?
2
3 How do we feel about that? Does that-- Kevin?
4
5 **KEVIN MCCARTHY:** Say that again.
6
7 **ORIAN TZADIK:** I was going to say, is something about "Ensuring
8 the use of data from all sectors towards management decisions."
9
10 **KEVIN MCCARTHY:** That's still operational to me. So, prevent
11 overfishing, ensure minimal impact of anthropogenic impacts. Those
12 are-- You know, as Tarsila said, we could go through the whole
13 list and it's probably in half of these. So, I'd just pull it.
14
15 **TARSILA SEARA:** I think if it's very clear in our operational
16 objectives, I think the importance will be stated in the document,
17 that that is a major operational step for us to achieve all of
18 these things. We need to understand the recreational sector. And
19 I would even add that we need to also understand the subsistence
20 factor, which we know nothing about.
21
22 **KEVIN MCCARTHY:** I would argue that we understand the commercial
23 sector in an extremely limited way. Because we don't even know if
24 we have all the landings. So, to say nothing of understanding the
25 effort. I mean, I get the importance saying something about fishing
26 in here, much like we need to somehow indicate the concern about
27 climate change. Both of those things if we-- But I'm struggling on
28 how to explicitly state them and make it strategic.
29
30 I mean, it could be something in the mission, or I can't remember
31 the vision/mission statement, but if it's in there, Climate change
32 and fishing-- I don't remember the wording of that right now, but
33 I do think we need to be up front about those two things in
34 particular. One, because if we don't say something about climate
35 change, then we're just not paying attention.
36
37 **TARSILA SEARA:** Do you think that under the "Preventing overfishing
38 and ecosystem overfishing," we could add something there that
39 spells out something about from commercial recreational sectors or
40 something like that.
41
42 **ORIAN TZADIK:** I'm really hoping this will update at some point.
43 But what I did was I took out the first bullet and under, just the
44 category, I have a note to remind us, and I say that "We need to
45 ensure the consideration of data from all sectors. Recreational
46 commercial and for hire." And it's in the heading of this. It's in
47 anthropogenic sources of impacts, parentheses, what I just said,
48 and I swear it'll update at some point.

1
2 But I think that, because what we're saying is that we want to
3 make sure it's included. We want to make sure that we address this
4 data gap of the recreational-- and quite frankly, kind of the rest
5 of it too, right? Like Kevin keeps saying. And so, I think just
6 having a note there that says, "During the operational objective
7 development, during the risk assessment development, when we're
8 pulling out indicators," that sort of thing, "Make sure we're doing
9 it in that way."

10
11 **SENNAI HABTES:** I see we have María and Tauna's hands up, so I'm
12 going to go to María first, then Tauna, then Kevin.

13
14 **MARÍA LÓPEZ-MERCER:** Just go to Tauna because I completely forgot
15 where I was going to say. Come back to me after, please.

16
17 **SENNAI HABTES:** Okay. Okay, Tauna.

18
19 **TAUNA RANKIN:** I was going to second what Tarsila said about maybe
20 adding, "To prevent overfishing and/or ecosystem overfishing from
21 all sectors" or something like that. Because the more I think about
22 it, I wonder if we want to call out the recreational sector,
23 specifically, at our strategic objective level. It seems a little
24 bit, like, picking on them.

25
26 And so, I totally agree that it's an important missing data set.
27 So, I feel like having it at the operational objective level makes
28 sense. But calling them out specifically at the strategic objective
29 level makes me a little uncomfortable. That's all.

30
31 **SENNAI HABTES:** So, I'm just going to hop in and make a comment.
32 I think rather than adding it into the anthropogenic sources, you
33 can make a strategic objective that is focused on data collection.
34 So, you can do "Ensure data collection considers all sectors
35 towards the fisheries management decision support system for the
36 U.S. Caribbean."

37
38 Incorporates all sources, or all sectors, or incorporates sources
39 from all sectors. Kevin?

40
41 **KEVIN MCCARTHY:** María, did you remember what you wanted to say
42 before I start?

43
44 **MARÍA LÓPEZ-MERCER:** Yeah. It was regarding the preventing
45 overfishing or ecosystem overfishing, because to me, this is, yeah,
46 it's anthropogenic, but it's also part of the ecological biological
47 that we have on top, and you can do it on socioeconomic on
48 everything. So, when we analyze for biological effects, we are

1 basically talking about overfishing in there. So, I was just
2 wondering if that is something that it's related to basically
3 everything that we are doing in here. Like in every one of the of
4 the other strategic objectives.

5
6 **SENNAI HABTES:** I would say yes, it is. And I think that these
7 categories were created to help us come up with strategic
8 objectives. They're not necessarily going to be on there when we
9 list the strategic objectives. So, I don't think it's as important
10 as identifying which strategic objective fits under what category
11 as making sure that we are listing all of the actual objectives
12 that we want incorporated into an FEP.

13
14 With that, J.J., I think, had his hand up.

15
16 **JUAN J. CRUZ MOTTA:** Happy to go with whatever you suggest for the
17 strategic objectives. But I just want to leave for the record.
18 Recreation of fisheries on itself is a big issue. It's not that
19 we're picking on them. I'll give you an example. Last year, there
20 was a Dorado tournament in the region where I live. That single
21 tournament got more fish, more biomass, more dorado than all the
22 commercial landings combined for the region for the whole year.

23
24 And then, if you add to that, that there is all these social class
25 implications. When you ask the commercial fishers, they will say
26 "There are these rich people with these big boats fishing, a lot
27 more than we're fishing, but then the regulation is only applied
28 to us." That is seen as very unfair.

29
30 So, as I said before, whatever you decide to put the strategic
31 objective, I'm happy to support that. However, this is an issue
32 and somehow that issue needs to be reflected at the highest level
33 in the document. Thank you.

34
35 **SENNAI HABTES:** Kevin.

36
37 **KEVIN MCCARTHY:** I'm not responding to this, but I'm with you. I
38 understand the sensitivity of the issue. I wonder if we should
39 change the wording of "Prevent overfishing to ensure sustainable
40 fishing" and change "Ecosystem overfishing" to some other
41 terminology. I like "ecosystem," but we don't want to say ensure
42 sustainable fishing and/or ecosystem overfishing. Because now
43 we're ensuring overfishing.

44
45 **ORIAN TZADIK:** What about just "Ensuring sustainable fishing and
46 preventing ecosystem overfishing"?

47
48 **TARSILA SEARA:** Can we then say, ensure sustainable fishing from

1 commercial, recreational sector? Like, can we add that there?
2 Sustainable fishing from all sectors?

3
4 **ORIAN TZADIK:** Yeah.

5
6 **TARSILA SEARA:** So, then we capture the-- Yeah.

7
8 **TAUNA RANKIN:** What J.J. was saying made me wonder if we want a
9 strategic objective around equity. Again, not pointing directly at
10 the recreational fishing sector, but something to, like, striving
11 for greater equity in fisheries in the U.S. Caribbean? Or I don't
12 know what is not going to be overly controversial. But that seems
13 to be what J.J.'s point was sort of getting at. It's not fair for
14 one sector that seems to be made up of wealthy boat owners to
15 deplete the fishery at the expense of the commercial sector.

16
17 **ORIAN TZADIK:** I wonder if we just have a strategic objective
18 because the whole point that we're hammering home with this
19 recreational stuff is that it doesn't exist and it needs to exist.
20 So, why don't we have a strategic objective that says that, and I
21 don't think that's calling anybody out or making anything unfair
22 to say, ensure that recreation or something that would lead to us
23 pointing to the council to say something about, you need to have
24 rec fishing licenses, we need to have a rec fishing data collection
25 program, we need to have all these things, you know, catch limits,
26 bag limits, all this stuff on recreational fisheries as well. I
27 don't think there's anything wrong with calling it out because
28 it's a clear data gap.

29
30 **TAUNA RANKIN:** Well, I think what I suggested yesterday afternoon
31 was something like, ensuring sustainability of recreational
32 fisheries.

33
34 **SENNAI HABTES:** Yeah, which is there. And second, again, I'm going
35 to try and keep us towards the idea of these larger upper-level
36 strategic objectives. Once you look at that strategic objective,
37 specific operational objectives can be "Implement recreational
38 data collection within U.S.V.I. and Puerto Rico." "Institute
39 recreational license within U.S.V.I. and Puerto Rico," right?
40 Those are operational, and those are all captured under, in my
41 opinion, both ensure sustainable fishing from all sectors and
42 ensure data collection incorporate sources from all sectors.

