

MAFAC MEETING
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10:40 am CT

Coordinator: Thank you for standing by. Today's call is being recorded. If you have any objections, you may disconnect at this time. I would now like to turn the call over to (Sara McDonald). Thank you. You may begin.

(Sara McDonald): Good morning and good afternoon, everybody. Thanks for joining the Protected Resources Subcommittee meeting.

I am looking at you. I - just I'm not looking at my camera. Just so you know, I moved you all to the side so you can see my screen. So today we're going to be talking about continuing to work on the marine mammal deterrence project that we started.

Just to give you a little recap. Earlier this year, the NOAA Fisheries put out a rule on the term - on acceptable ways to deter marine mammal interactions with fishing gear and personal property, as well as aquaculture gear. And they received a lot of feedback, and one of the comments that they received was that nobody knows whether or not this is - that these - the terms are actually effective at deterring marine mammals.

It was just that the rule was these are acceptable under the (Modern Fish Act) that the users would not be prosecuted. So what we're doing for them is we're going to try to identify which gears should or which deterrent mechanism should be tested for effectiveness because they authorize over 200.

So we're trying to narrow down the scope of what they want to test or fund to get tested by other people. And so we decided to come up with the severity index,

which is basically like try to prioritize this universe of over 200 to which would have the biggest bang for its buck.

So in other words, if this deterrent technique is effective, it will reduce costs, it will reduce time for fishermen or farmers or, you know, people. You know, it will reduce costs as far as damage and things like that.

So what we decided to do and this is just recap for everybody, it's also in the notes, is come up with a survey of the different user groups. So we have the commercial fishermen, we have recreational fishermen and we have folks in the aquaculture industry.

And what we wanted to do is create a short survey. The way survey design works is after you create some draft survey questions, you have focus groups. So we were going to have one focus group for each user group to refine the survey questions, possibly narrow down the list because I know that people will say, a lot of people have survey fatigue and that we may not want to, you know, ask as many questions as we are initially proposing.

And so the purpose of the focus group is not only to refine the questions themselves and how they're being asked, but also the number of questions. So we can ask the focus group, "Hey, if you could eliminate - if you want - if we wanted to, you know, eliminate three questions from this list which ones would you want to eliminate?" So that's the purpose of a focus group.

And then after you have your refined survey, when it's all taken care of, then you actually distribute the survey. And then the other thing that we were thinking of doing was supplementing the survey with some semi-structured interviews through workshops, through workshops either at different professional meetings or we could have even a workshop or a small meeting, small calls like

individually through WebEx, through different - with different users and get a little bit more kind of color or commentary, a little bit more background as to the way they're answering what they're answering.

And the way you analyze that information, we already had a nice lesson on that earlier this week is through in vivo. And I've done all this type of research through my dissertation, so I'm very familiar in working with in vivo. I'm very familiar with survey design and survey question.

The other thing about surveys that Heidi mentioned is that there is a process through OMB where we have to just make sure it gets approval and that's very similar to what happens at a university when you have to make sure that you get proper university approvals in working with human subjects. So I'm assuming it's a very parallel process.

So anyway, where we are right now is I just off the cuff created this Google doc, drafted some questions of some information because we really need to know background information about what equipment people are using. Are they encountering marine mammals? What's the nature of that encounter? And also, we wanted to ask some economic questions to get to the severity.

And so that's what I have shared on my screen right now. We received a little bit of feedback. You might have read email from (Donna) and also from (Sebastian). I was able to - I did get some response from the folks that protected resources who created this rule that said there actually have been interactions with the aquaculture industry and specifically in Hawaii and on the West Coast and also in other parts of the world.

So I don't know if we want to eliminate aquaculture just yet, but maybe we can make aquaculture the last group, the last focus group, sort of, because I think that

these questions are a little bit more designed toward commercial recreational fishing and maybe a little bit on personal property, but not maybe as well designed for aquaculture. So that's sort of the summary. Before we move forward, are there any questions?

(Pat): Yes, thanks for the overview, (Sara). I was just thinking, you know, having read (Sebastian)'s comment that it would be easy enough to modify the wording to make it more generic to include aquaculture.

So, for example, what species do you fish for? What species do you work with or something like that or work with or fish for? Similarly, you know, what regions do you work in? Use something like that as opposed to fish, but we can do that later.

(Sara McDonald): Yes, yes. This is something that I think we could do offline, but to make it more applicable across user groups. Okay? So I'm just taking notes here at the top. If you want, I can make them a different color if that's easier. But let me just do that.

Heidi Lovett: Any...

(Sara McDonald): Hey, Heidi?

Heidi Lovett: Yes, (Sara), this is Heidi. So two things I'm happy to take those two notes for you and then lower my hand, and then I just thought it might be interesting to share what (Megan) shared about what was coming up at that aquaculture - large international aquaculture conference in early, late winter, I guess, that there's a session on interactions like this, I believe, right?

(Sara McDonald): Yes. (Megan), go for it.

Heidi Lovett: Sorry, (Megan), to put you on the spot.

(Megan Davis): No problem. I don't have all the details in front of me, but it is the tri-annual Aquaculture America conference and it's in San Diego. It's the end of February, beginning of March, and there is a session specifically on marine mammals and aquaculture interactions.

And I don't have the description in front of me, but I can always find out and send it out to the group. But it just seems so timely. It sounds like (Sara) is going to be able to make that meeting, so that's terrific and I'll be there as well.

(Sara McDonald): Yes, I just raised that, so, sorry?

(Megan Davis): Oh, I was just - I just raised that topic so that others know that it wasn't something that this group recommended. It's just something that we learned about. So it's obviously, as a topic of interest, it seems to aquaculture individuals around the world and across the US.

So it just may be very regional, as you noted already also.

(Sara McDonald): Yes. Great. Thank you, (Megan). And yes, I live in San Diego, so I figured it would just be really easy. But - so this also gives us a little bit of a deadline.

(Megan), you said it's like February, March-ish?

(Megan Davis): Yes, it's the last couple of days in February and the beginning of March. It's usually like a three- to four-day meeting. I'm happy to send out more details.

(Sara McDonald): Thank you. Yes, that would be great. So, Heidi, I'm no longer taking notes because I'm going to need you to take the notes, then. Thank you. Great.

Well, (Megan), that's really helpful. So I think then one of our, you know, first steps, I think, would be then to modify these. And again, we can do these offline. I agree that like, you know, editing in a group is never fun. So, I think - but making these a little bit more generic for that and I can take a stab at it and then, you know, you guys can take a look.

So here are some of the - basically, some of the questions and we did receive some comments from other folks in protected resources about the questions essentially talking about adding an I don't know or an NA response, which is pretty typical of surveys. And what we - I broke it down into background marine mammal encounters. I changed the word from interactions to encounters per course recommendation because I like that better, especially because people may not know what an interaction is.

I also did try to define it a little bit as by-chance depredation, maybe climbing on your dock or vessel. I'll add an aquaculture example here as well, like getting caught in your net or your net pen or eating, you know, eating or getting entangled in ropes or things like that.

So the first thing is just really trying to get information about what's going on, you know, what is the person doing? What are they fishing for, if they're fishing? Or what are they (learning), the type of gear so that we can at least get an idea because a lot of these deterrents are based on the gear that's used and where it's being fished and how - you know, what's the nature of the interaction?

So also seasonally and this is going to change. We also think that there might be some, as Heidi just mentioned, there might be some regional specifics as far as what's happening. And I know, for example, there's a big issue in Florida and in the southeast US, bottlenose dolphins taking bait off of recreational fishing line.

So that is something that is - has been already identified as an issue, but that may not be an issue in Washington State. In Alaska its likely lots of depredation from long line vessels from barge whales, things like that. So trying to get the nature of the problem so that we can better identify as the agency like, oh, in the Alaska region, here's where you need to focus your efforts on this. We're going to be testing a mitigation or, you know, a deterrent versus in the southeast US that might do that.

So that's sort of the idea of the background information here and then describing the nature of the encounter. Do you even encounter them? If you don't, obviously, then the survey can end and - but I'm assuming if they're taking the survey, then hopefully they will actually have some something to describe.

And if they have an idea of the type of marine mammal they interact with and then someone from Protective Resources said if you actually know the species, you know, list the species as opposed to just groups of species or species resembles it. And then the impacts, and if this is the impact to the users, so whether as a farmer or fisherman or somebody, a dock, you know, a dock owner, but, you know, what's the nature of these interactions or these encounters? And does it cause damage? And how often does it happen?

And then have they tried and (unintelligible) tried any gear modifications that these are recommended new questions. So this is just sort of the overview. I know we haven't - people haven't had a lot of time to look at this. So I don't know if you guys wanted to go through this question by question or if you just wanted to talk sort of more generically speaking.

Heidi, sorry.

Heidi Lovett: So I just wanted to add that I know (Donna) in the past has raised the topic of the - that depredation happens in recreational fisheries as well as commercial fisheries. So the goal is to be addressing both sectors and not that way.

And then next, I thought it might be rather than sort of the nitty-gritty of editing questions, it's more the concepts. Are there any missing - I think today would be best used if we think about, are there any concepts or topics that are missing or things that maybe just should be expanded upon a little bit like sort of from that big picture look? And then obviously, the committee is going to be refining this over time. So I just thought the committee as a whole, since we've got some additional members here, might be able to weigh in on those kinds of questions.

(Sara McDonald): Thank you. Yes, I think I agree. And if there any - is there anything here that you feel - sorry, barking dog. Anything that should be removed or anything that you have - really uncomfortable, is a lot of discussions as well. But yes, I think I agree, Heidi.

I'm going to hang on one second. I'm going to mute myself and shut my...

(Donna): So, Heidi, I - as I - this is (Donna). And as I look at it, I'm just trying to see where we could shorten the questions, kind of combine some questions. And so that's kind of what I'm looking at. I mean, I think it speaks to both recreational and commercial. But I was just trying to see how we could like simplify it because we all know that we've been talking about people don't want to get bogged down by a long survey. They don't want to be asked a lot of questions that don't maybe address their concerns.

So just leave a space for them to put things down that may affect them that we didn't think of and then are we handing this out or we do have a phone call

survey? I totally forget from our last conversation. If we're doing this ourselves or how we're getting this to the affected person.

(Sara McDonald): So sorry, (Donna), you might have missed the intro where I mentioned one of the purposes of doing a focus group and survey design is to help refine the questions and also reduce the number of questions.

(Donna): Right.

(Sara McDonald): So I think that can happen in a focus group. And then we were talking about possibly doing a Web survey and then following up with at professional meetings or even with a webinar - with a couple of webinars or, you know, having workshops where we could flush out some of the whys, some of the details through semi-structured interviews for people who want to provide that additional color.

But as far as the survey goes, yes, we want to keep it as simple as possible, I agree. So it's easy to analyze. And if necessary, you know, I'm open to, you know, mixed methods too. It can be Web, it can be phone.

And (Megan), you have your hand up.

(Megan Davis): Yes, thanks, (Sara). This is just a formatting suggestion to make the survey easier is to not have fill in the blanks, but if you've got examples there as to list examples as a check off box and then you could always have an Other where people could fill in, but that will make a survey go a lot faster if you don't have to have people fill in things. So just a suggestion on the format.

(Sara McDonald): Thank you. Yes, I agree. And I think there - and there's survey software that also automatically will help with some of that and logic, meaning that you're not

going to see it like when you take it, if it - it'll just actually skip. If you won't have to skip, it'll skip it for you. Like, it'll skip to the next question for you. There's different service software that allows for that.

So, yes, and typically a lot of times you also add like an Other with a blank if people want to fill out a blank. But you're right, to make it - it also makes it more standardized if you don't have fill in the blank a lot, so it helps with the analysis as well. So thank you.

Any other comments about the overall sort of topics that we have? Have we - is there anything glaring that we've missed that we think needs to be added or included?

(Pat): I note that (Richard) has his hand raised.

(Sara McDonald): Oh, thank you. (Richard). Sorry. It's hard - I'm working on two screens here. Thank you.

(Richard): No, I haven't really looked at all the questions in any detail, but I was just wondering if you got into some indication as to the severity of these encounters to the individual. The survey - presented in the survey, like recreational fishermen might encounter, you know, like we do in Alaska, the sea lion picking a salmon off your hook. It happens occasionally, but you just, you know, move areas and get away from that sea lion.

Whereas a commercial fisherman that's put out 5,000 hooks and have whales predate the predation on their black cod is very (precarious). You know, they're losing a lot of money and time and so that is a huge nuisance to that person.

