

National Oceanic and Atmospheric Administration
(NOAA)
Marine Fisheries Advisory Committee
Meeting
Tuesday, November 29, 2022

The Marine Fisheries Advisory Committee met at the DoubleTree Silver Spring DC North, 8777 Georgia Avenue, Silver Spring, Maryland, at 8:30 a.m., Megan Davis, Chair, presiding.

Members Present:

Megan Davis, Ph.D., Chair; Research Professor, Aquaculture, Florida Atlantic University, Harbor Branch Oceanographic Institute

Kellie Ralston, Vice Chair; Vice President, Conservation and Public Policy, Bonefish and Tarpon Trust

Janet Coit, Assistant Administrator, National Marine Fisheries Service (ex officio member of MAFAC)

Bob Beal, Executive Director, Atlantic States Marine Fisheries Commission (ex officio member)

Sebastian Belle, Executive Director, Maine Aquaculture Association

Roger Berkowitz, President, Massachusetts Seafood Collaborative and President and CEO, Legal Sea Foods Marketplace

David Donaldson, Executive Director, Gulf States Marine Fisheries Commission (ex officio member)

Thomas Fote, Retired, Recreational Fisherman*

Donna Kalez, Owner and Manager, Dana Wharf Sportfishing and Whale Watching

Sara McDonald, Ph.D., Director of Conservation, South Carolina Aquarium

Meredith Moore, Director, Fish Conservation Program at Ocean Conservancy

Stefanie Moreland, Director of Government Relations and Seafood Sustainability, Trident Seafoods

Linda Odierno, Fish and Seafood Development Specialist

Jocelyn Runnebaum, Ph.D., Fisheries Project Manager, The Nature Conservancy

Ervin "Joe" Schumacker, Marine Scientist, Quinault Department of Fisheries, Quinault Indian Nation*

Sarah Schumann, Fisherman; Owner/Principal Consultant, Shining Seas Fisheries Consulting, LLC

Patrick Sullivan, Ph.D., Professor Emeritus,
Department of Natural Resources,
Cornell University

Clayward Tam, Cooperative Fisheries
Research Coordinator, Pacific Islands
Fisheries Group*

Barry Thom, Executive Director, Pacific States
Marine Fisheries Commission (ex officio
member)

Matthew Upton, Attorney, United States
Seafood

Brett Veerhusen, Principal, Ocean Strategies

NOAA/NMFS Staff Participants Present:

Kristine Cherry, Branch Chief, Regulatory and
Policy Branch, Office of Aquaculture*

Katie Denman, Fishery Policy Analyst

Laura Diederick, Lead, External Affairs,
Partnerships, and Events, Office of
Communications

Jim Landon, Acting Deputy Assistant
Administrator of Operations

Heidi Lovett, Alternate Designated Federal
Officer

Jennifer Lukens, Director, Office of Policy and
MAFAC Designated Federal Officer*

Gabriela McMurtry, Fishery Policy Analyst

David O'Brien, Acting Director, Office of
Aquaculture

Zach Penney, Ph.D., NOAA Senior Tribal
Policy Advisor

Sam Rauch, Deputy Assistant Administrator of
Regulatory Programs

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

Also Present (NMFS Staff and Visitors):

Alberto Boggio*

Richard Cody, Ph.D., Division Chief, Fisheries
Statistics Division, Office of Science and
Technology

Zack Klyver, Blue Planet Strategies*

Lindsey Kraatz, Senior Science Advisor*

Sean McNally, Senior Advisor to the Assistant Administrator for Fisheries

Sean Morton, National Center for Coastal Ocean Science

Kate Naughten, Director, Office of Communications Noah Oppenheim, Homarus Strategies, LLC*

Lucas Raymond, NEXFA

Michael Rubino, Ph.D., Senior Advisor for Seafood Strategy

Brianna Shaughnessy, Communications Specialist, Office of Communications*

Sarah Shoffler, National Seafood Strategy Coordinator, Southwest Fisheries Science Center

Seth Sykora-Bodie, Advisor to the Deputy Assistant Administrator of Operations*

Maureen Trnka, Advisor to the Deputy Assistant Administrator of Regulatory Programs*

*participating via webinar.

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Proceedings

(8:38 a.m.)

Welcome, Roll Call and Agenda Review

Chair Davis: Okay, good. Okay, we'll start again. Good morning everyone. Great to have you all here. I'm looking forward to a great three days together. Lots of work to do, and so we're going to get started by doing some introductions. Okay. Heidi says we need to read the Privacy Statement first. So she's going to read that. Thank you, Heidi.

Ms. Lovett: Okay. Hopefully you can hear me. So pursuant to the Privacy Act of 1974, agencies are required to tell people what our authority is for collecting personal, personally identifiable information or PII from them, the purpose of the collection, how we are using and sharing that PII, whether or not the person can refuse to provide the PII, and what, if any, is the consequence of refusing to provide the PII.

In order to collect PII at all in the system of records, even if a company by a Privacy Act statement, we also have to notify the public generally of this collection, which is what we were doing with this statement. There is also a statement posted on the MAFAC meeting website. We are sharing this because we want you, as participants in the meeting and public commenters, to not provide PII or business identifiable information or controlled unclassified information during recorded virtual conferences.

Speakers, sessions, presentations and any public comments during a federal advisory committee meetings are made publicly available, and today this is through this webinar and also we have a court reporter. We are not recording the webinar per se, but the audio is being -- actually, that's not true.

We're not, we are not recording the audio. That's

when we do our telephone conferences, so sorry. The purpose of noting all of this is that an individual's permission is required for use of photographs, video and audio in any format used for communications, outreach interviews and dissemination of mission products intended to promote an awareness and appreciation of the environment, and NOAA's science, service and stewardship roles.

NOAA's websites and social media outlet must not collect any PII information from children under the age of 13, unless parental permission is provided in writing. So please make sure for anybody on the screen, if you happen to have young children around you, that there are no children in your background at all while you are on screen.

If that is a possibility, we just suggest you blur your background, and that's all we need to say. Thank you.

Chair Davis: Thank you Heidi for that. So let's go ahead and start with introduction, and we'll go around the room around the table. We'll also acknowledge our colleagues that are joining us virtually, and then our visitors today as well. So David, if you wouldn't mind starting. Thank you.

Mr. Donaldson: Thank you. David Donaldson, Gulf States Marine Fisheries Commission, executive director.

Mr. Beal: Good morning. Bob Beal, executive director from the Atlantic States Marine Fisheries Commission.

Ms. Moore: There we go. Meredith Moore, Ocean Conservancy.

Ms. Kalez: Donna Kalez with Dana Wharf Sportfishing and Whale Watching.

Ms. McDonald: Sara McDonald, South Carolina Aquarium.

Ms. Ralston: Kellie Ralston with Bonefish and Tarpon Trust.

Dr. Sullivan: Pat Sullivan, Professor Emeritus, Cornell University.

Mr. Thom: Barry Thom, Pacific States Marine Fisheries Commission, executive director.

Ms. Schumann: Sarah Schumann. I fish commercially in Rhode Island and Alaska.

Mr. Landon: Good morning. Jim Landon, NOAA Fisheries.

Ms. Lovett: Heidi Lovett, NOAA Fisheries, Office of Policy.

Ms. Davis: Megan Davis. I'm with Florida Atlantic University.

Ms. Coit: Good morning. Janet Coit, NOAA Fisheries.

Mr. Bell: Good morning, Sebastian Bell with the Maine Aquaculture Association.

Ms. Runnebaum: Good morning, Jocelyn Runnebaum with the Nature Conservancy in Maine.

Ms. Moreland: Good morning. Stefanie Moreland with Trident Seafoods.

Ms. Odierno: Linda Odierno, fisheries consultant.

Mr. Upton: Good morning, Matt Upton with U.S. Seafoods.

Mr. Veerhusen: I'm so glad Matt did that first, because I'm starting to sweat. Brett Veerhusen, Ocean Strategies.

Ms. Denman: Katie Denman, NOAA Fisheries, Office of Policy.

Ms. McMurtry: Gabriela McMurtry, NOAA Fisheries, Office of Policy.

Chair Davis: And Tom?

Mr. Fote: Tom Fote, Jersey Coast Anglers Association and Jersey Commission to Atlantic States Marine Fisheries Commission.

Chair Davis: Clay?

Mr. Tam: Hello, Clay Tam, Pacific Island Fisheries Group.

Chair Davis: And Joe?

Mr. Schumacker: Good morning. Joe Schumacker with the Quinault Indian Nation down here in Washington State.

Chair Davis: Jennifer.

Ms. Lovett: Jennifer, you're on mute.

Ms. Lukens: Can you hear me now?

Ms. Lovett: Yes.

Ms. Lukens: All right, sorry. Good morning everyone. This is Jennifer Lukens. I'm the Director of Policy for the Office of -- sorry, National Marine Fisheries Service.

Chair Davis: Kristin.

Ms. Lovett: That's our manager.

Chair Davis: Oh, okay. And anybody else? Heidi.

Ms. Lovett: Nope.

Chair Davis: Okay, very good. And if we could also have our visitors also introduce themselves. Thank you.

(Off mic introductions.)

Ms. Lovett: If anybody has any issues or needs, we have Kristin Rickett and Keith Rickett at the front door. They're our meeting managers with us today.

Chair Davis: Okay. I just see Michael Rubino just walked in. If you'd like to introduce yourself?

Mr. Rubino: I'm Michael Rubino. I'm the senior advisor for Seafood Strategy.

Chair Davis: That's great, and Sarah?

Ms. Shoffler: This is Sarah Shoffler. I'm the National Seafood Strategy Coordinator.

Chair Davis: Great, okay. Welcome everyone. So I'm just going to briefly go through the agenda. We have -- this morning we have our NOAA leadership with us, only with Janet Coit and Jim Landon, who's going to give an overview, as well as Sam Rauch and we'll follow up with Zach Penny, who will give us information on NOAA Tribal Engagement.

We will break for lunch, and then we'll begin the afternoon session with Joe Schumacker and also Roger Berkowitz, giving an overview of the work of the committee that's been working on Workforce Development. We'll also have an update on NOAA aquaculture in the afternoon.

We'll have a short period for any public comment, and then we're going to start in on our work plan discussion, and this will continue not only today but through tomorrow and also through into the third day, and this is setting us for some new work charge that we'll be doing. So we'll be having that discussion. I'm looking forward to that as well.

And then this evening, we have a group dinner that's been organized by Sarah, and also Lucas is part of that. And so I hope that you all have had a chance to sign up and to be part of that dinner this evening. Is there anything else we need to discuss on that?

Ms. Lovett: Could we give Sarah a minute to explain?

Chair Davis: Oh yes. That would be great, Sarah.

Ms. Schumann: We're having an amazing three-course meal at Indique Indian restaurant in Cleveland Park, featuring species caught by Lucas in the Gulf of Maine, pollock, and species caught by our other guest fisherman speaker Jake Griffin, who will arrive later this afternoon, Bristol Bay salmon and hopefully some spinner shark that he overnight shipped to the chef, that I'm stressfully awaiting word that it has arrived.

But yeah, and we'll hear some, you know, some of their experiences as young fishermen and their ideas as to what NOAA and states and other folks can do to support folks like them in the future of the fishery.

Chair Davis: Thank you so much Sarah. It's going to be a real treat. So as you'll see from the schedules, tomorrow we'll also have some reports from our state directors, and Brian Pawlak will be here to discuss the Fisheries' budget outlook, along with Carrie Robinson. She'll be looking at giving us an overview of the BIL funding and restoration opportunities.

In the later part of tomorrow morning, we'll talk about recreation fisheries activities and then Donna will give a Recreational Fishing Subcommittee presentation. We'll have a science update from Cisco, and then we'll continue into our working plan discussion.

We will have some subcommittee time tomorrow afternoon, and then the last day of our time together, Sarah will also be doing some -- oh, that's subcommittee work time. But we've split it up so that you can be part of the subcommittees both. Yes, yes. They're split up into time so you can be part of those subcommittee working times.

Then we'll also have a Seafood Communication update by Laura Diederick, and then we'll have an action item on the last day to approve the workforce development work that's been done. And then continue on with, and what was that?

Ms. Lovett: And the Recreational.

Chair Davis: And the Recreational work, and then we'll continue on with our work plan discussion. So we've got a very robust three days of work together.

Really looking forward to the discussions, and with that, I would like to turn it over to Janet Coit, who's our Assistant Administrator for Fisheries, and she will be giving us a report and update since our time together in May, and we welcome Janet. Thank you so much for being here today.

Report of the Assistant Administrator

Ms. Coit: Thank you Megan, and again good morning everyone. It is really, really nice to see your faces, and I hope you all had a special Thanksgiving with family and friends. It's great to be together in person, and for those of you who are virtual, hang in there. I was able to see Tom recently and Clay, although I didn't see you, regrettably I did benefit from your sushi recommendation recently in Honolulu. So Heidi's thought to that.

So thank you, great to see everyone. I do want to just express appreciation for both you stepping up to serve on MAFAC and the travel and time that it takes. I know it's difficult to take time away and be present and I really appreciate that. I think the different perspectives that you bring and the opportunity to have informal discussions as well as around the table, for me it's invaluable.

I'd like to just acknowledge that a lot has happened since we met in San Juan. It feels like a lifetime ago to me for some reason, and you know, really that situational awareness about events in the world, events in your communities, events in the sectors for places that you represent are some of what you bring to us.

I wanted to give a special welcome to Barry Thom,

who some of you may have met with or worked with as part of the Columbia River Basin partnership, but who for many years was the head of our west coast region at NOAA and now in his new role at the Pacific States Marine Fisheries Commission, is here with us at MAFAC. Thank you Barry, and your perspectives and engagement are welcome.

I think I first learned about MAFAC perhaps from Barry telling me how meaningful the work of the Columbia River Basin was and continues to be, as we work really hard across the U.S. government with the states and tribes. Perfect time for Zach Penney to enter the room. You'll hear from Zach later. Zach's the senior policy advisor on Fisheries and Tribal issues for NOAA. Welcome Zach.

Mr. Penny: Good morning.

Ms. Coit: And also an expert on Columbia River salmon. Anyway, Barry great to see you, and great to see everyone. Sarah, that sounds amazing. Thank you for once again extending yourself to make sure that we have fresh local seafood and the stories associated with that. And Lucas, welcome.

So the last few weeks have been whirlwind for me. I've been traveling a lot and given the experience around this room, I've actually seen a lot of you in the last few weeks. So in the last couple of months, I've been in seven different cities beyond Silver Spring and D.C. and Rhode Island, where is my home state.

Charleston for the Fly Fishing Association meeting and Biloxi for the Gulf Council meeting; New Orleans for the American Sport Fishing Association meeting; San Diego for the state directors meeting, where I saw Dave and Barry and others. LA area for the Pacific Council meeting; Hawaii for Leadership Council meeting and a number of site visits, and now I'm glad to be here with you.

Yeah, and I am trying to make up for lost time to attend every council meeting to get to the places

where we have major seaports like Honolulu fish auction was very important to me and memorable. Getting to Dutch Harbor was very important to me and memorable earlier in the summer. When I say memorable, that's sort of an understatement, you know. It really expands and informs my ability to represent living marine resources and to do a good job at NOAA Fisheries.

So Sean and I are trying to balance constant traveling, which seems called for in terms of both making up for the lost time and getting to really appreciate this really the issues that are confronting fisheries and our oceans and, you know, getting the work done which is relentless in Washington, D.C. We've had an election since we last met and we've been looking hard at the composition of a new Congress, and I'm always aware that our issues are not partisan. They affect economies and communities across America, and regardless of who's in control and who's in charge and the leadership, we should have allies and an opportunity to move forward with our agenda.

So a context of kind of thinking about where our opportunities are moving forward is one that I'm bringing to this meeting. There have been some notable personnel changes since we met, and I'll start with Paul Doremus, who has left NOAA Fisheries after a wonderful career with many contributions to join Trident Seafood. Paul, in meeting with him before he left when it was still a mystery where he was going, you know, was talking a lot about how he can take what he's learned from his time in the leadership in NOAA, bring it to bear moving forward, a national agenda around supporting seafood.

So we had Jim Landon here today and or much of the meeting he is in an acting capacity, filling the huge role that Paul filled at NOAA Fisheries. Jim is also continuing to lead the Office of Law Enforcement. So I really appreciate him stepping up and encourage you to get to know Jim. Another

benefit of these trips is Jim and I got to snorkel and visit places in Hawaii, and you really get to know somebody better when you have a little down time to talk about their life and their passions.

Cisco Werner, Dr. Cisco Werner will be here for part of the meeting. I think most of you know Cisco, but he's just coming back from a six month detail heading NOAA Research. So I think that was super helpful for us in stepping up to lead the research arm of NOAA. I think he'll bring better close partnerships and collaborations around some of the innovation we need moving forward for our stock assessments and taking advantage of new technologies.

So he'll be here later, and for some of you, Paul always did, I'm told, the budget presentation, and Brian Pawlak, who is our CFO, a really talented, experienced member of our team who we know well but perhaps you don't, is coming today to do the budget presentation. Again, please make an effort to get to know him.

There's a number of others that will be in and out of the room, and I'll do my absolute best to spend as much time here as possible, but I'm being pulled in a few directions the next few days. So today is the special day, because I'll be here all day and then be at that amazing dinner.

I think when I spoke to you in San Juan, it was just -- and for most of you, that was the first time I was seeing your faces for many of you. I believe Jennifer and Heidi taught me that MAFAC was the first FACA committee.

Participant: That's our understanding.

Ms. Coit: Yes. So I just wanted to honor that 50 year history of MAFAC, and remind everybody that the charter says that MAFAC's objective is to ensure the nation's living marine resource policies and programs meet the needs of commercial and recreational fishermen, and of environmental,

consumer, academic, tribal, governmental and other nation interests.

That is quite a charge, and it is a challenging and dynamic time, and as Megan when you talk about where can you most have an impact, I just wanted to remind everyone of the breadth of that charge. There's really almost an embarrassment of riches when it comes to the places that you could engage, and these are very, very challenging times. So the partnership and the advice that you bring is especially valued.

It is funny as I'm looking around the room, whether it was a very difficult hearing in Portland, Maine, or some of the travels I've been in, really gotten a chance to see and know some of you at our aquaculture visit in Portland. So it makes me appreciate even more all the respective roles that you play.

So I wanted to just touch on a few of the priorities of this administration, and I'm not planning to get deep into any issue, but I appreciate that we will have an opportunity to do that on the agenda. First, you know Sam Rauch and many of you in San Juan, where he gave the first presentation on our equity and environmental justice strategy to this group.

I just want to appreciate the thoughtful comments and the way that MAFAC engaged. They were outstanding, they were thoughtful. They were pushing us and we got so many comments on that strategy and are working hard to think about them and evaluate them and do a new iteration. But the work that you did was really appreciated on that, and we talked a lot about that recently in Hawaii in relation to the territories, and the difficulty sometimes in reaching and really being present and learning from communities that are hard to get to.

And the I guess explicit request that we do this differently, and not just come up with a strategy and implement it, but keep engaging and checking in with communities on what they feel are priorities

and how they can co-manage or influence this work.

Another place that I'm hoping to increase diversity is through our Council appointments. I talked about this in San Diego at the state directors and commission meeting. We'd like very much to see more diverse representation on our Fisheries Council. Of course, those are nominations from the governors and that's a process that is age-old from the beginning of the Magnuson-Stevens Act.

But we're talking about state representatives and the governor's office and the Secretary of Commerce about encouraging more diversity of representation, both in terms of sectors, gender, tribal representatives, and hope that we can make headway there. You know, the more perspectives we can have around this table, the better for the decision-making.

Along those lines, we have four MAFAC vacancies coming up. So really think hard about people that have expertise and are interested and engaging on these issues, and who we might encourage to put their names forward as candidates for the MAFAC committee. It's a great opportunity, I think, for us to benefit and for people to learn more about the work of NOAA Fisheries.

I also wanted to mention that there's a new marine and coastal area-based management federal advisory committee that was announced a few weeks ago. That was the execution of a law that was recently passed and is in really our Saltonstall-Kennedy grants, and having an impact through those.

Oh I'm sorry, I just screwed up. That's a different one. I can't think of the name. It's similar. There is a new -- I'm sorry I screwed up. There is a new committee that has been formed and will meet soon. That's what I just said, aimed at the Saltonstall-Kennedy grants. Yes, yes, they're all -- thank you, American Fisheries Advisory Committee.

The one I now was talking about is a new committee that we're working on with the Interior Department around marine and coastal area based management. It's beyond, Beyond America the Beautiful, but looking at management of areas for their conservation benefits. I may follow up in the meeting and be more specific on that, because I now have confused myself.

Climate change continues to be foremost on our minds across NOAA and this administration, and there's then a lot of climate-driven changes that have been noteworthy nationwide since we last met. Our goal to both understand what is happening through the science and our partnerships, and to better predict and advise managers is a huge focus for me.

We are hoping to get significant funding in the Inflation Reduction Act to improve science and stock assessments, and to work with councils and states and partners on what we're calling climate-ready fisheries, you know, essentially having the best information we can to make sure our management is incorporating changes resulting from climate change, and that were truly making sustainable decisions in a very quickly-changing ecosystem.

I heard a lot about that, particularly in Alaska in regard to just making sure that the coastal communities that depend on fisheries, the investments that businesses and municipalities are making in infrastructure, you know, that these hold up in the long term. Fundamentally, that's about seafood and community, and some of you in our discussions about equity and EEJ have talked about the various national standards.