43
44 **ORIAN TZADIK:** And then the licenses would be with the "Greater
45 equity thing"?

46
47 **SENNAI HABTES:** Or within "Ensure sustainable fishing."
48

1 **ORIAN TZADIK:** Right, right.
2
3 **SENNAI HABTES:** Either one. Kevin and then Tarsila.
4
5 **KEVIN MCCARTHY:** I think "Ensured data collection," the last bullet
6 under anthropogenic, is part of sustainable fishing. Because to
7 get to ensure sustainable fishing, you've got to collect the data.
8
9 And I would change the "strive" for "To ensure greater equity among
10 fishing sectors" or something like that "in the U.S. Caribbean."
11
12 **SENNAI HABTES:** I would say "Among stakeholders for fisheries in
13 the U.S. Caribbean."
14
15 **KEVIN MCCARTHY:** Okay, even better.
16
17 **SENNAI HABTES:** Because it's not only fishermen that use these
18 resources across the U.S. Caribbean.
19
20 **TARSILA SEARA:** I was just going to say, just in thinking ahead,
21 even for funding purposes here, can we just say "Equity,
22 Environmental and Social Justice"? Because I think that that's the
23 NOAA term for that EEJ.
24
25 **ORIAN TZADIK:** So, just under the "Ensure greater EEJ." Or do you
26 want me to spell it out?
27
28 **SENNAI HABTES:** Write it out. Tarsila, repeat what the EEJ--
29
30 **TARSILA SEARA:** Environmental justice. So, add environmental
31 justice.
32
33 **SENNAI HABTES:** Equity Environmental Justice.
34
35 **TARSILA SEARA:** So, the NOAA jargon is Equity and Environmental
36 Justice. So, we might want to go with that, I mean, my initial
37 thought was environmental and social justice, which is good, but
38 then I thought about maybe we want to use NOAA's terminology.
39
40 **ORIAN TZADIK:** Okay, so I've got it up there on the screen. And
41 then what was the consensus on Kevin's comment regarding the data
42 collection? Go ahead, Tarsila.
43
44 **TARSILA SEARA:** Oh. I was going to say, I wanted to agree with
45 that. I think that we should just take exactly that and put under
46 operational objectives. I think that's a super important one and
47 it's well written. So just don't lose that and just move it to--
48 yeah.

1
2 **SENNAI HABTES:** Just put in parentheses, after it, highlight it in
3 red, change the text color and say for operational objectives, but
4 leave it on the sheet.

5
6 **MARÍA LÓPEZ-MERCER:** I would like to add, from the management
7 policy governance part, what National Standard 1 said about optimum
8 yield. Because this is the ultimate goal for us, it is conservation
9 and management measures. We can put it however way you want it.
10 Conservation and management measures shall prevent overfishing
11 while achieving on a continuing basis the optimum yield for each
12 fishery.

13
14 So that's something that we do and that's our mantra, right? For
15 every single management action that we have. So, I think it should
16 be incorporated as a strategic objective in here.

17
18 **SENNAI HABTES:** María, can you just put that in the chat and then
19 Ori will copy and paste it in under management policy and
20 governance.

21
22 **ORIAN TZADIK:** Well, wait. My question is, do we want to just copy
23 National Standard 1 here? Or do we want to say, "Ensure that
24 National Standard 1 is--"

25
26 **MARÍA LÓPEZ-MERCER:** It's long. Yeah. So, we can do "Prevent
27 overfishing while achieving, on a continuing basis, the optimum
28 yield for each fishery."

29
30 **ORIAN TZADIK:** All right. Yeah. If you want to put it in the chat.
31 And then, instead of for-- would there be a way, and maybe you
32 read it and I just didn't catch it, but is there a way to say
33 instead of by species, that we can incorporate--

34
35 **MARÍA LÓPEZ-MERCER:** Oh, it says "fisheries" "from each fishery."

36
37 **ORIAN TZADIK:** From each fishery? So, maybe we put it in here
38 though, as like, each fishery could be like multispecies or species
39 complex or something like that.

40
41 **MARÍA LÓPEZ-MERCER:** Right. When we talk about fishery, yeah, we're
42 talking about, you know, it can be the deep-water snapper fishery
43 or the reef fish fishery or the spiny lobster fishery. That's how
44 we kind of define it in our management. All those things,
45 economically, could be defined different, but I think this is what
46 it refers to in the actual National Standard. I'll write it here.

47
48 **ORIAN TZADIK:** Perfect. Thanks.

1
2 All right. So, I'll offer again. We've been looking at this for
3 about an hour. How do we feel about it? And again, particularly
4 from the Lenfest team, is there another source that we should be
5 looking at that we're worried is not included currently? Yeah,
6 okay, I'll do that. Let me just copy that one first.

7
8 **SENNAI HABTES:** I think we should look at that original mission
9 and goals sheet and look to see if there's anything on there that
10 were operational goals that we need to inform our strategic
11 objectives from. Because those were things that we had up there a
12 long time ago. So, maybe if you do like a side by side, or, I can
13 try and put it up as well. After you finish putting that in.

14
15 **ORIAN TZADIK:** J.J. had it accessible, right? I don't have it
16 accessible, do you? Alright, I can find it, hold on.

17
18 **SENNAI HABTES:** Actually, why don't you stop sharing your screen?
19 J.J., why don't you share that screen where you had the mission
20 and goals in like yellow, green, and red and we can look through
21 that and make sure that we're incorporating everything that we
22 wanted to incorporate into this. Well, I think the colors will
23 help inform the conversation.

24
25 Yeah, I think we can look at that real quick, and then we'll go
26 back to our list, look at it as a whole, ratify that, and then we
27 can move on to other things.

28
29 Well, I mean, that's a good-- that's management and governance,
30 right? So, a large problem is enforcement. So, like, that is
31 something that is part of management and governance, but we don't
32 have a strategic objective that is there for improving that.

33
34 **ORIAN TZADIK:** Yeah, and for the guys online that didn't hear.
35 Tarsila was mentioning that the last strategic objective that we
36 added, which is a copy of National Standard 1 is in fact the law
37 and that we should be following the law to which Sennai rightly
38 pointed out, but a big part of all the conceptual models is that
39 enforcement is lacking. And so, I wonder if we just put in there
40 kind of like what I had said originally, instead of focusing on
41 National Standard 1 though, why don't we just say something along
42 the lines of "striving to--" Tarsila, you'll do it better.

43
44 **TARSILA SEARA:** No, no, you can finish that. I just got excited
45 because I think that's a very good point that maybe we should have
46 something there that has to do with enforcement because I know
47 that that was a very, very important point for the fishermen and
48 I think that should be somehow reflected there, yeah.

1
2 **ORIAN TZADIK:** How about "Improve enforcement of the National
3 Stan--" No, because the National Standards are followed by the
4 Council. They're talking about enforcement on the water, so it's
5 different.

6
7 **SENNAI HABTES:** María?

8
9 **MARÍA LÓPEZ-MERCER:** I think it's completely different things,
10 right? And I think the enforcement, what we're talking about
11 optimum yield, you know, we're talking about the fisheries
12 themselves. Enforcement, I think, it is a management, but I think
13 we can add it at something separate as that, but then we need to
14 also be careful what we're asking for because many of the issues
15 that we have with enforcement are because of lack of funding, not
16 because we don't want to do it.

17
18 So, is this a directive to us people to give some money or-- You
19 know, we are very, very aware of what's going on, but we only have
20 one person in the islands. What exactly are we trying to achieve
21 with this will be my question.

22
23 **ORIAN TZADIK:** I would say I understand what you're saying, María,
24 but the conceptual models, what they were describing, was more
25 likely territorial enforcement as opposed to the limited
26 resources. Like you just said, we have one guy for NOAA fisheries
27 on all three islands, but we have a lot of territorial agents. And
28 in which case, yes, they're resource is limited, no question about
29 it.

30
31 I don't think that's the only problem that was being brought up in
32 terms of enforcement. It wasn't just that there's not enough agents
33 out there. My understanding is that it was also that the agents
34 that are out there, potentially, well, might be, you know.

35
36 **SENNAI HABTES:** Tauna, you had a comment?

37
38 **TAUNA RANKIN:** This conversation makes me think about whether we
39 want a strategic objective, like, "Enhance inner jurisdictional
40 coordination and collaboration" or something that reflects working
41 together with the territorial governments, working together with
42 the other agencies that have other mandates and then maybe it ends
43 with to ensure a healthy fishery ecosystem or something.