So is there any indication as to the question, though, get to the level of severity and the, you know, impact on the history of that issue?

(Sara McDonald): So if you look at Question 7 through 10 that I've highlighted here, we have some. I don't know if it's comprehensive enough that we have here, you know, for us to react, like if you lose bait, you know, do you lose bait? And if so, estimate how much bait is lost and we can provide ranges like (Megan) said, rather than having people put their own ranges. We can have a range of finance - a range of numbers per pound or a range of numbers in dollars loss.

Do you lose target catch during these interactions? Yes. No. I don't know. And again, estimating in ranges what that - how much that might cost somebody in, you know, pounds or dollars. Do you lose time fishing? And then we have, has your property been damaged?

And I think another suggestion from the agency was, do you have to move as a result of interactions? Have you - so I think that that is that part of the time, I think, viewed as this time, you can ask, have you had to move? So does that answer your question?

(Richard): Yes. I would think that somebody would have to read the survey and interpret that to, you know, the level of severity. So maybe I was looking at a question. I would just say between 1 and 10, how severe was that encounter? You know, it's a personal evaluation versus someone having to interpret all these numbers if you want. How pretty severe for that person because they lost, you know, \$10,000 or something. I don't know.

Maybe that was what I was getting at. It's personal. But this - you know, is this really enough nuisance to really put a lot of effort into it or is this something that's

- although I might lose a fish, some fishing time, a bait and some gear, it's not a big issue. I mean, you know, so 1 to 10 I'd say its number for, you know, me as a sport fisherman. I admit it was.

(Sara McDonald): I think it was really interesting point. I think that's a really interesting point, rather than because here we are, we were going to try and quantify it objectively and then just say, as dollars lost, here is where we think it's most severe. Maybe adding where it's called a Likert scale, when you have like a scale of 1 through 10 or, you know, most severe are 10, nay severe as 1, getting their interpretation of how severe that number like what that number means.

So they might say, "Hey, we lose, you know, \$5,000 a year and that's, you know, that's a 10 where someone else might say \$5,000 a year is a three, depending on the - so I think that would be a really interesting add on. Of course, it's going to add more, but I think that's a really great - I think it's great to bring that up. I think it's great to add it. And then we can always focus - ask the focus group people, which do they think is more meaningful.

(Richard): Right.

(Sara McDonald): I think that they're really good. Yes, I think that's great and I think that we'd go in the section. Anybody else, any questions, any comments?

Heidi Lovett: I would just add that, good point, (Richard), but if they lose time fishing and they move to another location, that adds a bunch of fuel costs and so losing time fishing, like why are they losing time fishing and where are they going? So we could probably add that, like maybe to nine.

Do they lose time fishing when dealing with these interactions? As one example, they have to move to other locations because that adds, you know, a lot of extra

time to their day or if they have to drive to a whole another area; that's fuel cost. And so that's a really good point.

(Sara McDonald): Okay, I'm adding your comments. So, sorry, I'm taking this as well, but I'm just adding comments and things.

Heidi Lovett: Yes, no worries. We can clean this up. I'm just trying to capture everything, (unintelligible) and documents, what works best at the moment.

(Sara McDonald): Yes. Okay. Any other suggestions? (Joe)?

(Joe): Hey, (Sara). So first of all, I missed this meeting in August, and I apologize for that because I'm on this committee, I believe, back when and one of the things I've been looking through this and by the way, I'm just greatly distracted with a bunch of other things going on.

But anyway, I like what you put together. I think there's some good formatting we can do on this. I'm going to throw some suggestions in here for rearranging a couple of questions, and I really - I kind of like what you just discussed with (Richard) during the 1 through 10 scale because you're really going to get qualitative answers for the most part anyway. So I think that's probably a good thing.

I would like to know just from the tribal into things that this does not apply to treaty catch. This really does not work for that. In other words, trying to - this dollar value questions that are on there, et cetera, that just doesn't work for treaty resources and the damage done by past predation and other things.

So I just want to make sure that that's clear that this is fine for non-tribal and non-

treaty, but not necessarily for tribal interaction in my mind, and I believe other tribes would agree with me.

(Sara McDonald): Okay, thank you.

(Joe): You bet.

Heidi Lovett: Can I ask a follow-up question to Joe?

(Sara McDonald): Yes.

Heidi Lovett: So, yes, (Joe), I'm curious on is that something that would be important to capture?
And if so, how - what is a better method for capturing that?

(Joe): Yes, and I think it would be almost a side conversation. I didn't want to really....

(Sara McDonald): Okay.

(Joe): By bringing this up, I thought, you know, I could really lead this long of kind of a lengthy path. It would be a different type of survey in its own way, with many of the same questions, but just a different way of asking and answering these questions.

So I'm going to take a closer look at this and get back to you. And again, apologies for not digging in deeper on this previously.

(Sara McDonald): I think it's interesting that you flagged that, and maybe it can be a conversation for the subcommittee at a future meeting to dive in a little deeper.

Heidi Lovett: Yes, I agree.

(Joe): Yes, happy to do that.

(Pat): So, Joe, we - (Sebastian) raised something about the aquaculture and there's ways we can make the questions more generic to cover a broader range. So maybe, you know, if you could put the suggestions in there, we might be able to just modify the wording a bit. You think it's more severe than that?

(Joe): Well, potentially, yes. Let me take a closer look. The reason that - we know what we're talking about here are treaty resources. So they're owned, you know, by the tribes, by a treaty right with the nation. And this is the case with the Pacific Northwest tribes that I work with, of course, and there's other tribal interaction.

And it's also a cultural resource. And so trying to put dollar values et cetera on it would be really difficult in that regard. Although it certainly exists, we do have economic impacts to the tribes. So let me take a closer look at it and try to see what I could do with that.

(Pat): Yes, certainly if there's a drop down Web kind of interview, if you're in tribal or aquaculture could send you down a different pathway, for example, in terms of addressing questions. So we may be able to fill the - have the questionnaire more or less as we see it, but asking sort of different value questions, depending on who it is there, we can think about that.

(Joe): Okay. We'll do, yes, and I think there's real distinction too on treaty tribes versus many of the other indigenous folks that fish around the nation, you know, that have other interactions as well. So I'll have to really look at this carefully and get back to you.

(Sara McDonald): Yes, if there is a way to just to expand on what (Pat) was saying, there's a way in the beginning to identify yourself as a user that in a sense, culturally sensitive

way to do that, then it could take them to which, you know, a slightly modified survey that is very tailored toward that specific group. If that's the way it has to go. So I like that.

(Richard), you hold your hand up, did you - was that a lingering hand or did you have more? Okay. Thank you for bringing that up, (Joe).

Any other comments, questions, thoughts about the bins, at least the big bins that we have, again, the background information? Sorry, I'm getting someone up there, so I'll make (unintelligible). Background information about sort of what you're fishing for, how you fish for it, when and where? Do you encounter marine mammals? And if so, how frequently? And then the severity which we may change.

On the one hand, it is nice to have economic information if they have it, but you're right, it might be more useful to just have the Likert scale of severity as opposed to the sheer numbers. The sheer numbers I think is - would be helpful in just say, you know, and just kind of quantifying the problem. But if it's not going to be helpful to the users and they're not going to really provide that information, I think that this Likert scale 1 to 10 or however we want to put it, I think would be really helpful because it's their perceived loss.

And then we've got another section on what people have maybe tried to use and how successful they've been. Have you tried to modify your gear? And anyway, so this is - and this is sort of the very last one added by the agency is, I guess, about new ideas, which I think we couldn't even keep that as an open ended very last kind of question thing of like, "Hey, do you have any ideas on how to address this?" And keep it very open ended and people can just skip it if they don't want it at the very last question. They don't have any idea. I don't know how structured that very last one has to be.

So any other thoughts about big bins of information or maybe kind of how to, you know, the idea of interpreting severity, dollar signs or compounds versus Likert scale? I think.

Heidi Lovett: (Sara), this is Heidi.

(Sara McDonald): Yes, go ahead. Sorry, Heidi. Oh you came first.

Heidi Lovett: Okay. Yes, I was just wondering, maybe on some of the questions, there might be some follow up if you end up getting some answers that you could go back to the person. So you might want to have a question like if we have some follow-up questions, would you mind being contacted? Would it be a possibility to add to the survey?

(Sara McDonald): Yes.

Heidi Lovett: I was also wondering, maybe we have talked about this already. If there's going to be like a lead in paragraph about how this information is going to be used, like something to incentivize the person that's going to do the survey so that they - I think we just talked about this before, but I'm sorry I was - maybe you could refresh us there on that.

(Sara McDonald): No, I didn't talk about it. Yes, there will be a lead in and it will be lots of input. You know, there's a lot of generic language that you have to put about. You can. This is optional. You can end the survey at any time, like when you're working with human subjects there's definitely lead-in information about agreement. You know, do you consent?

So there's a consent little paragraph. But in that we can also say, here's why we're

doing this project. And so we can definitely. I haven't formulated that. I think I have like some bullets in an email that I sent to you guys for a kind of internal FYI. But I think we can.

Definitely, there will definitely be some lead-in information and generic information about you can end the survey in any time. Feel free to skip questions you don't feel comfortable answering, you know, and the consent and by agreeing to continue, you consent to doing this?

And then I do like the idea at the very end or maybe even if we have questions, could we follow up with you? So which would mean that the survey would not be anonymous if we did that or what we would say is the survey is anonymous. If we have questions, could we follow up with you? If so, please provide contact information for you. That way, we can still keep it anonymous because people tend to feel more comfortable if it's anonymous.

So all of that language, the anonymity language, the confidentiality would also be in that first paragraph as well, that introductory, you know, we will not be, you know, identifying you, but if you follow us. If so, if yes, please provide contact information.

(Pat): And maybe how long it'll take to do that.

(Sara McDonald): Potential paragraph.

Heidi Lovett: Yes, I took notes on that at the top.

(Sara McDonald): Okay. Sorry.

Heidi Lovett: No, no, just letting you know. So to follow up to that, (unintelligible) has done a survey before. So we actually have sort of an example of doing this. And it was a survey that was done through a Web survey software, I think was just monkey, whatever it's called, I'm forgetting the name of it.

But anyway, so yes, Survey Monkey, thank you. Monkey something. So we do have some examples of that, and there could be standard language from other surveys that NOAA has done that we could we could adopt or look at.

I also had a question about I was thinking about this because it was somebody mentioned it earlier. I know citing the beginning in that background information, you asked, what seasons do people fish? But I'm wondering if it's important to also know to link it to the interactions like when they were fishing, like if there's seasonal interactions with marine mammals that may - they might fish in multiple seasons, but the interactions are only in a particular season.

So I just didn't know if that might be important to PR people at raise that topic. And maybe I missed it. I was looking for it, but I might. It might be here already.

(Sara McDonald): It's not. You're right, if seasons of interactions are different than seasons that you fish. I agree.

Heidi Lovett: Okay, I'll make a note at the top to consider that. And maybe instead of asking when you fish, we just move it down to the seasons of the interactions so that they're not answering the question twice.

(Sara McDonald): Yes, that might be up to the notes next to that question.

Heidi Lovett: Yes, thank you. I like that. I like that.

Woman: And maybe it's the...

((Crosstalk))

Woman: Sorry.

(Sara McDonald): No, I was going to say the location too we could even sit like instead of all of that background information as background, you actually make it part of the day - the describing the nature of the interaction. And it's, you know, there's not just the severity, but it's like, where have you? You know, so instead of it being in the background, I think it's probably better if it's more specific to when you've encountered, you know, where have you encountered marine mammals? When have you encountered marine mammals? So I think moving all of that, Heidi, if you wouldn't mind making a note; (Donna), sorry.

Heidi Lovett: No, I was just saying that maybe the title of the survey needs to be. So, like you were saying earlier, that used - we don't really - if they have no interaction with marine mammals, we don't really want them to fill it out, right, because it doesn't give us any information.

So it kind of goes into that whole thing of when they're fishing and they have the interactions. So we don't want to have a bunch of people filled out that don't have any interaction. Isn't that correct? I mean, there wouldn't be.

(Sara McDonald): Yes, yes. I mean, normally I would say, oh, no data or data. But at the same time, what we're trying to do is provide this severity index of when the interactions occur. How severe are they. So (Pat), feel free to...

((Crosstalk))

(Pat): Yes, I think it's always good to have some information about people not doing whatever it is we're asking for.

(Sara McDonald): Right.

(Pat): I mean, I don't know that we can actually use that. But like if it was a sort of balanced survey, we could see how many people were having interactions versus how many were not. So if you took the survey and said you had no interactions that would - and it represented a balanced view of the people, you know, who are out there fishing, then we would actually know what percentage of the fishermen or aquaculture or tribes are actually in county encountering. That's my two cents on that.