I wanted to let you know that I'm working with Sam and Kelly Denit and others on an advanced notice of proposed rulemaking, to get some input into how we might update some of the national standards under the Magnuson-Stevens Act, including National Standard 8 surrounding coastal communities,

National Standard 9 in regard to bycatch, and National Standard 4 in regard to discrimination.

That process will not be short. We're going to look for input and then determine how and whether sequentially together we should update our guidance. The standards themselves stand, but they're pretty narrow in terms of their language and how we interpret them and provide guidance to the councils is something I think can be, have a real impact if we update those.

Cisco will talk more on the Climate Ecosystem and Fisheries Initiative when he speaks to you tomorrow. But that is the cross-NOAA initiative that we've launched with the Ocean Service and the research arm surrounding the foundational science that we begin to use in decision support tools and to provide to the councils and to our own managers. So that's a priority and an important topic for this meeting.

I know we talked about offshore wind at our last meeting, and it is something that consumes a lot of my time and a lot of the staff time. It's interesting, the Gulf of Maine, soon to -- or the state of Maine is soon to unleash a plan on how offshore wind is developed in different parts of our ocean, is something I hope that you will engage in.

In the Atlantic, we're sort of first at the gates, and we're spending a lot of time at NOAA Fisheries and with our staff on the regulatory aspects, with sort of learning as we go because of the ambitions of the administration, the speed at which that's happening.

So it provides an opportunity to press innovation around things like monitoring for North Atlantic right whales. It's also sort of jumping off into the unknown in terms of what the oceanographic impacts and some of the mitigation measures that would be effective when it comes to the impacts from offshore wind.

So I'm not sure. Our NOAA Fisheries rule is both

regulatory. It's also trying to think ahead and mitigate impacts on our surveys. It's also providing the best science and ideally doing marine spatial planning up front to determine where are the best places to site offshore wind.

But we're part of an administration that wants to scale this up quickly, and Gulf, Pacific, Atlantic, you know, we're working to try to both share lessons learned to date and to move quickly to make good decisions. I'm not sure of the role that MAFAC will play or desires to play in that, but it is a very big focus for me and for the leadership of NOAA Fisheries, and a concern that's been raised again and again with the commercial fishing sector in particular as I travel the country.

There have been some exciting things that have happened since we met, and among them were both Bipartisan Infrastructure Law, which I think was enacted after our Puerto Rico meeting, and also the Inflation Reduction Act.

Carrie Robinson will talk more about this historic opportunity, incredible opportunity we have to provide funding in the form of grants, larger than we've ever done before for habitat restoration, fish passage, for capacity-building in communities that have been underserved historically.

It's really been fun and exciting to work on it. I'll be in New Orleans next week at the Restore Americas Estuaries Conference, talking about some of the really large habitat restoration opportunities. The Inflation Reduction Act is really TBD. We're working very hard behind the scenes with the Secretary, with the Hill, to try to make sure that we meet the intent of that law and do it in a way that leverages a lot of positive restoration and supports commercial and recreational fishing, and helps us move forward with our protected species work.

It's a lot of funding and there's a lot of designs on it. Many members of Congress say, you know, we enacted us to do X or we enacted this to do Y. So

we're working hard to be smart and strategic, and I think it will help us really move forward on a lot of our agenda here, our mutual agenda.

So I'll just close by encouraging you to think really strategically about where MAFAC can make a difference, combining the incredible expertise and diversity of perspectives around this room, and promise Megan to work closely with her. She's doing -- she does a great job as a leader of this committee, to make sure that NOAA Fisheries and our staff and our resources can work closely with you to have the impact that we all seek.

You are really part of our public service mission, and as we confront the challenges that are many right now, I just again feel grateful for you for putting the time and effort and your heart and your brainpower towards advising us here at NOAA Fisheries. Thank you. I'm not sure if there's time for questions or discussion.

Chair Davis: Great, yeah. Thank you so much Janet for that overview and bringing us up to date on the priorities. We really appreciate that. I just want to also mention that Cisco Werner has joined us, so welcome Cisco.

We do have time for questions and discussion. We have about 20 minutes, so we'll do where you put your tent up and we'll call on you that way. So lots of great things to discuss from Janet's overview that she just gave us. We'll start with Meredith.

Ms. Moore: Yeah, there we go. All right. That's going to be the rest of the meeting you guys, so thank you so much. I wanted to ask at the Puerto Rico meeting, there was sort of a presentation on I think kind of a -- you were working on a 2030 Vision, and I was wondering if that was going to be like further developed and released or something?

I've been able to share that with a few people, and they found it to be really helpful for understanding like broadly the priorities and the direction of the

agency. So I was just wondering if there was an intent to sort of like push that out to the public. Thank you.

Ms. Coit: Thank you, Meredith. We have a five-year strategic plan that is about to be rolled out, that is intended to put more meat on the bones of how we're getting to that 2030 Vision. So that is coming very, very soon, with much more specifics around our priorities and the actions we intend to take to achieve them.

I hadn't thought of further sort of burnishing that 2030 Vision and getting it out there, but we absolutely could with just a little bit of work put that also out, and sort of these are the -- this is the big vision and here's the strategic plan that's helping us to get there. So maybe we can even do it in tandem. But I appreciate that that's been helpful. Thank you.

Chair Davis: Thanks for bringing that up Meredith, and also Janet for talking about that. This afternoon, that was one of the documents that was sent for us to also think about as future work plan for MAFAC. So we'll bring that up again this afternoon, and thanks for that. And I want to welcome Sam to the meeting. Nice to see you. Are there other comments, questions? Kellie.

Vice Chair Ralston: I didn't put my tent up because I knew it would fall over. Janet, can you talk a little bit about the timeline on the IRA? I keep hearing we're working on it, but I know it's not necessarily all on NOAA. But I was just curious kind of when. Is it six months, is that a year? Kind of what are your thoughts there?

Ms. Coit: I feel like we're all -- we already should have out the door the information about how that money is going to be allocated, and I do expect probably in terms of the NOAA funds that probably in January there will be a big announcement about funding that's available both through grant programs and in other respects.

There is so much interest in it, and there have been conversations back and forth, you know, with the Secretary and with the Hill about how we use it wisely, and those conversations have ended up occupying more time that I would have thought when the bill was enacted. So I do think at least for our department, it will be early in 2023.

Mr. Upton: At least I can maybe work the microphone this time. Thanks, Janet. Can you speak a little bit more about some of the proposed comments around the national standards? So I thought I heard you say that it wouldn't so much be that the national standards were changing; just that NMFS' guidance on how they would be applied, that you'd be taking comments on that, or is it taking comments on whether to change that guidance?

Just anything that you could kind of provide now, because that's -- from kind of where I sit, that could be a pretty big change in terms of how the councils and stakeholders engage around those national standards, and all the kind of cases that have applied them over the years. So I don't know if you have to --

Ms. Coit: Yeah, I'll make a comment and then ask Sam to figure out how to turn on his mic.

Mr. Rauch: Yeah. I can't figure out how to turn it off.

Ms. Coit: Yeah. So the game plan is to do an advance notice of proposed rulemaking, ANPR in 2023, and to ask broadly about both the merits of updating the guidance and the substance. In other words, you know, whether to do it and what to do. The national standards themselves wouldn't change, and those of you that might have been involved in that process underway to update the guidance on National Standard 1.

I know that's not been a fast-moving process, and it's really important to us. In this case, we want to get -- we're not sure. You know, we've talked about

workload, whether it's something we can do all at once, or whether we would sequentially or maybe chose not to update the guidance.

We all have opinions about, about -- and we want to hear other people's opinions. We would definitely want to work, you know, with the councils, and so I think the ANPR is going to give us a lot of information to sort through and then decide on the next step, which would involve the councils and more, you know, public comment.

But hopefully that was clear. The national standards themselves of course are what they are and so it would be the guidance on how you interpret and apply them. Okay, you want to add anything?

Mr. Rauch: No.

Ms. Coit: By the way, for some of them, I'm trying to remember. I had this at the tip of my tongue before. It's been 20 years plus since there's been an examination of the guidance.

Chair Davis: Any other questions or comments? Thank you, Brett.

Mr. Veerhusen: On that question on that potential for updating, you know. I imagine that you heard a lot from all your travels, as we heard seven cities in just a couple of weeks. Was some of that impetus to look at this through NOAA's draft EEJ strategy and draft comments, and the comments that were submitted and approved unanimously by MAFAC?

Ms. Coit: Yes.

Mr. Veerhusen: Thanks.

Chair Davis: Thank you, Brett, and Jocelyn.

Dr. Runnebaum: Yeah, thank you Janet for that update. That was really helpful. I have a question about the climate change initiatives. It sounded like from your description there was a lot of focus on research and data collection, and I'm also curious

what your view of the agency's role in adaptation might look like. This is a pretty conversational question, I'm sorry. Start that direction, but just curious of what adaptation might look like at the agency in addition to all of the necessary data for management?

Ms. Coit: Yeah. That's such a huge and important topic. So let me try to address it in a couple of buckets, and it's something to perhaps discuss further at all of the different sessions. Let me just talk for a minute about some of the things we have going on. Kelly, so we don't anticipate nor are we advocating for the Magnuson-Stevens Act to be reauthorized, and I'm just being real.

I don't, I think they'll be legislation. I think it's unlikely that it will get enacted, and we have lots of opinions and are providing them technical assistance. But basically our realpolitik or our perspective is that we look at the statute and our authorities as they are and see what we can do within that, those parameters.

So one of the efforts we have going on that Kelly Denit is leading is around governance, and that is I think part of adaptation, because it's looking at, and there's working going on, led by the councils as well. But looking at given current authorities, how do we govern or manage fisheries when they're shifting or their distribution when they're changing.

So that is underway with -- Sam can remind me that time frame. But some time in 2023, we'll be rolling that out, and that's about management. You know, I mentioned these huge pots, billion dollar pots of money around habitat restoration and fish passage. So another way that we're approaching that and for all of those notice of funding opportunities, we've embedded climate change.

How does your project increase resilience to climate change? So whether it's Pacific salmon or Atlantic salmon, or protected resources that are species that are shifting their distribution because of where the

abundance of prey is. You know, we're looking at projects that help facilitate habitat restoration to promote resilience.

Even the, going back to the coastal communities and National Standard 8, which came up in the equity and EJ context; initially for me it came up in Alaska in the Kodiak, not Kodiak excuse me, Sitka initially for me, as a place where we could focus.

You know, I think another area is just looking at our work with coastal communities across some of the issues that we heard with the National Seafood Strategy, infrastructure, the marketing, you know, how can we promote resilience in the seafood sector through our authorities and our voice, under-utilized species.

So and then the science is, you know, everything we -- our decisions are science-based. Having the science, Cisco always says it's not your grandfather's ocean. You know, having the science, maybe expand or modernize so we can better understand what's going on with the Alaska crab, for instance, is something we think we need to put a lot more attention into.

And I think there's an opportunity. One of the ideas we have is to have pilot programs in different regions of the country, and an opportunity to look differently at these issues in the western Pacific versus the Gulf of Maine. So we wanted to use the benefit that we have under MSA, of having respect for regional differences and regional engagement, to look at how adaptation and resilience might look in different parts of the nation.

So I could kind of go on and on. I think you all have really important ideas about how to engage in that. Certainly no one thing.

Chair Davis: Thanks for that Jocelyn and Janet for your comments. That's really helpful as we move into our discussions moving forward as well. So good discussion. Sebastian.

Mr. Belle: Thank you Madam Chair. First of all, I think kudos to you for coming to Maine and going through a very unpleasant hearing. I wasn't there, but I think you deserve a lot of credit for taking the time to do that. I know that's a very tough issue.

I wanted to just ask one question about the NOAA aquaculture strategy. Obviously, it's just recently released and it makes for a very interesting read. There's a lot of stuff in it, and my question to you is, is that going to influence or have an impact on the funding request for the administration in terms of resources for aquaculture within NOAA? I mean the strategy was great, but unless there's money there, it really doesn't mean a whole heck of a lot.

And so if you can give a little bit of light on whether or not the administration's going to ask for more money for the Aquaculture Division, that would be great.

Ms. Coit: Thank you Sebastian and first, for those of you who don't know what he's referring to, Sebastian's talking about a public hearing we had in Maine about the regulations that are needed to protect North Atlantic right whales.

I think a really important part of our, of my job, Sam's job, you know, as public servants is to hear from people, and of course folks in the lobster sector and the lobster industry and the lobster culture in Maine are extremely upset and threatened at their core when they contemplate the potential range of options we have to reduce the vertical lines associated with these pot fisheries quickly.

So it's painful to be the receptor for a lot of the comments and anger at the government and anger at the Endangered Species Act, but really important and necessary to be there and to have that. I would say the dialogue is more valuable than some of these public hearings, which are more theater, but it's important to be there.

On aquaculture, so I agree that we need more

funding and Jim Landon agrees, in order to achieve all the things in that strategy. We have made discretionary decisions. We have a billion dollar budget at NOAA Fisheries. We have funds that we are already devoting towards aquaculture, and making the decision to support positions and do what we can with the funding that we have.

There's been some degree of support, both internally in the executive branch and with Congress for increasing those funds. But I think we're going to have to really pick and choose what we focus on, because the amount of funding I think we would need to really move forward aggressively in the way that we would like, I don't think is going to be forthcoming through the budget process.

There is potentially opportunity with some of the grant programs and some of the thinking with that Inflation Reduction Act, to make headway in aquaculture. But again Sebastian, that's all being discussed and kind of remains to be seen. So I guess that's as much as I want to say. Our role in aquaculture and our desire to be the lead agency doesn't totally match the statutory authorities, and the -- I think we're continuing to want to work with state quotas to build that support, but I don't want to be making false promises.

Mr. Belle: Yeah, thank you. Thank you for that. Not a surprise in the answer. The only comment I would make is that, you know, the administration's request for funding sends a message to the investment community, and that message is watch very closely and frankly, what it's resulting in it is American capital going overseas at this stage of the game.

And then domestic farmers having to compete against farms from other countries that don't comply with the rules and regulations we have to. So it's an important -- it's not to be underestimated the impact of the administration's request in terms of how it, how it messages to the investment

community.

Ms. Coit: Well said, and that's something that I heard loud and clear. In Hawaii, we had an aquaculture roundtable on the big island, that same point, and it's something that when we unveil our draft Seafood Resilience Strategy, you know, that point about the need to grow and support U.S. aquaculture will be made in the same -- in, with some of the same arguments that you're stating.

Chair Davis: Thank you. What was that?

Ms. Lovett: Jocelyn.

Chair Davis: Oh Jocelyn, go ahead.

Dr. Runnebaum: Thanks. I just wanted to follow up with a comment that aquaculture might also be a consideration for resiliency for communities adapting.

Chair Davis: Thanks for that. Well, we're going to wrap up this discussion now, and I just wanted to thank Janet again for the great overview in setting the stage for our discussions today, and also for future opportunities and also her acknowledgment of the work that we do here in partnership with NOAA leadership. So thank you for that. Thank you for everybody's questions and comments and discussions, and so now we're going to move on for Jim Landon to give us an update as well, a report. So thank you.

Introduction of Acting Deputy Assistant Administrator of Operations

Mr. Landon: Thanks, Madam Chair. So good morning everybody. So as advertised, I'm Jim Landon, and as you've heard, I am for the last couple of years have been the Director of the Office of Law Enforcement, and currently now performing the duties of the Deputy Assistant Administrator for Operations in the wake of Paul's departure.

So I suspect you have not had a whole lot of opportunity. I know I have not had a whole lot of opportunity to engage this body in my day job as Office of Law Enforcement director, but I'm looking forward to doing so more closely in my acting capacity. So I would, as I've been getting up to speed on all of the things that are in this portfolio, I have been extremely impressed by the work of MAFAC, the things that you have done, the history as Janet mentioned, and the history of this organization.

And so looking forward to learning more and serving and engaging you all in my new role. So and to the extent that you all have brought questions for Paul or would have typically asked Paul a question, don't hold back please. I will do my best to get you an answer if I don't know it offhand. But like I said, please continue that engagement because it is, it is so critical.

So you know, Janet had mentioned from her perspective that the priorities, a lot of the programmatic priorities, and that really has kind of been her charge to me, is to kind of continue our course and speed with achieving her priorities, those priorities and the priorities of the agency.

And so that is, that is what I will do, and continue to build on the great infrastructure and the work that this office and this role has performed under Paul's leadership. So the one thing that I did want to also mention though is, you know, Janet had mentioned a lot of the programmatic priorities, and in order for me to obviously continue and to achieve those, I wanted to highlight from my perspective what another priority is, and that's the people. That is the people of this agency and our stakeholders.

And so that is what you'll see a lot of my portfolio and my efforts will be focused on, are those people priorities. And so a lot of work, we are continuing with our reintegration of our fellow workforce kind of post-pandemic. We're still, you know, mindful of

the fact that COVID has not gone away.

We now have seen an uptick in both those cases and flu, and so our approach has been a very methodical, very safe, very informed by the science of that reintegration of the workforce, and have taken that flexible approach to supporting our workforce through initiatives such as a total worker wellness program, to making sure that we are focusing on the tools that our people need in order to do their job effectively and to achieve those priorities.

So the other things on my portfolio are the things that you're -- a few of which you're going to hear throughout this meeting. So obviously the budget. A lot of things of what we can do is what we can afford to do, and so working with that budget is always a priority, and you will hear from, as Janet mentioned, our chief financial officer, Brian Pawlak, tomorrow, to give you that budget overview.

I also have that programmatic side. You'll be hearing from aquaculture, from David O'Brien, and within that, within that purview as well of moving forward and engaging stakeholders and partnering with achieving our mission is also on the eve of the issuance of a seafood strategy, of a National Seafood Strategy.

And Michael Rubino and Sarah Shoffler are here, and they are the prime drivers of that, and I will continue to be the champion of that effort in kind of taking up the banner from Paul. So for, you know, for me it's steady as she goes. Maintain course and speed, and really focusing on getting our, having our workforce, giving them the tools and the support that they need to move forward, as well as continuing to advance and keep the momentum going on Janet's initiatives and the initiatives of the agency.

So once again, I look forward to engaging with you more closely. Please, whether it's a formal question or if you want to grab me out during a coffee break,

please do so, because I do look forward to learning more about your work, and I'm here to support in any way that I can as my role as the acting deputy assistant administrator for Operations. So thank you so much.

Chair Davis: Thank you Jim, and welcome again to our MAFAC meeting. Thank you for that overview. We have a few minutes to have some discussion or some questions that you might like to ask Jim. Barry.

Mr. Thom: Thanks Jim. I was curious, you know, and I know COVID, the impacts of COVID had a big impact on the ability to achieve mission and surveys and other things like that. Whereas you come out of COVID and the return to work, what's your general sense of the agency in terms of are people adjusting well? Is there still an impact to mission or are things sort of balanced about right in terms of flexibilities provided to employees? Any perspective?

Mr. Landon: Yeah, thanks Barry. So I have been amazed, impressed at the ability of the workforce to continue to operate in a very challenging environment. You know, I think we all thought this was going to be a couple of weeks, a couple of months and that we would just, you know, head down and soldier through it. The fact of it is really now we're almost on our eve of three years of kind of operating with this cloud over us.

It has really been a testament kind of to the resiliency and I think the commitment to mission accomplishment that we see within our NOAA workforce. So you know, that being said, there has been a -- there has been a tool, and I think the best analogy is we've been operating on a reserve tank of energy and activity, and at some point that reserve tank is depleted.

And so that is something that we, I don't think anyone could anticipate, and I think the entire workforce is dealing with those sorts of very, very similar issues. So that being said, I think you know,

the mission accomplishment piece that I think we absolutely have earned a gold star over the course of the pandemic, and to continuing to operate.

And if anything, what we are seeing is actually folks were so dedicated to making sure that we didn't miss a beat that we are dealing with issues of burnout, you know. Folks were, had that computer on their dining room table, you know, and it was there at 6:00 in the morning and it was, you know, as they walked by to go to bed, they made that last email check at 10:00 at night. The bounds between work life and personal life have blurred, I think, for all of us. I see the heads nodding, that we can all appreciate that.

So one of our challenges, one of my challenges is to try to find a way of redefining that work-life balance. Talked about that total worker wellness initiatives, in order to really redefine the boundaries, the healthy boundaries between work and accomplishing the mission, as well as there is other things outside of work.

Those two worlds really kind of blurred during the pandemic. So that really is our focus, is to try to help as an agency and as our employees kind of redefine what those are, so that we're not continuing to have to tap into the reserve of energy.

So we are in, if you will, full swing of reintegration. We are, you know, I think the fact that we have in-person meetings and we're doing that more, we're getting back to what I would just call a new normal, of a hybrid work environment. Some things will be, will be productive in person when it makes sense. Other things will go to virtue as or virtual as the public health, the local public health situation dictates, and then we will continue to support hybrid delivery of our work.

And you know, I'm confident that our workforce has not lost that commitment to continuing that mission and working through this. Thanks. Thanks for the question Barry.

Chair Davis: And thanks for that Jim, and for your question Barry. Meredith.

Ms. Moore: Hi, I'm Meredith. Nice to meet you, welcome. I do want to take one second to acknowledge and give credit to NOAA staff. Like I bother you guys all the time, and really appreciate the responses and the great conversations that we all have, and I agree very much, like what a hard-working, amazing bunch of people. I just wanted to take a second to really appreciate that and what they've all done through COVID and beyond. Really appreciate it.

Candidly, it is difficult to understand from an external perspective where the capacity gaps still remain for staff. I recognize like BIL and IRA have given you guys quite a lot of money to do some certain things, and I have concerns, and I don't know if they're valid or not, about whether you have what you need from a capacity-wise to do with that.