44
45 **ORIAN TZADIK:** What if it ends, Tauna, with "Promoting better
46 enforcement"? So, it's promoting interjurisdictional-- I have it
47 here as "Enhanced interjurisdictional collaboration to promote
48 effective enforcement."

1
2 **TAUNA RANKIN:** Yeah, it could be at that level. I was even drawing
3 it out to encompass more than enforcement, but enforcement is a
4 big part of it because even if we're talking about Clean Water Act
5 or things like that, we really are talking about enforcement, you
6 know, because we do have water quality standards on the books that
7 aren't being complied with or met already.

8
9 **SENNAI HABTES:** Hang on one second. So, let's go back to yours.
10 But first I just want to make a note. I see two things on here
11 along with this whole governance and enforcement opportunity that
12 I'm not sure that we fully incorporated into the other one. One
13 was like the ecosystem in use in stock assessments, so like I know
14 that's more operational. But I'm not seeing something in our
15 strategic objectives that is making sure that we're bringing EBFM
16 into stock assessments. So, I think we need a strategic objective
17 of that.

18
19 Oh, no. There it is. All right. Never mind. "Incorporate ecosystem
20 considerations and--" All right. Okay. All right. So, then, that's
21 good. So, I guess we can just continue with that one. There was
22 another one, but I can't remember it, because we took it off J.J.'s
23 screen. But, if I figure it out, I'll bring it back up.

24
25 So, María, you still have your hand up, did you have another
26 comment?

27
28 **MARÍA LÓPEZ-MERCER:** Yeah, just wanted to go back to Ori's comment,
29 and I think Tauna just said it how we should probably put it.

30
31 Yes, you're right, Ori. It's not just about that. The problem is
32 also with the agreements, with the government, etcetera, and the
33 resources that are allocated from the territories. So, yeah. So,
34 my question was related to this. What exactly is our goal here?
35 And I think, it's just covered and the enhanced
36 interjurisdictional. As long as that's understood and perhaps in
37 an operational, somehow, we can just work directly with
38 enforcement. Thanks.

39
40 **TARSILA SEARA:** Thanks. I was going to suggest maybe, instead of
41 putting "enforcement" there, could we put something like "prevent
42 IUU" or something along those lines? And so that's a broader-- and
43 it doesn't necessarily, specifically, say anything about
44 enforcement because you could do that in many different ways,
45 enforcement being one of them. And so maybe in our operational
46 objectives, we could list a couple of different ways that we could
47 achieve that. Or, I don't know, that's a suggestion.

1 **ORIAN TZADIK:** So, just quickly, I didn't put "enforcement" in the
2 end. I put "To promote healthy fisheries and ecosystems," which
3 we, but the interjurisdictional collaborations we understand
4 implies with enforcement. I just wanted to point that out. And
5 then if we agree, then, yeah, let's add or "decrease IUU fishing"
6 or something like that.
7
8 **TARSILA SEARA:** Yeah, "decrease" perhaps, "IUU."
9
10 **KEVIN MCCARTHY:** I mean, is that not part of promoting healthy
11 fisheries and ecosystems?
12
13 **TARSILA SEARA:** Everything is promoting healthy fisheries
14 ecosystem, so I don't know anymore. But I just think, I was
15 thinking if we wanted to have something in the strategic objectives
16 that later we can more specifically pinpoint the enforcement issue
17 that we've been discussing, I was thinking we could go with
18 something along the lines of minimizing or decreasing IUU.
19
20 **ORIAN TZADIK:** It's a pie in the sky, it's a strategic objective.
21 Let's eliminate it. Right. Eliminate.
22
23 **SENNAI HABTES:** So, I do think it's important in the strategic
24 objectives to separate things that are things that we are helping
25 to support, create, develop, versus things that are punitive,
26 meaning enforcement definitely has a more punitive action that is
27 separate from a lot of these strategic objectives that we are
28 putting in.
29
30 And so, I think we need to have at least one that is associated
31 with that specific target. And in this case, I think, I don't know.
32 Yeah, "eliminate" I think that's fine to put in. That may be, based
33 on our current levels, impossible for a while, but we can put it
34 in. Yeah, we can try.
35
36 **ORIAN TZADIK:** All right. Do we want to go back to J.J. screen
37 now?
38
39 **SENNAI HABTES:** Do we need to?
40
41 **ORIAN TZADIK:** Or what did we think about the last one here? Sorry.
42 On the record. On the record. On the record. Use the mic.
43
44 **TARSILA SEARA:** I was just saying, in my opinion, we shouldn't
45 have that as a strategic objective, because, as I mentioned before,
46 that is the law. I don't think it needs to be there. We're following
47 the law no matter what. So, that's just my opinion.
48

1 **ORIAN TZADIK:** Any other comments on that? People agree with
2 Tarsila, disagree with Tarsila? Raise hand?

3
4 **MARÍA LÓPEZ-MERCER:** I think we can modify it. I understand that,
5 but this is what we're trying to achieve, whether it's in the law
6 or not in the law. And I think everything that we're trying to get
7 here in each one of these categories of objectives goes towards
8 preventing overfishing and achieving optimum yield from the
9 fishery. Regardless, if it's created in the law or not.

10
11 So, the same way that we're ensuring great inequity, which is also
12 a policy for NOAA, right? It's something that we're striving to
13 do. We should have, in the way that you guys determine is
14 appropriate, something that as the management objective deals with
15 fishing itself, right? The whole point about, what is it that we're
16 trying to achieve, you can say sustainable fisheries, whatever,
17 that goes on too many of the different categories, but it's also
18 a management objective. What is it that we want to achieve with
19 our management actions. In however way you want to put that. And
20 then again, this is my opinion. I defer to you guys on what you
21 would like to do.

22
23 **ORIAN TZADIK:** So, in the anthropogenic sources, number three,
24 what about adding in "Ensuring sustainable fishing while achieving
25 sustainable yield or optimum yield on a continuous basis to
26 maintain ecosystem integrity."

27
28 **MARÍA LÓPEZ-MERCER:** I want to hear what Kevin has to say.

29
30 **KEVIN MCCARTHY:** Thanks, I think we have a problem if we're saying
31 optimum yield because that means a thing. You know, that's a
32 technical term that may be at odds with some aspects of EBFM
33 because the optimum yield, in fisheries, may not relate to what is
34 the best take to have to ensure a functioning ecosystem. So, I
35 think we need to be careful with that term.

36
37 I understand the intent, I think, and I would combine those two
38 somehow, but I don't quite know what word we ought to use in place
39 of "optimum yield." But I think I understand where you're headed
40 with that, and the intent. But if we use that term, fisheries
41 people are going to get all wrapped up in it and that could lead
42 to some conflict with other goals here.

43
44 **TAUNA RANKIN:** Kevin, I'm interested to know if you think we could
45 say something like "Optimum yield for the ecosystem" or put it in
46 an ecosystem context. Because I do know, for instance, the North
47 Pacific Council is sort of having like an ecosystem cap, where
48 they have ACLs for each individual stock, but then they have an

1 ecosystem cap so that if they reach that, it triggers some action.
2 And so, like, there is recognition that there, you know, maybe,
3 what's optimum for the ecosystem is not exactly the same for
4 optimum for a single species.
5
6 **KEVIN MCCARTHY:** Yeah, I'm all for that. I just don't know how to
7 write it. I'm looking at what Ori is putting in and this prompts
8 me to recall some other phrases I've seen that are similar to
9 "Promoting economic gain for stakeholders" that is worded slightly
10 differently, and I can't think of it. I think Tarsila knows what
11 I'm after.
12
13 **TARSILA SEARA:** Are you talking about benefits to the Nation, or?
14 [laughter] No, no, I'm joking, because that's what is under Optimum
15 Yield. No, I don't know, but what I was going to say about that,
16 though, is just, I don't know if we want to just narrow it down to
17 economic gains. I don't think that that's the only purpose here.
18
19 I think that there is a lot more to it. So, I would be wary of
20 putting that there. "Benefit," I don't know, but we're--
21
22 **ORIAN TZADIK:** I'm trying to just get at the ideas that are being
23 presented here, and it sounds like one is the sustainable fishing
24 aspect, two is the ecosystem component, and then three is the
25 optimum yield component. So, I don't think that we're trying to
26 say-- Go ahead, Tarsila.
27
28 **TARSILA SEARA:** I was just going to say, I don't think we need to--
29 - If we use the term "optimum yield" I don't think we need to
30 necessarily spell it out, because optimum yield is sort of this
31 perfect ideal situation where everybody gets everything they want.
32 So, if we use that then, that's what it means. But if we phrase it
33 under an ecosystem like Tauna was suggesting-- yeah, or "optimum
34 yield for the ecosystem," then it's all encompassing. Essentially,
35 we're just talking about everyone's happy.
36
37 **ORIAN TZADIK:** But again, aren't we then locking ourselves into--
38 Like, to me, that's operational, right? Cause it-- am I wrong? It
39 means something, an operational optimum yield is a specific
40 mathematical construct.
41
42 **TARSILA SEARA:** No, it's not. Optimum yield just means, literally,
43 whatever we think it's going to benefit everybody in the fishery.
44 Opportunities for the benefit of the nation, opportunity for
45 recreational/commercial. It's basically anything we want, that is
46 ideal. However, there are frameworks for what it means in terms of
47 how it relates to MSY. But that changes, it can change. But optimum
48 yield as it's stated in National Standard 1 is just whatever,

1 fisheries level, that's going to benefit the nation and promote
2 and provide opportunities for all fisheries, essentially.