(Donna): Right. Okay. I'm just saying for that question that asked, when you fish in what seasons like Heidi was saying that we need to know if they fish in the winter, do they have interactions? If they fish in the summer, they don't have interactions. So we just need to know that before they keep going down the list.

(Sara McDonald): Yes, I think if we say, have you had any encounters and if they say no, then the survey ends, but you're right, then they have to describe what you might say then. So we're actually making the survey longer, but I think we may need to if we want to get that level of detail.

And hopefully it won't take them more than 10 minutes. That's what - that's my goal. Like no more than 10 minutes to take that survey.

(Donna): Okay. That's good goal.

(Sara McDonald): The other thing is, I don't know if we can, because we're - there are ways to incentivize people to take surveys. But they are usually like, oh, you know, by

taking the survey, you know, like it's usually monetary and I don't know if we have any funds to pay people to take a survey.

((Crosstalk))

(Pat): The ticket to the next (MAYSAC) meeting.

(Donna): Heidi, is like, you didn't say that, did you?

(Sara McDonald): Yes, that was Heidi. I was typing at the same time and I'm like, I don't know if they have funds. But again, I think these topics are all really good. And I think it would benefit from having, you know, follow-on conversations with the - with staff who do surveys more regularly and with the PR office. Like, what is it that they really need to know and whether or not - like we don't have members - well, actually do we have - is more here with us?

We're hoping to have a (NAS) fellow join us from the PR office today, but I'm not sure she's here. But anyway, I think it would be interesting to know, like, maybe they've already done some of this work and we just are not informed about it as yet. So I think raising all of these topics with staff who work on this more directly will be super helpful to everybody.

(Donna): Great.

(Pat): It looks like (Laura) is attending.

(Donna): Yes. Hello, (Laura). I didn't have a chance to check on that.

(Sara McDonald): (Laura), do you have any comments on the conversation so far?

Heidi Lovett: I think (Laura) is in the speaker room - not in the speaker room. I don't think she can speak, but I see her in the chat.

(Sara McDonald): Okay, I can't hear...

(Donna): So, (Laura), if you are here and cannot speak, if you hit star 0, the operator can move you into the conversation.

(Sara McDonald): (Joe), I see you have your hand up.

(Joe): It is. Just some organizational suggestions, and you guys, maybe you've already discussed these. The fact that maybe leading with the next region as the first question would be just something I'd want to see. You know, the first is, where do you fish? And then you just brought up the idea, you know, the yes, no, on marine mammal encounters. Maybe that's number two in my mind. And, you know, that was quickly in the survey for some and others would know what they're getting into.

And then going on with some of the other questions there, just the way, I think, because first thing I want to think about is the region in my mind. And there's potential too to funnel the survey based on those areas. If you really wanted to get to a complex Web of it, making it quicker for those that fish on certain things, certain species, certain types.

(Sara McDonald): Okay. Thanks, (Joe). The one thing - we still might want to ask them what gear they use during season to get that information that (Pat) was mentioning, and then we just say, "Do you encounter marine mammals?" No. So we at least have, oh, they fish, you know, on the West Coast region in spring and summer with, you know, long line and they've not encountered marine mammals. Okay, good. You know, just more if they're willing to do it. But yes, I understand also wanting to be more concise.

((Crosstalk))

(Sara McDonald): Leading this with region.

(Joe): Sure, the first question is really in the target species question. That could be a long list for folks. And I was just thinking how to potentially narrow that?

(Sara McDonald): Right. Yes, I like that idea. I'm going to have to. I mean - I'm sorry, go ahead.

(Richard): I'm sorry. Along those lines, as I'm listening to this, along the lines that (Joe) just articulated. I'm wondering if there's any value in segregating, you know, the groups that we give it to. In other words, you know, crabbers or, you know, shellfish, you know, harvesters as one group because then you're going to be able to get a wealth of information targeted as opposed to having to sit down.

(Sara McDonald): Thanks, (Richard).

(Richard): So you might have draggers, you know, just one group that they have their own particular set of problems and then you have the, you know, the crabs and the (unintelligible) and then that, you know, tie in, I'm sure to the (unintelligible).

(Sara McDonald): Yes, I think - thank you. Yes, I think we need to think about this and also what (Joe) said, the target species could be a really long list. Do we just have them - do we group them into assemblages like crustaceans, large pelagic, you know, bottom fish, et cetera, et cetera?

So that they don't have to - but - because I agree, I think it's going to be too long on the list and it's going to be too - they're going to stop right there, I think. Any other comments or questions? We've got about 10 minutes. Little bit more.

Heidi Lovett: (Sara), this is Heidi. I just want to reserve a couple of minutes for thinking about how frequently the subcommittee would like to continue meeting and potential actions that work sort of like once a month style meeting that we discussed and who - if there's any additional individuals who might like to be on the Protected Resources Subcommittee.

(Sara McDonald): Thanks, Heidi. (Robert), you have your hand up?

(Robert): Yes, can you hear me?

(Sara McDonald): Uh-huh.

(Robert): Great. On the question about the long list of species. I mean, I just wanted to echo that. I think the idea of grouping by region first in order to narrow would help solve part of the problem. And then I've also seen some certain new survey designs. I don't know if Survey Monkey facilitates this, but that has dynamic answers. And the more answer - the more times a certain answer is checked by a respondent, they keep moving it up the list.

So eventually we get, you know, 20, 30 surveys, and the most common answers are populated first at the top of the list in order to help facilitate the ease for the follow-on respondents. Something to consider.

(Sara McDonald): I have not encountered that. That's a clever, clever smart software. I've used Qualtrics, so I'm not (unintelligible). That was clever.

Yes, I do like the idea of a region first. Maybe we just been the species target species grouped into assemblages. Maybe we say we lead with region and gear and then species. And if they decide, I'm done, I don't know, I think I'm definitely

open to suggestions on that question. And if they're a smart software, that would be awesome.

Heidi Lovett: Can I - I have a follow-up question for (Robert), that point (Robert) just made and maybe (Pat) has an answer to this. Like does that potentially bias or influence the results that a survey gets, just the questions don't randomly move around versus, you know, those that get...

(Robert): No, no.

((Crosstalk))

Heidi Lovett: Okay. I was just curious about that.

(Robert): It's (unintelligible). We should be all right. Yes.

Heidi Lovett: Okay, cool. Thanks.

(Sara McDonald): Heidi, when that is an issue, when - is when you have like the Likert scale and it's like always negative first and always positive last, but that's when you want to randomize it a little bit more. So, all right, (Sebastian)...

Heidi Lovett: Thanks.

(Sara McDonald): Did you have your hand up?

(Sebastian): No, no, sorry, I just have to do something in the office here. Apologies.

(Sara McDonald): Oh, you're waving. Sorry. So, any other comments? So I think we have a lot. So please after we - after Heidi and I clean this up and rearrange it and maybe

rephrase it, we'll send it back out for you guys to make comments and edit. So we would definitely really benefit from that because I think that this has been a really helpful conversation.

Any other comments or questions? (Robert), you still have your hand up, are you - or is that just a - that's what I thought. Okay, if you want, maybe we can get out our calendars and talk about - we were thinking, maybe meeting once a month. Maybe if we're going to try and finish this in time for that meeting that (Megan) was talking about that, maybe we need to meet a little bit more frequently.

So I'm going to stop sharing my screen. Oh, good. Now I can see you guys on my front screen much better. Do we - I don't know what works well for you guys, for me Fridays tend to be better for me, but I'm open to suggestions.

Heidi Lovett: So I like Fridays. Friday is a good day for me.

(Pat): Yes, this is (Pat). Fridays are good for me to except 8 AM Pacific Standard Time. I have other meetings at that time.

(Sara McDonald): Which is 11 AM Eastern Time. Yes. So how does Fridays work if we end up doing - (Megan), I'm sorry. Go ahead.

(Megan Davis): I just want to step back a second to the meeting. I believe that you can put an abstract in, the abstract to do, I think tomorrow, but if you wanted to put something general in just to hold a place in there and you wanted to present this, I would highly recommend. And the conference organizers would probably give you a little more time together and/or you can get in touch with the chairs of that session. But I think this would be a great opportunity for you to give just an overview of what you're doing or what we're doing.

(Sara McDonald): Great. Thanks, (Megan). I will - I go on vacation tomorrow, so I will try and put some things together today if I can and maybe send it around as far as an abstract goes, I think it should be really quick. I don't think it has to be really crazy. And is it for the general session or would it be for this workshop or you and I can talk offline?

Heidi Lovett: Yes, we can talk offline. There's probably the conference or the session organizers that you could get in touch with and speak with them, (Sara), and they probably would give you more time to submit something because the sessions are usually very tailored for those that are going to be there.

(Sara McDonald): Okay, great. Thank you. Yes, that would be great. Okay, so I guess the first question on the research talking about Fridays, do Fridays work for people around noon East Coast Time, noon or 1:00 East Coast time? So far everyone who talked were all West Coasters, so.

Yes, this committee, this particular subcommittee is definitely heavily influenced by the West Coast, so especially since (Pat) moved to the West Coast. But (Roger) is here and (Sebastian) has been participating, so you guys have been participating in the subcommittee sessions to date. So, you know, do you want to weigh in? And (Donna) has been active. And (Ray) has also been active a little in the past. And (Megan) is, of course, in East Coast.

(Pat): I'm flying early afternoon on Fridays.

(Sara McDonald): Cool. So let's do how about 1 PM Friday? And let's just pick, right, one - like, I don't know, the - let's see. I think 1 PM is 10 AM West Coast. Do we want to start like November 12 as our first one or the 29th of October? That seems a little soon, but we could do October 29th and just do the last Friday of each month.

So although I think the Redfish group might shift a little bit, that's actually been their meeting time specifically, so let's not use the last Friday, but maybe with - since we're in the middle of the month, we can choose the first Friday.

Heidi Lovett: I'm actually better if it's the second Friday, because...

(Donna): That works. Okay, so I just wanted to not cause a conflict and obviously work can happen in between meetings to help move this along sooner than the second - the 12th of November.

(Sara McDonald): That sounds good.

(Donna): But I'm happy to, you know, sit down.

(Sara McDonald): Okay, so Heidi and I will put our heads together to revise the document and send it out so that we could get some work done offline on it and have our call November 12th. So does that sound good?

(Donna): At 1 o'clock?

(Sara McDonald): And that'll be 10 AM our time, (Donna).

(Donna): Okay.

(Roger): Let's hear it again.

(Joe): The 12th works for me. Yes.

(Sara McDonald): All right. Great. So 10 AM West Coast, 1 PM East Coast. And is there anyone who is not currently participating who wants to be on this? So everyone who's got there - so, (Tom), did you want to join us? (Robert)?

(Tom): Well, I don't know who's leaving, who's retiring. I looked at the dates and we need - I deal with - you know, (unintelligible) Marine Fisheries Commission, I deal with the white whales and we're affecting, you know, black sea bass, (pots), you know, (lobster pots) and (Jonah crab pots) right now. That's what they're looking a little presentation next week. So I like to be noticed when you're having the meetings. I don't like to just say no because I would like basically to be asked that's why I wasn't in this morning.

(Sara McDonald): Okay. (Robert), did you want to join us? I put him on the spot.

(Roger): No, I'm sorry. I'm getting my - I'm getting the mute button. Yes, I'm the same. I - put me on the calendar invite and I will make it if I can. So I don't know if I can participate in the committee, you know, every meeting.

(Sara McDonald): Sounds good. All right. We have two minutes to spare, anyone have anything, last parting thoughts, or you get two minutes of your life back to take a fire break before our next thing.

All right. Thank you all so much. I think this was really helpful. Thank you, Heidi, for taking notes and wrangling us. And I guess are we - we're starting at 5 after the hour. Is that what we're doing, Heidi?

Heidi Lovett: Yes, I was just going to say, we shifted things a little bit, so starting at about 5 after the hour.

(Sara McDonald): Great. Thank you, everybody.

(Joe): Thank you, (Sara).

(Sara McDonald): Thanks. That was really good out there. Thanks.

(Roger): Yes, great job.

(Sara McDonald): Thank you. Please don't forget, don't hang up. Just turn off your camera and put your phone on mute.

Coordinator: Welcome back. Speakers, you may resume if ready.

(Sara McDonald): Erika, are you with us? And Darius, can you take the slide down so we can see who's on screen? Thank you.

If you are back from your break, it's helpful to put yourself back to show your video.