Also and you know this, the overall OMB process makes it really difficult to understand actually what the needs of the agency are that may be beyond what you're able to put in the President's budget. So I'm mostly just telling you stuff you know, but trying to figure out ways to answer some of those questions, I think, would be truly important to do, and I don't know that I know all of the right ways to do that.

But certainly knowing what both a bold vision that you all have for what you want these protected marine resources to look like going into the future, knowing what great staff you have and wanting to retain those, and then also provide substantial more opportunities to recruit and retain diverse, a diverse workforce.

Just I don't have an answer here or a question maybe by the end of it, but just noting like, you know, we really care about those sorts of things. We see it as really important, and it is challenging for us I think externally sometimes to articulate those

needs to people who ask them. And so I think that's my top line point here, is just we never -- there isn't a possibility to do obviously within restrictions, but to help us understand what those capacity needs are. I would just really encourage that conversation to take place. Thank you.

Mr. Landon: Meredith, thank you so much and for your comments in recognizing the work of the staff, and I really do appreciate that. So your point, yeah sometimes, you know, money is not the cure to all. It can present some additional challenge and so, you know, and to your point of making sure that we now have the staff in filling up those gaps is something yes, we are in fact grappling with, and that's part of our strategy of how do we retain the workforce that we have because we need them.

We will not be able to do this without them, and we are significantly looking to either -- we do need more staff in order to execute some of these other priorities. So we are exploring and trying to be as agile and nimble as possible within the constraints of essentially the federal kind of recruiting system, that we're looking at alternative hiring authorities and things like that in order to try to reduce some of the barriers that are known to exist within the existing system, and certainly working on our goal to increase our diversity of the federal workforce as part of that as well. So thank you once again for your comments. I appreciate it.

Chair Davis: Thank you, Meredith and Jim. Pat, we'll take a question or comment from you, and then I also realize that I haven't acknowledged our virtual participants. So if you have any questions, please make sure you raise your hand.

Dr. Sullivan: Great, thank you. Thanks, Jim. Appreciate being here. I also want to echo I worked a lot with all sorts of NOAA folks, and the level of work that's going on is really terrific. We've mentioned a lot of things here, and I guess I felt the need to mention the science part.

There's so many things that are changing. So there's climate change and then we're trying to work with multi-species level, sort of getting away from the silos of each species. That's the multi-species approach, ecosystem-based fisheries management of course, and then wind power and then of course a socioeconomic analysis, which are beginning to bloom in the science statistical committees, and then we were just talking about the guidelines.

What I'm seeing is our fish population dynamics guys are still doing all of that, in addition to the population dynamics work, and it just seems there's, I mean there's really a need there for expansion of capacity as you're noting, and I'm just agreeing with that.

Another area where this, I didn't hear it mentioned earlier, is in the modification of the guidelines to address some of these things. A lot of the guidelines are still species-based, as opposed to multi-species based, ecosystem-based, climate-based, other intrusions, wind power-based kinds of things. So thinking about those along those lines would be helpful too, when you get the chance. So appreciate that.

Mr. Landon: Great. Thanks Pat, and I just wanted - - maybe Cisco, do you -- Cisco Werner is online. I don't know if Cisco, if you wanted to provide any comments to Mr. Sullivan's observations? Perhaps not. We can circle back around. Good. Yeah. He, yeah.

Dr. Werner: Sorry. I couldn't find my mute button. Yeah, I agree with all the points that were made on needs (audio interference). I'll be speaking a little bit more to that on that tomorrow. But point's taken and --

Ms. Lovett: Cisco, you're fading. We can't hear you. We could initially.

Dr. Werner: Yeah, sorry about that. I was just going

to say that I will speak to this tomorrow, but points taken on the need to go multi-species, ecosystem and climate, but agree with the points made.

Chair Davis: Thank you. Thank you, Pat, Jim, Cisco. Matt, you have a comment, and then are there any comments virtually, just so I -- because we'll probably wrap up this session, take a break. Okay. Thanks, Matt.

Mr. Upton: Thanks. Jim, thanks for your presentation. Have you considered kind of carving out a focus towards the agency being really geared towards remote work, because I could see if you're trying to get folks who traditionally don't work in the agency to be interested in that, and also trying, have kind of rural communities involved.

You could probably get folks to live in rural communities, who might not necessarily want to live in the kind of major cities where I think a lot of the agency's different offices are. Is that something you guys have looked into? Because I think one thing we've learned in the last few years is that folks can be pretty successful working from home.

I just think that would be a good way to kind of get some of the different challenges that the agency has. For example, I think Janet's difficult hearing might have gone a little differently if there was a number of folks in the agency who lived in some of those coastal communities, maybe worked remotely.

So that it wasn't as much this kind of us versus them deal. So I don't know if you've looked into that, but if not, I think that's something worth considering.

Mr. Landon: Yeah, thanks for the question. So, you know, we obviously have learned a great lesson about the ability for folks to work remotely from home, and to continue to accomplish that mission. Our current policy though has really reverting to our core kind of pre-pandemic, if you will, remote work

policies. So it is an option, with an expansion of a little bit more of the hardships that we now have recognized during the pandemic.

So we are not looking to go to increase significantly opportunities for remote work outside though, of those very limited kind of hardship and, both whether it is from a health standpoint or the evolution of the workforce of being able to not recruit the folks that we need that are -- in an otherwise in a remote capacity. So we are, we are increasing the ability in a limited manner, but not in a wholesale approach to offering remote work, if you will, across the board.

Mr. Upton: Why would you not want to just approach within a wholesale approach? I mean I get that you got to kind of move kind of slowly and thoughtfully, but I mean if you're trying to get folks who don't sufficiently take these type of jobs, or a great way to do this, allow them to like live where they want to live and maybe incentivize them to like live in like rural Maine or Alaska or different coastal communities.

I mean I think that's just something that's worth maybe taking another look at. So I think what I'm worried about is the pandemic has kind of happened. People are like well, let's get back to work, let's kind of nudge people, and I think given the mission it would be a great opportunity to have people live outside of Silver Springs and do this work.

Ms. Coit: Matt, I offer to take that, and if you were the Secretary of Commerce, that is exactly what we'd be doing.

(Laughter.)

Ms. Coit: Yeah, and I think that was -- when I entered the job, I think that was Paul's vision, but we operate in a bigger department where the policies are set and we are -- so we have been making some of those arguments and have seen

productivity actually increase and keep up, and even some of our workforce did move to Maine and other places.

But there's a policy Commerce-wide that within which we operate, and so they're looking for flexibilities and making the case that the place that you made. But right now, we're working in the set of standards that require people for by and large to be in the office three days a week, and that's a problem on some of the retention issues, and we've seen unusually high rates of retirement.

So we're looking at collecting data, continuing to make that case because particularly some -- you know, so there's a limit to what the flexibilities that we can offer, and we're trying to push against that limit, as well as maybe offer some good empirical data as to why the policy could be approved.

We have found we are losing people to other federal agencies or other entities that are allowing that type of remote work.

Chair Davis: Okay, thanks for this discussion. I think it's a great discussion for all workplaces, so it's great that we can have that discussion openly. Jocelyn, go ahead please.

Dr. Runnebaum: I don't want to keep us from our break. I think Matt raises a really important point, and there's some really incredible folks that work in the agency or are interested in working for the agency, and I'm curious if the policies would include a workplace that was not technically a federal office building, that may be a state office building and doing a sort of collaborative approach to get employees in the office, but outside of some of the more standard facilities that already exist?

Mr. Landon: So actually it's a great question, I know. So we offer what is known as Flexi-place, which allows you to work in other places other than your Silver Spring office. But to my knowledge, and once again that's going to be one of those things I'll

have to get back at you, the Flexi-place to my understanding is limited to a federal workplace.

So while we may have somebody who is, you know, technically in a Silver Spring headquarter position, but they're performing that duty at the National Marine Sanctuaries Office in, you know, in the Florida Keys. And so we have that ability, but whether or not it can be expanded to a state facility is a good question that I don't know, but I'll try to find that answer to you.

Ms. Lovett: Thank you Jocelyn and Jim. Sarah and Barry, if you wouldn't mind holding your questions and comments, and we can come back to them this afternoon, just so we can get a little break in. Heidi has a couple of announcements that she'd like to make, and then we'll shift our break so that we do in fact have 15 minutes for a break.

So I wanted to take the opportunity to do a little bit of a better introduction for Katie Denman, who's sitting at the end of the table next to Gabriela. Katie started in our office just one week ago, right before Thanksgiving. We are so happy to have her, speaking of adding staff and sharing workload.

Katie is going to be helping share the workload of managing MAFAC. So you will all be interacting with her more over the course of the future, and I just wanted to do a more proper introduction. Thank you. And secondly, I hear there's lots of food. So we do want you to enjoy the break, because the food is not going to stay out for the whole --

After the break, it won't be here much longer because of health issues. They're being careful about leaving things out too long. So I was just told please enjoy the refreshments.

Chair Davis: Okay. Enjoy your break. We'll come back at 10:10.

(Whereupon, the above-entitled matter went off the record at 9:54 a.m. and resumed at 10:13 a.m.)

Chair Davis: Okay, we're going to start back up now. Welcome Roger.

Mr. Berkowitz: Thank you.

Chair Davis: You want to make a quick introduction to everybody please?

Mr. Berkowitz: No.

(Laughter.)

Mr. Berkowitz: What would you like me to say?

Chair Davis: Your name and who you're with.

Mr. Berkowitz: Oh Lord.

Ms. Lovett: Something revealing.

Mr. Berkowitz: All right, revealing, okay. I'm Roger Berkowitz. I'm a fishmonger and I've been a fishmonger for 40-odd years. I have been in my family business, Legal Seafoods, I sold that in 2020, and now I'm starting an e-commerce stuff online starting next month.

Ms. Coit: For fisheries, for fish products?

Mr. Berkowitz: Oh, yes.

Guess the name of it?

Ms. Lovett: What?

Mr. Berkowitz: Roger's Fish Co.

(Laughter.)

Chair Davis: Thank you, Roger.

(Simultaneous speaking.)

Chair Davis: All right. I want to welcome Sam Rauch here to provide us an update from the Deputy Assistant Administrator for Regulatory Affairs, and so we're excited to have you here Sam and have an update on the topic that you're going to provide

today for us.

Update from the Deputy Assistant Administrator for
Regulatory Affairs

Mr. Rauch: Thank you. I am Sam Rauch. For those of you who don't know, I oversee the regulatory program, which means the five regional offices and headquarters offices of Sustainable Fisheries, Protected Resources and Habitat Conservation. So I was going to provide an update on the two topics I provided an update on this spring, which is America the Beautiful and our Equity and Environmental Justice Strategy.

At least the agenda I saw had these reversed, but the slides start with America the Beautiful, and so I'll do that first. So the background which we gave it many times is present on -- oh, let's see if I can do this -- does that work?

Ms. Lovett: Is it working?

(Off mic comments.)

Mr. Rauch: Okay. We'll go with that.

Ms. Lovett: Thank you. Okay, it worked.

Mr. Rauch: That, okay. We'll do it again. All right. So on the first day of this administration, the President issued an executive order outlining a number of goals, including conserving 30 percent of our land and waters by 2030, but other things as well. That entire package of activity is roughly referred to as the America the Beautiful Initiative.

There are other things besides the 30 by 30, but for our purpose in the Fisheries Service, many people are focused on what the 30 by 30 Initiative will do, what it means, and there are a number of topic areas that the President has laid out with the overarching goal of dealing with access, climate change and other factors.

He gave us six early areas to focus on while this

initiative was being developed. I won't go through all of them. I will just reiterate that this entire process is supposed to be building on existing initiatives, not a top-down new structure for designating areas and then figuring out the structure, but using the existing processes, management authorities, management entities to build up and to encourage.

We know, particularly when we're talking about fishery management-closed areas, we in the United States close a lot of areas for various management purposes in federal waters, as part of our normal course of operations. And the America the Beautiful report that was issued last December laid out an explicit role for the councils, the fishery management councils and that process, and we're looking at the water part, at least the federal water part as an important goal in the conservation continuum.

So that works just great. The update in conservation. So we, it didn't, when the President issued the executive order, it did not define conservation. When the President issued the report last December, it did not define conservation, although it highlighted a number of important aspects. One is that it's a continuum. It's not just preservation.

There are a number of things that go into it and it talked a wide range of things that fall within the Conservation continuum, ranging from voluntary agreements with landowners, all the way to full, closed protected areas. So there's been questions about what is, actually how this term would be applied to meet the goal of 30 by 30.

The administration is working on this. At the moment, it is looking more at a framework of things that would determine whether it's a conservation area or not, as opposed to a traditional definition where something is definitely in or definitely out. So there's some flexibility to meeting all these various

needs.

The fishery management councils through the Council Coordinating Committee, which is the committee of the chairs and executive directors of all the fishery management councils, created a work group and did an extensive report on all the fishery management areas that are closed in some manner or conserved in some manner, and presented that to the administration, CEQ, the Council for Environmental Quality, the White House council that is sort of leading this effort.

That is all very helpful, and this is going into -- they did it in a timely manner, so that they could go into the various ways that we look at conservation. So right now, the administration is continuing to work on how we're actually going to apply this, but it has the input from the councils. We still do not know the timeline for when we're actually going to do this, but one of the significant -- the next significant step will be the release of the beta version of the atlas.

So as I talked about last time, there is a plan to do an atlas, which would include a number of areas and make a statement about their conservation status for this. So it will be a down payment and the current thinking about what is in and what is out for the 30 percent goal and where we are, but it is not going to be final.

So there could well be additional things that are similar to what's included in the atlas, that would ultimately go into the atlas or other kinds of things, where we may decide at some point things that we initially included we're going to take out of the atlas to meet this goal. The current vision is that we will still release this in December of 2022, so soon. We'll see.

It is being led by the administration and Interior Department, so I do not definitely know whether it's going to be released or not. They've been working on it quite extensively. There's a subcommittee of federal entities called the Measurement

Subcommittee that is looking at this and trying to articulate these very issues that we've been talking about.

We're also going to use the atlas as not just an accounting mechanism, but as a platform to tell various stories about what can be done and how locally led conservation efforts can support the overall initiative. Things that don't necessarily have the boundary and numerical things but are necessarily good stories.

All right. So that was the America the Beautiful part of the update. More to come maybe very soon on that, and we'll know a lot more collectively when the beta version is released publicly. In addition, last time I was here, I talked to you about the Marine and Coastal Area-Based Management FAC. This is the successor to the old Marine Protected Area FAC, the federal advisory committee. It has a broader, different mandate but it is, has many of the same. They're looking at different ways that you can conserve, not just under the Magnuson Act, but under the wide range of NOAA and other authorities, and providing advice to the Secretary on that.

It is a new discretionary advisory committee as we talked about. We recently, it was -- I think I had told you about it. It is, I can't remember whether it was officially announced at that time, but it is now officially announced, November 17th, and we have put out a call for nominations. From our internal perspective, Kelly Denit, the director of the Office of Sustainable Fisheries for the Fisheries Service, and John Armor, the director of the Office of National Marine Sanctuaries for the Ocean Service, are going to be the co-chairs of the advisory committee.

And they will, I know this. There was some interest here, particularly from people who were familiar with the old MPA FAC. So we look forward to doing that. This is going to play a role in the America the Beautiful. It's not just about protected areas

anymore, and it does, unlike the old FACA committee, was exclusively done through the Ocean Service. We are -- the Fisheries Service is the co-chair of this advisory committee as well.

So I envision it building on the work of the CCC and the other principles, and doing not just what the other kinds of things that the old MPA FAC was doing, but looking at a broader range and area-based management. And the last committee that I wanted to update you on, which I also did last time, is the federal interagency Committee for Outdoor Recreation.

This was established in July of 2022. There's with us and the Interior Department. We have an interagency MOU with them that we have signed on how this would work. There will be a rotating chair. The Park Service is going to hold the chair for the first year. They're going to meet twice a year. Russ Dunn, our Recreational coordinator, Recreational advisor, will be the member on that.

We still have a work plan and charter to be developed, so those will be the next steps.

But this is a newly reestablished subcommittee, but our participation on it is part of the new part of that. We were not -- we did not have the co-leadership role on it that we -- the explicit role on it that we do now.

And then some additional efforts before I turn to the EEJ issues. So there is a website called [conserva.gov](https://www.conserva.gov) that at DOI, the Interior Department has, is setting up which will include the atlas, grants, meeting opportunities, other pertinent information related to America the Beautiful, and they requested our help to ensure that the NOAA equities are adequately represented on that website.

So we're working with them on that. We had published an FR notice seeking how -- this was last year, the end of last year or early this year, how we

can more implement some of the broader principles of America the Beautiful, and we're doing some of the things that came out of that. For instance, we are -- we are launching the second cadre of our Gulf Corps program, and are investing time and funding for Vet Corps.

These are, we take, we help train either underserved students or veterans in conservation. It's, they become able to carry out many of the habitat projects that we're doing and learn important skills that they can go and build important careers on. We are working on new climate change considerations for EFH. Several years ago we had done guidance on how to incorporate principles of climate change into our Endangered Species Act consultations.

We're working that for our Essential Fish Habitat consultations. We continue to engage the councils through the Coordination Committee Working Group on habitat issues and how, how not just through the America the Beautiful campaign, but recognizing the important work that they do every day on habitat and how we can be more focused and more effective at those kinds of things.

We are finalizing regional action plans for each region that they intend to take over the next three years to address regional climate change needs and objectives of our fisheries climate science strategy. We continue to implement ecosystem-based fishery management policies, and lastly this August, a group of NOAA staff and Aquarium Conservation Partnership -- and the Aquarium Conservation Partnership Working Group for America the Beautiful held a workshop to discuss possible activities and outline a two-year work plan of actions.

That partnership can take to further the goals of America the Beautiful, largely centered around protected areas, indigenous and historically excluded communities and engagement. That's the update on America the Beautiful. I have another update, a separate presentation on EEJ, which I

could either just go straight into, or we can take questions on that. Whichever you prefer.

Chair Davis: Thank you for that update. We'll take questions now on this part of the presentation, and I see Jocelyn and then Meredith and then Donna.

Dr. Runnebaum: Thank you. Thanks for the update, Sam. The materials that were submitted to the councils for America the Beautiful, are those available anywhere or can they be made available?

Mr. Rauch: The council report, you're referring to the material that the council gave to CEO, their report? I believe that is publicly available as part of the -- the Council Coordinating Committee is a public committee and has meetings, and I believe that is available on the website of the last CCC meeting. I'm sure somebody can get that for you. But it is a public document that they've put through there.

Ms. Moore: Thanks so much Sam. You mentioned that the agency is working on guidance on climate considerations and EFH considerations. Is that technical memoranda that you're working on, or what form will that take? Thank you.

Mr. Rauch: I believe it's just a policy guidance. The ESA guidance was a policy letter from the head of our Protected Resources to the division about here's how you -- first, you need to address climate change. Here's how you structurally work it through an ESA consultation. EFH doesn't have something similar and I envision it will be something similar to that, but not a technical memorandum.

Ms. Moore: Sorry, quick follow-up question, Were the -- is one of the audiences for that then of course councils and where -- as they consider how they do EFH designations, and will there be like guidance as well for them about revisiting any of their designations or anything of that sort? Thank you.

Mr. Rauch: I believe it is focused mostly on the

consultation process, which comes after the designations. I do not believe it is related to the designations themselves, but we'll see. I don't actually recall. I looked at it a month ago, and I do not recall whether it talks about designations.

Chair Davis: Thank you Sam and Meredith, and Donna.

Ms. Kalez: Thank you. Thank you, Sam. Is this working? Yeah. So I just have a quick question for you. Thank you for the update on the atlas. So you said that the atlas will be released in December, but it's not final. So will be able to make comments on that? What's the process? Thank you.

Mr. Rauch: They're calling it the beta version, so it's not final. So I do, I do envision that it will change between then and whatever they believe the final version will be. So I imagine that there will be, you wouldn't put out a beta version for the public without some opportunity for the public to look at it, to work with it, to see, to provide comments, but I do not know what that process will be.

When it is released, I imagine the White House will outline exactly how they want to seek that input. But it is clearly the beta version.

Chair Davis: Thank you Donna and Sam. On, for our virtual attendees, do you have any questions? I can't see you on the screen, but I just want to make sure I acknowledge.

Mr. Schumacker: Madam Chair, this is Joe.

Chair Davis: Go ahead, Joe.

Mr. Schumacker: Yeah, thank you. Sam, thanks again. The new FAC that you brought up again, the Marine and Coastal Area-Based Management FAC, I'm curious about the title. You know, so we've got marine, we've got coastal area-based management. What do you see as crossover in the state preservation areas or Conservation areas within? Is

that FAC going to work with states in that regard, or do you have anything, any vision in that regard?

Mr. Rauch: So I believe that the old MPA FAC did look at state marine protected areas, state conservation areas, not as a regulatory community because obviously we don't regulate that, but as part of a coordinating conservation strategy. This will do something similar, right. So I do believe that it's not just going to look at federal waters or look at state waters. It will look at things broader than just the designated management area.

But what are, what are the larger ecosystem goals we're trying to achieve, and where do these various conservation programs, whether they're state or federal, fit into the larger goal, and provide advice on that? It is, like every advisory committee just advisory, and so I believe that it will -- it could identify gaps which it would ask us to work with, or it would indicate that the states are working on this issue and feels it's a very important issue.

So if you look at my understanding of the past MPA did look at state programs as part of the sort of overall where do these various pieces fit in the puzzle. I imagine this will look at state programs at the same manner.

Chair Davis: Thank you Sam and Joe. Any other questions from our virtual attendees?