3
4 **ORIAN TZADIK:** And you think that including that then incorporates
5 the socioeconomics enough.

6
7 **TARSILA SEARA:** Yeah, it does. It essentially says that it has to
8 incorporate the-- Yeah, it takes into consideration
9 socioeconomics.

10
11 **ORIAN TZADIK:** Because to me, what I was thinking was that that
12 that was incorporated in sustainable fishing but doesn't sound
13 like it is.

14
15 Because what we're trying to get at here, basically, is that we're
16 trying to ensure sustainable fishing practices to promote
17 ecosystem health, but we also want to maximize the benefits for
18 the stakeholders.

19
20 **TARSILA SEARA:** So, optimum yield, actually, that encompasses that.
21 So, I think if we phrase it in a way that we're saying optimum
22 yield for the ecosystem, like Tauna was saying, so we're not
23 thinking like Kevin was saying, people are going to look at that
24 and think on a single species basis. Think of MSY. It's going to,
25 you know, bring in all-- It has connotations, right?

26
27 But the actual definition of it, in the Act, it's very flexible.
28 So, in fact, it provides with opportunities for us to, you know,
29 include the ecosystem component as Tauna was saying. So, I think
30 that's a good idea.

31
32 **ORIAN TZADIK:** How's that, Tarsila. What I have written there.
33 Just "by promoting ecosystem optimum yield."

34
35 **TARSILA SEARA:** I like that. I don't know. There's a bunch of hands
36 up in the, so.

37
38 **SENNAI HABTES:** I'm going to make one quick comment. I think we're
39 getting a little too far field. I think these can go into
40 operational. In this instance, I think if you wanted a strategic
41 objective that encompass all of that and did not include "optimum
42 yield," you could easily have just done "ensure sustainable fishing
43 from all sectors to maintain ecosystem integrity and promote
44 maximum benefits for all stakeholders in the region.

45
46 That does the exact same thing, doesn't include "optimum yield,"
47 and it can be any benefits, it can be ecosystem benefits, it can
48 be socioeconomic benefits, it can be any of those things. María,

1 and then Tauna.
2
3 **MARÍA LÓPEZ-MERCER:** I just wanted to add the word balance, if it
4 works. Because part of this is balancing the various interests,
5 that comprise the overall benefits to the nation, basically.
6
7 So, I don't know if that's-- We're striving for balance. That's
8 what we would like to do. But I think this covers what you're just
9 saying, this covers it.
10
11 **TAUNA RANKIN:** I was going to say something similar. Sennai said
12 "maximize." María said "balance." I was going to say "optimizes"
13 "and optimizes benefits across stakeholders" or something like
14 that. I think that gets at the balance, but I think we have 3 good
15 options.
16
17 **SENNAI HABTES:** I think that some summarizes it perfectly. So, I
18 would say, leave it with that last edition.
19
20 **ORIAN TZADIK:** Great. Everybody's happy with what's on the screen
21 then. All right.
22
23 **SENNAI HABTES:** Do we need to? I mean, were there other things out
24 of that one that we need to incorporate?
25
26 **ORIAN TZADIK:** I'm happy with what's on the screen as opposed to
27 what we developed three or four years ago. And I also think that
28 that list needs to be revisited and restated.
29
30 **KEVIN MCCARTHY:** So, do we think any of these are similar enough
31 that they could be combined? I like fewer strategic goals rather
32 than more.
33
34 **ORIAN TZADIK:** I think that's a great suggestion. Why don't we
35 take it just category by category and kind of approve them. And
36 then, in doing so, we can combine them if we-- how does that sound
37 to everybody? Alright, so let's go ahead.
38
39 **KEVIN MCCARTHY:** Or even across, I mean like-- and we also need to
40 make sure that each of them, if we leave it, is written as a
41 strategic goal and we're not still including operational things,
42 it seems to me.
43
44 **SENNAI HABTES:** María, you had a comment?
45
46 **MARÍA LÓPEZ-MERCER:** I do, very quick. I see that you guys, deleted
47 from the management objectives, "preventing overfishing." Was that
48 on purpose?

1
2 **ORIAN TZADIK:** Yeah, I thought we had it in there, originally.

3
4 **MARÍA LÓPEZ-MERCER:** As part of the-- we had it in there with the
5 optimum yield and I didn't know if that was the whole thing.
6 Because to me that's the number one management objective here
7 related to-- So, I don't know.

8
9 **ORIAN TZADIK:** So, yesterday we had it initially and Kevin made
10 the point that preventing overfishing is part of sustainable
11 fishing. And so, if we're saying that we're promoting sustainable
12 fishing, then by definition, we're not overfishing.

13
14 **MARÍA LÓPEZ-MERCER:** Yeah, I get it. [crosstalk] sorry, under the
15 management part. I don't know if that has to be something, but
16 that's fine. Whatever--

17
18 **SENNAI HABTES:** No, no, I think what the conversation led to was
19 that preventing overfishing would be more of an operational
20 objective rather than a strategic objective and that it would be
21 covered under the ensuring sustainable fishing larger strategic
22 objectives. So, when we get to developing the operational
23 objectives, preventing overfishing or specific operational
24 objectives that achieve that goal, would be listed under that.

25
26 **MARÍA LÓPEZ-MERCER:** Okay. Thank you.

27
28 **SENNAI HABTES:** Alida?

29
30 **ALIDA ORTIZ SOTOMAYOR:** Yes, I think that I agree with Kevin in
31 saying that less strategic objectives and I feel that in the first
32 one that you have, "ecological habitat biotic." Why don't you have
33 abiotic there too and change that to that objective.

34
35 You don't put abiotic as a different strategic objective. It's
36 just the way I'm looking at it, because you can have just one more,
37 that abiotic, in the same ecological habit, biotic, abiotic.

38
39 **ORIAN TZADIK:** I can answer. So, again, I want to not put a lot of
40 credence on these headings. At the end of the day, this is going
41 to be a list of whatever this is, you know, 20 bullet points. It's
42 not going to be divided like this. This is just a way for us to
43 organize it, to look at it, to kind of ensure that we got everything
44 we were looking for. But if you see a way to incorporate that one
45 from the abiotic into one of the bullet points under ecological,
46 then I'm all for it.

47
48 **ALIDA ORTIZ SOTOMAYOR:** Okay.

1
2 **SENNAI HABTES:** Kevin.

3
4 **KEVIN MCCARTHY:** So, I think, reduce and monitor marine diseases
5 is an operational thing, at least in my mind, under "reduce the
6 degradation and enhance the recovery and resistance of marine
7 habitats." Not that we don't want-- Yeah.

8
9 **SENNAI HABTES:** Don't delete, just make it blue.

10
11 **KEVIN MCCARTHY:** And then I wonder, if "ID additional ecosystem
12 essential species" is also an operational thing. The one right
13 above is blue, is operational. The "ID additional ecosystem
14 essential." I don't know yet, but probably "reduce the degradation
15 and enhance the recovery."

16
17 **SENNAI HABTES:** I mean, or it could be a strategic is if you took
18 out "ID" and made it "ensure all ecosystem essential species in
19 need of conservation and management are managed," basically.

20
21 **KEVIN MCCARTHY:** Well, I'll go with the will of the group. But,
22 like I said, I prefer fewer rather than more. Because it becomes
23 overwhelming. You know, if you've just got a laundry list of-- and
24 everything's strategic, then nothing's strategic.