(Stephanie): Hi. This is (Stephanie). I'm on my phone, but got kicked out of software, I'll be back in as soon as I can.

(Sara McDonald): Oh okay. I think I don't see Erika. Oh, there's Erika.

Man: Hi. Just a heads up, I have to switch to my truck phone here. I'll just be on audio.

(Sara McDonald): Okay, thank you.

Woman: Hi. Sorry, Heidi, and all, I apologize. I had another call that was not fun, but anyway, it's done now.

Heidi Lovett: I'm sorry it wasn't fun. Whenever you're ready, Erika, and I need to.

(Sara McDonald): I just - it's just to find our document. Okay, so before we open them up, how do you want to know work? I have both documents on plus, my screen. I mean, the document. I'm going to close the Protected Resources one. So do you want to - for me to share the document on screen?

Woman: Yes, so what I was thinking we can call our meeting to order. We can talk about this is the thing that we need to do. And let people know that they received this document that you'll put it up on the screen. We'll have a discussion on this, and then I guess somebody will have to - and then we'll have to kind of do the whole motion second, blah, blah thing. But that's what I had in mind. Is that what you had in mind?

(Sara McDonald): Certainly. And I can share my screen.

Woman: Yes. I'll holler when I think it's time to put it up if that's okay, because I know that you guys have questions before we get into it, but if you could be that person.

(Sara McDonald): Okay. So are you ready for me to tell the operator to start the meeting? I just need that cue. Okay. Operator, please open the lines, we're going to start the meeting.

Erika Feller: Hi, folks. Welcome back to day three. We have one, I think, agenda item for this afternoon and this is kind of our one decision we need to make. I'm so sorry there are sirens going by and that is to move forward on our (seafood) resilience work.

And so where we are and the thing that we have before us is, you know, we've kind of talked earlier this week about, you know, (seafood) resilience. Broadly,

we have kind of these three different areas under this around workforce development, around infrastructure, around competing offshore usage.

And we had a really good conversation yesterday, I think, but we really zeroed in on workforce development. So I think the question before us today is to see if we can't move this piece forward because I think, you know, then we'll need to kind of follow up and keep digging into the infrastructure and offshore use (this piece).

But we have, I think, pretty good framework on workforce development. Heidi shared a draft work plan with you that would kind of be the questions that MAFAC would agree to take on and develop report and some input to NOAA on these topics.

You guys should have gotten this in your email last night to take a look at, but what I'm proposing that we do is have Heidi put that up on the screen and maybe spend the next, I don't know, 30, 40 minutes or so talking it through, getting your input on it, and then we can kind of figure out how we want to move it forward.

Does that sound okay? Does anybody have any questions before we get Heidi to do that? I don't see any hand raised, so maybe, Heidi, we can put that up on the screen and do you want to talk the document through or do you want me to do it? You want me to do it? She wants me to do it. Okay.

Heidi Lovett: Is that okay? Sorry. Upon checking either way, I guess, oh, it's hard to talk and take notes at the same time. I'm completely there with you. So, yes, if you put it up on the screen, I'll talk through it.

Woman: Hey, Erika, I just want to flag that your camera isn't on if you want it on.

Erika Feller: Sorry. I've been on teams called Zoom and now WebEx today, and I forget how things work.

Woman: No worries. That's why I'm here.

Erika Feller: Okay, so what we have is a draft for a scope of work on addressing some of these workforce development challenges. The background should look familiar and I think set some good framing questions that will cut across all of the seafood resilience work. But we, you know, kind of aimed at sort of a couple overarching questions, like what is sort of the current state of the fisheries, seafood aquaculture workforce and then - and what gaps need to be filled and then provide some specific recommendations to NOAA about how things they can do to assist these sectors in preparing for the future.

And so we identified this. This is presented as an outline, but it's not necessarily presented in logical order. I think there's some scope for whoever works on this to kind of think about how to organize this, but the questions overall would be as follows.

The first section would be looking at, you know, identifying what are those future workforce needs for US fisheries and aquaculture and recommending indicators to assess progress. And this response directly to things that have come up in our conversations with NOAA of looking at, you know, particularly where do we need to get to and how do we know that we're making progress? And you know, we've had a couple of conversations where people have said, if you can come up with metrics or indicators that would be really helpful to inform our efforts.

And so this section would look at the problems of attrition. You know, another grain of sweet and what - how are the needs of US fisheries in terms of workforce changing? Talk a bit about how climate change is affecting this topic. Things that

we've learned from the COVID pandemic or other disasters would be within scope and then outlining future workforce needs.

You know, what does this look like in terms of numbers, roles, skills? I think it could even go into regionalization a little bit. You know, where do we need to think about where these jobs need to be?

Then we would want to get into looking at existing training opportunities. This is building on work that Sea Grant has already kind of started. It was that spreadsheet that I think folks contributed to earlier this year. So we're doing that catalog looking at the existing workforce, looking at support services, new technologies and trades, what are the science and data needs and, you know, develop recommendations for where to sort of expand and focus on key our workforce development needs across those areas.

There would be a section identifying what are the incentives that we would want to use and the target audiences like, basically, you know, we had a lot of discussion about this yesterday, but what are the different types of tools that NOAA could potentially explore to attract people into these jobs?

And with particular focus, I think, on transitioning workers, veterans, other trades, people into jobs in fishery sector, fisheries and aquaculture, and then also outreach to getting young people to see fisheries and aquaculture as an attractive career path. And I think there's room for other ideas in here.

We talked a lot about access to the resource as being really critical for attracting that future workforce. So we included this in here. What are the opportunities from a management perspective? I think this is squarely a NOAA's lane. How - you know, we need sustainable, healthy, well-managed stocks, a healthy learning environment to support fisheries and aquaculture. We need to get that. But then

how can we provide pathways for people to get access to either areas for aquaculture operation, access to co-share or permits or, you know, whatever the regulatory access they need is? And so we included some of those ideas from yesterday's conversation.

And then finally, this last section sort of gets at some of the overarching themes that we've talked about all along. Like, we've - you know, that I think we need to sort of include across this. I'm not - this is not proposed as maybe being a separate section, but, you know, just this kind of some overarching things that we want to have cut across the seafood resilience work.

And we would clearly want to think about climate change, preparing for a new normal, where our partnership that the agency could potentially enter into, how do - how does NOAA effectively, you know, work with and communicate with stakeholders, ideas for NOAA's role in representing stakeholders and building new interagency partnerships such as like we talked about, I mean, we've heard from USDA a bunch of times. We've talked about other agencies that may be good partners, potential even outreach to like governors to get them on board with maybe some of these ideas.

And then we also want to make sure that there's a good thread of ensuring that we are building a diverse workforce, that we've got a strategy that's appropriately inclusive of people, you know, across geographies, across walk of life, you know, across ethnicities and economic circumstances.

And then we would want to have a section that identifies, you know, I don't think this is - not entirely certain this is explicitly mentioned in here, but we would be looking at all of these things out over, say, a 10-year timeframe. But I think we would want to include in here some specific ideas of what do you do first? You know, if you were to kind of look at that one, two, three-year timeframe, are there

immediate actions? Are there mid-term actions that MAFAC would want to recommend to NOAA?

And that's what we've got. So the floor is open for questions and comments, and I'm going to stop talking. I'm just checking to make sure I was not mute that whole time.

Woman: I hear you, Erika. Maybe it's because it's the document is perfection and everyone is on board.

Erika Feller: It is glorious, isn't it?

Woman: We'll give folks a moment. If you, (Pat's) hand is up. (Pat)?

(Pat): Yes. So I like how this - I think you've covered everything, and I know this is premature, but something that I had asked yesterday was the degree to which we might - you know, you were talking - we were talking about where this dumps into the various subgroups that we already have that exist.

And so it's not clear to me how these get partitioned. But I was curious if there was - where we might identify some things where it needs a deep dive versus some things where it's sort of more clear, at least from just our conversations that we've already had, that maybe we can split some things out, you know, devote more time to certain things and then - but some other things, maybe we can put together a report right away or if we want to do an all-encompassing report, we identify, you know, the easy, low hanging fruit things that we can just identify and then put off the report till later until we do the deeper dive and then put it all together in one report.

But I just thought it might be useful to think about that. Like I said, maybe it's

premature. Maybe we thought about that already, and that'll come down the line. So just talking to us. Thanks.

Erika Feller: No, I think that's a really good question. I would welcome other people's views and also particularly NOAA folks. If you guys have thoughts on like what would be useful to you in terms of input on this, I think that would really help. I've got (smashing panda).

(Pat): Well, I'm willing to defer to NOAA folks if they want to chime in first before because I'm going to go in a different direction.

Erika Feller: I can't see - you know, I need to make this smaller so I can see more of you because I can see this here. But I'm assuming (Janet) or (Paul) or Jennifer, do you guys want to respond to (Pat) or you want to sew on that a little bit and move on to (Sebastian)'s comment.

Woman: I think I want (chew) on that a little bit in terms of what would be most useful if it's in sequence or I think all of it's going to be useful quite frankly, but I think I want to (chew) on that.

But I think the other question (Sebastian) had was which committee would be working on that and just looking through all of them? I think that commerce subcommittee or might be the best place for that, but also I think it would be open to it.

Our committee structure, our standing subcommittee structure is so - it's rigid and we've come up with lots of projects that would pull people from different places. So I still see there being flexibility to have a cross committee there. (Heidi)'s nodding, so I didn't say anything wrong. She is in agreement with me, though that might be where we end up going. We have flexibility, I guess, is my answer.

Man: I think Heidi wanted to chime in, you know. Do you want to...

Heidi Lovett: Yes, I was just going to say that obviously there's been six folks from the recreational sector that have been weighing in throughout the conversation and they don't necessarily sit on the commerce subcommittee. So it seems like this is kind of like the wind effort where it's cross-cutting, but really how it gets, I think, to (Pat)'s point, more importantly, who might be willing to step up to lead a particular action and help, you know, help chorale everybody who may be interested in working on that particular action.

I think that's a good question to have answered today, having some volunteers for taking on some of this work and then worrying about, you know, structures is not as significant.

Man: Okay, so now, Madam Chair, I'll chime in and I am not stepping up just for the record, but it was a good tee up, Heidi. But I - so the one thing that's missing from this document, I think, which is kind of the gorilla in the room is we can all work on workforce stuff as much as we want to. But unless people are willing to invest and build companies, workforce is kind of irrelevant.

And so I think investor confidence, which is kind of linked to resource access in some ways, but it's much bigger than just resource access. It's linked to a whole series of other pieces, is part of this discussion. We can - you know, and there's a lot of interest in workforce development around the country right now. And obviously part of that is driven by the fact that people are struggling to find workers and our folks are right there with everybody else.

But if we put a lot of time and effort into workforce training and two years from now, the labor situation resolves itself and we don't have investment going into

the sector to build companies to employ people, then all of that will have been for naught.

And so I just think that and I'm not suggesting we make this a major part of the workforce piece, but I think we need somehow rather to keep remembering that we are training workforce to be employed by companies that are going to use a resource, whether it's a wild resource or a cultural resource to employ people.

And so it is linked to investor confidence and building the marine economy in general. And we can't lose sight of that. If we just focus on worker training, we will be probably dooming us to failure - dooming ourselves to failure here in a, you know, two- to five-year time horizon.

So I don't know how it links here. I'm not sure. It shouldn't take away from focus on workforce training. That's important, but we've got to remember that that is linked to investors' confidence and ability to build companies because if we don't do that, we're all wasting our time.

So and you know, in the wild fisheries, that obviously is particularly linked to access to resource. In aquaculture that's probably linked, as I mentioned yesterday, to access to space and licenses. And without that, we will not be able to employ people. So there is a linkage there, which is pretty important. And I'll stop ranting.

Erika Feller: I think it's a really helpful rant, and I've got (Megan's) hand up, but just maybe one thing that your comment slashes making through my head is looking at number four. I mean, maybe what - maybe the way that should - we should be thinking about how to frame that task or is that part of the task. There is not so much about not focusing exclusively on aquaculture or not - sorry, not so much exclusively

focusing on it from an access standpoint, but focusing on it from a, you know, sort of an industry development angle of it.

And I mean, a lot of these access issues are, I think, also important to that. But it's not really a question of access, it's a question of making sure that people can, you know, continue - can have thriving businesses or can build new businesses in these sectors, right?