Okay. Jocelyn, did you have another comment?

Dr. Runnebaum: No.

Chair Davis: Okay. Well, let's go ahead and move on now for Sam's second presentation.

Mr. Rauch: Once again, Sam Rauch, Deputy Assistant Administrator, Regulatory Programs. I'm on again for Equity and Environmental Justice Strategy, and also I gave a similar presentation to this group back in the spring and summer in Puerto Rico, and I'm going to provide an update on where

we are in this process.

So just as a reminder, we put out the draft EEJ Strategy and we're engaged in a long-term process of both finalizing that strategy and then working on step-down regional geographic plans, which we're going to provide some more meat to the bones, where we are as public comment just ended, and we are trying to work through all the public comment we go, I'm going to talk about that in a minute, and finalize the strategy.

So this is where we are right now. I think I may have one point presented a slide, I can't remember whether I presented it to you or not, which had the strategy coming out at the end of '22. We extended the comment period. We have a lot of good reasons to do extended comment period. We got a lot of additional public feedback. But that puts the strategy back to the beginning of '23, because we wanted to take into account that additional public comment.

Some of what we did during the rollout. We translated the least executive summary into over ten languages. We translated the whole thing into Spanish. We have a website which you could find. I did a podcast which you might not want to listen to, but other people were good on that podcast, and it wasn't just me. So there's reason to tune into that, which talks about some of the efforts that we're working on.

We had nine, I mean four national virtual meetings around the country. We, I gave presentations at every council meeting, at MAFAC, at various other in-person meetings. We made a point of trying to go to American Samoa, CNMI and Guam. We had a number of targeted virtual meetings like in Hawaii all, all during the comment period and we got comment from all of those folks.

And we got public feedback from over 450 people, 60 groups from all across the country. We made a particular effort, as I said, to talk to different groups

and we did get those back. We got feedback from the councils, from states, territories and city governments, from Tribal Nations and from a number of NGOs.

And here's some of what we heard. In addition to the MAFAC comments, which were very good, we heard we needed to align our work with local needs. We need to engage with more diverse groups, and I'm going to talk a little bit about that more. But that's, that is -- many of these groups, you have to talk to them where they are in the languages that they speak, in order to understand their needs and what we -- what we can positively provide or the impacts of what we can do on them. We heard this repeatedly.

We heard from the territorial and tribal governments about autonomy and the need to support autonomy and that. We heard from MAFAC that we should align the strategy framework with this Bennett 2021 paper, which lays out three categories of the way you sort of bend and think about EEJ in terms of -- I won't repeat them all, representational. You look at the benefits and other kinds of things.

So that was a MAFAC comment. We heard that we needed to collect demographic data on communities, you know, from the various communities, councils, agencies, and we actually do do this, right? We have a social indicators working group that has been trying to collect demographic data and is going through a process of improving it to more tailor some of the data that they collect, to be useful for EEJ concepts.

We heard a lot about how we measure success. This is an ambitious, an ambitious endeavor and even though the draft talked about some metrics of success, we looked and we heard more about how you would measure success. There were substantive concerns about some of our programs, catch shares, aquaculture, protected species policies and

whether it is -- whether historically fair and equitable or how they could be improved.

And then we heard a number of implementation recommendations, once again communicate and work with stakeholders early and often where they are, in the languages that they speak. Implement EEJ with the councils and other agencies, and then support capacity-building, both on us and in others for EEJ work.

So where we're going from here. As I said, the comment period closed. We're working on finalizing the strategy. We will -- we have support for translating the final strategy into Spanish, into the - - the executive summary into ten languages. We have support for continuing when we release it to do additional in-person meetings in the territories and in Alaska Native communities.

And then we're going to be transitioning to the step-down plan, which we talked about, which is the National Strategy is by its very nature vague or it's -- it sets the stage for important work. It helps us put it in a framework and a context, but it doesn't say this community we're going to do this thing.

That kind of regional implementation is going to be the next step, and so we're going to be working on the next step of the step-down plans.

And that is the next one. So we do have regional strategic plans, and they are up in '24 to '27 is the next round. We're currently, the current ones end in '23. So we are at the moment thinking that we are going to use those strategic plans, rather than having a separate document, we're going to incorporate EEJ into those plans. So those plans should come out before '24, but they will lay out the groundwork for the next five years, and they will include a lot of these step-down kinds of things, create pathways.

So the regions will be working with stakeholders. Many of them already are, so I've put an example of

Pacific Island regions up here. Some of the things that they're doing, just to show -- I didn't put on some of the thinking of all of our regions, but this is one, how they're going to work on things and start incorporating things.

But we do envision those regional strategic plans are going to be a -- the vehicle at the moment for more specific regionalized actions to implement the plan. And we're also working on national strategies. So we talked a little bit, I think Janet talked a little bit about the National Strategy document that we're getting ready to work on.

So what we've worked on is making sure that EEJ gets included. So at the moment these are still draft, some of our conceptual things. But so there's always been an intersection between the EEJ strategy and our workforce diversity, equity and inclusion accessibility policies. We have long known that it is difficult for us to work publicly with stakeholders on EEJ concepts if we don't have a diverse workforce that is equitable and inclusive on our own.

And so we did not -- we have never intended that the EEJ Strategy be the sort of internal diversity strategy. That is -- that is very important, but those are other -- there are other parts of the organization working on that. The EEJ strategy is intended to be the external version of that, but it's to build on this. So there's a recognition of the linkages between the two that we are thinking about putting in our broader strategy document, and then a specific reference to the importance of EEJ.

I'm not going to read through this, and the Strategy is still under development. But the important part is separate and apart from our generic EEJ -- I mean our specific EEJ Strategy, we're working to incorporate concepts of equity, access, those kinds of things in our other, broader documents. So as part of the normal working relationship and a

normal working environment and expectations as we go forward.

I think that is where we are. So I'm happy to take questions on that as well.

Chair Davis: Thank you Sam for that update. It's really great to see the progress, and to see how much involvement there's been in the community. It's just incredible. I have a quick question. What kind of staff capacity is needed for a project like this?

Mr. Rauch: Well, that's a good question. So we currently, we have a number of social scientists, not many, but we do have a number of them and a number of them are on -- that I have coopted to be on this working group, that do the social indicators, that do a lot of the outreach, that are helping us design the outreach.

To truly implement the entire vision, we know that we've laid out a vision that we currently do not have all the resources to implement. The President has asked for resources, and so if Congress adopts the President's budget, which we'll know in the next month or so, we may get more resources to implement that. But without resources, we can't fully do that. We are using a lot of current social scientists and the good graces of our -- everybody on my team that has worked on this has a different day job or did last year.

And they have taken their time to do this, and we are working this into the normal course. But it's coming at the expense of whatever they were doing. We hope that Congress will agree with the President on a more sort of firm footing that is both a mixture of support for us, but also support for some of the capacity-building and other kinds of things we've talked about. We'll see.

But there is a recognition that if we are truly to do things like do all this engagement, that takes time, and we currently can't do that. We can do some.

We've been doing some, but to really achieve the vision will require more resources, which the President has asked for.

Chair Davis: Thanks for that. That's something for us to keep in mind, for the MAFAC, how we can help to ensure that this product continues at the level that it needs to. So we have a couple of minutes for questions. I have Sarah and then Pat. Thanks.

Ms. Schumann: Hi Sam, thank you. In light of MAFAC's workforce development focus and the external dinner that many of us will be attending tonight to hear the lived experiences of two young fishermen, I was curious to what extent the topic of intergenerational equity came up during your outreach and the public comment, and if so, what some of the core themes were and what NOAA is committed to doing through this EEJ strategy to support intergenerational equity in fisheries?

Mr. Rauch: We've heard -- one of the early challenges, and this has been just categorizing all the different ways you can think about equity and environmental justice. MAFAC recommended that we look at the Bennett paper, which categorizes them in a certain way. Last time I was here or when we were in Puerto Rico, we talked about generational equity specifically as part of the Alaska -- I think there was an Alaska example that we used to do that.

So we've heard this repeatedly in the comments to look at that. We're still processing through, so you know, we have heard this in some communities, not in other communities. There are things that we can use for generational equity like the Young Fishermen's Act, which passed Congress, which is a way to invest in the next generation.

There are ways to think about how you, when you are looking at representational issues, how you can look at that. So this has come up in a number of circumstances. How we're going to respond in our strategy, I don't know yet. But it is something that

we're looking at. We have heard it not just in this group but in others, and so that's something that we are going to try to incorporate in the next version.

Chair Davis: Thanks, Sam. So we have time for more discussion, but not a lot because we're already running over. So if you can keep your comments and questions tight, we'll have Pat and then Jocelyn and Brett, and I don't know if there's anybody on screen that -- virtually that's interested, but let me know that too.

Dr. Sullivan: So Sam, I really appreciate this, and it's something that, you know, as an academic we often think of engagement as me telling you what to do, right, and it's -- I learned a lot when I was at the Halibut Commission about listening to others. I'm just, I just want to thank you for the effort that you're doing this, you know, also Janet too, you two from traveling all over the place and listening. This is really important. I just wanted to thank you for that.

Chair Davis: Thank you so much Pat. Jocelyn.

Dr. Runnebaum: Yeah. Sam, thank you for that update. It's great to hear that you have so much public feedback and it sounds like there's a real potential for feeling overwhelmed with the different types of equity issues that may be coming up, particularly with the point that Sarah raised.

So I guess my specific question is what sort of external help do you have budgeted for to help you guide or work through these intersectional issues on equity, to sort of bring light to the complexity of it?

Mr. Rauch: I know our social scientists have talked to a number of external experts. Like there is a professor in Colorado that they've talked -- they've talked with to give them help. There, we are doing, the Southeast Center is doing a review and has engaged I think last time, I don't have the notes, in an external review about how we can better collect

data on under-served communities.

We are revising the social indicator working group through a number of external processes. That said, we are still budget-limited at the moment, and so if we get a new budget, that we'll have better opportunities to do that. But we've got a lot of people that have volunteered their time and effort.

You know, we've funded some outreach for the rollout of the final plan at the moment within the current resources, but beyond that, we are going to have to see what comes out of the budget. Even if the President's budget is not fully funded, this is something that we're currently funding out of existing resources, and we will at least maintain.

But whether we can grow or not will depend on what the future budget is. But there's been both internal and external advice that our folks have sought and have received and been very helpful.

Chair Davis: Thank you, Jocelyn and Sam. We'll have Brett, and then Clay and Tom.

Mr. Veerhusen: And thanks Sam for all your hard work and all NOAA staff. I know that was a group effort and there was an enormous amount of energy put in. Just an open-ended question though we've heard it from our chair, but an open offer from MAFAC members, part of the working group or elsewhere who want to participate on how we can help.

So I just want that to be on the record. We are -- I'm glad to hear that some of the academic, you know, expertise was incorporated or at least heard and hopefully thought useful. I'm sure there's a lot of other information out there and expertise that exists that we could help with or research or find, and offer ways that it could apply. So just open offer from us on how we could help, and we're all ears.

So I'll let you kind of respond to that, and also just

one quick question. Where did you find the demographic data from the Social Indicators Work Group?

Mr. Rauch: Well, so on the first one, thank you very much. The next step will be to look at the final strategy, and I'm sure MAFAC will look at that and see, you know, what role you can play. It's been -- your comments so far have been very helpful and I look forward to that. In terms of the Social Indicators Working Group, that is on -- it is part of a website run by our Office of Science and Technology, and I'm sure we can get you that.

Right now, you can search it for things like fishing communities and cross reference fishing communities and various economic indicators of what fishing communities look like. So that's going to be improving. But it is functional now, and we can get you that.

Chair Davis: Thank you Brett and Sam. We have Clay and then Tom.

Mr. Tam: Yes, thank you Madam Chair. Hello Sam. Hey, you know, we have highlighted and thank you for the update on the two very important and near and dear initiatives that affect our western region, America the Beautiful and the EEJ. I'm just wondering how the two are at some point integrated, because we consider America the Beautiful, I would think that EEJ, now that it's out there, is going to be a very important part of that decision-making.

With that said, I mean when you consider the territory, our territories and where we are now with Hawaii, and you know where we stand. We lost 75 percent of our EEZ, and I put it all to the panel that think about your coastal area and losing 75 percent of your EEZ. That is not just for Hawaii and also the Mariana Trench and now the expansion of the prior result in the western region, which would be the death to our American Samoa cannery.

So you know, the consideration and where it's going, I think yeah, it's important. But you also need to consider the impacts from EEJ, socioeconomic impacts to the people out here and applying that and justifying that and where we are in terms of a review, and see where that goes. Thank you.

Mr. Rauch: We've certainly heard a lot from the Pacific Island folks. I've heard it personally when I've been out there, and we've heard it through the entire process, the concern that the Conservation burdens shouldn't be solely borne by the folks in the territories who may not have as strong a voice as others. That has come through loud and clear in this process and so, you know, that has been phrased, as you said, as an equity and environmental justice issue, which we have -- we're trying to capture and make sure that folks think about it in that way.

Chair Davis: Thank you Clay and Sam. So we're running really tight on time, because we want to make sure that Zach starts. So Tom, if you could make your comments very short and Meredith as well, and then Janet would like to wrap up this session and we'll move on.

Mr. Fote: Yeah. Sam, I'd like to really thank the agency and above for work here on this issue. I've been working on environmental justice issues, whether it's environmental with fisheries for about 35 years. I was wondering is any thought being given to, you know, we have recreational summits. We have commercial summits, and really when you put together a summit on looking a fisheries and environmental issues.

I know that's probably down the road sometime, somewhere, but I really think you should look, think about it.

Chair Davis: We didn't catch the very end of what you said Tom.

Mr. Fote: Sorry about that. I'm saying that we

should be looking at it from the other summit on this, and I was wondering if NOAA's -- I know it can't be done in the next couple of years, but is it in the long-range plan to do something like that?

Mr. Rauch: Yeah. We currently don't have that budgeted to that, but that's something that we can look at to do perhaps if we could find the funding to do something like that in the future.

Chair Davis: Okay, thanks Tom and Sam. Meredith.

Ms. Moore: Two quick questions. One, I was wondering if you could comment a little on the NAS study that's looking at benefits that was just -- we started to put together that I saw. I'm wondering if that's intended to align in any way with the revisions of the National Center guidelines.

And quick second question, how much challenge have you faced with capacity issues from within under-served communities, their ability to engage and work through that and does the agency have any needs or ability to meet and further capacities of those communities as well? It seems like something like -- I mean federal grants are so hard to navigate and even just that requires capacity. But I'm wondering if there have been any thoughts about how to address those issues from within the community, so that they can engage more fully throughout this process? Thank you.

Mr. Rauch: Yeah. So the catch share review, it is driven by equity and environmental justice concerns, and we're trying to look at as we have developed these catch share programs, which have been phenomenally successful at achieving our conservation goals, have -- have they had a disproportionate burden on under-served communities, and how would you even begin to look at that question?

That's part of what we've asked the national cannery societies to do. It is, even though the Strategy is not out, that is one of the example of

things that we're starting to do anyway, which is driven by equity and environmental justice concerns. That is, that is the equity part is one reason we're doing that.

In terms of the capacity-building, I mean you're absolutely right, that there are a number of capacity issues with these under-served communities. We are thinking about that all the time. That is an important part of our strategy now. It's hard to fix all of that, but for things like the infrastructure funding opportunities that we just announced earlier this year, we set aside the money for under-served communities specifically so that they could be better able to apply for the larger pots of money.

You know, that kind of thinking, you know, influenced, you know, one of our biggest initiatives of the year. We were going to try to think about that as we do new and other things, understanding exactly your point, right? We want participation. We understand that that's a barrier. How can we help with that? Sometimes we have the ability to do that. Not all the time.

We deal with the infrastructure money and, you know, our hope there is that that's going to let the under-served communities better able to go after the bigger, longer-term money. But explicitly that was the point of that, and other kinds of things like that we're looking to do.

Chair Davis: Thanks for that. Thanks, Meredith. Janet.

Ms. Coit: Yeah. I'll try to be very brief. I just appreciate this effort and your input because this is a big priority for me and this administration, but we want it to be a sustainable part of NOAA Fisheries moving forward. So it can't be about the Biden administration or my leadership, while albeit I champion as much as I can.

I wanted to just make two comments. Additional resources have been requested and would be

wonderful, but fundamentally this requires thinking about our day-to-day actions and the resources we have now differently. There is a lot of enthusiasm and also trepidation and humility I think within the NOAA Fisheries ranks, because people want to do this work, but know that they may not have the training or the necessary --

We talked before about unconscious bias. They know that they need to be open and doing things differently, and so we will use all the resources and the opportunities that we can find, but also want to really fundamentally be careful in learning as we move forward, because we don't want to undo progress by kind of taking the same approach and applying it to these -- that we've had in the past to these issues.

So I think there's many venues that MAFAC could be helpful, and also that we are entering into some new decision-making rooms or venues that may not have muscle memory or their own capacity awareness to do this work. So it's -- I think so far, really proud of the progress that we've made and thank you again for your engagement. I think this is a nice presentation or discussion to have in advance of Zach's presentation, because this is the first time that NOAA has had a senior advisor whose portfolio is explicitly tribal issues.

I think when we hear from Zach, we'll learn that he sometimes is sort of walking into new territory for the -- for NOAA and the Department of Commerce.

Chair Davis: Great. Sam and Janet, thank you very much for your comments around this topic and for MAFAC's continued engagement. With that, we're going to turn it over to Zach. So welcome Zach. We look forward to your presentation.

NOAA - Tribal Engagement

Dr. Penney: Well, good morning everybody. I don't have a presentation, and if the staff gave me talking points, I didn't bring them with me. So this is going

to be pretty, pretty raw, but so I'm sorry I missed introductions. There's some familiar faces around the table.

Some of this is sort of top of mind coming off that last conversation, so as Janet said, I'm currently serving as the Senior Advisor on Tribal Engagement but also on Fisheries, so it's not fully tribal, but I've definitely found that there's some fisheries issues I'm very helpful with and others that I'm not.

I didn't know what a red snapper looked like until about eight months ago. I didn't know what MRIP was. So I'm doing what I can, but just the thing that slips to the top of mind is, you know, when we're talking about environmental justice and we're talking about equity, that you know oftentimes tribal nations and, you know, just the word indigenous, you know, sometimes that always gets lumped into a demographic. When it comes to tribes, it's not always about demographics. There is a sovereignty piece to this as well.

And so I just wanted to maybe start and give you some context about who I am, even you read my bio. So I am Zach Penney. I'm currently serving as a senior advisor, but a Nimiipuu. I'm a Nez Perce tribal member. I grew up in Idaho. My blood comes from the area where the Lochsa and the Selway Rivers meet the Clearwater River near Kamiah, Idaho.

My mom's Polish-Swedish. She emigrated to the Silver Valley in Idaho I think in the late 1800's for a lot of my -- that side of the family is miners. I was born in 1982. I'm bringing that up because when I was learning how to fish in Idaho, a lot of salmon and steelhead in the Stink River were listed under the Endangered Species Act.

I remember fishing for steelhead with my dad, which was one of probably the first places that I -- just in terms of my experience within fisheries, you start to see some sort of divide between sort of how I fished with my grandpa for bluegills and stuff like

that, where it was a fun time, versus this separation between, you know, sort of just a different feeling for these fish that we were catching.

I'm not just catching them as tribal members, but also how non-tribal members sometimes used to see us. It wasn't always a fun experience. But I also remember in the early 90's, when we were able to go back and start catching spring Chinook again. There was a period there where, you know, we thought that we would never be able to fish for them again, and hearing my dad talk about his experience fishing for spring Chinook under the watch of Idaho Fish and Game and all of those stories. I mean this is, these are -- I've only lived in a time period where there's been dams on the Snake River.

When I finished high school in 2000, I went to Sitka, Alaska to Sheldon Jackson College, which is no longer there. Got to spend some wonderful summers working on sockeye on the west coast of Chicago Island, living with bears and getting to see how a, you know, a salmon system still intact actually looked. It was an amazing experience. That led to a master's. I went to the University of Victoria in British Columbia, where I essentially took fish otoliths, reconstructed life history and stock identification using some geochemical methods.

After that, I went back to my tribe, the Nez Perce tribe where I worked for about two years with actually Pacific salmon coastal recovery funding money from NOAA. It's kind of crazy how some of these things have come full circle again, restoring coho salmon back to the Clearwater River, which were extirpated from a dam that was on the Clearwater River.

And after that, I went and just had an opportunity to do a Ph.D. I did that at the University of Idaho. My Ph.D. advisor was Christine Moffitt and for that work, it was all bioenergetics and fish physiology, sort of looking at the mysteries of steelhead

iteroparity or repeat spawning or lack thereof in the Snake River Basin. So a lot of non-parametric statistics, a lot of things related to histology.

I'm bringing this up just so you know that my background is actually solidly western science. A lot of the things that I'm bringing to NOAA are things that just sort of existed sort of out in the periphery as being a tribal member. When I finished my Ph.D., I worked for a year as a Knauss fellow and I see a lot of Knauss fellows on the screen here with me. I was a legislative fellow for Jared Huffman, who has the 2nd District of California.

After that, I went to the Columbia and Tribal Fish Commission, which is where I was before I came here, and I was there for seven years as the Fisheries Science Department manager. What I found that I ended up doing a lot of CRITFC was providing context for how things got to where they are, and looking and adding I guess that perspective on sort of how tribes sort of see things.