25
26 **ORIAN TZADIK:** Yeah, I would say that this could be operational,
27 because then we're looking at it in a sense of, and maybe change
28 the wording slightly. But we basically want to see them do, like,
29 what they did when they were assigning-- what was it, Kevin. When
30 they were assigning P* values, the herbivores got special
31 consideration kind of thing. Like, that's kind of what we're
32 talking about here, right? That basically, we want to see that if
33 you're an ecosystem essential species, you get special
34 consideration. I think that's kind of what this is getting at.
35 J.J.?

36
37 **JUAN J. CRUZ MOTTA:** This is just a comment for when we start
38 working for operational. For the time being, it's okay that we
39 leave them like that. But eventually each operational objective
40 should be connected with a metric, with something that we're going
41 to actually measure, and then we can assess. Thank you.

42
43 **SENNAI HABTES:** Okay, so Alida and then María.

44
45 **ALIDA ORTIZ SOTOMAYOR:** I'm sorry, I should have lowered with my
46 hand, and I didn't.

47
48 **MARÍA LÓPEZ-MERCER:** So, I think that "ensure consistent essential

1 species in need of conservation and management," are managed. I
2 think that's the directive for the Council. Like a direct directive
3 to the Council "Hey, you need to make sure to incorporate."

4
5 There are other ways of dealing with ecosystem essential species,
6 like putting them in an ecosystem component species that are not
7 actively managed because there are things that go-- Like, giving
8 a mandate to manage those species means you have to set ACLs, you
9 have to do etcetera. There's a lot of things that go into that
10 that don't necessarily are like, let's incorporate it into a
11 management plan, right?

12
13 So maybe "they are managed," perhaps it's not the right word. Maybe
14 "are considered" would be better or something like that. And I
15 wasn't clear if you guys were going to move that into operational
16 or it's just going to stay here.

17
18 **ORIAN TZADIK:** So, I don't know if I'm lagging again on your
19 screen, but I changed the wording and I think we had made the
20 decision to save this one as operational. But I was one step ahead
21 of you and I wrote "considered." I think it works like that. And
22 if you're good with it, then that works.

23
24 **MARÍA LÓPEZ-MERCER:** Got it. Okay. Thank you, Ori.

25
26 **SENNAI HABTES:** So, at this point, I think we have kind of
27 solidified on a list of clear strategic objectives. I would like
28 for us to vote, move this forward, keep them as is. We can continue
29 to make changes. We can clean them up a bit. if we come across
30 ones that are added, we can, but I think we need to have a framework
31 that kind of stays put for a little bit, so we can use that to
32 inform the work that we're going to be doing in the working groups.

33
34 So, what I'm going to recommend is that we take a 15-minute break.
35 People think about these, talk about them and then we come back
36 and finalize this and then move on to organizing working groups.
37 And spend the rest of the hour and a half that we'll have to do
38 that. Okay, an hour.

39
40 Alright, so let's do a 15-minute break-- or 10. Let's do a 10-
41 minute break and we'll be back at 10:45.

42
43 (Whereupon, a brief recess was taken.)

44
45 **SENNAI HABTES:** Okay, everybody. I think if we can come back,
46 reconvene, get started, and we can use this last hour to kind of
47 organize ourselves into working groups. I think for now we can
48 leave these strategic objectives kind of as they are unless people

1 have any clear objections or edits that they want to make on it.
2 We will work on these a little bit, clean them up, and I think
3 send out a finalized version to everyone to review in a week or
4 two.

5
6 But what I think would benefit us the most is if we kind of go
7 through the working groups, assign leads, and talk about how we're
8 going to organize ourselves going forward.

9
10 **ORIAN TZADIK:** Very quickly during the break, these two that are
11 in green were suggested to also become operational objectives under
12 the first one in the bullet point. I happen to agree, but wanted
13 to make sure that everybody else did. That's why they're green,
14 not blue yet. So, if everybody's good with that, I'll switch them
15 to blue, and then we can move on.

16
17 **SENNAI HABTES:** Yeah, I don't foresee that being an issue. I'm
18 fine with moving that.

19
20 So, Ori, once you're done with that, if you'd stop sharing your
21 screen, and then Liajay, if you could put up my presentation, and
22 go down to where we have the working groups, which I think is the
23 second to last section. Like slides 23 through 27, maybe. So yeah,
24 go a couple slides up actually where I summarize all of the working
25 groups.

26
27 **ORIAN TZADIK:** While we do this, I'm going to put it on the record
28 that Sarah Stephenson allowed me to volunteer her for different
29 groups and actively wants to be in some of them, but she's just in
30 the other meeting.

31
32 **SENNAI HABTES:** Right, so I think we can start the conversation
33 with looking at the current working groups that we've developed.
34 Do these still make sense? Do we need to create a new one? Are
35 there any that we can get rid of and/or change into other things?

36
37 We have one for essentially summarizing all of Lenfest. We have
38 another that is working with the ecosystem indicators to identify
39 that. Another for risk assessment. The data repository, I think
40 we've substantially shrunk what that's going to do, but we still
41 need to create a framework and write up to suggest it as a need
42 for the Council.

43
44 **ORIAN TZADIK:** So, why doesn't that fold into the fifth one you
45 got there?

46
47 **SENNAI HABTES:** Into drafting the FEP? Because I think-- You know,
48 drafting the FEP, I think, is going to be the job of a small group

1 of us that are organizing and working with the technical writers.
2 So, I don't know if we need like a separate working group for that.
3 I think there's going to need to be a small group that's going to
4 take all of the stuff from the different working groups and package
5 it. And I would rather that, be like four people rather than a
6 working group.

7
8 **ORIAN TZADIK:** Yeah, okay, so then I would recommend leaving these
9 ones as they are, just understanding that, for example, the risk
10 assessments going to be a big endeavor that's going to occur over
11 the course of a year and that data repository-- And we're going to
12 go through each one of these one by one. --but that data repository
13 might be done in two virtual meetings, for example. Whereas, the
14 risk assessment, people are signing up on that are committing for
15 whatever long term.

16
17 **SENNAI HABTES:** Tauna.

18
19 **TAUNA RANKIN:** I just wanted to flag, for the risk assessment,
20 that it would be good to have a Southeast Center representative
21 since Kelly's no longer there to connect on the ESR indicators.
22 So, I don't know what's the appropriate process for it.

23
24 **SENNAI HABTES:** Yeah, I think we can get to that when we're on the
25 risk assessment slide, so we're going to have to change around the
26 people that are members, as well as timeframes and things like
27 that. But I just wanted to make sure first that everyone's okay
28 with just these same five working groups. It seems like everyone
29 is. So, let's dig into the individual ones starting with the
30 conceptual model melding. So, next slide, Liajay.

31
32 So first off, we need to identify if these people are still
33 available to work on this. Are there others or other people within
34 our group that want to work on it or people that we can recommend
35 that we think should be on it? Edwin?

36
37 **EDWIN CRUZ-RIVERA:** Sorry, I meant to raise my hand and put a
38 thumbs up instead. But as the working groups go, you mentioned
39 yesterday that some people were no longer part of those working
40 groups as they were established. So, the names, I didn't quite
41 have the time to check all of them. Have the names been corrected,
42 or are they still the way they used to be?

43
44 **SENNAI HABTES:** No, they're still the way they used to be, but the
45 only person on here is Rich. He likely will not be part of this
46 working group as he is kind of on his way out the door with a lot
47 of the things for CFMC and academia.

1 **EDWIN CRUZ-RIVERA:** But I also volunteer for one of these, so I
2 don't know where that stands.

3
4 **ORIAN TZADIK:** Just to back it up for a second. Do we want to limit
5 either the number of members on any of these groups or the number
6 of groups that we're signing up for or anything like that. Just
7 because I think that, like, for example, this one we're close to
8 done. Conceptual modeling is done. The melding is done. The
9 components have been derived. What's remaining is just literally
10 kind of pulling them out from what they're in, the format they're
11 in and putting them into the document.

12
13 **SENNAI HABTES:** So yes and no. What is not done as the FEP framework
14 and that is also part of this group. And that is going to be a lot
15 more than simply just pulling out aspects from the conceptual model
16 work.

17
18 So, I think there is still-- I think on all of these, even the
19 data repository one, there's a lot of work that still needs to be
20 done.

21
22 **ORIAN TZADIK:** Well, then I suggest we remove-- oh.