(Janet): Erika, this is (Janet). I was wanting to listen to everyone, including the other people, before saying anything, so but I do think a few things about it. So right now on the screen, I think for me, that number four, I know these aren't in order, but is almost like number one, creating pathways. That's just the resource. And then thinking about it writ large, like, you know, some of the conversations that we had, I think on day one about climate change and how that changes, potentially where the fish are and how we maintain access to them.

And I was thinking when I read that one about like what tools (unintelligible) constantly talking about our climate data and services and how that relates to tools to help people predict and thinking even in regard to investments helps them predict what's smart to invest in.

So that one was the one that most kept number four thinking about, you know, what do we know about what are some species that we don't have a lot of data on? What are species that we know are underutilized? What are communities or opportunities like aquaculture where we could support access if they had tools or capital?

So I really almost saw like everything else deriving from that one, number four. Or supporting, not deriving from; supporting that.

Erika Feller: Yes, that - I want to call on (Megan), she's had her hand up here for a minute.

(Megan Davis): Thank you, Erika. You know, just to follow up on (Sebastian) and (Janet) and also your comments, Erika. I think this is - this really is an important area to have - to capture and looking at workforce development and the whole idea of predictive modeling of the growth of the aquaculture industry, both in regards to a lot more re-circulating aquaculture enterprises are coming on board.

We now have the opportunity for hopefully offshore, you know, the growth of offshore aquaculture and being able to stage ahead of time, sort of that predictive workforce that's needed with the growth of aquaculture. And then also as was mentioned by (Sebastian), also, you know what the fisheries resource as well and how that's going to play out with the changing environments and stocks and things like that.

And then there's also just the need for training the next generation and new technologies that are out there, so being able to be predictive also on those new technologies. So I think this is a really important topic and happy that (Sebastian), (Janet) and Erika, you've been talking about this.

Erika Feller: Other comments or questions? (Roger)?

(Roger): Okay, I'm going to rant for a second here. I think what we do and this is what I'm hearing from (Sebastian) and (Megan) and others. I think we need sort of an unvarnished document to put forth that is really gives a comprehensive view on the realities that are out there and it's got to be somehow compelling.

I mean, if we listen to what (Bob Dill) yesterday talked about the Atlantic Coast that we have, you know, issues that are going to come up with wind farms. We certainly have issues, you know, with climate, we have issues with mammal. So

this is realistic and we can't sort of beat around the bush. We just have to say, "Hey, these are the real issues that we're facing."

If the industry is going to survive, this is what we're going to need. I mean, certainly and I would be in (Sebastian)'s camp that aquaculture is certainly one of the future tenants that we can rely on to get us out of this. But I think that, you know, it's not just workforce, it has to be sort of directed. This is the movement. This is the direction that's happening with fisheries. We're acknowledging that and these are potential solutions that we've got to pursue. I hope I'm not on mute.

Erika Feller: You're not on mute. That came through loud and clear. Jennifer?

Jennifer Lukens: I was just reflecting on what (Roger) said, and I think that's kind of what he just covered to me sounds like it would fit in kind of this introductory statement to - as part of whatever recommendations and report are laying the framework as to why we're working on these issues and providing these recommendations. And I feel that way or not.

(Roger: I agree. And just sort of getting the feedback from the, you know, from way back that we really believe there's a sense of urgency behind this because things are not improving, in fact, they're decelerating, at a deteriorating rate.

Erika Feller: Other questions, comments? (Bob)?

(Bob Gill): (Listening to) (Sebastian), I was thinking about what I've observed over the years that I've been involved with fisheries and watch businesses that have no - I had good foresight, what was going to happen. You know, they started building freezes. They started moving to areas that they weren't located (unintelligible). Now (Jersey outfits) moving freezes up in Maine and things like that.

What they saw with the bait industry was going to be like that. And there was no problem getting the best to go on. Sometimes you have a problem getting workers, but the investment was always - seems to be there when we have areas where people feel comfortable investing. But if they don't think they have access to the resources, they look at the current (unintelligible) of how regulations operate and I'm from the wild fish and not aquaculture.

It basically affects how we think. The same thing happens with the recreational. You're going to invest money in a (party boat) and put - and/or charter boat but if you don't think there's going to be enough fish for you to basically take clients out there, all those regulations will basically affect what clients you can think of. Well, how do you fish for it?

When we look at that, that's (unintelligible) just the access that - we have to have access to the resource to do that. You know, I always look at what we - you know, put - a lot of space where fisheries commission has (unintelligible) is build sustainable fisheries, you know. And it just to me that we can harvest the resource in a sustainable way.

If we got away from that, some of the pressures where you look at just strictly catch and release. And so it basically affects what clients (unintelligible) resource. Anyway, that's my thoughts on that.

Erika Feller: (Richard)?

(Richard): Yes, I kind of agree with the previous speaker about number four. I think raises that to the top, everything kind of, irrespective of that and to (Sebastian)'s comment, you know, I think once you not only identify, say you identify the barriers to the opportunities and develop these opportunities.

So this means - I believe that the business will be attractive to that opportunity. I think businesses look for opportunities for growth and if NOAA can help develop these opportunities, access to resources, stable resource, provide a good economic, marine-based economy, I think businesses will invest.

And they - you know, it's hard to motivate businesses to come and be the motivators in a governmental controlled fisheries. So I think, you know, if they - if forward, the headline, if we want to really identify these barriers to opportunities - identify these opportunities of what are the barriers and how can we improve these opportunities to access via these methods, I believe the environment for investment will come.

But that's something that NOAA can do. NOAA getting involved in job training for specific industries is kind of nodding their wheelhouse, but I think it helps having NOAA get involved in - obviously, they've always been involved in sustainable fisheries. But looking at how this relates to the economy of coastal communities and how can - you know, what have been the barriers to participation or barriers in access to new fisheries, new species, the impacts of climate change? All of these come under the umbrella.

Let's have a, you know, an economy basis - blue economy and I think as you increase that, I think economic investment will follow. That's my comment.

Erika Feller: (Pat)?

(Pat): Thanks, Erika. So I have a thought that may or may not go into this, but I think will plant a seed in the in the committee here to think about. I was interested in hearing the comment that was made earlier. I think about modeling this. And of course, that's my area of expertise.

And so one of the things I've been doing lately is modeling how summer flounder fluke is going to move relative to climate change. And so what we're using, of course, is the new smart trawl temperatures for that. But one can also use current flow models and things like that that exist and I'm doing something similar with regard to how the fisheries are going to move in Iceland.

There's no reason. And I think it was (Megan), right, who has suggested this. There's no reason why we couldn't do this for aquaculture, too. What I'm using the - this bottom trawl survey for is to actually see how the fish respond and what fluke are responding to optimal temperature regimes. But if we had - you know, I mean, obviously the biological understanding of what temperature regimes, for example, but you can also use salinity, oxygen and other kinds of things would be optimal for aquaculture, then we could do that.

And of course, the talk we were given about the various layers that are associated with that are being used now for determining aquaculture locations, not necessarily optimal ones. And wind farm placement could be used. The challenge with how those - that set up is being used - I forget the name of it, but with the 200 layers of geographic information systems and looking at habitat placement, what that doesn't take into account is how things will change with time.

And so some of these other models that are being used that take into account how temperature is changing and oceanographic conditions are changing could be straightforwardly, from my perspective, to model how aquaculture opportunities might change, too.

So as we're thinking about access to the resource, that resource is changing and the resource in this case is not necessarily fish, but temperature. We might consider that in this broad sense. I don't know if MAFAC feels like making

recommendations with regard to modeling, and I don't know who would do the modeling.

So conceivably, you know, NOAA and National Fisheries Service have - they certainly have the modeling capability. Would you rather do this in an academic setting or have industry do this for themselves? Some different things to think about there. So thanks.

Erika Feller: So I want to kind of make a proposal about this and kind of go back to how - had that kind of original comment about, you know, maybe this goes in chunks, maybe it's kind of iterative in some way. And I think there are some things that have come up that if I can get all this out of my head.

So I think this stuff in section four, I think is taking on a lot more resonance than I think I expected when Heidi and I were writing all this stuff down last night. And I mean, I think it needs to be reframed a little bit to take into account some of what we've heard here, right?

And probably we've got this bullet point under section one about exploring how climate change is affecting future fisheries. Honestly, I think that probably belongs in number four. And so what is - what kind of going through my head is actually we might want to take number four, put it up at the top of the document and have that be maybe a first work product like maybe as kind of a four- or five-page document that sort of goes through and addresses some of these issues of, you know, sort of the resource access issues.

And I use that term in its broadest possible sense to be inclusive of climate change, the investment environment, access to the resource, health and sustainability of fisheries, all that kind of stuff, like having that healthy resource

there kind of underpins all of this and how we sort of see these changes coming down on it.

Maybe that might be - maybe sort of exploring some of those questions and capturing some of these thoughts in a document would be a good first work product that would then set the stage for okay, now that we know all this, we're going to go think about what the implications of these things are for workforce development.

But I would also be willing to bet by the time you get down with that, you're also going to be really thinking about what the implications of all of that are for some of the other infrastructure questions that we talked - some of the ideas that are included in that infrastructure bucket.

So the way this document would get changed is we would take four from its current position. Put it at the top, maybe denote it as kind of a near-term like, say, three months work product would be to explore this and then the kind of workforce stuff that maybe - would maybe be more along the lines of kind of like, I don't know, six months or something along those lines. So it would be two things under the scope of work.

I've got (Richard), (Tom) and then (Sebastian's) hands up, but I can't tell if (Richard) and (Tom) just left their hands up from the last time, so, (Tom's) hand is really up. Okay, go, (Tom).

(Tom): Yes, I was listening. We are looking for examples of just what you say. I sit on - three years ago, we pushed the bill through in the legislature and look at the Rutgers University DEP and work on - the state on mapping where could be future aquaculture sites in the state.

And we've got it almost completed now. It was supposed to be done in about six months. Well, we have 200 layers in there and all the things (unintelligible) have got the layers out.

And then we're looking at still the rise (unintelligible) and state waters, (unintelligible) where we put oysters, he claims, and everything else and how much - when we raised the sea level, what is going to affect the areas that were basically (proposes) the next 10 years and we know that (unintelligible) was one of the greatest rises and one of the warmest waters too over the years.

So we have that process going on with cooperation of the university and the DEP in New Jersey and all of us, (unintelligible) basically looking at that. And I was sitting on that one for two or three years now, basically looking for both. But it took some legislature to get the money to basically start the effort.

And you know, I'm thinking about that, (Pat), (unintelligible). That's one of the things.

Again, I go back to the fact that nobody put any money out with the eight booths that started, businesses in Vonnegut Bay, raising oysters that had been raised here in 20 years. They started experimenting. They worked with the Haskell Lab, which is part of DEP, but they also worked with Sea Grants and the state to say, "Hey, I'm thinking, I'm sitting here waiting my head, and you can't see that because of the timing. That's always what we do."

The camera is not showing my hands. But that's where we got a lot of impetus to start and we got eight ongoing operations now. Well, raising oysters (unintelligible) about 10 years ago.

Erika Feller: (Sebastian)?

(Sebastian): So I think what (Tom) just said makes a lot of sense. I'm going to embarrass you, Erika. I have to jump in my truck, but I just want to say, if I lose you guys what Erika has just led us through in terms of reorganizing this document and kind of taking our, you know, mad ranting downloads and turning it into something that actually is cogent and works on the outline, really for me codifies the fact that we're going to miss you, Erika, as a chairperson.

It's not an easy thing to do. We go all over the map and you're very good at it. So thank you for that. And if for whatever reason, I drop off the call when I get my truck, I just want to say that because I know that you're going through your last soiree here and you'll be a hard act to follow, I think.

Erika Feller: Oh. Thanks, (Sebastian). Jennifer?

It would have been more embarrassing if he had said this thing was a piece of crap, so that doesn't. Sorry, go ahead, Jennifer.

Jennifer Lukens: I agree with what (Sebastian) just said, and I was just going to just need in my prompting prodding mode, just wanting to see if others, based on the comment of moving for up to one is how the rest of everyone else is feeling about that before we actually move that up there.

And then again, if we are going to do this sequentially, I have a bug, we are going to do this sequentially then and sooner rather than later for that particular task, then we need to find who the leader of that will be sooner rather than later and need to be looking for that. Keep that in mind when we set our goals. So just wanted to point that out.

Erika Feller: (Donnie)?

(Donnie): Yes, I just wanted to say thank you to you, Erika. You've done a great job. A lot of this stuff is very complex and Florida has a pretty good system of industry training through our state college system, which used to be a university. I mean, a junior college system where industry works with them.