So I just wanted to bring that up to you. So that's sort of how I ended up here, and you know, walking in, you know, NOAA was very gracious. They opened the door, said would you be willing to do this. They opened the door, I walked in. But NOAA's a huge house. There are, you know, fisheries thankfully, you know, Sam and others, Janet were just like come on, you can sit with us. You can come into the store for now, and that's where I've been sort of sitting safely for the last, you know, six or seven months.

But you know, and I think what Heidi was hoping I'd talk about today is it isn't just about fisheries. I know this is a MAFAC meeting, but NOAA has other line offices that also have their tribal equities. So I really spent probably the last ten months trying to wonder around the NOAA house and sort of figure out where all those equities are at.

And you know, there's a big chunk of NOAA that, you know, like the Weather Service and the Ocean

and Atmospheric that -- there's a lot of heroes within NOAA. Every time there's a tornado or a hurricane, you know, we have our hurricane hunters, you know. They get to be the heroes that talk about the weather.

And Fisheries, we get to be the villains for the most part. Even if you, it seems like you hit straight down the middle, there's, you know, one side's going to be mad at you, you know. It kind of depends on where you're going. So that's been a really interesting sort of just experience to be able to sit with Janet and sit with Sam and, you know, sit on their side of the table, whether we're talking to tribes or we're talking to industry or some other group.

Sometimes right, I'll be honest. Sometimes I'll accidentally teleport when we're talking with tribes. Sometimes I've kind of find myself all of the sudden wandering to the other side of the table. Yeah, how come? What about that NOAA? How come we're not doing that? But you know, so I am the first tribal, you know, advisor for NOAA.

But there is a tribal team at NOAA, and I want to make sure that that's known. I mean there's, I don't know if we necessarily have anybody that's 100 percent tribal portfolio, and that's definitely a place that we're working on to do better. But there is a tribal team, and when I took the appointment, I asked the chief of staff, Karen Hyun.

He was like okay well, you know, you've got a tribal team. What do you need me for? I know you guys have consultation, because there really wasn't a job description. It was like we just, you know, we need a tribal advisor on to help us with these things. And so I reluctantly left Portland, Oregon. I was happy. I miss the Northwest a lot, but you know, a lot of the last ten months has been asking, you know, questions like people ask. Well Zach, why isn't NOAA doing this, because when you have a Secretary of Interior that's Deb Holland, there is a

lot of good movement right now with things related to tribal consultation, tribal engagement, co-management.

I found that, you know, it's like I'm getting Zach, why isn't NOAA doing this, and a lot of my response was I don't know. You tell me why NOAA isn't doing this. And so I do have, I have developed a lot of sympathy for sort of where NOAA finds itself and all the places it sort of needs to hold. So you know, for tribal engagement, you know, that Dr. Spinrad and I've been talking about since I've been here is, you know, it isn't --

We have products and services for tribes that we use, but we also have this other piece with regards to consultation and especially where the fishery side of it falls and regulations and where that might intersect with tribal sovereignty, treaty rights, trust responsibility, and that in itself is a lot. But what Dr. Spinrad has asked me for is to help develop a strategy. So like we have the equity strategy, you know, a tribal strategy for NOAA that we can start to rely on.

And there are already tribal strategies that exist in some of the different line offices. So you know, what I'm working on right now is now that I've sort of wandered around NOAA the house quite a bit more is, you know, this is a work in progress. So nothing I'm about to say in the next kind of -- I have a bunch of ideas laid out here.

None of these things have been sanctioned or vetted by Dr. Spinrad, by Janet, by Sam. But you know, what's kind of happened is they let me into the room. I've been pulling levers, pushing buttons. Sometimes they, you know, when it comes to things like, you know, council appointments and stuff like that, sometimes I do find my empty glass.

You know, why did you push that button, you know, and have a good explanation about why some of things are the way they are. But sometimes what it does is it does create a conversation I don't

necessarily know that NOAA's had or has had recently. So I am in the background. I'm whispering to Janet, to Sam, to Dr. Spinrad about sort of perspectives I have about some of the things I see.

And I mean to be callously honest, you know, one of the things, anytime -- it's hard for things like tribal consultations not to be personal, and I know that's the line we need to hold as appointees. But you know, we just recently came out of three consultations in the state of Alaska regarding tribal subsistence, and there are some tribal or some systems up there like the Yukon-Kuskokwim where Sam and, you know, it's been a multi-species failure, a multi-year failure.

You know, there's a lot of fingers pointing that it's climate change. But not everything's climate change, and sometimes it brings up very difficult conversations, because when I hear from tribal elders that talk about, you know, what they're experiencing with not just -- it's not just a loss of sort of food sovereignty or a food source. I mean every time you miss a fishing season, there's a lot that's lost there.

And coming from the Columbia River Basin where, you know, the tribes have gone through a lot of things already, where they've had to beat up the states. They've had to beat up the feds with the leverage of treaties. But not all tribes have that, and so every time I see that, it's hard not to sort of, you know, to be callously honest, you know, when I hear about a lot of folks talking about, you know, our fishing culture, you know, some of the tribes, all the tribes, you know, have been fishing these systems.

It's always been economic, it's always been, you know, food and subsistence-related, you know. They've been doing -- these are older than the state of Maine, it's older than the state of Alaska, it's older than the United States. So sometimes my sympathy for sort of where people fall on, you

know, the impact, you know, what a NOAA regulation might do to them and to their fishing culture, sometimes it only goes so far.

So I just wanted to throw that out there, that sometimes the baselines for the tribes are very different for what we're looking at now.

So one of the things I just want to talk, you know. I have probably about eight or nine things listed out that are, I guess, on top of mind for sort of what goes into tribal engagement. The first one's just tribal consultation. So there is there there here. So NOAA just completed an update to their tribal consultation policies.

They had before my time, a couple of months before my time, we had a broad consultation with tribes open to, you know, all of Alaska Natives, to talk about NOAA's consultation policy, you know, to read it, review it, provide perspective. So that's been updated. Just a couple of things I wanted to say on tribal consultation is, you know, there's -- sometimes it gets a little confusing about kind of exactly what consultation is.

There is, and I don't remember, have all, actually all the laws memorized, but I mean there is a, as sovereigns, a duty of the United States to have consultation when either tribes ask for it. So there is that piece of consultation, where tribes initiate consultation with either NOAA to talk about a specific issue, but sometimes NOAA also offers these really broad consultations, where sometimes behaviors change. Sometimes, you know, if there's other tribes in the room with you, you know, it can sort of change sort of what things people might be comfortable saying.

So sometimes like you think that we need to better, I guess, to find sort of how these different types of consultations work, because they're not all government to government. Sometimes they're much broader and sometimes they're just listening sessions, and one of the things that I've definitely

heard from tribes and it's something I experienced at CRITFC is sometimes you go through this process of pouring your heart and soul out in front of a fed. It doesn't necessarily need to be NOAA.

They regurgitate everything they think they heard from you back to you. They go back, take a couple of months to offer a report, but sometimes there is really no solution that comes at the end of that. And again, another maybe blunt statement is sometimes it's a lot easier to talk about solutions than actually offer a solution, and I think for some of the fishery issues that tribes are facing all along the west coast and other places is that, you know, tribes are looking for actual tangible actions, as opposed to just more good words.

Another thing that NOAA's going to be rolling out here very soon is NOAA has had an indigenous knowledge guidance that we've used. There's -- what happening -- just one step back. There's a lot of things happening this week, and I'll have to depart here pretty quickly when I'm done. The White House Tribal Nations Summit is happening this week, and the White House is going to be unveiling an indigenous knowledge guidance for a lot of the different federal agencies to use.

NOAA has created parity with the language used in that indigenous knowledge guidance, and that's -- I think that's, I was just talking to Barry about this during the break, is I think that this, you know, a lot of us will hear the words used about indigenous knowledge, and there's not enough time today to sort of talk about, you know, all the sort of I guess history and sort of --

I think there's a big question right now is, okay so what -- in places like NOAA, we often talk about the best available science and the best available information. Sometimes the best available information is not necessarily a data point. Sometimes it's the diversity of points of views that may have been absent from the table, and that's

sorely missed in a lot of places.

A lot of the things, in Zach's opinion, again not sanctioned by anybody, that whereas Magnuson-Stevens or some of these other laws, tribes were excluded from a lot of past decision-making. So their voices are not necessarily in some of the things that we currently use for federal fisheries management, definitely not in some of the state fisheries management.

And so indigenous knowledge is, you know, the guidance is coming out. It's not a recipe. You can't extract indigenous knowledge. Probably the easiest way to actually have indigenous knowledge inform decision-making, whether it's at the federal, you know, or state level is through co-management, co-stewardship, and that's a lot -- it's going to, I think there's going to be a lot of different federal agencies, NOAA included, that are going to have to reconcile what exactly that means to how we do things with tribes, given some of the things that we currently have to help us currently manage federal fisheries, such as council processes. Maybe even MAFAC is a part of that.

So you know, indigenous knowledge is sort of a lead into co-management, co-stewardship. I think there's also going to be an announcement in the next couple of days about Commerce's approach to co-management, co-stewardship. I still don't have all of my Commerce bureaus memorized, but when it comes to lands and waters, NOAA probably has 100 percent of the equities that are important to tribes with regards to co-stewardship of land and waters.

And so I think that's something in 2023 that we're going to have to figure out exactly, you know, what that means. Interior is already doing a lot of things with co-stewardship and co-management agreements, and then you know. But of course this opens the door into, you know, the really sort of complicated relationship that the United States has

with different indigenous nations, whether it's American Indians of the Lower 48, Alaska Natives, Native Hawaiians and also, you know, the native nations in the Pacific territories.

You know, those all have -- they all have different relationships with the United States, and how you actually turn some of these things into better co-management or co-stewardship cooperation is I think that's a question that we're going to have to work on. Not that there's -- some of them, we already have some good examples of where that exists. I think there needs to be more.

Since I mentioned councils, I think one of the top things that we heard, that I've heard in going on some of the road trips with Janet and others is concerns about tribal representation. We hear this about the North Pacific Council. We've heard this about some of the other councils about -- it isn't just about commercial fishing. It isn't just about recreational fishing.

Subsistence, while it might be sometimes dealt with I think at Interior levels, subsistence fishing just again, this is a Zach opinion, you know, it's oftentimes not something that we see taught at the foundations of fisheries education, you know. Everything from optimum sustainable yield.

I mean a lot of these concepts, you know, at what we, how fisheries science is taught, sometimes there is a huge blind spot for subsistence fisheries, and there are still places that I think where, you know, some of our laws and some of our processes have a really difficult time addressing, especially when it's multi-jurisdictional, like an anadromous species, and you know again, sometimes I feel like while, you know, it's easy for us to look at the data and even I, you know, tend to go that way, to be, make an objective decision.

But sometimes I do feel like agencies like NOAA and U.S. Fish and Wildlife Service sometimes have trouble answering the question about how do we

actually meet trust responsibility. I heard somebody mention burden of conservation earlier. You know, some of the things, this is where I'm getting back to some of the consultations that I'm listening to, is that there are things playing out in different parts of the country that have already happened in other regions, and you know, I don't want to see another salmon stock listed in places like Alaska.

But there are sort of these trends that I feel like, you know, have already happened in different places that do worry me. I try to lend, I guess you know, perspectives that might help that along when I see the chance. So representation of tribes at the table. Again, not as another demographic, but there is a responsibility somewhere when you have, you know, a sovereign that has, that the United States has a trust responsibility to.

Or, you know again, treaty, tribal treaty rights have been able to work their way probably a little bit easier to leverage themselves into these positions. But that's something sometimes that I don't necessarily know that a lot of agencies have been able to meet.

So you know, I talked about, you know, that it's not all climate change, you know, and history repeating itself. One of the things that I, you know, in 2023 is I really want to try to help NOAA better navigate tribal. I think our tribal team is doing things really well. But even I still get tripped up on some of the terminology that's sort of intermixed as, you know, terminology and things with, you know, what is the politically correct term, have changed through time.

It's highly varied across the United States government. I mean I just recently somebody read me the riot act about using the term Indian Country just last week, and whether or not that was appropriate. But you know, relation are really important and I was thinking about this in regard to some of our travels to Alaska where, you know, the small communities.

It doesn't need to even be a tribal community, that if you have somebody that's there engaging with the community, that trust that's being built is extremely important. One of the reasons I sort of introduced myself to you and kind of gave you a quick version of my CV was the context.

Tribes tend to be very context-driven folks. They need to know where you're coming from, you know, sort of what your relationship is with that land and place, and I feel like that's something that's extremely important in terms of how NOAA works with tribes. On the other hand, I do think tribes also need help navigating NOAA. I mean I'm an appointee and it's taken me almost ten months and I'm -- to even understand which doors to knock on.

In some of the conversations, I was just overhearing stuff, but discussion about IRA and BIL and that funding. The comment about, you know, it's like well great, you know. You've outlined all these plans but there's no funding behind it. What does that mean?

I think for a lot of tribes, an interesting comment that we've been getting with things like, you know, the funding that's going to go towards fish passage or, you know, the increase in fish, the Pacific Salmon Coastal Recovery Fund is, you know, that's great but for some tribes, sometimes the act of competing, which I know is a NOAA authority, they have to compete for those funds, but some tribes often feel that they're competing for funds to fix a problem that they didn't cause.

And you know, for them, navigating the capacity. I heard a lot about that too, the capacity of tribes who are often fighting multiple fronts, you know. It can take a lot of time and a lot of effort for somebody to go through the process of, you know, applying for that, navigating grants.org, sometimes even knowing who to contact at NOAA to utilize those funds.

And then of course if it's something that comes

along with permitting, you know. I think there's a lot of tribes that have, you know, are somewhat gun shy of, you know, we want to do these big things, we want to do these good thing for species like salmon, but by the time we get the permits through is there going to be any money left?

And so, you know, that's one thing that we've been hearing. But yeah, tribal capacity is outside of representation I'd say is probably number two in terms of what we're hearing a lot from tribes on, in terms of, you know, it's having -- they are looking for different way to access these funds, and I know this is the place where I often have to reconcile Zach truths with kind of where NOAA's authorities sit. But that's a place that we're hearing a lot of I guess input from tribes on, you know.

You know great, there's a lot of funding, but you know, some of the ways it's getting to us isn't, isn't working for us.

So you know, what else? You know, in 2023, outside of the Fisheries side of things, I do think it's going to be trying to figure out how the tribal engagement strategy deals with all of these other line offices, in terms of how, you know, NOAA better engages in those places. I think, you know, for the sake of time I'll think of -- I'll stop there.

I did want to maybe just mention quickly. I mean this is MAFAC. I do have some familiarity with MAFAC. Back when I started for the Columbia Tribal Fish Commission, the Columbia Basin Partnership was in its infancy stages and I didn't know what MAFAC was. But I was -- I ended up becoming the tribal designee for MAFAC.

The partnership was a really, you know, a really good experience. It's one of those -- the Columbia Basin Partnership, and again this is my version of it and Barry might have, you know, his own thoughts on it. But there was times where I wasn't sure exactly, you know, I wasn't sure if it was one of those processes that was just there to talk about

solutions, rather than offer them.

One of the big things that came out of that was establishing commonly aligned goals for salmon and steelhead in the Columbia Basin. Now we just weren't delisting goals. I mean a lot -- we've been aiming pretty low in some places about what that baseline should be, and you know, it's amazing kind of what can happen sometimes when people just stop and get around the table and look at one another for a little while and walk in each other's shoes.

One of the apprehensions I had when working with MAFAC was in sitting across the table from stakeholders. Oftentimes, at least for the Columbia River tribes, you know, they don't -- we're not stakeholders. We're treaty rights holders, which is fundamentally different. And so sometimes you worry that if you're going to be sitting at the table with somebody else, like it's a stakeholder or has an interest in a fishery, does that denude or does that degrade sort of the tribal sovereignty status?

But a lot of respect for what happened at MAFAC with the Columbia Basin Partnership. The way I was able to move the needle, I still think that we're trying to figure out. I mean essentially it created a road map where everybody wanted to go, but everybody has a different way they want to get there, so that's the next big step.

But you know, there's a lot of other places where I think, you know, the expertise, the intelligence, the experience that sits around the MAFAC table can help out a lot of other fisheries in the U.S. I was thinking, you know, it would be great to have some sort of process like that in Alaska, where MAFAC can help I think maybe deal with some very sticky issues.

But maybe I'll end with that note. So thanks for the time. I appreciate it. Sorry, it wasn't a bit more rehearsed, but that was on top of mind.

Chair Davis: Zach, thank you so much for coming here and talking with us today, and just being so open and insightful in your background and what you're learning at NOAA, and congratulations on your position. So we do have time for some discussion. I know that you also need to leave soon, but we have about what, 15 or 20 minutes? Is that good with your time? All right, and I see Roger and Brett and Barry. Oh, Brett's old. Okay. So Roger and then Barry.

Mr. Berkowitz: Thank you, Zach. Certainly very interesting presentation, and interesting to learn about your background. So you're from Oregon. You're now at NOAA, and so the report comes out maybe a week ago about the tribes in Oregon eating polluted fish. So in your new capacity now, how do you think about that and what kinds of actions in your position here can you take?

Dr. Penney: That's a great question, and I think -- I've been thinking about that a little bit, because when I was working for CRITFC, I mean tribal fish consumption was something that we work mainly with EPA about, and treaty, you know, a lot of -- and I'm sorry, I'm going to kind of go into treaty rights now.

But you know what -- to make treaty rights meaningful, you know, a lot of the case law that happened in places like the Pacific Northwest, like with the Bolt decision, *U.S. v. Oregon*, was establishment that there would actually be fish to catch, and that's something the tribes have been focused on. But one of the more I guess scary pieces of it now has been are the fish actually safe to eat.

And tribes tend to eat more per capita than, you know, non-tribal citizens. So in terms of where that piece fits in, like as makes me -- I was thinking about this in the context of what's happened in the Puget Sound with the Martinez decision and the Culvert case that with the right to harvest fish, that

there was an expectation that there would be fish to harvest, which means there has to be protection of habitat.

Part of that is water quality, and this is a place where I'd kind of like want to like elbow Sam a little bit in terms of what places NOAA could engage in that. But I mean to me it comes back to sort of this place. It's a really hard thing to answer, is absolutely I think the tribes have leverage or say, you know. An expectation was there would actually be not only fish to catch, but they'd be safe to eat.

A lot of times it seems like the onus is put on the consumer as opposed to the polluter. We see this in like a lot of state fish and game manuals. It's like if you fish this body of water, you can eat this many fish per month and if you're pregnant don't eat any of these fish at all. I'm not sure how many of you are familiar with where I grew up, so I did live in Oregon, but I actually grew up in Idaho for the most part, in the Silver Valley, which is probably one of the most polluted, like heavy metal polluted areas.

It's a beautiful area, but a lot of the way they did mining, I mean for every ounce of lead they pulled out, they pulled out about a pound of lead. You were usually pretty safe as long as you didn't eat the dirt. But I guess, you know, I'm not going to really be able to answer your question, but it is something I think about.

I think tribes, a lot of tribes that, you know, this is even I think we're starting to see this a lot more with, you know, plastics in the ocean and places like that that, you know, as NOAA being a trustee and sort of where we fall on the things that we need to protect for tribes to, you know, the agreements that were made before any of these states existed, fish consumption is one where I mean probably EPA is going to be the first one in line, but I think NOAA and NMFS probably has a piece there.

Mr. Berkowitz: Very good, thank you. It could be a good template for other issues.

Chair Davis: Thank you Roger, thank you Zach. And Barry and then Sarah, did you want to say -- okay. Sarah, and then also Joe and Tom. I have you on the list.

Mr. Thom: Thank you Madam Chair, and thanks Zach. First of all, I just wanted to say thank you for joining NOAA and your perspectives are critical. So thanks for hanging in there, even after I left NOAA, but it's good to have you there. I was much more comfortable leaving, knowing that you were at the table.

A couple of things, and I've realized in terms of like how fast you have to get your tent card up now for the conversation. So tying, tying in some of the comments made earlier from Matt and Jocelyn on sort of the workforce piece and the EEJ piece and the tribal piece, one of the things that occurs to me, and maybe we can have more conversation this afternoon is, you know, in terms of the EEJ proposal, you know, there's a comment there about meet people where they are.

I would just really encourage NOAA to get people out on the ground and in those communities, and if you have, you know, and when I was at the west coast region, we did a lot of work to have remote field offices where we had biologists out, co-located with the Forest Service and other offices so that you could have people out there on the ground that know that landscape, can get to know the people.

I don't know. It's harder to get people out on the ground. It's more expensive, it's inefficient and I know that it's been a lot of work for NOAA to consolidate their resources into main central offices.

But I think there's some real good benefits to getting people in remote field offices where you can have people in Kodiak or Sitka or, you know, and really emphasize the community liaison, the tribal liaison piece of it for workforce and be thinking about that in the future moving forward. Thanks.

Chair Davis: Thank you, Barry. Sarah.

Ms. Schumann: Sure. I hesitated to comment because I don't want to take the focus off of the tribal engagement. But I felt really inspired by everything you said Zach, and you made your presentation very personal, so I'm going to make my comment personal as well. I come from the world of I guess you could call it the small scale owner-operator commercial fisheries, and a lot of what you said resonated with me a lot.

We get -- commercial fisheries are not a demographic designation or a sovereign governmental designation, but I felt very much that some of your comments spoke to me when you talked about people who have wealth of first-hand knowledge about ecosystems, but often, you know, that knowledge doesn't fit into the conventional fisheries science and management framework when you talked about people who don't really know how to navigate NOAA.

I'm just so glad that you are in this position and it sounds like you're the perfect person to play the role that you're playing, and I really -- I'm inspired by that. I also, it made me sort of wish that the commercial fishing fleet had someone like you in NOAA as well to be that nexus and that liaison. So again, I'm not trying to detract, but for the tribal focus, but rather to say how great of a model I think what you're doing is and very inspiring to those of us even who have no tribal affiliation.