23
24 **TAUNA RANKIN:** Well, if it helps with the sort of, what's the word
25 I'm looking for, like, functionality of the working group, I don't
26 have to be on this one. The reason I'm there is to make sure that
27 I'm connected to the products coming out for use of the risk
28 assessment. But I think, since there is overlap with people in
29 this group-- I'm also happy to stay on. But if, you know, this is
30 too cumbersome of a group I can also come off.

31
32 **SENNAI HABTES:** I don't think we need to-- This is Sennai for the
33 record. --limit the number of members to a working group. What I
34 do think we should limit is people's involvement in groups. I
35 think, for instance, yourself, J.J., Tarsila, probably should not
36 be on anything besides the conceptual models and the risk
37 assessments. And I think, if your efforts are focused on those,
38 that should be fine.

39
40 Myself and Ori, likely, will end up being on all of them, just
41 because we have to be, I think, to keep, as well as Liajay,
42 probably, in order to keep the information flowing between us
43 technical writers and the ones that are drafting it. But other
44 than that, I think you guys should feel free to jump in where you
45 feel your efforts can be best used.

46
47 So, on this one, Liajay, I think if you can-- can you edit the
48 slides or did I just give you a PDF?

1
2 **LIAJAY RIVERA GARCÍA:** No, no. I'm on a PowerPoint.
3

4 **SENNAI HABTES:** Okay. So, if you could take out Richard "Rich"
5 Appeldoorn from that. And then, I would ask if there's anyone else
6 that wanted to volunteer, and I want to make sure that everyone
7 else that's listed is still comfortable working on this one. I see
8 that Tauna's hand is raised.
9

10 **TAUNA RANKIN:** Not to get ahead of you, but I'm very interested
11 in, like, how you're going to identify the leads for these.
12

13 **SENNAI HABTES:** I'm going to ask for volunteers. So, I mean, first
14 I want to make sure that everyone currently listed, so that's J.J.,
15 Stacey, Tarsila, Ori. We're going to leave Sarah on here because
16 she's, I'm sure, fine with it. Liajay and Tauna. Are you all still
17 fine with moving forward on this one? Alright.
18

19 And so, I'm going to ask for volunteers as a lead for this one. If
20 I don't hear one, I'm going to voluntold somebody.
21

22 **TARSILA SEARA:** Do you want to lead?
23

24 **ORIAN TZADIK:** No, I was going to nominate you.
25

26 **TARSILA SEARA:** Oh, okay. I was going to volunteer.
27

28 **ORIAN TZADIK:** I was going to nominate one of you two. Because I
29 think that you-- well, you guys have been knee deep in this stuff.
30

31 **TARSILA SEARA:** Yeah, no, I'm happy to. I mean, it's-- yeah.
32

33 **SENNAI HABTES:** Perfect. So, Liajay. If you could just put in--
34 Yeah, exactly. Tarsila.
35

36 **TAUNA RANKIN:** One more process question. What is being the lead
37 mean and what ability does the lead have to initiate meetings? I'm
38 assuming they're not held to the same standard as the EBFM TAP
39 where you have to like publish in the federal register and all
40 that.
41

42 **SENNAI HABTES:** That's correct. So, these working groups, and
43 that's the reason we set up the working groups, are not required
44 to have the same public notification, nor recording or organizing
45 any of that.
46

47 You guys can meet as a whole, or as smaller numbers members, as
48 often or as infrequently as you like. I'm going to recommend and

1 ask that you meet at least once a month, right now, because the
2 time frame under which-- I think the outputs that we need you guys
3 to come up with is, probably, at the shortest, six months, so that
4 we can actually incorporate them into a draft by the end of the
5 year. And so I think over the next six months, I would ask that
6 you meet at least monthly to discuss, come up with outcomes, tasks,
7 and make sure that they're being completed.

8
9 The lead's responsibility will be to organize and send out the
10 information for the meetings. They will coordinate directly with
11 myself, Liajay, and Ori to give you guys whatever resources you're
12 going to need to continue this work. Whether it's like using the
13 CFMC's Zoom or Teams platforms, things like that. We can get all
14 of that set up through the CFMC, but you need to communicate with
15 us regularly to do that, as well as pass along any of the outputs
16 from the working groups on a regular basis for us to incorporate
17 with the technical writers.

18
19 So that I think would summarize the requirements for any of the
20 leads for the groups. Does that help, Tauna?

21
22 **TAUNA RANKIN:** Yes, very much.

23
24 **SENNAI HABTES:** Okay. So, with that said, I think we can maybe go
25 back over-- We have our members. I don't think we need to add
26 anybody else to that. You guys have your time frames and marching
27 orders. I'd like to see you meet at least monthly, regularly, to
28 discuss and organize and update everyone on the things. And then,
29 I think if you want to fix or change any of the tasks or outputs,
30 we can do that now. But first I'll open it up to your lead, Tarsila.

31
32 **TARSILA SEARA:** No, I was going to ask that question. Do we need
33 to do that now, or is that something that we could, just to speed
34 up the process, or what do you think?

35
36 **SENNAI HABTES:** I mean, I think we should talk about it generally,
37 so you guys have a good idea of what we're expecting from you to
38 have, but you can come up with your own tasks and outputs when you
39 meet for the first time and then send it to us to update.

40
41 **TARSILA SEARA:** Okay.

42
43 **SENNAI HABTES:** But I think generally what I'm looking for from
44 this group is, are two things, right? A summary of like the
45 stakeholder outcomes from Lenfest, which is both a description of
46 the process by which you've done that, so that we can give that to
47 the technical writer to include in the FEP, as well as a summary
48 of the information on the drivers, components, and model work. So

1 that needs to go into the FEP. And summarization of all the inputs
2 from the conceptual models.

3
4 So, I think that still holds the same, right? And that's indicators
5 and gaps, model framework, comparative analysis within and among
6 model types, and the indicator rankings. What we don't have in
7 here as outputs is, you know, a list of strategic and operational
8 objectives informed by the conceptual model. So, I think that's
9 something to add, if you can, Liajay, down at the bottom.

10
11 "A list of strategic and operational objectives informed by the
12 conceptual models." No, no, it's fine. It's not. Yeah. So, "a list
13 of operational and strategic objectives from conceptual models."
14 So, you can just "OBJ from conceptual models."

15
16 And then J.J., I'm coming to you. The last thing I would say is
17 the outputs, is the FEP processes. Meaning the framework of FEP
18 processes derive from Lenfest. What do you envision how that
19 processes should occur based on the information from Lenfest? J.J.

20
21 **JUAN J. CRUZ MOTTA:** A suggestion to delete "comparative analysis
22 within and among models." If we have done that, and that definitely
23 will be part of the paper that Tarsila is writing, but I don't
24 think it will be of much use for the FEP.

25
26 The other you mentioned Lenfest framework. I was just thinking
27 just to mention that in the introduction, just bullet the main
28 components that we're using from the Lenfest Loop in our FEP, but
29 then hyperlink to Lenfest instead of developing the framework again
30 in the FEP.

31
32 **SENNAI HABTES:** So that, you guys should decide on within the
33 working group, right? I don't think that's a decision that needs
34 to be made at the upper level. What I am looking for from this
35 group is identifying the framework for how we want to tell the
36 process for the FEP to the CFMC. And I think what you guys can do
37 within that group is develop something and then present it to the
38 group that's drafting it. Of course, we're going to have to have
39 another meeting to agree on all of these things, but that is one
40 of your tasks and outputs of this group.

41
42 Does that make sense, J.J.?