I think we have a unique platform to NOAA under Sea Grant and I plan to go back and look at their strategic plan 2018 to '21 and talks about workforce development within that in the particular kind of sciences. So maybe when we kind of take these recommendations, we ought to understand what they're already doing, you know, and in the areas, especially in aquaculture, there's several people pointed out, but I just wanted to make that comment.

I think it's very well written. I don't know if we need to drop down to that kind of detail, but it just seems like they're already - the wheels are already created. We don't need to create another wheel.

But kind of go in - and think everybody is aware of what Sea Grant's mission is to, I think, 30 universities around the country. Anyway, thank you very much, Erika.

Erika Feller: Thanks. So maybe let me - can I take a crack at (Jennifer)'s suggestion and then I want to, I think, (Sara) got her hand up too and maybe you can add your comments on this to whatever you were trying to say.

I think since we're not quite in the detailed amendment process yet, I think before we kind of move this forward, I would like to take four out and move it up to the top and kind of think about the two different work products. I think that there's a couple of things that are interesting to me.

The first one is, I think it sort of sets us in the stage of kind of drawing the linkage between the workforce development and some of these broader resource issues, which I think is really important, particularly when you think about NOAA's role in all of this stuff.

And you know, there's some kind of really big things there that I think MAFAC can contribute to and then carry this forward. And you know, a big part of this is also looking at what has been - what is already out there and what we need to build on. So I think that'll help focus it.

The second - it also makes the task a little bit more tractable. This is a huge project, and I think if we sort of look at that piece first and then the second piece, I think it kind of gets it down to a bit more manageable size. And so my proposal, (Jen) and Heidi, bless them, have both asked a couple of times for a leader for this effort.

How about asking the question this way? I think if we can figure out who wants to be kind of on the committee, I have a feeling that this is the kind of thing that there is room for people to sort of take a leadership role in different aspects of it. And, you know, I think - as Heidi and I kind of talked about it last night, I think that there are a few people from across NOAA within the policy office, but also in other places who are well-positioned to support the group in these efforts.

So I think right now we're not necessarily looking for somebody who's willing to sort of say, I will take, you know, a (Megan Davis) working on a council level of responsibility for this, but more who wants to kind of be part of this and then we can figure out how to organize that going forward.

Those are kind of my two ideas is just go ahead and make that amendment to the document and then also maybe get a show of hands after we'll search for handout, but maybe kind of get a show of hands for, you know, who wants to be involved in this whole thing.

I think (Sara) would be great to comment on it, but she put her hand down. Jennifer, Heidi, can we do that? Yes.

Woman: I think somebody has their phone - doesn't have their phone on mute. We're getting some background noise, so please make sure your phone's on mute if you are not talking. Thank you.

Erika Feller: I've got (Stephanie's) hand up.

(Stephanie): Erika, when you say this whole thing, you mean number four or the whole thing?

Erika Feller: I think when I said the whole thing, I meant the whole thing, but mostly in the context of pulling number four out and making it a separate first step.

(Pat): So I don't know how you want to gather - do you want us to raise hand? I mean, I think people are still raising their hands to make comments. Do you want to - I mean, I'm happy to be on the committee...

((Crosstalk))

(Pat): How do you want to assess that?

Erika Feller: I think that's awesome. I think actually, why don't we use hand raising for asking questions? If you want to be on the committee, if you could indicate that in the

chat, then I think that might be easier for us to grab. And Jennifer is sticking her thumb up and that sounds good. I'd be saying, wait.

Man: Well, that was...

Erika Feller: Yes, I - if people can - oh, go ahead.

Woman: I can take that down.

Erika Feller: (Ray), did you have a comment?

Man: Okay. Okay.

Erika Feller: Hey, (Ray), if you have a comment, you might want to say it in English for the benefit of the group, otherwise go on mute.

Okay. We can't do anything about that. I have (Tom) and (Sebastian)'s hands up. Are those new or are those legacies?

(Tom): I mean, I was just going to say, let's just raise hands on - you know, I'm willing to serve on the committee. I think we just raised the hands or I was going to give the thumbs up. Also, you could do that basically and put it on the screen reaction.

I don't want to chair the committee because I'm not the best writer in the world, but I really want to participate (unintelligible). And so I volunteered to be on the committee. I think it should be a separate committee also. I think it's going to be a lot of work and it shouldn't be a subcommittee of one of the other committees. Just my thoughts.

Erika Feller: Yes, I think that's right, and I think it's important that whoever this group is has good representation from people working in capture fisheries, processing aquaculture and recreation because it doesn't - I think it kind of cuts across a lot of different sectors. I think so...

(Tom): Some people are commenting on the chat.

Erika Feller: Excellent. Now regretting that. So I have thus far I've got (Patience), (Megan), (Tom), (Sebastian) and (Joe). I also got a question is this going to be on the Commerce Committee or a cross-cutting committee? And I think for right now, it's looking like it might be a cross-cutting committee because I don't think all of these folks are on the Commerce Committee.

So again, we have the flexibility there. So, oh, (Richard), no, I forgot. I didn't see you, (Richard), I'm going to add you down there. And (Tom), I got you, (Tom). All right. So are we getting close to the point where somebody can make a motion on this? This - I mean, it's still kind of messy. I think whatever we do, we can have a little bit of perfecting of the word (smiting). But as long as the meaning is, is there anybody that wants to make a motion? I don't think I can because my...

(Pat): I so move.

Erika Feller: Who was that?

(Pat): That was (Pat). I so move.

Erika Feller: Do I hear a second?

(Tom): (Tom). This is (Tom). I'll second.

Erika Feller: Second. Okay discussion on the - (unintelligible).

(Tom): You're breaking up a little bit, Erika.

Erika Feller: Oh, sorry. The cat got my phone. (Donnie) has his hand up.

(Donnie): Oh, I'm sorry, I don't have any discussion, thank you.

Erika Feller: Okay, thank you. If there's not any discussion, then I'm going to call the question on the motion. All in favor. Maybe if you're in favor, just go ahead and put your hand up. That works. Or do we want - yes, yes. Just put your hand up. I'll tell you when to put them down.

Heidi, are you getting these?

Heidi Lovett: It's difficult for me to see everybody because I'm...

Woman: I'll get them, Heidi. I got them.

Heidi Lovett: But I guess, as we discussed yesterday, it's more of a consensus effort at this point generally also.

Erika Feller: So maybe if we could just note if there's any news or abstention?

Heidi Lovett: Yes, that would be good, Erika. If we - I'm seeing a majority of everyone raising their hands. Maybe if we asked them all to take them down at this point and just put up if they have a concern or...

Erika Feller: Anybody - okay. Hang on. We got two more going down. Waiting for (Donna). Hands down. Are there any no? Let's give them a minute. I mean, those are reservations, you can put your hand up now. I'm not seeing any.

Harlon put his hand up in the picture. So I think we can count that.

Heidi Lovett: Okay, then I would say that what we have here is consensus to move forward with the actions articulated in the motion, Erika.

Erika Feller: Thank God. Progress. Yes, nice work, people.

Heidi Lovett: You all met my goal. Thank you.

Erika Feller: I am so excited that we did this. I think this work on workforce development is probably one of the coolest (unintelligible) that MAFAC could be doing so, I am really, really excited to see what you guys do next.

I think that's - Heidi, what would we - I think that was our agenda item, yes? That was. We do have time if we want to do a short break or we can continue to plow through with the final key remarks and close out.

Woman: Everyone's phones, (Damian) is broke down in Baton Rouge.

(Damian): I can't get off. Building that - I mean...

Erika Feller: I think there is a few side conversations we're hearing. People might want to mute, and I'll just note we were - before we get into the next section, is (Bob Gill) with us on the phone?

Man: (Unintelligible). I can't - right now, I can't.

Erika Feller: Maybe, maybe we - if (Bob) was planning to show up at 2:15, maybe we just want to go ahead and take a 15-minute break to give him time.

Heidi Lovett: He's - he - he and I spoke earlier and he was going to try to be on around two o'clock, so maybe just five to, you know, a short break. All this should be needed.

Woman: Okay.

Erika Feller: Well, folks, why don't we take a five-minute vital break? We'll resume at 2:05. As always, don't hang up. Don't log off. I'll see you in five after the hour.

Operator, we're taking a short break. (Bob), if you happen to be with us in listen-only mode, if you hit star zero, the operator can move you over. And operator, do you see the name (Bob Gill) on your list?

Coordinator: I did not see him in the room yet.

Erika Feller: Okay.

Coordinator: He might be in there now. Hold on. Somebody is signaling. Give me just a second.

Erika Feller: Great.

Coordinator: Okay. This is the operator. I've added, (Bob Gill) to the room.

Erika Feller: Thank you so much. That's really helpful. Thank you. (Bob), we're just on a five-minute break and we'll be resuming. Thank you for joining us.

(Bob Gill): Thank you. I'm here. I'll be on video in a second.

Erika Feller: Excellent.

(Bob Gill): I hope. Why do I see...

Erika Feller: (Daria), do you see (Bob Gill) to help him join the webinar?

(Bob Gill): I've registered, but the video screen doesn't come up. I'm stuck on the register screen.

Erika Feller: So check your - if you have a chance, if you can check your email quickly, there should be a link there. It automatically sends an email to your email and then you click on that and you get in directly.

(Bob Gill): One has not - oh, I'm sorry, yes, it has. All right, thank you.

Erika Feller: Great. No apologies needed. Hey, (Bob).

(Bob Gill): Hi there.

(Pat): Hey, (Bob). Good to see you.

(Bob Gill): Hey, (Pat), good to see you as well and good to see everybody else that kind of missed being there.

Erika Feller: Has people come back from their break, if you turn your screens on, you'll know you're with us and we can resume. (Bob), I see you're in your favorite chair.

(Bob Gill): Yes, ma'am. It's where I get all my work done.

Erika Feller: Do we have any more folks turning on the video? So let's see, is Harlon back with us? How about (Joe), (Megan), (Donnie), (Roger) and (Richard)? Oh, (Richard), you seem to be on there twice? I just noticed.

(Donnie): (Donnie) is here.

Erika Feller: Excellent. And (Peter), I know is on the phone, but not on the video.

(Peter): I - can you hear me? Can you hear me, Erika? I know, I know.

Erika Feller: Is that (Donnie)?

Man: Harlon.

Harlon Pearce: Harlon. Can you hear me?

Erika Feller: Oh, Harlon, hi. Harlon. Yes, we can hear you. Glad you're with us.

Harlon Pearce: I'm like, I'm in my truck. They cut my Internet cable trying to spice up an answer. I had to run to the truck, hook up everything else to get back on.

Heidi Lovett: Oh dear. Okay. Well, it's important that you're here with us now, so I'm glad you're here and I see (Jim). I see Erika and (Peter), I think is not able to be heard. But he sent an email saying that he was listening and he is on the line. So I think, Erika, when you're ready, we can resume. And when you say we can resume, I'll let the operator know.

Erika Feller: We can resume, I was on mute, sorry.

Heidi Lovett: Thank you. Operator, we will resume right now. Thank you.

Erika Feller: I think this is policy agenda item. Welcome back from break, everybody.

Jennifer Lukens: Operator, are we back in the meeting?

Erika Feller: Let's resume. Are we good? Okay. I think...

((Crosstalk))

Erika Feller: Go ahead.

Erika Feller: We have one more item on our agenda. And it's Paul Doremus.

Dr. Doremus: Thank you. And good to connect with everybody again. I have the mixed pleasure of acknowledging folks, some phenomenal people who have made phenomenal contributions not just to the committee but to NOAA Fisheries but who are stepping down from our committee.

So it's a bittersweet time but really for me a great pleasure to acknowledge folks that we have gotten to know really well who have continued over a long time in every instance preceding and I expect subsequent to their work on the committee continuing to be part of our broader fisheries and seafood community and continuing to help us all move forward to take on the many challenges that we have been addressing as a committee and also the many challenges that we've acknowledged that are central to our core mission going forward.

So I'm pleased to see that Bob Gill on screen here was able to join us. And this is a good news story in a sense. While Bob is stepping down a little bit early, he's doing so for a good reason having just been reappointed to the Gulf of Mexico Fisheries Management Council where he has another opportunity, round two, to

bring his phenomenal expertise and also his very collegial style of working with people and forming a consensus on difficult issues in a difficult environment at a difficult time.

And he's brought that spirit to MAFAC. And I think all of you, as with us, have seen the great benefit and contribution that he's made in many areas.

He stepped in behind Rip Cunningham to lead the rec fish committee, which is pretty interesting. It just shows Bob's versatility, having spent over 30 years as co-owner of Shrimp Landing, a diversified dockside wholesale retail seafood business.