Dr. Penney: I just wanted to add. I mean thank you so much. I mean that makes probably -- that made my morning because I just -- but I could only help but poke, make fun of myself because, you know, I don't know if I'm the best model because I still find myself like stuck in a corner or in the wrong room sometimes.

So thankfully, hopefully in the next year I know enough to be dangerous, but hopefully I don't necessarily know if I've done what Dr. Spinrad

wants me to do yet. I think some of that's just been trying to figure it out. I'm just an appointee, so my time here is short and I'm really like --

I think what I'm trying to say is don't thank me yet. Like a perspective is a perspective, but actually to see the changes and I think where I'm, you know, working with people like Sam and Janet and, you know, exactly what Sam said earlier is I do see that, you know, prior to -- I say this a lot. Like I never, ever wanted to be a fed. I don't know if being an appointee counts as being a fed. A lot of my experience prior to was sitting on the other side of the table from NOAA and often -- and disagreeing.

But until you actually, you know, getting to actually be in the house, I'll just stick with that metaphor, you sort of get to see sort of what they're faced with and, you know, the places or sometimes just being in the room seems to be enough to change behaviors.

But yeah, I like to be able to, you know, chart some courses and I think there's a lot of -- I guess what I'm trying to say is I feel like there are a lot of people at NOAA that are already pushing for this, so I think there's -- I think the needle will move with or without me.

Chair Davis: Thank you, Sarah and Zach for that discussion. And Joe, you're up next.

Mr. Schumacker: Thanks Madam Chair. Thank you Zach. This is Joe Schumacker. I'm with the Quinault Indian Nation, and I don't know if I got to -- if you were there when they introduced earlier. Man, am I glad you're in the position. Good job, buddy. Keep pushing buttons, pulling (audio interference).

We need this, especially at that higher level at NOAA there, and I think you, just in your off the cuff remarks, just about everything I could possibly think of at this point that are of important matters. There are certainly many, but these are the matters that are outstanding to tribes right now, including

consultation, indigenous knowledge, capacity, tribal capacity. Tribal reps, representation, etcetera.

So greatly appreciated all of those words, and just keep at it man. Make sure you get in the right room.

I did want to just make quick comments, that tribal sovereignty, as you noted earlier, is the most key piece of what we're talking about here. But you know, it's inextricably linked to place, and by that I mean, you know, that's where that comes from. That cultural heritage is bound to places for tribes, indigenous peoples.

That kind of means a special designation for equity and environmental justice, that the millennia of history that these peoples have within these areas deserves that recognition for working with them and trying to achieve actually equity and environmental justice. So I just want to make sure that that's plain. I think you actually noted a few of those things along the way here.

I'd also note that you and I have both worked for treaty tribes, that it's a big hammer as you said earlier. It allows us to have a little bit more leverage out there in the world for getting things done with the feds, especially as trustees. But you know, I thank goodness for that because, you know, if the treaty tribes weren't there in the Northwest, you know, who knows where the salmon would be now, as bad as things are.

It's, you know, we've been holding the feds feet to the fire now and the states' feet to the fire for some time with those treaty rights. It's the reaffirmation of those treaties and, you know, that's been an important part of maintaining what we have still and what is still in jeopardy up here.

The last comment I just wanted to make, you made quick mention of representation on the councils, and I know, you know, our Pacific Council is unique in that regard. We have a tribal position called out for

it in the Magnuson-Stevens Act. What are you hearing internally on this matter? Is it just going to take a reauthorization to get tribal representation on the councils? How about at large seats? Thank you.

Dr. Penney: Thanks Joe. On the council piece and I'll also ask maybe Janet and Sam to follow up because, you know, the biggest place or the place we're hearing the most is up in Alaska, the North Pacific Fishery Management Council, where a lot of the Alaska tribes are asking for more representation.

This is the place where I push buttons sometimes and I push the wrong one. So this is why I need Sam and Janet there, that you know, a lot of the Council processes, unless it's like, you know, the Pacific Council with -- well actually I think that designee's actually a relative of mine. I think Joe Oatman is the designee. So he's Nez Perce. He's my cousin. Our grandmas were sisters.

That for the way the council process works, if it goes to a state governor who is actually setting out the nominees, in some cases I think, you know, in states where there is a good relationship between the state and the various tribes, I think sometimes you will see a tribal nominee get put up. In other places where there might not be as well of a good relationship, especially if there's a lot of tribes. I think that can be challenge.

And so if tribes are not getting names put out there through the governor's office, and this is a place where sometimes I find a Zach truth doesn't always mesh with reality. It's like why would a -- why would we ever go to a state governor to ask for permission to serve on the council? We're a sovereign, and maybe that's the treaty rights tribe in me is saying that.

But some tribes that don't have treaty rights don't necessarily always have that leverage or know where to ask. So my opinion is there's places where

there are barriers, where tribes are able to get them. I think they can get on there, but in terms of how they get nominated and going through who the governor's pick is, I think there are some barriers there. So yeah, unless there's a reauthorization that maybe mandates that, which is the place where I realize that NOAA does not have the authority that's, you know, that's the House and the Senate that would need to change that.

But you know, I've heard Janet talk about the need for that representation. She said it in Sitka. We've said that in multiple, we said it in testimony. But outside of Alaska, it's not just about Alaska. I talk about Alaska a lot just because I have a little bit of history there.

I was just recently out at a tribal leaders summit in the Northeast. My first time in Maine, and it was a very interesting experience. But this is sort of an aside story. But I was sitting at a table with some professors from New Hampshire. I'm forgetting their names, so apologies. But one of them used to serve on MAFAC. She's now the chair of their Biological Board, and she asked me about tribal representation of the Northeast tribes.

I said that's really interesting. Like I've been thinking about this. She's like is there tribal representation yet? It's like well no, it's something I'm working on. Well you just haven't fixed it, and then that was the end of the conversation. I was kind of like set aback. Like oops, sorry. I'm totally in favor of this, but yeah, she was -- it was, I heard that from the Northeast as well.

But I guess one other thing I would say is, and a place where I've had my eyes open a little bit is in looking at tribal representation across the different fishery regions, it's almost like a lesson in colonialism and the U.S., you know, history expansion where you -- every tribe, you know, that you -- region almost is a snapshot of kind of where the U.S. was with its tribal policy.

In the Pacific Northwest, you have a lot of treaty tribes. You have Athabascans in Alaska. You have some tribes that were completely either assimilated or terminated at some other time period. So in terms of how tribal representation sort of exists around with different fishery management councils, it's really interesting and it's not all, you know. It's - - I don't want to call it unbalanced. It's just, it's really different.

For example in the Gulf of Mexico, it's just looking. I mean there are tribes down there. They're just not very many, and I don't know sort of what sort of avenues you would take to get that representation. Just one other thing, and this is getting away from just your question about the council process on treaty rights, and again not -- this is not just all about treaty rights.

But when it comes to fisheries, I think one of the places where I saw maybe a turn being taken in places like the Columbia Basin is that well tribes and I would say non-tribal members, whether it was commercial fishing or sport fishing, you know, that the fish wars that happened and in some cases are still happening in those different places, that I think there has been some realization that tribes wanting to exercise their treaty rights just isn't about catching fish.

Treaty rights have probably protected opportunity for any user group in places like the Columbia Basin, Columbia River. You know, tribes that are putting fish out in the hatcheries to continue either to restore fish or continue subsistence fishing, I mean that sort of serves everybody. I've seen a lot of, I think, hearts and minds being changed to that.

So while there is still some of the old, you know, I'd say cowboy and Indian dynamics in some places, I do see some of that changing.

Chair Davis: Thank you Joe and Zach for that continued discussion. Tom, do you have your hand out for a point on this topic? I see Clay just put his

hand up. I just wondered if Tom also wanted to speak. No? Okay. So we'll move on to Clay. Excuse me, Clay. Sara is next and then Clay and then we'll wrap up. Actually Janet, did you have something you wanted to say?

Ms. Coit: I think I'd rather --

Chair Davis: Okay. Sara and then Clay. Thanks.

Dr. McDonald: Thank you Madam Chair. So Barry opened the door, so I'm going to walk through it. This was my comment that I didn't get a chance to say before, but it has to do with what Matt was talking about and what Barry was talking about. And in your discussions with Department of Commerce, this is aimed at Jim and Janet and Sam, would it be helpful for MAFAC to write a letter, because I feel like the ability to work in remote areas, to work remotely, it's an EEJ issue. It's a workforce development issue, and it's also a climate change issue.

So if you're requiring people to commute to an office and we met -- so it's all of these, it's all of these priorities that the agency has. So I'm just wondering would it be helpful for you if MAFAC wrote a letter to sort of support your efforts in trying to get a more remote -- fisheries are everywhere, aquaculture is -- they're all in remote coastal areas. So to have representatives there I think is really critical.

Ms. Coit: Yes, I think that would be welcome. Whether it would be helpful at changing things I can't say. But having a letter, you know, backed with specific points I think would be really a useful contribution.

Chair Davis: Thank you Sara and Janet. Let's move on to Clay then, and I think we'll -- after that we'll wrap up the discussion so that we can break for lunch. Go ahead, Clay.

Mr. Tam: Thank you Madam Chair, and thank you

Zach for that enlightening presentation. Sounds like great work on, you know. I think you hit the nail on the head at least for me, and when you talked about talking to the elders and reflecting on empirical knowledge of the fishery and where it was, and restoring it to where it was.

I think there's a lot of value we can learn from engaging with these indigenous tribes, peoples, Pacific Islanders, and that they have a wealth of knowledge. Although it may not be hard science in terms of today's technology, but I tell you what. A lot of what they know would lead to I think a lot of possibly improved in the things that we do, because a lot of what they did they've passed on from generational knowledge has been there observed science for a lot longer than we've recorded science.

And at least in the Pacific Islands of sure, I know that the guys here, and I've learned from fortunately being in touch with one of our elders and understanding our moon cycle, our moon phases affecting cycles.

It's all integrated into a huge biological clock, and I think that moving forward in terms of gathering that data, which doesn't go anywhere and we started that here in, with the advisory panel that I chair here in Western Pacific into fisherman's observation, because that -- those observations are critical.

You can only learn so much from just catch landings. This, you know, in terms of empirical knowledge and what's happening, it can also aid in looking at changes in climate change. So our fishermen are on the water every day. They're our eyes and ears and integrating them into some sort of data porthole would be super-important, because they themselves can see first things happening with the environment and our fishery faster than any of our scientists can be out there and finding out about these things.

I think it's important that we all work together as fishermen, fishery management people to better

manage our resource. And, you know, these people have managed their resources for many generations. I think that turning to them for knowledge and incorporating them and integrating them into the process would be a great way to go. But that's just my comment. Thank you.

Dr. Penney: Yeah. Just to offer a response, I mean thanks Clay. Really good words. I mean one of the things I used to say a lot in presentations for CRITFC is when Native languages has always been an interest of mine, and they persisted through, you know, well we use the word time immemorial, which sometimes can almost become cliché.

But you know, the fact that they weren't written down is because that knowledge is on the landscape, and there's concepts and words in Native language that don't necessarily have a good definition within the English language and it might not necessarily always translate. But it's extremely, extremely intimate knowledge of landscape and stuff, and this is where I think indigenous knowledge is super-important.

So you know, the fact that they weren't written down is because that knowledge persisted because of that place, and that's I think we can really inform where we're at now. And here's, I guess, I don't want to end with a callous comment but it's one that I do got to make, and I feel like we heard this a lot in Alaska is, you know, some of the elders were talking about. It's like, you know, we've been fishing since before Alaska was a state. We remember, you know, there were some really old elders there.

You know, they said that the fisheries were fine before -- you know, when they get really upset with whether it's federal or state management, they said the fisheries were fine before that, you know. Your science moves too slow, and I think that's a place where NOAA often finds itself between a rock and a hard place.

And so you know, the way we currently do things, I think that there are places where, you know, it's not just NOAA but a lot of different federal agencies are going to need to think a bit harder, because one of the big, you know, things that -- I heard Dr. Spinrad and others talking about is we want to build a climate-ready nation. We want climate-ready fisheries, especially in the face that what we're seeing with changes in species distribution and stuff like that.

You know, I said time immemorial, but I mean even if you go by Western science standards, some of the oldest sites in North America are over 15,000 years old. The tribes have been climate-ready nations for a long, long time already. So I think that knowledge is there, and I hope that that's an awareness or I guess some enlightening that can happen in the next couple of years, but I'll end with that.

Chair Davis: Thank you Clay, thank you Zach. On behalf of MAFAC, we want to thank the leadership team of Janet and Sam and Jim and Zach for coming this morning and providing your updates and your insights in the discussion. It's been so helpful and we always enjoy that time with you all, and hearing what's happening NOAA, so that we can help best do our advisory work.

So we just want to extend a big thank you for that, and I'll see if Heidi has any other announcements that we need to make before we break for lunch. We have run a little bit over time, so I'm thinking that maybe 1:15 would be a good time to come back. Thank you all also for all of your comments and inputs on this morning's discussions. So have a great lunch.

(Whereupon, the above-entitled matter went off the record at 11:48 a.m. and resumed at 1:19 p.m.)

Chair Davis: Good afternoon. Hope you all had a nice break, a nice lunch. So we're up to the agenda topic that's going to be presented by both Joe Schumacker and also Roger Berkowitz. They're the

co-chairs of the working group who has been working on Workforce Development. You might remember that at the May meeting, we passed part of Roger and Joe, you might have to help me on this, but we passed a section of it.

And then the working group has been continuing on with that work, and this is an actionable item. They're going to have a presentation today. We're going to have discussion if we feel that we're close to a completed document. We can certainly take action today. Otherwise, we have a place in the agenda either tomorrow or the next day to do actions.

So we have some choices there, but I'm happy to have Joe and Roger, and I also want to give special acknowledgment to Gabriela, who has led this working group team, and also I know Heidi has also been working on this group as well. So it's very exciting. I've been in and out of working with the group and just so pleased with the workmanship that's been done. I'm excited that they'll be presenting today.

Mr. Berkowitz: Starting wouldn't be the adjective I would use.

Chair Davis: Oh well. It's good to be at this place and time, though, wouldn't you say Roger?

Mr. Berkowitz: Yes.

Chair Davis: There you go.

Mr. Berkowitz: It was very nice.

Chair Davis: All right. I'm going to turn it over to both of you. Thanks.

Workforce Development Working Group

Mr. Berkowitz: Good, okay. What happened to Joe? Okay.

Mr. Schumacker: I'm right here, Roger. Can you see

me?

Mr. Berkowitz: Oh okay. I can hear you. They gave me a little box here. I guess I'm in charge of AV, so I don't know if I can get you on AV, but anyway. So to what Megan has said yes, we had numerous meetings. We came up with an executive summary. I think during the course of things, and Pat and whoever can jump in on this, we wrote a lot of stuff.

And then, and then a few people, Heidi, Chuck, Pat got ahold of it and it got reduced to four slides. So but I think all the pertinent information is there. We'll see, and we'll kind of go through it and then we'll have discussion at the end. So we're fine as long as you don't materially change things. Okay.

(Off mic comments.)

Mr. Berkowitz: Joe, would you like to say something?

Mr. Schumacker: Thank you Roger. Yeah, thanks all. Hey, and first of all just apologies folks that I'm not there with you, but you don't want me there. I've got the latest virus de jure, and so I'll be speaking for as long as I can on some of these slides today, to run through this document and Roger's going to be my backup there.

As we go through this, this is going to be a lot of read through for the recommendations that came out of the document primarily. But yeah, if there are questions at the end, we will direct those -- we'll try to answer if we could. But we'll also direct those to the other members of the Workforce Development Working Group, so workforce development.

So thank you Roger. If you want to go ahead and take the lead, I'm happy to read through the executive summary and go from there.

Mr. Berkowitz: Okay. These are members of the group right here, and okay. The executive summary. Okay. So yeah, we were charged with

developing, you know, certainly the recommendations for the workforce, and it's such a broad topic that we're sort of struggling with how to start at these. We started to go off on a number of different tangents, and really what brought us back was sort of the needs assessment, to really identify at the core what it is that we're, you know, that is going to -- is going to need to happen and really to check in with the different regions, because they can vary from region to region.

Once we have, you know, sort of commonality on what the needs are, it would be easier to put something together. So we're recommending to MAFAC that, you know, they put forth a needs assessment. Not that MAFAC or NOAA would do it, but they would somehow partner with folks that could get them information and then we could act on that.

So Joe, you want to start with the recommendations?

Mr. Schumacker: Sure, sure. As Roger just noted, the executive summary just talks basically about that needs assessment piece right there.

It goes on to Slide 4, recommendations. Oh here, we go, and that the recommendations around the WFD needs assessments are to design to engage effectively with the regions, communities and business sectors, and by that we mean that all of these sectors within the realm of the U.S. and NOAA Fisheries and NOAA have individual and specific needs, and that the needs assessment needs to really get to those regional needs and heads up, I'm going to use the word needs quite a bit obviously.

But in other words, design these to be effective for those areas, both for their geographic wrongs but also for their fisheries that they run and the communities that depend on them.

Use your existing local assets to assist in design and polling methods including, you know, local sea

grants, field offices, local assets, etcetera.

Identify all the elements necessary for support of fishery and aquaculture businesses. That's very important, make sure we have -- we know that all of those factors that are necessary, that are being - - that hopefully are being brought out in the needs assessment, but also that could be included in it in '22.

Use assessments to evaluate current and future challenges. Identify immediate, near term and long term needs specific to the communities.

Poll communities for their vision of a resilient future and what's needed to achieve that vision. That's a very important part, what that on the ground knowledge from the people that are living there.

Reference previous MAFAC reports that address WFD community needs. We have some materials that are out there already in that regard. So this is some basic -- this is a summary of the needs assessment. There's more in the document, but that's the first slide on that one. Roger, you want to take the next one for education?

Mr. Berkowitz: No. I'm going to pass that off to Pat.

(Off mic comment.)

Dr. Sullivan: Thanks for the warning on that, Roger. So let's see.

Mr. Schumacker: It's choreographed.

Mr. Berkowitz: Joe was supposed to call you last night.

Dr. Sullivan: I see.

(Laughter.)

Dr. Sullivan: All right. So we went through, we discussed a lot about the sort of educational opportunities that exist, and we kind of wavered

back and forth as opposed to looking at the K through 12 education versus broader. Basically, one of the things that recognizes that there may not be enough opportunity in the K to 12 sector to examine the opportunities to exist for fisheries, aquaculture and seafood industries, including environmental and seafood literacy.

So there's a lot of opportunity there to develop that, and we're kind of pointing at that as a way to go. In order to facilitate that, we're looking at students at all levels to, let's see if I can read this right. So help facilitate exposure of K through 12 students at all levels to fisheries, including commercial, recreational and aquaculture.

Side note. I remember going through and taking what like Marlowe's What Color is Your Parachute things, to figure out what career I should be in, and they said forestry, so here I am. You know, there's not really a lot of, you know, guidance there I think, and there's a lot of opportunity.

Third point is integrating fishery and seafood industry training activities into existing vocational and agricultural programs. So there's a lot of agricultural programs that exist. Could we build off of that or could we model, use that as a model for moving forward is something to think about. Incorporating internship opportunities into high school programs.

Internships are a really, really good way of getting people into seeing what it is like to be in a particular career, and whether they decide to go on that career or not, it's still an important element, especially understanding where your food comes from, for example.

The next bullet is exploring expansion of K through 12 education through focus on career development through partnerships with tribal organizations and federal agencies. Again, a little bit of a contrast between internships and career development through partnerships. So there's some different

ideas there about how this could occur.

And then finally consider dual enrollment of high school students in community and state colleges, to teach trades in fisheries, aquaculture and seafood sectors. And again, I know we, we do want our students to have sort of classical training, but to really see how that training needs to be applied in real world situations, I think, broadens the educational opportunities quite a bit. Thank you.

Mr. Berkowitz: Great, great recovery, Pat.

Dr. Sullivan: Yeah really. I need another drink now.

Mr. Berkowitz: All right, very nice. Now that. Okay. So the next section is training. So Joe, did you tell me again that she was going to discuss this?

Mr. Schumacker: I may have forgotten that phone call as well. I'm happy to read through this. We're not going to put you on the spot. For the recommendation for training programs.

Mr. Berkowitz: Now be careful, because I'm going to use Sebastian as well.

Mr. Schumacker: Okay, okay. But I'll just go ahead and --

Chair Davis: Okay. Thanks Joe. Go ahead.

Mr. Schumacker: Thank you, thank you. With training programs, work with industry to develop where needed occupational standards specific to workforce skills and training needs, and this is -- occupational standards were brought up, were really brought to the group specifically by Sebastian because of the great work they've done in Maine.

These are not, these are not the OSHA safety standards around the work. These are more of the occupational standards to lead to real, real meaningful career pathways, and Sebastian you can nod or shake your head if I have that appropriately. But I want to make sure that these jobs and the

occupations they're getting into are meaningful in that regard.

I want to share that programmatic funding and incentives for training programs, internships, apprenticeships and career pathways be elevated to expand sea grant and other partner initiatives. So you know, just keep the money flowing and increase it where appropriate. This is meaningful for workforce development. NOAA's Sea Grant should expand its partnerships with academia and the industry to provide demonstration sites for training and retraining, continuing education, workshops and hands-on opportunities.

It's kind of a no-brainer, but Sea Grant's done wonderful work in this regard over the years. But they've done such good work that we want them to do more.