43
44 **JUAN J. CRUZ MOTTA:** Yeah, it does. Sorry to jump ahead, but about
45 the next meeting. I think we should have one like before the end
46 of the year. So, we discuss all these things that different groups
47 are doing together, but also not to avoid what happened during the
48 last year that we didn't meet for a long time and then it took us

1 like one day and a half to come back to speed. But we can leave
2 that for--
3
4 **SENNAI HABTES:** Yeah, no, I don't disagree. And that's something
5 we will do. I'm going to talk with the CFMC to make sure that we
6 can have that other meeting. But in the interim, you guys, as a
7 working group, should meet monthly. I'll leave Tarsila to organize
8 that, but you tell myself and Liajay what you need to get that
9 done.
10
11 Okay. So, wait, Kevin, before you leave. Guys, I'm going to stop
12 this just for a second because Kevin is a member of our EBFM TAP
13 and I do need him for one vote that I'm going to bring up now
14 before he leaves.
15
16 So, the one thing that we need to do is approve the verbatim
17 transcript from the last meeting. I hope everyone has had a chance
18 to take a look at it. So, what I'm going to do is call for a voice
19 vote to approve the verbatim transcripts from the last meeting
20 before Kevin leaves. And I will ask for someone to motion and
21 second.
22
23 **ORIAN TZADIK:** Yeah, motion to approve the transcript from the
24 last meeting. This is Orian Tzadik.
25
26 **EDWIN CRUZ-RIVERA:** Second.
27
28 **SENNAI HABTES:** Okay, with that, it's open for discussion. Does
29 anyone have any edits, revisions, or changes that need to be made
30 to the verbatim transcripts? Okay, hearing none, seeing none, I
31 will call for a voice vote.
32
33 Are there any objections to approving the verbatim transcripts as
34 sent out to the EBFM TAP by Liajay? Hearing none, seeing none,
35 I'll ask if there are any abstentions.
36
37 **KEVIN MCCARTHY:** I'm going to abstain because I don't think I was
38 there. So, I have no comment on the transcript. I don't think so.
39
40 **SENNAI HABTES:** Yes, you were.
41
42 **KEVIN MCCARTHY:** I don't remember it.
43
44 **SENNAI HABTES:** You are on the transcript.
45
46 **KEVIN MCCARTHY:** Okay, well. Then I'm fine with it.
47
48 **SENNAI HABTES:** No, it's fine to abstain. So, we have no

1 objections, one abstention. All other EBFM TAP members have
2 approved. So, Kevin McCarthy, the single abstention, no
3 objections. All others approve the verbatim transcripts as they
4 stand.
5
6 With that, we're going to say bye to Sarah and Kevin. Sarah, I'm
7 putting you on two EBFM TAP working groups.
8
9 **SARAH STEPHENSON:** Did you leave the question?
10
11 **SENNAI HABTES:** No, I took it off, right? So, right now, you're on
12 the conceptual models. The lead for that is Tarsila. You're likely
13 going to also be on the risk assessment.
14
15 **JUAN J. CRUZ MOTTA:** And also, on the-- [laughter]
16
17 **SENNAI HABTES:** Oh, well, maybe. I don't know. Tauna hasn't decided
18 if she's going to be the lead, but she'll be on. I'm hoping Tauna
19 will agree to be the lead. Tauna? And she's out.
20
21 **TAUNA RANKIN:** [crosstalk] Just kidding.
22
23 **SENNAI HABTES:** Alright, so, thank you guys, we appreciate it.
24 Safe travels.
25
26 Okay, so let's go back to the tasks. Are there others that are
27 finished that we can strike through? And then, you know, others
28 that you wanted to add and include.
29
30 Okay, so you guys can do that.
31
32 **ORIAN TZADIK:** I'm not sure that we need to remove stuff. Yeah,
33 just when you get together as a group, like, you know.
34
35 **SENNAI HABTES:** So, I think, you guys can use this as a framework.
36 If you guys can just update me with this same slide with what you
37 plan to do after your first couple of meetings, that will help me.
38 I think the main thing to think about over the course of these
39 next six months while we're doing this, is we need information to
40 get to the technical writers while we still have them, which the
41 current one is only two months. We're likely going to be starting
42 to identify another technical writer or consultant to work on the
43 risk assessment. And so, they will kind of take on after Kat leaves
44 in the next two months. So, focus everything on those kinds of
45 outputs.
46
47 So, I think with that, we're good on the conceptual models. We can
48 move on to the next one. There should be two slides, Liajay,

1 because I think I messed up how I organized it. Yeah, skip that
2 one. Okay.
3
4 So, ecosystem indicators, I believe we need to take out Kelly and
5 Sean. They're no longer working on that. I think, maybe, I'm going
6 to split Tarsila and J.J., so we don't have you overloaded. So, on
7 this one, I'll maybe ask for J.J. and since, Tarsila, you're the
8 lead, we can take you off of this one. Stacey, I think you
9 definitely need to be on this one.
10
11 **STACEY WILLIAMS:** (Dr. Williams comment is inaudible on the
12 recording.)
13
14 **SENNAI HABTES:** I mean, if you would like to be the lead, you're
15 welcome to, but you don't have the time, I would assume.
16
17 **STACEY WILLIAMS:** This is Stacey. I really can't be the lead. I
18 have a bunch of field work and a big project starting in June.
19
20 **SENNAI HABTES:** Yeah, makes sense. So, Liajay you want to remove
21 Tarsila, that's okay. Tauna, I'm going to ask-- So, let me ask for
22 everybody else, Tauna, do you want to be on this one, or do we
23 want to leave you just on, I think, we need you on risk assessment,
24 and we need you on the conceptual model one. So, I would recommend
25 maybe us taking you off this one, if that's okay?
26
27 **TAUNA RANKIN:** Yes. Yeah, I'm fine with that. I think there is
28 some overlap in membership on the risk assessment, so I can get
29 what I need through that.
30
31 **SENNAI HABTES:** Perfect. Edwin, this is one that I'm going to add
32 you to. And Alida, I think if you have the time, I would also like
33 to add you to this one because I think a lot of the outputs on
34 indicators are going to be necessary for outreach and education.
35
36 **ALIDA ORTIZ SOTOMAYOR:** Okay. I'll take it.
37
38 **SENNAI HABTES:** All right. Thank you, Alida. I appreciate that.
39 Edwin, are you okay with being on this working group?
40
41 **EDWIN CRUZ-RIVERA:** Yes, I volunteer. If you could correct my name
42 to Cruz. Thank you.
43
44 **SENNAI HABTES:** It's just slow to update.
45
46 **EDWIN CRUZ-RIVERA:** It's okay.
47
48 **TAUNA RANKIN:** Maybe this is a job for the lead, but definitely

1 someone from Southeast Center needs to be on this. Adyan or Mandy.

2
3 **SENNAI HABTES:** Yeah, so I'm going to put both Kevin and Adyan on
4 this one, and then I will clear it with Kevin afterwards. So, I
5 will leave it for the two of them to decide.

6
7 So, if you could put Kevin McCarthy and Adyan Ríos. I assume Kevin
8 will probably recommend Adyan, but, you know, I don't know. We
9 definitely do need someone from, Southeast, and I'm also going to
10 recommend that one of them take on the lead. It might even be
11 Rachel, I'm not sure. But I'll have that conversation with them.

12
13 Until that time, you can put me down as the lead, Liajay, and I'll
14 organize it until I get clarity from Kevin.

15
16 **JUAN J. CRUZ MOTTA:** Just to mention that Kevin's hypothesis, as
17 you speak-- [laughter]

18
19 **SENNAI HABTES:** I mean, I told him I was going to put him on.

20
21 **JUAN J. CRUZ MOTTA:** --accepted.

22
23 **SENNAI HABTES:** I didn't put him as a lead yet. I put myself as
24 the lead. But I said I was going to put him on two working groups.

25
26 **JUAN J. CRUZ MOTTA:** It was meant to be the last half an hour joke
27 of the meeting.

28
29 **SENNAI HABTES:** Well, J.J., I just want to put on the record. I do
30 what I say, I'm going to do. [laughter]

31
32 All right, so on this one, I think the large aspect of tasks we're
33 going to need to do is just coordinating with the Southeast
34 Fisheries Science Center to get a lot of the combined list of ESR.
35 And then, work with the conceptual model group to kind of create
36 that finalized list, hyperlinks and data accessibility. And then,
37 a large aspect will be creating that table that we want to put
38 into the FEP.

39
40 And so, for now, I think, I will likely have us meet once a month
41 as well. And I will organize that until I can identify if we have
42 someone from Southeast Fisheries Science Center that's willing to
43 take on the lead for doing this. Is everyone okay with that?