Bob is able to speak knowledgeably and persuasively on all aspects of the seafood sector and certainly did so in his work leading the recreational fisheries subcommittee and contributing to the better defining the universe for recreational anglers. It got us deeply connected with the Gulf State directors in that whole process.

And in that area and many others he has been a great advocate for improved education, connectivity and understanding of our stakeholder community for our work, completely contributing to things like our MREP program and other efforts to do that. It's an ongoing process. And Bob has been right at the center of it all.

He co-led and helped draft the Offshore Wind Ad Hoc Working Group report. Others that I'll be acknowledging here today have contributed to that as well.

He also is a major voice in our Seafood Promotion Task Group and the work product on establishing the National Seafood Council. It's just an incredible piece of work, an incredible contribution.

And Bob, as a matter of fact, I just saw him a couple of weeks ago up in Washington in person at the Science Symposium held by the Seafood Nutrition Partnership and contributing to both that and to the efforts under the Seafood Nutrition Partnership to try to figure out a way towards establishing a National Seafood Council.

So Bob is undoubtedly going to be continuing to assist us in that effort and has just made a phenomenal contribution in each of these areas and in the work that we have in front of us. And I'm personally very grateful for him, going way back for him, kind of pulling me aside at one point and really telling me about the value from his perspective of this MREP program, that Marine Resources Education Program.

It's been a long time. We kind of admittedly forged together a solution to keep that going.

And we have subsequently expanded it, kind of formalized it, have a steady funding stream behind it. And these are just one of the many ways that Bob has contributed to the growth and evolution of our organization and our ability to connect more effectively and understand and be responsive to our core stakeholder community.

So, Bob, great to have you on this day. Thank you for your service and certainly best of luck stepping back onto the Gulf Council and we look forward to working with you in that capacity. And I'm sure undoubtedly in continued collaboration among many of us in grappling with the very substantial challenge that MAFAC put before the Secretary and put before all of us to look at ways to establish a cohesive National Seafood Council.

So, Bob, wish we were all together in person. This is hard to do virtually, but a big hand for Bob. You know, I hope I can reserve at some point the opportunity to join you in a beer and thank you for your service and continue to work with you going forward.

So we're up on that. I didn't get a chance to do that in Washington. Unfortunately I had to run off and we'll look forward to that in the near future.

I hope to do the same with Harlon Pearce. Bob and Harlon kind of go together in my mind. They both have been so central to our efforts to work effectively in the Gulf of Mexico. And in fact I think Harlon may have had a little bit to do with Bob getting nominated for participation on the committee.

And Harlon and I go way back. I first met Harlon when he was continuing to do work promoting Gulf seafood, Louisiana in particular but the whole of Gulf of Mexico post-Katrina and helping that entire sector under - I mean, just think of the phenomenal array of challenges that we experienced at that time.

And since then Harlon has been just absolutely irreplaceable on this issue of promoting U.S. seafood and promoting Gulf seafood, of confronting and realistically assessing and figuring out ways to deal with the many challenges that we have in front of us and have had for some time bringing domestic seafood back to the table and handling the many challenges we have in the sector with finding new paths to grow and new paths to strengthen sustainable seafood.

As we just talked about today, and as Harlon over the last few days clearly contributed to, as we've grappled with this issue of resilience of the seafood sector writ large, no surprise, given Harlon's history that he was absolutely central to MAFAC's work on seafood marketing and really made just a giant contribution to that.

And so you could tell by his questioning just over the course of the last couple of days, Harlon doesn't let up. When I say irrepressible, he is irrepressible. And it's one of the many things that we really have come to deeply appreciate about his commitment and his efforts to help all of us step forward.

He brought that same energy and passion to improving data collection, another area of enormous significance to the organization, and I think emblematic of the very deeply held view that he has, Bob has, that others of you certainly represent about being driven by the science, confronting the data, getting better access to information and using that as a basis of deciding how best to manage our resources. And he led on that data collection topic.

He led some of the work that started back in 2017 on addressing the seafood resilience and looking at ways that we can use techniques like in-season management actions and get access to real-time data to have the sort of flexibility and responsiveness that we need to really integrate technology into our decision-making systems, increase speed, increase the sort of scientific drivers of our decision.

And all of that is rooted in getting not just better data but better integration of data into our analytical and management practices altogether. So a huge task.

Something that isn't over with one report and it's very, very central to our work going forward and new work that we're taking on in our next generation data acquisition efforts that the committee will be hearing more about.

So while this started a while back, we recognize it is a very strategic topic for us and one where the work that Harlon and the group did is going to continue to be really effective and influential.

So, Harlon, you know, I think, you know, just all of you, I think, probably know, but I think it's emblematic of Harlon's energy and his commitment, that despite having pretty much the seafood world turned upside down after Ida, not terribly long ago, Harlon keeps things going. He bounces back. He helps the community and he's out there.

He was in earlier meetings just a number of weeks ago that I was on with him around National Seafood Council topics. He's out there in his truck connected by cell phone while the power is down all around and there's still a lot of chaos and a lot of challenge to get back to normal operating cadence there.

So Harlon, we can't thank you enough for your fabulous contributions. And I know, like with Bob, that we'll be working together closely on continued efforts to build pathways for a National Seafood Council among the many other contributions that you've made to our collective work.

And thank you for your service on the committee and I'm looking forward to continued work with you as you step off the committee and assume other roles and ways of contributing to our sustainable seafood agenda. Harlon, thank you very much.

Harlon Pearce: Thank you from Harlon, too.

Dr. Doremus: And speaking of data and science and the sort of interdisciplinary nature of our work, Peter Moore certainly represents that ethos in his career and in his contributions to MAFAC. He a fisheries scientist, a commercial fisherman, policy expert. He has that kind of cross-sector experience that is just extraordinarily valuable and fairly rare.

And it's hard to really think about how we can replace his kind of contribution. He stepped onto MAFAC from his work as the director of stakeholder engagement at MARACOO, the Mid-Atlantic Regional Association for Coastal Ocean Observing.

And with that kind of data and stakeholder engagement in mind, he has been a real force, particularly on the East Coast, looking at how we can better connect with our stakeholder community and make sure that we have that kind of grounding in science, the grounding in the service to the communities that we respond to and has brought that forward most recently in a really big way with his contribution to offshore wind.

He has, you know, I think jumped into the picture very quickly back in April of '19 when we first started briefing the committee. I think it was Jon Hare, Andy Lipsky's briefing on offshore wind, kind of stepping in and looking at this from the perspective of stakeholders, stakeholder engagement and science.

He helped lead the Offshore Wind Ad Hoc Working Group along with Bob Gill, (Michael Kaminsky) and was very influential in how we went about engaging our stakeholders in that whole process and bringing forward the recommendations of the group to really focus on a national strategic approach to dealing with the pressure to very rapidly develop offshore wind.

I mean, certainly, we know about the goals that have been set. We know why those goals are there given the - it's just phenomenal, the urgency and the national need to develop stronger non-carbon sources of power. And I think bringing forward that approach to keeping our feet firmly rooted in our stakeholder engagement responsibilities in the course of that effort is very much appreciated and something that needed to be said at the time and will be a continued guidance for us.

So we've been using that report a lot. And the topic always comes up. And I know all of you who have been working on the committee for some time, understanding that the deliberations that you go through to decide what to work on are important. The work itself is important.

And we put it to work. We use it and it often is useful for many, many years. And that is certainly going to be the case on the offshore wind side as we move forward there. We already have been using that report and briefing during transition and into the new administration key figures as they come forward, appointees of the new administration, in NOAA.

We shared it with the Bureau of Ocean Energy Management. We shared it internally. We refer to it often. And it will and has and will continue to influence our work in this arena going forward.

Like a number of others, Peter also contributed to the Seafood Promotion Task Group and we are very grateful for the contribution there. And it also has kind of a stakeholder theme to it.

We really do appreciate this type of lasting impact on our work. And I'm sure with Peter, not just his work on the committee, but also his preceding work and continuing efforts, we will again have a great deal of opportunity to continue our collaboration and continue to benefit from your expertise and your wise counsel as we move forward in these challenging areas.

So a big hand to Peter as well. Thank you, Peter.

Speaking of long-term work, I also want to recognize Jim Parsons. You think Jim Parsons, you think aquaculture. And he's just had both an extraordinary influence

on our development of our aquaculture efforts through MAFAC and also through his independent work.

He's been for decades working in the aquaculture field in genetics and R&D. He's worked for numerous companies. When he first started with us, he was on Trout Lodge. And he went on to do a stint with Cooke Aquaculture. He more recently moved to the Jamestown Tribe, another post stakeholder of ours that we worked with very closely on aquaculture development in the Pacific Northwest.

And Jim has just been not just a thoughtful voice, but a very persuasive, steady and a realist in the aquaculture world which desperately needs those characteristics. Again, science-based, deep understanding of practice and a very patient approach to dealing with the many, many challenges that we have in that domain, not the least of which are broadly around public acceptance kinds of issues.

Jim participated on both the commerce and the recreational subcommittees and obviously was a major force in the work of the Aquaculture Task Force and the MAFAC report on aquaculture-based tools to enhance fisheries resilience during climate change.

So this again goes back to that earlier wave of looking a few years back and carrying forward to today, looking at how we can make our fishing and coastal communities more resilient and like all of us I think have recognized not only in the aquaculture space but also in many other areas, like the Seafood Promotion Task Force, which Jim also contributed to. We have an enormous amount of opportunity to shape that resilient equation going forward.

And Jim is also, in addition to his work with the Jamestown Tribe, he also serves as president of the National Aquaculture Association. And in my capacity with

NOAA and as co-chair of the subcommittee on aquaculture under the National Science and Technology Council, we have valued enormously our collaboration with the National Aquaculture Association on these issues.

I look forward, Jim, to working with you in both those capacities on the continued evolution of our efforts to support and open up opportunities for growth of this sector in the U.S. So we'll certainly be seeing you around and look forward to your continued contribution.

And again, many, many thanks, Jim, for your service on the committee here. So a big hand to Jim Parsons.

Well, that leaves us with Erika. Lots has been said already, including in our last session. And, you know, I think of Erika as a starting point. Her incredible role as all of you have acknowledged over the last three years as chair of the committee and as vice chair prior to that.

Just an incredible tour and hard to summarize the challenges of doing that effectively and Erika's effectiveness in executing it. A lot of work goes on not just in the exercise of the responsibility during these meetings but preceding these meetings between them in coalition building and issue development.

Erika has just had an enormous impact across the board in so many areas. I guess, starting back in 2015, Erika, was when you joined us. You had a little bit of a step into MAFAC earlier back in 2009-2010 as a jump-off to be able to work at CEQ on habitat issues.

So when Erika joined us - rejoined us, I guess, in 2015, she was able to really hit the ground running, took on a lot of work around the topic of coastal resilience at

that time, led the climate communications assessment, a huge survey effort, hundreds of responses distributed to stakeholders all around the country.

And that really helped us get a bearing on where our different audiences were on that issue, how they thought about it. What are the best ways to communicate information? This gets to the whole big challenge in our world, not just for NOAA Fisheries but for NOAA as a whole on the effective communication, delivery and use of scientific information, scientific and technical information.

And that kind of report in a climate domain has had a big impact on our work with our climate team and the evolution of our climate and fisheries initiative into the form that it is in today and what we're setting out to do. So a big, big, big contribution there.

Also kind of more in the governance domain leading our MAFAC strategic planning budget and program management subcommittee and continuing as well to contribute to, as so many of you have, to this National Seafood Council work.

And really over the course of the past year and emblematic of the last few days of steering our efforts to grapple with very complicated issues, issues that NOAA Fisheries has a role to play in but are bigger than just our organization but are central to the future success of the sector as a whole.

And I think we just saw today and over the course of the last few days what that type of - the significance of that function and the aplomb with which Erika carries it out.

So in other good news here in the sense of the next steps for Erika stepping off of MAFAC, she was recently appointed to be the regional director of the Americas for MSC, the Marine Stewardship Council. And again that will provide many

opportunities for continued collaboration with NOAA Fisheries as Erika steps in fully to that work.

She steps off the committee here and continues to influence the direction of growth in the industry and our commitment to an ability to represent the sustainability of the sector in particular. So, Erika, congrats on that new role. I am really looking forward to working with you in that capacity.

And there's no way for us, either me personally or the leadership team of NOAA Fisheries, to adequately thank you for your steady hand on the rudder during the course of the last three years and your efforts to bring this diverse and wonderful group of voices in our stakeholder community together and pull forward some very challenging and strategic recommendations for us to act on. So, Erika, thank you again.