Support new small business training programs across all sectors of commercial and recreational fishing, aquaculture and associated industries. Small business training programs are critical for individuals out there. They really need that background to successfully get into these various sectors and industries, and maintain those businesses. We don't want -- many folks can come and fail. We want them to survive and thrive.

Establish and support train the trainer programs where they exist and where there is significant need to better expand training programs. NOAA-supported training programs should include significant hands-on training, including records and certificates of completion and assistance in seeking employment after. Hands-on training is critical. Just really got to get people out in the field or in the muck, wherever it is, to understand, you know, what these jobs offer.

And support training programs in mechanical trades that are essential to many fishing and aquaculture businesses. These include motor and engine mechanics, refrigeration experts, hydraulic experts

and more. There's plenty of software engineers. There's many, many more trades like that. But that's -- these are really critical support trades for the industry at this time, and there's lots of jobs available there. Next slide.

Mr. Berkowitz: Okay, very good. Did you, Sebastian or Megan, have anything to add on the training? Okay. No, okay. I'll take that as a no. Okay. So the next slide up is supporting innovation and entrepreneurship, and one of the things and some of us, I know Sebastian I have discussed this in the past, you know, expanding sort of the needs of aquaculture, not just what's already out there, but seeing if we could, you know, sort of push people. I know Sebastian has been working on this up in Maine, but other varieties of species.

I think one great example has been kelp farming and what, you know, the folks -- actually a lot of lobstermen are doing the kelp farming in Maine. Am I right about that?

Mr. Schumacker: Yep.

Mr. Berkowitz: And it's a way of offsetting, you know, sort of the quotas and the strict moratoriums up there, and they're able to work out a pretty good living. The kelp, as an example, it has really taken off. I think there was an article in the Washington Post talking about Brianna. Is that the woman there, has really grown that business.

I don't know how many tons of kelp are coming out of there, but it's a great model for the types of things that can be harvested from the ocean in terms of vegetables. It would be great to, you know, sort of encourage other species of fish as well because, you know, there's only so much salmon and shrimp you can eat, and there's, you know, certainly needs for that.

The other, next one is support growth of entrepreneurship and innovative businesses. This can be done through internships as part of our

discussions we had. We had Thor with us. He's the one who started the Ocean Cluster in Iceland, and essentially with that, the issue that they had there was how do you better utilize, more efficiently, you know, as much of the fish harvest as possible.

Up till the point of that -- of the Cluster, they were utilizing, as a sign of what we're doing here, about 50 percent of it is a fish fillet and the bones and the skin were being wasted. They weren't any side streams, and what happened in Iceland was they developed a number of side stream businesses where now they utilize about 95 percent of each fish that's caught.

You know, that's huge from an efficiency standpoint. In fact, it's often the side streams that, you know, bring in more revenue than the fish itself. So I think we have an opportunity to do more of that.

Exchange programs overseas, whether we're sending people over there. There's also a program, I'm not sure how many people know about it, but it's been taking place in Florida, the University of Florida. There's a very large private company called CP in Thailand, and they do an awful lot of shrimp farming.

They are working on a project, they have been working on a project now for three or four years in concert with the University of Florida, and they're growing shrimp on land using the, you know, the Thai technology over there. From what I'm hearing, I saw some of the product early on, and it was certainly very good.

Right now the species of shrimp they're using are whites. They're not using black tiger shrimp. But the whites were better than I had experienced from over in Asia. So you know, there is some hope along those lines. I think part of what we discussed is doing more with a number of these innovative companies over there and forming these partnerships.

The next point is, you know, act as a catalyst for showcasing opportunities. You know, we should be celebrating a lot of these things. One of the things that we discussed is, you know, perhaps NOAA could be almost like a cheerleader bringing attention to it, and you know, there are numerous business schools that have competitions throughout the country about, you know, coming up with innovative solutions.

I think that if the government identifies that there are opportunities, and they also identify that there are potentially grants, you know, for this, I think it would stimulate a lot of interest and people getting involved this sector. You know, and one of the things that came out also was the fact that, you know, where do people hear about these grants, and we heard back, I think Heidi and Gabi may have pointed out that the grants were available.

But people don't know about it, so the question is how do we market it to people to hear about these grants and learn about these opportunities, because if they don't see it and it's not in front of them, it's something that, you know, they don't think about. So and there was one item on here that we don't have and it was too big an idea. Sebastian came up with it, and it was --

Mr. Belle: I thought you were going to steal it, Roger.

Mr. Berkowitz: No, I was not. You get all the credit for this. It is really coming up with an Entrepreneurship Academy, and so can you sort of take us through your thought process. The reason it's not on here, not that it wasn't a good idea; I thought it was actually a very good idea, but it's almost too big an idea that shouldn't be really under a recommendation because it can get lost. It should be something that we perhaps talk about in future meetings so --

Mr. Belle: Sure. Very quickly and I was only kidding with Roger. I thought he was going to steal the

idea. Yeah, that's okay. So I think one of the things that we are seeing in the aquaculture sector is this - a lot of energy around it. There's investment going into it, but there is, like the fishing community, a greying of the sector.

And so finding well-trained, young people who can be entrepreneurs and managers, not just workers but entrepreneurs and managers, is becoming increasingly difficult. Quite frankly, what we're doing in this sector is hiring people from other countries, because we are not training those people here in this country. And so I thought about the young leaders program that NFI has had for many years. I don't know how many people are familiar with it, but it's an interesting program where people go from the commercial fishing sector and work for different companies around the country in kind of a residency way.

It's very similar to a program that I was a part of in Norway that was a five year undergraduate program. The fifth year was like a doctor or a vet would do in terms of residency. It's a revolving three month residency between different kinds of practices.

And so my thinking was that is there a way for us collectively in the seafood sector, aquaculture and commercial fisheries, to think about establishing and supporting for an extended period of time some program where young people who are in the sector who are kind of coming up through companies, can take a year off and rotate between different companies, do a three month stint, a four month stint in different kinds of companies, whether they're aquaculture or commercial fishing or maybe even some cross-pollination between the two sectors, and help those folks see how other companies are training managers and kind of grooming young people coming up through the field.

I think our classical academic system in this country does not do a great job of training people for the

commercial sector, and some kind of program where you could rotate through different companies, maybe rotate to international companies. And again, I thought when I was very early on in the salmon industry, we had a guy from Nippon Suisan come and intern with our, one of our companies and he was there for six months.

And then went back to Japan and managed many of their companies. It happens kind of informally I think in the private sector, but may if we kind of established a national program that had some significant funding, private sector would probably have to pitch in as well, that might be a way to begin to train young mid-level managers and entrepreneurs in a way that we're not doing it right now.

So that was just an add-on. The only other thing I'd say is back to the training section, and Janet, just for your edification, you issued -- as you know, NOAA has been funding a training program that we've had in Maine for 15 years. It hasn't always come from NOAA. We cobble it together every year.

This is a training program that targets commercial fishermen and gives them basic skills in the aquaculture sector, and our typical enrollment in that program is maybe 15 to 25 people a year. This year, we have over 120 people, all commercial fishermen in that training program, all of them not just in lobster but in other fisheries as well.

And I think you're seeing particularly the younger side of the commercial fishing sector, at least in our part of the world, a real uptick in interest in trying to diversify what their skill sets are. So from a NOAA perspective, I think you have to start to think of the sector not just as aquaculture or commercial fishing, but collectively the whole sector and how do you support young people coming up through that sector, who then will make choices about where they want to go?

But so that they can see what their options are,

because it's really quite a dramatic shift that we're seeing in the commercial fisheries in our neck of the woods. So I'll stop there.

Mr. Berkowitz: Very good idea.

Mr. Schumacker: Thanks, Sebastian.

Mr. Berkowitz: Yep, yep, okay. This is the discussion slide. So you've sort of heard this and you've read it. You know, gut reactions from folks, anything that you think needs to be tweaked at all or something that you think might need to be changed and/or added? Now is perhaps the opportunity to have that discussion.

Great, no questions.

Mr. Schumacker: Thank you.

Mr. Berkowitz: Go ahead, Kellie.

Chair Davis: Roger, do you want me to manage the questions with you?

Mr. Berkowitz: Sure.

Chair Davis: Okay, very good. Okay, Kellie, and then Sarah. Thank you.

Vice Chair Ralston: Well I just, I know this has been a long labor of love, so I really appreciate everybody's hard work on this. The one thing that I just wanted to reiterate, and I know it's implicit in the initial part of the document, but that this is for all sectors, right? So we're talking commercial, recreational and aquaculture. So I just want to make sure that that's, that message doesn't get lost and that it's inherent in all of it. So thank you so much Roger and Joe, for all your hard work.

Mr. Berkowitz: Thank you.

Mr. Schumacker: Thanks, Kellie.

Chair Davis: Thank you Kellie. Sarah.

Ms. Schumann: Well first I'll echo what Kellie said, and I have two recommendations for how to slightly strengthen the document. The first is to sort of provide some context by fleshing out sort of what workforce means in this context, because to me as a commercial fisherman, the word workforce doesn't exactly translate well into the kind of work I do.

Like I'm not quite clear. Are we talking about, you know, boat owners? Are we talking about crew? Like to me it would help to add a paragraph towards the beginning that says the American seafood workforce includes, but is not limited to, and then tally off a couple of dozen roles in aquaculture, commercial fishermen, fruit fisheries, recreational fisheries that represent the diversity of this workforce, and that helps stakeholders sort of see themselves and say oh okay, you're talking about me and sort of expresses what the bounds of this, these recommendations would apply to.

The second recommendation is to sort of set up like a segue from this work into the other bucket of work that is in MAFAC's docket, which I can't quite remember the name of, but something to do with seafood resilience, right? Can you supply the name for me Heidi or Megan?

Ms. Lovett: Are you speaking about the work that went on about two years ago related to --

Ms. Schumann: There's some other piece of work that we're supposed to be working on that you --

Ms. Lovett: Oh. That's coming in the afternoon discussion.

Ms. Schumann: Yes.

Ms. Lovett: Okay. That's to be discussed.

Ms. Schumann: Okay. Well, to sort of segue and be the thing that tethers this work that broader, I think, piece of MAFAC work, I would insert like a paragraph in there that says workforce is part of,

but not the complete set of solutions when it comes to, you know, solving whatever it is, graying of the fleet or whatever, whatever problems we're trying to solve here, and to point out that it will need, you know, these recommendations will need to be coupled with actions, you know, additional actions outside of workforce development to ensure that we're not just planting seeds by training people and sending them out into these industries, but that we're also making the ground fertile so that they can succeed in those industries through investment marketing and better management and whatever the case may be.

Mr. Berkowitz: Yeah. The term, you know, sort of workforce development, that sort of phrase, is supposed to be sort of a catch-all, and then we sort of took, you know, a step back, you know, to see there really was a need, you know, let's do a needs assessment and see how it can go. So the idea was to be all-encompassing as opposed to limiting in that regard.

Mr. Schumacker: And just to note that at the very end of this document, there's kind of placeholder for a potential closing statement in there, and I believe the remarks you just made would fit very well into that type of a closing statement. We weren't sure if we were going to need that or not, but that would be -- fit right well in there.

Chair Davis: Yeah, very good, great. Great contribution Sarah and I think that really leads into our discussions this afternoon. Thank for that and the recommendations to define workforce, what is some representative roles, representative people. I think some of that might be in the written document, but to take a closer look at that as well. Linda, then Sarah, Tom and then Meredith.

Ms. Odierno: Well, thank you for that great work. I had a couple of comments to follow up on what Sarah said, is how are we defining workforce? You talk K through 12 programs, but there's a

tremendous need in like culinary foods or seafood programs. We have hundreds and hundreds of culinary programs, and less than a handful have a dedicated seafood program.

I think that's an important area. Food technology another important area, developing new products, and there was some mention of grants. I think that small companies need help with developing SBIR grants, value-added grants and I think that would really be helpful in developing the industry and expanding opportunities throughout the industry.

Mr. Berkowitz: Yeah. I think that, you know, just sort of expanding on what Sarah said before, as sort of maybe better defining what workforce development is. And so that -- so it, you know, sort of expand on it a little bit and this is what we mean by it, and then try to tie it into the needs.

Dr. Sullivan: We did include other -- I mean we were talking about other things, both mechanics and --

Mr. Berkowitz: Right, right.

Dr. Sullivan: --and the folks that are working the processing plant and marketing and all of that kind of stuff.

Mr. Berkowitz: Yeah.

Dr. Sullivan: But it would be good to have it sort of all in one place to kind of let people know what we're talking about. Good point.

Ms. Odierno: And also the like seafood training courses that the New England Foundation used to do in conjunction with your restaurants. Another important thing, training counter people, training chefs.

Mr. Berkowitz: Uh-huh, uh-huh, okay. That makes sense. Gabi, are you expecting --?

Chair Davis: Thank you for that Linda. I think that's

a really important contribution, and I like the idea of a list maybe in the beginning. I also want to remind everybody that there is a living document and it's an Excel document that has all the different training programs that are going on in the United States.

You all have probably had a chance to look at that a couple of MAFACs ago, but we can certainly make sure that you see that again, and that maybe even on that list Linda, we might want to add some of your recommendations there. So that is, as I said, a living document as we learn more about training programs that are out there. We just keep adding to it. Gabriela, are you keeper of that list? Okay, good.

So let's see. Sara, Tom, Meredith. Kellie, did you also have -- okay.

Dr. McDonald: Thank you Madam Chair, and great job guys. I confess. It's been about a week since I read it again, and I just wanted to make sure we don't lose sight of the workforce diversification and EEJ. And so there might be opportunities in here where you're talking about internships, that maybe it's paid internships, things, ways to increase diversity within this workforce.

So it's not just about creating and educating and creating a new workforce, but making sure that that workforce is more representative of the people in the country. So that's all I wanted to add, but great job guys.

Mr. Schumacker: I appreciate that Sara. It's mentioned that, you know, just in at least one paragraph. It's a major topic within the document that should surely be emphasized, so thank you.

Chair Davis: Thanks for that Sara, and Tom.

Ms. Moore: Yeah. I've got to get myself unmuted. Yeah, we spend a lot of time talking about the recreational sector during these meetings. I spend a lot of time on these meetings and we've talked about the training focus for mates down on Long

Beach Island, where they take kids as young as 13, train them to be mates on boats, with the idea maybe make some point they can all be trawler or charter boat captains.

We talked at Yamaha, programs that are basically teaching young fellows how to basically do engine repairs, small outboards and things like that. We talked about training diesel mechanics both for recreational and the commercial fishing fleet. So we looked at that. Maybe we didn't make it clear. But there was a lot of discussion going on about it.

Chair Davis: Thank you, Tom. Meredith, and then Donna.

Ms. Moore: Hi, thanks so much. This is looking very great, and I really appreciate all the work everyone put in today. I wanted to ask. This may very well be outside of the scope, but one thing that I was contemplating because I'm never not thinking about climate change since I was reading through this, is how much like various disruptions or instability in the seafood sector from climate change as we go through the next several decades of increasing impacts?

That might need to be considered in any sort of training program, as far as like managing for, you know, externalities and contingencies and having, you know, business models that are accommodating those sorts of things and that variability.

I did note that you have environmental and seafood literacy and those sorts of things in here, but I wonder from a business planning perspective if there's an enhancement there to think about how to interact with a natural resource during climate change from a business stability perspective and I was just -- or a workforce perspective.

I was wondering if you had considered adding that somewhere? I don't immediately have a suggestion for how to do that, but I was just wondering if you had contemplated that in your conversations.

Mr. Berkowitz: You know, I think we had and we tried to, and Pat or whoever, you know, jump in. I think we tried to have that incorporated in the needs assessment that would, you know, say hey with climate change or with this happening, we see it sort of going in this direction, that type of thing. We thought, we were hopeful, I think, that that would bubble up.

Dr. Sullivan: If I can add to that just briefly, your question it sort of raises questions at several levels. So one is the needs assessment and part of that is like with climate change, do we need to be going the same direction or a different direction? And so that will hopefully accomplish the sort of insight on that, on that regard. You noticed I appreciated that the environmental element to that too, and so part of that is just an awareness, right of how things are changing.

The question of setting up something to train the future managers about, you know, how to deal with that, I'm not sure we know yet what that should be. I'm on a project with SNAPPS, science, nature and people project, looking at climate-resilient fisheries. We're working with folks around the globe on trying to set up ideas for what makes -- what makes a fishery resilient and how one can anticipate changes that could occur in terms of your -- one's ability to deal with that.

And so -- and I know that there's other projects like this going on out there. So I'm anticipating there will be some knowledge that could be imparted at some point along the way, and I'm hoping that happens at a broader level through NOAA and National Marine Fisheries Service, as well as Sea Grant and other places. It is a little bit beyond the scope of the workforce development, but I understand, you know.

Hopefully if we're, we're creating a program that will help train people to be in the ocean, they'll pick that part up along the way somewhere also. But it would

be a good idea to keep that in mind.

(Off mic comment.)

Mr. Berkowitz: Good point, Tom. Thanks.

Chair Davis: So Meredith and Donna.

Mr. Upton: Thanks for bringing this up, because I think this is going to be relevant for our next set of discussions, as we work into the work plan, because that was one of the areas that really didn't get focus. As we said, it was very broad, but now we want to focus in on some other areas that haven't been addressed. So let's hold on to that, because it's really valuable discussion.

Chair Davis: Let's see. We have Donna, Matt and then Jocelyn.

Ms. Kalez: Thank you. A really good report. I loved reading it, so thank you Joe and thank you Roger, and all of you that worked on it. I just have a couple of comments. I want to say thank you to Sebastian, because you brought up a really good thing that happens a lot in the workforce, is that people start in one segment and then they cross over when they realize the opportunity.

So for me, for the commercial passenger fishing vessel, we do see a lot of crossover. People go into the commercial lobster a lot and other industries. So that was important for me to hear. Also, when you're developing curriculum for the K through 12 students, it's also important -- it's education, but they're K through 12.

So a lot of those younger kids like the opportunity to be exposed to fishing, and get them excited about fishing. So sometimes when I read all about the classroom-classroom, sometimes that's not fun and that might not spark an interest. So I love that you put integrate fisheries and seafood industry training activities, because activities is very, very important, and we want to get kids.

They'll start fishing first, and then they get into the commercial industry and own their own boat and all of that. So I just wanted to say thank you for putting those recommendations in there.

Chair Davis: Thank you for those comments, Donna. Matt.

Mr. Upton: Thanks. I really appreciate all the work that went into this. A few things stick out to me that I think are captured but I wanted to highlight. One is just the importance of outreach, particularly in the industry because I've been doing a number of different workshops and sometimes when they're put on by kind of the government or the feds, as we heard earlier, the word doesn't really get out about them and it might not be really specific to what the needs of the community are.

So then I'll go into that uncomfortable moment when you're walk and you're like the only person there. You know like oh, this is going to be really educational, versus sometimes when industry will get together. There's like a stability workshop I went to recently that was really well attended. So I think all this workforce development stuff can really benefit from outreach to specific communities. It's like okay, what are people interested in, and then also identifying folks in the communities who are doing this.

It's kind of like that next layer from the recommendations, because there's people that we all know in our communities that are really excited about this and kind of do it on their own. So it's how we can kind of partner with them to give them additional tools.

I mean for example, there's this lady in Seattle that as far as I can tell just is the reason that a generation of fishermen with learning attention differences have their U.S. Coast Guard licenses, because she sits down with them one on one, which has got to be maddening, and like works through the different charts with them.

So I think that kind of outreach and then really trying to meet communities where they are, and then having the follow up so it's not just okay, we have a workshop, but how do you get some momentum out of it, which I think we're hearing some good examples of. So thanks for the work you put into this.

Chair Davis: Thank you Matt for those contributions. Jocelyn and then we'll wrap up after Jocelyn. There will be more time. I'll talk about that in a minute.

Dr. Runnebaum: Great. Thank you all for putting this together and sorry I didn't engage like I wanted to. I think like everybody, there's a lot of excitement and points that I want to make, so I'm going to actually try and focus them in on a couple of points that might relate further down the line.

It might be captured in the conclusion. So there was a comment in here I think somewhere on page seven. I have this connection in my mind between scenario planning that's happening at the councils, and this workforce needs assessment and actualizing the -- or making the scenario planning actionable from some of the results from this workforce needs assessment.

I had a brilliant connection in my mind on the airplane, and my notes are not very good, so I'll have to dig in a little bit deeper. And then another point I think under the training, some of the training pieces that I was reading, it came to mind that there may be some interagency collaboration between the USDA and FDA that might need to be, that might be necessary for food handling and safety. That'll be a really important part of this aspect moving forward.

Mr. Berkowitz: Thank you. And Joe, I think I'm speaking for you at the same time on this, but I think I would also like to thank Gabi for the hard work that she put in herding us cats as we needed it, and coordinating and editing. So thank you Gabi. We appreciate your efforts on this.

Mr. Schumacker: Yes. Thank you very much. I would like to note, Clay's had a hand up here for some time online.

Chair Davis: Okay Clay, sorry about that. Please go ahead.

Mr. Tam: No problem. Thank you Madam Chair. It was a great discussion on this topic, and I think just to include something, I think what might help to start this is and we've had in a way where it was a federal program, a loan low interest to the Native guys out here. Some of them were able to build boats, and this was at a time when there was a limited entry going into our bottom fish zone up in the Northwest when it was open.

And you know, since then, there hasn't been any governmental assistance in our industry. I mean guys that need to upgrade motors, changeover, do a lot of these great programs that you guys are talking about. I think that, you know, some even public-private partnerships and -- but definitely I think if there's some way the government could be assist in maybe tax exemption or helping out, move some of these programs forward, I think that would be a great help to getting this initiative off the ground. Thank you, that's my comment.