44
45 All right. So, next one. All right, risk assessment. I think we
46 need to delete Kelly and Rich off of that one. And we can add Sarah
47 with the question marks and just put in Sarah Stephenson. María,
48 are there ones that you want to volunteer? Sorry, I forgot you

1 were on. I apologize.
2
3 **MARÍA LÓPEZ-MERCER:** Yeah, I want to volunteer for this one. I'll
4 work with Tauna and Sarah.
5
6 **SENNAI HABTES:** Perfect.
7
8 And then we have Ori, Tauna, and I believe we're going to need
9 Tarsila, because we have J.J. on the indicators. And then, Tauna,
10 you have your hand raised.
11
12 **TAUNA RANKIN:** I was going to say we needed somebody else from
13 the-- Well actually, this doesn't address it. I was going to say
14 we need somebody else from the indicator group. Because Tarsila is
15 not on that one now.
16
17 **SENNAI HABTES:** Yeah. So, Ori and I are, and then I'm going to
18 also, this is the other one I'm going to put Kevin on. And so, by
19 Kevin, you can just put in parentheses, SEFSC, and he can delegate
20 an actual person for that if he's not going to sit on it. But he
21 will need to sit on at least one because he is a member of the
22 EBFM TAP. And all of that can stay in the record.
23
24 **TAUNA RANKIN:** I think that's fine. But I think someone from the
25 Center needs to be on the data one too.
26
27 **SENNAI HABTES:** On which one?
28
29 **TAUNA RANKIN:** On the data one, which we haven't gotten to yet.
30
31 **SENNAI HABTES:** Yeah, that's true. But I have an idea for that one
32 that I've already talked with Kevin about, so I think we'll
33 probably be okay. Is there anyone else that we need to add into
34 the risk assessment?
35
36 I feel like we should find-- we're going to need someone from the
37 SSC, well I guess we have J.J., no we have Tauna, no we have
38 Tarsila that's from the SSC on that so we're okay there. Now I
39 need a lead. So, is there anyone that would be willing to take on
40 lead responsibility for this one? Tauna! You're recognized.
41
42 **TAUNA RANKIN:** I'll be the lead, if that's appropriate.
43
44 **SENNAI HABTES:** Excellent! Wonderful. So, again, just communicate
45 with Liajay and myself regarding what things you need at a minimum.
46 I would love for you guys to meet on a monthly basis. I think your
47 first meeting is going to be to refine the goal and steps that
48 you're going to work on, and then let us know what you need and

1 how we can do that. What I foresee is the largest output from this
2 one is to define the framework for risk assessment that we want to
3 put into the FEP.

4
5 We can also, if the other project that you guys are doing, that
6 we're all going to be helping with, I'm sure, gets to complete an
7 actual full on risk assessment, that's great. But for the FEP,
8 what we need is the process by which we're doing that, clearly
9 laid out and spelled out. And so, I think that is, that is the
10 main outcome that we need from the EBFM TAP risk assessment working
11 group. And I'll be on the meetings to continually remind everyone
12 of what we need.

13
14 So, I think that's good, and we can maybe move on to the next one,
15 Liajay? All right. So, this one's data repository. Let's see, so
16 we have Edwin, Kevin, Ori, and myself. Tauna, did you still want
17 to-- I don't think. I mean, you're already on two of the largest
18 ones, so I think we need to take you off this one.

19
20 **TAUNA RANKIN:** I agree.

21
22 **EDWIN CRUZ-RIVERA:** All right. So, Edwin, I think needs to stay
23 on. Sarah is already on two, right? María, would you be willing to
24 help out on this one?

25
26 **MARÍA LÓPEZ-MERCER:** So, I think this is something that I think
27 Sarah was interested in working with and I will help out with her.
28 I think this is her strength, right? The data stuff and this is
29 what she works in. So, you can put me next to her because we
30 provide, we support each other, right? But this is something that
31 I know that she was interested in participating.

32
33 **SENNAI HABTES:** Okay, so we'll leave both of you on that one. And
34 then, I think, where it has Kevin's name, Liajay, if you'd put
35 slash Rachel Eckley, because I'm going to ask for her help on this
36 one as well.

37
38 No, I think we leave them for now. They're not members, they can
39 be invited guests. They have a structure by which they're doing
40 this already, for the US Caribbean. So, I think it would be useful
41 to use that as like an example. They don't do it in-house. They,
42 they hire consultants that manage it now.

43
44 And so, I think, I will lead this one because I have to. Because
45 I already have an idea of what needs to happen with this. So, I'll
46 just need people to help, because I can't be writing a lot of
47 things right now, because I have a lot of other things. The
48 indicators? If you'd be willing to act as lead, that would be

1 great. Okay.
2
3 **ORIAN TZADIK:** (Dr. Tzadik's comment is inaudible on the
4 recording.)
5
6 **SENNAI HABTES:** I don't have the time for that. This one I can
7 lead.
8
9 **LIAJAY RIVERA GARCÍA:** Sorry, for the record. Alida, made a comment
10 that she has to leave at 11:30 a.m. just in case you need to add
11 her into another group just to keep that in mind.
12
13 **SENNAI HABTES:** No, I think we can just-- if Alida is fine being
14 on the indicators, that, I think, is where we're going to have a
15 lot of outreach and education, so I think that's fine.
16
17 Alida, thank you so much for attending and all your help as always.
18 I guess if you want to head off at 11:30, that's absolutely fine,
19 and we will keep you informed as we move forward.
20
21 And so, this one, I don't think the monthly is maybe necessary. I
22 think we could probably do every two months, but I need to work
23 out some things on information. And what I will do is for each of
24 these working groups, I will be sending out a link to a part of
25 the Google Drive. You will each have your own folder that the leads
26 will have edit control and other members will have viewing control
27 so they can kind of change things around. But Liajay will work on
28 that with me after we get settled down from this meeting. I will
29 send you guys a link to where it is once we've organized it a
30 little better.
31
32 And then last but not least is the drafting. Oh, we don't have
33 anything for that. Maybe go back to that first slide. I guess I
34 didn't put one. Yeah. Yeah, with the colors. For the different
35 working groups. That one.
36
37 Alright. So, drafting the FEP, maybe if you can just edit in that
38 little box where it says TB determined. I think on that we will
39 have Katharine Tzadik, who is the current technical writer. Ori.
40 Yeah, all technical writers. Yeah, just put all technical writers.
41 And then you could put Ori, myself, Liajay and then, Rachel Eckley.
42 Kevin said she can help with populating the folders with all the
43 documents, creating the hyperlinks and the tables. And so, I will
44 reach out. I will chat with her about that at the strategic
45 planning meeting, but I believe she would be a good person to help
46 out with that.
47
48 I don't think so, unless there are others that want to give

1 themselves more work, which I seem to keep doing every time I come
2 to these meetings. I appreciate that.

3
4 Okay. Well, I think that's-- I think we did it. Ahead of time. So,
5 at this point, I think, we've done all the motions we need to do.
6 We've completed the working group organization, so I'm going to
7 open it up for questions, concerns, other things that we need to
8 discuss. First, I see María's hand is up.

9
10 **MARÍA LÓPEZ-MERCER:** Sorry, I was, I was on a phone call before.
11 So, for the FEP draft, for whatever is needed in terms of review,
12 etcetera. I want to let you guys know that, you know, our Caribbean
13 branch is available, to participate. Not in the actual drafting,
14 right, because we are still really, really busy. However, we would
15 like to participate in any reviews of information at any time.

16
17 **SENNAI HABTES:** Thanks, María. So, can we put you down as kind of
18 the contact for that?

19
20 **MARÍA LÓPEZ-MERCER:** Absolutely. Yes.

21
22 **SENNAI HABTES:** So, you can put in "review" on the drafting FEP,
23 María. Thanks, Liajay.

24
25 Okay, so with that said, is there anything we want to discuss or
26 should we just be happy that we got everything done early and
27 adjourn the meeting?

28
29 I mean, I'm tired. That's generally how I feel at the end of these,
30 but yes. Okay, well, if there is nothing else, I will ask for
31 someone to motion to adjourn and a second and then we can vote and
32 close out the meeting.

33
34 **ORIAN TZADIK:** This is Ori, motion to adjourn.

35
36 **EDWIN CRUZ-RIVERA:** This is Edwin, I second. Wow, we did it.

37
38 **SENNAI HABTES:** Great, so with that, I will have a voice vote, all
39 opposed to adjourning the meeting. Seeing none, hearing none, any
40 abstentions? No, so with that no abstentions, I will say thank you
41 to all, for a very successful and busy workshop.

42
43 I appreciate all of your efforts and all of your time. This is
44 Sennai Habtes. It is 11:32 a.m. on May 5th, 2023, and I will call
45 the EBFM or Ecosystems Based Fisheries Management Technical
46 Advisory Panel, Caribbean Fisheries Management Working Group
47 meeting to a close.

1 Thanks all and have a good rest of your day and since it's Friday,
2 a wonderful weekend. Take care all.

3

4 **TAUNA RANKIN:** Thank you. Happy Cinco de Mayo. Bye all. Safe
5 travels.

6

7 (Whereupon, the meeting adjourned on May 5, 2023.)

8