And I want to say in closing in kind of - you know, you think about this group of people collectively and the work and the impact on recreational fishing, on offshore wind, on the National Seafood Council, the marketing and promotion concept, on data collection, data access, data management, on aquaculture and now our kind of next generation work on resilience and the focus that has been shaped up over the last few days on workforce related issues, strategic structural key issues that we need to grapple with and address.

This is a phenomenal body of work, a work that has shaped how we think about our mission and how we execute it. And I think from a content point of view, collectively, the contribution that all of these folks have made is phenomenal. But I want to close with acknowledging really a more stylistic element here as well to a person, everybody that I've had the opportunity and the great pleasure to acknowledge here today has contributed to the cordial, you know, highly deliberative, thoughtful and collegial way that MAFAC does its work.

All of you represent very different parts of the sector, of the fisheries and seafood sector writ large. You're coming at things from different perspectives and we have built, and really all of you have built, a work culture that where the hallmarks are, that collaborative spirit of collegiality is the ability to articulate different views, debate, discuss and at the end of the day, shape and bring forward consensus views.

That's powerful. And very few committees operate consistently over time in that fashion and deliver the quality of work that you all have delivered but do so in a way that represents the very spirit of the type of work that we all need to carry out every day in every single one of our functions in the public sector as public servants.

You have all exemplified, I think, the highest standards of professionalism and the highest standards of collegiality and collaboration. And I want to personally thank you for that.

That's a big role for all of us remaining with the committee. New members bring with an acculturation of everybody to that style of doing business. But you set a high bar. We're very grateful to all of you for that. And your work will have a lasting impact on us in both those ways in terms of our organization as well as in terms of the substance of the work that we're carrying out.

So thank you all very much. It's been a great pleasure to work with you in this capacity. And I'll close with a big hand for all of you. Thank you.

We really should rip off to a toast at this point, but unfortunately we cannot do that.

Janet Coit: Yes. I'd love to just add - can you all hear me?

Dr. Doremus: Yes.

Janet Coit: It's such an awkward setting. You know, I'd love to just add - first of all, Paul, thank you. I think all of your words were really meaningful and especially in these difficult times, especially the last comments about the collegiality and respect and way that this group does their work.

So I just want to briefly say first, I'm so pleased that I was able to participate and listen in on a lot of the dialog. And I'm so impressed and I'm so excited about your work on resilience in some of the other areas where I was able to hear the benefit of your discussion and see the direction that you're moving.

So please know I realize what a privilege it is to be in my position and the awesome and consequential mission of NOAA Fisheries.

I wanted to also just acknowledge that in listening to you, I learned a lot but also felt like you were talking about the things that are my priority. So it made me even more eager to keep working with this group and to take advantage of the wide perspectives and expertise that you bring to the table.

They say that no one is irreplaceable but when I listen to the people who are retiring off, I feel bereft because it sounds like an amazing group of people who contributed so much over the years. And I'm sure you will continue to do that for NOAA Fisheries and for stewardship of our marine resources.

And then finally, I was really struck by some of the issues about the bigger economic issues and wanted to again mention I think sometimes it feels awkward that NOAA is in commerce, but we are in commerce. And I'd like to try to take

advantage of the interest that Secretary Raimondo has in Fisheries to see if we can connect more broadly on some of these economic issues that you brought up from workforce development to infrastructure to supply chains to trade.

And then lastly, I want to first recognize Jennifer Lukens and Heidi Lovett, who I can see on my screen, for their fine work and support all the way through this process. And then just to add my accolades, I have happened to have known Erika longer than probably anybody else at this meeting.

And I am also really impressed and grateful for all that she's contributed in her leadership at MAFAC. So thank you, Erika. We salute you.

Jennifer Lukens: So, Erika, we have one last thing here, which is closing out and some action items and next steps. I'm just going to jump into those unless you want to say anything or have you said too much today over the course of three days?

Erika Feller: I feel that it's the case that most of the time that I'm saying too much, but it is just such an honor to have this role. Such a pleasure to work with all of you.

Jennifer Lukens: Well, thank you. I just want to say personally thank you to you, Erika, for taking on this role. I had to bribe you with the bedazzled gavel that I still don't know where it is. But I'm going to use this opportunity to advertise for anybody who wants to nominate someone else or yourself, you get a bedazzled gavel for when we are in person at our next meeting. So that is...

Erika Feller: It's like two feet long. I mean, it's huge. You could take somebody out with it.

Jennifer Lukens: It's big. You could hurt someone with it. It was decorated by my 10 year old so it's pretty impressive. Anyway, but thank you, Erika. I've been through a lot of chairs and I certainly really thank you for your leadership there.

I want to say thank you to all the members who are retiring from the committee. I can't top all the words that Paul put out there, but just a sincere thank you from me.

And I'm going to close a few things out here. For those of you that are remaining, we are going to - Heidi, I think you're going to put up a slide of just some potential next dates in the spring. We always like to give you a few dates and hear some reactions of what may work and what may not work.

All of you are on a lot of different committees. And so those are some of the dates there. If there are any significant problems that you have with any of those dates, please just drop me or Heidi a note. We will circle back on all of these but just flag for us if there's any significant conflicts for folks.

So I also wanted to mention that we are - with the retiring members that we are in the process of going through reviewing all of the nominations that we got for our next set of victims, I mean, members to participate in MAFAC. And I'm hoping that we will get those out in the near future.

And we will have some new fresh blood to help work on all of the new tasks that we talked about today and approved. So we're looking forward to sharing that information with you once we go through the whole nomination process and the Secretary makes those appointments.

As I said, if you are interested in the chair and vice chair, please send those nominations to me and/or Heidi by tomorrow. Heidi, can you take down the slide now? And you're waving at me so I guess you want to say something.

Heidi Lovett: Sorry.

Jennifer Lukens: Oh, you don't need something. Okay. We have a couple of action items here that we need to act on. But those are mostly followed through with committee work and a follow-up with meetings so we will be back in touch with that.

And thank you to all of you who have volunteered for the new workforce work. And if any of you decide afterwards that you'd like to join, it is not a closed process.

So I don't think I've forgotten anything else. Anyone have any last words other - I'm going to say one thing. A double thank you to Heidi. Heidi, without you, you are the person who holds this entire committee up. Heidi does get a lot of help from a lot of people who've been often on the screen here.

Fisheries staff (Gabriella), who has been quiet the whole time, but she's been typing away like crazy, helping with notes and just helping with a lot of the subcommittee work. I see Sean there, Sean McNally. He's going to be helping out with some of the work that we have coming down the pike. And there's been a lot of other ones.

So like we said, there's there is a whole bunch of NOAA Fisheries staff who is ready to help support the great work that you all are doing. So thank you. Any other words before I turn it over to Erika to use her pretend gavel? Yes, Robert.

Robert Jones: A logistical question. Considering Erika's departure, is the plan for nominees for chair to be submitted in the intervening period before the next meeting and then decided upon in some sort of call or through some sort of process so that there is a chair leading up to the meeting or is that something that's being deferred until then?

Jennifer Lukens: No. That's a great question. Thank you for asking that. Normally what we do is we ask for nominations. We take those in and then we make that decision at Fisheries and share that with the rest of the committee.

I asked for them by tomorrow. So hopefully we'll get some and get that establishment out sooner rather than later and start working with that chair on the development of the work plan and moving into the next hopefully in-person meetings. So that's the plan moving forward.

Robert Jones: Very good. Thank you for that clarification on that. And then the last question was, are we assuming that the spring meeting if in person will be in D.C.?

Jennifer Lukens: I am not assuming anything. We are trying to get to Puerto Rico. I'm not sure if that will work or if it will be D.C. I've been saying the last two meetings hopefully will be in-person next. So I'm not making any assumptions here, but we will certainly as soon as we get to narrowing down some decisions, we will get there. We'll let you know.

And I am totally remiss. I forgot the most important person to say thank you to. That's Darius. We wouldn't all be here and we've had a lot of technical issues that he's been scrambling with the whole time. And I'm so appreciative of him not only for helping with these meetings, but getting me through my daily work sometimes is challenging and the IT challenges I have. So thanks there to Darius.

Any other questions or comments? All right. Then I'm going to turn it over to you, Erika, for you to close out the meeting and take off your crown as chair.

Erika Feller: You know, thank you all so much. There are not words for how much I'm going to miss this group. It's been so great to work with you and thank you for all of your hard work this week.

To all of you, to Heidi, to (Gabiella), to Jennifer and Janet and Paul, thank you for putting together such a stimulating agenda and great conversation. I'm going to miss this what I call my side hustle so much.

But I guess that's it. So we're adjourned.

Woman: Thank you, everyone.

Woman: Thanks, Erika.

Woman: Thanks, Erika.

Man: Thank you.

Woman: Thanks, everyone. Great meeting.

Man: Thanks all. Bye-bye.

Woman: Thanks, everybody. Bye, everybody.

Man: Bye.

Jennifer Lukens: Operator, that closes our meeting. Thank you.

Coordinator: Thank you for participating. You may disconnect at this time.

Erika Feller: Darius, super thanks.

END

Members Present:	NOAA/NMFS Staff Present:	Also Present:
Sebastian Belle , Executive Director, Maine Aquaculture Association	Paul Doremus , PhD, Deputy Assistant Administrator for Operations	Kristine Cherry , Branch Chief, Regulatory and Policy Branch, Office of Aquaculture
Roger Berkowitz , President, Massachusetts Seafood Collaborative and President and CEO, Legal Sea Foods Marketplace	Heidi Lovett , MAFAC Assistant Designated Federal Officer	Laura Diederick , Lead, External Affairs, Partnerships, and Events, Office of Communications
Janet Coit , Assistant Administrator, National Marine Fisheries Service (<i>ex officio</i> member of MAFAC)	Jennifer Lukens , MAFAC Designated Federal Officer; Director, Office of Policy	Bob Gill , Gulf of Mexico Fishery Management Council
Megan Davis, Ph.D. , Chair; Research Professor, Aquaculture, Florida Atlantic University, Harbor Branch Oceanographic Institute	Gabriela McMurtry , Fishery Policy Analyst	Laura Gray , National Aquaculture Liaison, NMFS
Raimundo Espinoza , Founder and Executive Director, Conservación ConCiencia		Laura Ingulsrud , Knauss Marine Policy Fellow, NMFS
Erika Feller , MAFAC Chair; Director, Marine and Coastal Conservation, National Fish and Wildlife Foundation		Lindsey Kraatz , Senior Science Advisor
Thomas Fote , Retired, Recreational Fisherman		Sean Lawler , Environmental Policy Analyst
Robert Jones , Gulf of Mexico Regional Director, Environmental Defense Fund		Kristy Long , Fishery Biologist, NMFS
Donna Kalez , Owner and Manager, Dana Wharf Sportfishing and Whale Watching		Sean McNally , Senior Advisor to the Assistant Administrator for Fisheries
Sara McDonald , Ph.D., Director of Conservation, South Carolina Aquarium		Kate Naughten , Director, Office of Communications
Donald McMahon, III , President, Pensacola Bay Oyster Co., LLC, Pensacola Bay Oyster Hatchery, LLC, and TORCH (The Oyster Restoration Company and Hatchery)		Wendy Piniak , Office of Protected Resources
Stefanie Moreland , Director of Government Relations and Seafood Sustainability, Trident Seafoods		Patricia Pinto Da Silva , Social Policy, Northeast Fisheries Science Center
Jim Parsons , General Manager, Cooke Aquaculture Pacific		Cristi Reid , NEPA Coordinator
Harlon Pearce , Owner/Operator, Harlon's LA Fish LLC		Michael Rubino , Senior Advisor for Seafood Strategy
Kellie Ralston , Vice Chair; Vice President, Conservation and Public Policy, Bonefish and Tarpon Trust		Sarah Schumann , Fisherman; Owner/Principal Consultant, Shining Seas Fisheries Consulting, LLC.
Ervin "Joe" Schumacker , Marine Scientist, Quinault Department of Fisheries, Quinault Indian Nation		Sarah Shoffler , National Seafood Strategy Coordinator, Southwest Fisheries Science Center
Patrick Sullivan, Ph.D. , Professor Emeritus, Department of Natural Resources, Cornell University		Rick Spinrad , NOAA Administrator
Richard Yamada , Owner, Shelter Lodge		Seth Sykora-Bodie , Advisor to the Deputy Assistant of Operations
		Brett Veerhusen , Principal, Ocean Strategies

		Cisco Werner, Ph.D., Director, Scientific Programs and Chief Science Advisor
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