Chair Davis: Thank you so much Clay. Thank you all for your inputs. Very valuable and they need to be incorporated into the document. So we're going to go ahead and use our planning time. There's some subcommittee work time tomorrow afternoon for 75 minutes, and so plenty of time to actually do the wordsmithing and to put in any changes that need to be done.

But I also encourage you all to go to Heidi's email where she had a link to this, and she's going to resend it. Go into the document. I saw that a couple of you had done that already, because I visited it last night, and go into the document and if you want to make any edits at that time or comments, that would be a time as well.

So we'll go ahead and use that working time tomorrow afternoon, and then on the third day we'll have the time to do the action and any vote impact. Go ahead.

Mr. Berkowitz: I was just going to say, edits with the suggestion mode.

Ms. Lovett: Yes, please.

Chair Davis: Yes, yes. Thanks for bringing that up.

Mr. Berkowitz: Just so that we know.

Chair Davis: Yeah, yeah. We need the suggested mode. Thanks for that.

Mr. Berkowitz: Yes.

Chair Davis: All right. Great discussion, Joe and Roger. Thank you so much for presenting the great work from the committee you've been chairing, and once again thank you for the support staff, to Gabriela and to Heidi.

Mr. Schumacker: Here, here. I want to say thanks as well.

Chair Davis: So with that, we're now going to have a presentation on NOAA Fisheries Aquaculture program, and we have David O'Brien here.

Ms. Lovett: Roger? Where did Roger go? The clicker was there.

Chair Davis: Oh, and also Kristine. Hi, how are you?

NOAA Fisheries Aquaculture Program 101 and Updates

Chair Davis: David and Kristine, I'll let you both introduce yourselves, okay?

Mr. O'Brien: Make sure the mic is on. Hi everyone. My name is David O'Brien. I am the, normally the deputy Director and currently the acting director of the NOAA Fisheries Office of Aquaculture.

Ms. Cherry: Hi. I'm Kristine Cherry. I am the branch chief for regulations and policy in the Office of Aquaculture.

Mr. O'Brien: Shall we just dive into it Megan?

Ms. Lovett: You can control this here.

Mr. O'Brien: Oh, I can?

Ms. Lovett: Yeah.

Mr. O'Brien: Great. All right, well thank you everyone. I appreciate you making time in the agenda for aquaculture, and actually I think the last topic was a great segue into many of the things we want to talk about today during our hour, so it's nice timing in that regard.

So in the next hour, well first of all we want to make sure we have a conversation as much as possible, so please feel free to weigh in with questions. Matt, I'm not sure if you have a question right now or just --

Mr. Upton: Residual.

Mr. O'Brien: Residual, okay thanks. Or Donna, I assume yours is residual as well. But so I want to have a conversation as we go along, to make sure we're answering questions and have a real discussion about the future of aquaculture and NOAA's efforts.

So let's hit the stage really in three ways. One is I know there's, I think there are some relatively new members here who might not know much about aquaculture. We want to spend a few slides just talking about it. So the why, why are we doing aquaculture? Why is NOAA engaged in this at all?

Secondly, I'll hand it over to Kristine to talk about some current activities that we're up to for your general awareness, and the last I'm going to talk about some very current and ongoing planning efforts, both at the NOAA level and the interagency

level, some of which again touch very directly on what we just spoke about, workforce development, education, training, that sort of thing.

So I guess I've said part already, about why we focus on aquaculture, what are our capabilities, and again some of our new developments including strategic plans at both the interagency and the NOAA level.

So to set the stage, this is information from the Food and Agricultural Organization. It's updated every couple of years. That orange area, sort of brown area is shows wild fish catch globally, and the blue areas show marine and fresh water aquaculture.

The main takeaways here are a couple of them. One is since about the mid-1980's, wild catch globally has been relatively flat, about 90 million metric tons. Domestically, the picture is roughly the same, different numbers of course, but a relatively flat domestic production, whereas aquaculture has really taken off globally and it now comprises more than half the world's seafood supply that's probably closer to 55 percent or something at this point.

And that trend is expected to continue. So really a key question that we have as a nation is do we continue, do we want to get in on this and really try to become a more powerful nation in terms of aquaculture. Right now we're ranked number 18. We were 17 up till a couple of years ago. Now we're number 18 in aquaculture production behind some much smaller countries.

In addition, demand continues to rise just I think last week across eight billion people globally, and demand per capita is also growing, the demand for seafood. So demand totally for seafood is growing. This is going back a few years ago now, but the World Bank estimated that we needed another 40 million metric tons in the next 20 years, again.

As context again, the wild catch right now is about

90 million metric tons for the past, you know, 30 years or so. So that's a lot of extra fish or seafood. In terms of our national seafood security, about or at least 70 percent of our seafood is imported and that's a fact I'm sure many of the folks here know that. Broadly in the public, that's not really widely known.

And about half of that comes from aquaculture. So we're already importing a lot of farmed product. And one of our more recent taglines so to speak at NOAA is aquaculture, when done right, is good for people, good for the economy, good for the planet. What does that mean?

People, it's a highly nutritious form of food, and that goes not just for aquaculture for all seafood. Good for the economy I think for obvious reasons. Again, that applies broadly to the seafood sector. In terms of good for the planet, there's emerging information about -- it's been known for years, but it's getting more and more cemented that aquaculture, when done right, is one of the most climate-smart and environmentally efficient forms of food production there is.

Let me go to that next slide in just a moment. This is all the more important in the context of climate change. This is sort of a fairly more recent sort of set of talking points, so to speak, for us. But clearly as -- and we're all facing the effects of climate change, aquaculture is increasing becoming seen as part of the solution to climate change.

Our colleagues at USDA use the term climate smart food production, and based on again some science coming out of the past few years; in fact, papers came out about a month ago, it shows aquaculture including fish, but also seaweed and shellfish is extremely resource-efficient compared to almost any other form of food production, certainly any kind of meat production.

Again, in the context of climate change, you don't need arable land. You don't need irrigation in

general for aquaculture, which puts it pretty high on the list of things to be increasing as a tool in the toolbox for, as we address climate change globally.

It helps support resilient communities, to help buffer the impacts that we are already facing and continue to face in our fishing communities. Aquaculture can be and already is and could be more of part of that spectrum of food that I think was raised earlier last session. A spectrum of ways to create seafood, and ways to diversify our seafood supply in our fishing communities.

And that last bullet may be not phrased exactly right, but I would say that one -- as you look at the impacts of climate change NOAA-wide and globally, often we're talking about how do we deal with the effects of climate change? Certainly that doesn't, that's not -- it's something the aquaculture sector has to face as well.

I think one of the things we're pointing to is aquaculture can be a tool in the toolbox to help address climate change, not just -- so in terms of creating that seafood in the era of climate change.

Our team and capabilities. The NOAA aquaculture program is not just our office where Kristine and I sit in the Office of Aquaculture, it includes our partners in other offices, folks like Gabi, in fact, down at headquarters. But then also our scientists at our NMFS Science Centers, our regional offices, and then our partners at the Ocean Service and the Oceanic and Atmospheric Research where Sea Grant sits.

We work very closely together as the integrated NOAA aquaculture program that addresses some of these capabilities. I list all of them right here. You can read it, but regulations, science, communications, etcetera, extension of course and Sea Grant. We work very closely as an integrated program.

Touching on the budget history for aquaculture, this

shows of course the increase over the past -- it's hard to see the scale there. That's going back maybe 20 years or so, has roughly doubled in the past ten years. This is the blue being Sea Grant. So the blue being NMFS, the red being Sea Grant, going from up to at NMFS from about \$9 billion -- not billion, \$9 million of dedicated funding to about \$18 million.

And just as context, that \$18 million in FY '22, it's about two percent, a little more than two percent of the NMFS budget if you factor in some other discretionary funds. Most of those increases you see there have come from Congress. They've come from Congress giving us specific amounts of money for specific purposes, such as focusing on eastern oysters, IMTA projects, staffing at our Northeast/Northwest Science Centers.

So it's really good work. It does -- it is somewhat limiting in the sense that, for example, I think someone mentioned seaweed cultivation in Alaska, it's not on that list. So it's kind of hard to find the resources to do that, given the Congressional direction. That's something we're working with Congress to try to get more, a little more flexibility there.

Let me pause there. Again, I want to make sure this is not a soliloquy, that you guys have a chance to have some back and forth. I'm going to hand it to Kristine in a moment for some active things we're working on, including Aquaculture Opportunity Areas. But let me just pause there and see if there's any reaction or questions about kind of what we're doing and why before we move on to the next, next section.

Dr. Sullivan: Can I ask a question? Yeah, so thanks for that. As I'm listening to you talk, I'm appreciating that. I tend to work wild fisheries, so there's -- but being on this committee has helped a lot I think for me to understand the nature of aquaculture these days, as opposed to how it was in

the past.

There was always this sort of concern about working with nature as opposed to replacing nature, in terms of what's going on, and I really value where aquaculture is going these days. I do feel, because I continue to hear it, the sort of separation between what wild fisheries does and what aquaculture does. So there probably needs to still be some communication in that regard, to show the positive nature of that.

And I also like the -- as come up, has come up a couple of times here this morning, is the sort of integrated nature of these two. So just suggesting that some additional emphasis on that would be useful, and I am still a little concerned about some elements of aquaculture that tend to like rely on wild fisheries for, you know. So this, it often has come across just like this would be better than wild fisheries if we, if we did it this way.

But of course, we're harvesting fish to feed the fish in that sense, and so that can be problematic too. So I think there's still a lot to navigate there and to think about. But part of that is like, you know, keeping the ecosystem intact in some way to continue to do that. This is probably a Meredith thing to say, but I would -- I would say it too, right? So thanks.

Ms. Coit: Thanks, Pat. Thanks. Yeah, I just wanted to add that I hear when I -- you know how much I've been traveling, a lot of fear about aquaculture, and I think one of the roles we've been asked to play in general, as part of our Seafood Strategy and specifically in regard to aquaculture, is to try to be straight up about some of the problems and issues of the past, and to provide good, solid information and it relates to what you're saying about kind of the integration and the potential, and the actual reality.

But there is a lot of misinformation. I'm not sure the government is the most trusted, the feds the most

trusted source of information. But I know it's something we aim to do straight up. I've been surprised at how much opposition I have heard about the growth of aquaculture from the wild harvest sector.

Mr. Belle: Oh please.

Dr. Runnebaum: Yeah, thanks. Thank you. I think, I think it's important to talk about finish aquaculture or higher trophic level aquaculture and lower trophic level aquaculture. I think that to Pat's point and to the point that Janet just made, there's different fears that are associated with these different types of aquaculture, and they play different roles and they happen in different parts of the ecosystem or in the water with nearshore and offshore potentially, or even on land.

So I, we TNC recently did some work understanding aquaculture, to understand aquaculture a little bit better in Maine specifically, and this idea of communication or education about what aquaculture is or what role it can play seemed to be a really predominant theme that we heard. I don't know who the right organization is to send that message. There's a lot of really brilliant minds around the table; maybe we can figure it out.

But I think that there are so many different -- I just think that the conversation is different, depending on the type of aquaculture that we're talking about, and a community's receptiveness to industry opportunity or economic opportunity. But I really appreciate the work that you guys are doing, and would like to hear more about what all you're doing. Thank you.

Mr. Belle: Just very quickly and Jocelyn will be surprised by this, but I think one of the mistakes that we have made collectively in this country and in other places is to suggest that one kind of activity has less of an impact than another kind of activity. And in fact, and I think this is true in commercial fishing as well as aquaculture, from our perspective,

from a farmer's perspective, whether we are fin fish, shellfish or seaweed, we have a responsibility to acknowledge that we have impacts, ecological impacts, social impacts.

And they may be different impacts, but I can go right down the list. If you name me an impact in fin fish, I can name you an almost corollary impact in shellfish or in seaweed, and you can probably do that between different kinds of commercial fishing activities as well, although obviously some kinds of commercial fishing have been accused of some impacts and others different kinds.

So I think -- well I take Jocelyn's point. I think from the agency's perspective, for a trade association to stand up and say we disagree with these impacts and we think that the facts are X, Y and Z. Nobody's going to believe me, right? Nobody's going to believe NFI, nobody's going to believe the NAA.

So it has to be a public agency that takes the responsibility to set the record straight. Our responsibility as farmers is to say we acknowledge we have impacts and our focus has to be on minimizing those impacts, and addressing them in the most creative and innovative way we can.

So I hope at some point in the whole discussion around the aquaculture sector, but I think this is true in commercial fishing as well, that we get away from comparing one production method or one species to another, and really allow the people in those sectors to face the demons in the closet, and get help from agencies and the scientific community in resolving those demons.

I think that's a much more proactive way to go at it, and we will get further down the road in terms of solving those ecological challenges if we do that, if we -- if we focus on different species and production methods too much, I think we will miss the opportunities to really make progress. So thanks.

Ms. Cherry: All right, can I have -- thanks. All right.

So I'm going to give you guys a little bit of an overview of some of the kind of key issues that we have been working on in the past couple of years. Let's see. All right. So I understand there's some new folks on MAFAC, so I didn't want this opportunity to pass to talk about our Aquaculture Opportunity Area Initiative.

This started back in 2020 with an executive order, and our purpose here is really to identify areas, spaces in the ocean, geographically defined areas, that are -- have been evaluated for suitability for commercial aquaculture. And we think of suitability in three key ways: environmental, economic and social. We're looking for spaces where we can reduce conflicts for aquaculture operations, as well as evaluate fully the best available scientific information, and conduct extensive public engagement and stakeholder input into the process.

So that we are taking a very comprehensive approach to planning for aquaculture, while not evaluating any particular project, right? So taking a look at aquaculture in all of its forms, and what the potential impacts might be, and as well as the beneficial opportunities. And so we started this process in 2020, and this is an overview of kind of the key milestones in the process that we have set up to do this.

We start by selecting the regions that we're going to work in, and then doing a very comprehensive spatial analysis that results in aquaculture atlases. These atlases provide some options for us to evaluate in a programmatic environmental impact statement, where we can take a look at those locations and through public input other locations that would be suitable for an AOA.

And it's a planning process, right? So we have an opportunity to do scientific analysis in those areas, and compile an extensive amount of scientific information as well as public input, to inform where an AOA can go in a particular region. And then that

process is completed when a record of decision is assigned for the PEIS that identifies an AOA.

Public engagement, as I mentioned, is a really critical part of that process. So in the blue boxes below you can see all the places throughout the process where public engagement is key, and we started the process in the Gulf of Mexico and Southern California. And so that red line shows you where we are in the process right now, in this first round of AOAs. We have been tasked with identifying ten AOAs over the next several years.

So as I mentioned kind of the first key milestone is developing these aquaculture atlases. These are the most comprehensive spatial analyses that have been done in federal waters in the United States. There's over 200 data layers that have been incorporated into each of these atlases, and has allowed us to look at a suite of complex environmental issues, as well as suitable spaces for different forms of aquaculture.

This was released in fall of last year, and has been kind of the basis for information informing our PEIS along with some other sources of information. So the PEIS process was launched this summer, and with a notice of intent that was released for formal public comment, to collect information on the scope of the PEIS.

That public scoping period ended in July, and so now we're reviewing those public comments and developing the draft PEIS. The next major milestone here will be when the draft PEIS is available for public comment, which we anticipate will be next summer or fall. Start to finish, our goal for this process is to complete it in two years, which would be in the fall of 2024.

Very important to our work underpinning the PEIS is the extensive science contributions from the agency and from interagency partners. So we have for some time been building up our capacities in various scientific disciplines we know are very important to

our partners, biosecurity, economics, genetics, spatial planning, engineering. We're working to integrate these scientific disciplines so that we have the truly comprehensive approach to our science analysis in these PEISs, and in all of the work that we do to support aquaculture decision-making, and knowledge transfer to industry.

And in addition to AOAs, we're trying to take a number of other opportunities to do what we can to improve the federal permitting environment, and make it more navigable for industry. So last year we released, I'm sorry actually earlier this year, we released a federal aquaculture permitting guide.

This is an interagency document that was collaborated through the interagency Subcommittee on Aquaculture, and it provides a concise but access to comprehensive information around the regulatory environment for marine aquaculture permitting.

This is the first time a document like this has been released, that really provides a road map for folks who are interested in pursuing aquaculture operations offshore.

We've also created a compendium of inventories of state policies related to aquaculture regulations for both shellfish, fin fish and seaweed. So that information is available to stakeholders as well.

And of course we recognize that, you know, working in a very distributed regulatory framework we are for aquaculture, it's really important that we engage in policy discussions with a number of stakeholders. We continue to support the Hill in their work on the AQUAA Act, and we've noticed over the past couple of years an increased interest in seaweed and restorative aquaculture.

And so we continue to play a role as a source of expertise and technical assistance to the Hill on questions they have around aquaculture issues. In addition, it's really important to us that we maintain open communication with a broad suite of partners,

both in industry and the environmental organizations, as well as a number of other organizations, so that we can ensure we understand what the needs of those stakeholders are, and that both from a policy and a science perspective we're being responsive to their needs.

And of course working with a number of interagency partners is critical to our success. There's so many authorizations related to aquaculture regulation and policy. It's important for us to stay connected with our federal partners on, involved in policy issues, as well as the work that we're doing at NOAA and coordinating that across a number of different agencies.

The White House has also been engaged in a number of policy initiatives that involved aquaculture, and so we've been supporting the development of the Ocean Climate Action Plan, and that is currently out for public comment. Next year, there will be a National Strategy for Sustainable Ocean Economy, which aquaculture will feature in heavily.

So I mentioned the interagency planning that we're doing with the Subcommittee on Aquaculture. We were directed in the same executive order to work on the National Aquaculture Development Plan, and so there are three strategic plans that are underpinning that on regulatory efficiency, science coordination and economic development, that this Subcommittee is working on. Dave will share more with you about that.

But it's been an important mechanism for us to coordinate with our interagency partners, and to gain input from stakeholders on these areas.

And at NOAA, we have had this opportunity for across line offices for our agency to come together on a NOAA aquaculture strategic plan, and focus on how we can integrate our capabilities to best support the development of sustainable aquaculture, and to coordinate it across all of the

different parts of our organization.

So I'm going to actually turn it over now to Dave after I pause for questions, and we'll jump into a little bit more of a deep dive on both the aquaculture strategic plan and the interagency strategic plans.

Chair Davis: Thank you Kristine for that. I just want to comment and congratulate you all on this NOAA strategic plan. It's really awesome. I mean I've been in the field with Sebastian for a really long time, and so for something like this to be so solid is really great to see. So thank you. I think I might have missed Tom earlier. Did you have you hand up earlier Tom, because I want to start with you and then Matt and then Pat.

Mr. Fote: What I was going to say when we were talking about, follow-up on certain types of aquaculture being supported and certain types not and some of the reasons why, if you look like at shellfish and there's a lot of people who are helping to introduce shellfish back to areas where they were out in New Jersey and Long Island Sound and things like, when they see the benefit of the aquaculture in the purification of the waters for the clams and oysters and other shellfish.

It's when it gets into where it's competing for access by other commercial fishermen or by recreational anglers that the controversy gets, and then the environmental impacts. So there is some that is supported. I mean I think about Hawaii when I was out there, and off the big island, they had all these where they were raising I think moonfish. They could probably correct me if they were not.

But if you name a big recreational area to fish because any kind of structure out there in that deep water brings up tuna and everything else, so they all start -- because you, the tuna as long as they didn't get involved in the nets, they were doing great. It was a symbiotic relationship between the two. So there are certain points where they do work

together.

Chair Davis: Thank you for that, Tom. Matt, Pat and then Linda.

Mr. Upton: Thanks. Are we at a stage where offshore aquaculture permits can be issued, or is there still more kind of scoping going on? I feel like I ask this question every year, and I'm just not sure where we are in that process or what's remaining to be done. So that if someone wanted to actually do some ocean ranching or whatever you want to call it, that would be something they could make happen.

Ms. Cherry: Yeah. So there's a number of projects that are currently being evaluated for permits in federal waters, and anyone can put in an application at any time. The Aquaculture Opportunity Areas are an opportunity to kind of identify space and collect some information that would support future projects, and that won't be completed until 2024. But there's nothing to prevent projects for applying for permits now.

Mr. Upton: So in terms of people who have applied and presumably they'd hear back and be able to be granted? There's nothing that stops. You just have to go through a process?

Ms. Cherry: Correct.

Mr. Upton: But have any been actually permitted yet?

Ms. Cherry: Yes.

Mr. Upton: Okay, great.

Ms. Cherry: Yes. There have been a couple of permits in federal waters.

Ms. Moreland: So Matt, in the Gulf of Mexico, we've been partnering with the Office of Aquaculture to fund a variety of different pilot projects, as well as some oyster work in there. There are two projects

in the Gulf that have applied for permits that are in the process. One's off, one's off Pensacola and one's off Sarasota, Florida and they're in the process of getting those permits. But they have not been -- they haven't been fully granted yet. So just some FYI.

Chair Davis: Thanks for the additional information. David, Pat?

Dr. Sullivan: Great, thanks. I appreciate the presentation. We received a presentation on the ocean atlas at one point, and I really valued seeing that. I think it was something like 200 GIS layers or something like that, examining it. I am -- I really was valuing that habitat was being looked at in the context of setting aquaculture.

One of the things that occurred to me later though was whenever I see an atlas, I realize that it's static, and that there's many things, especially with climate change, that are changing. I was just wondering two things, two related things. One is certainly not all of the layers would need updating, but is there a process in place for updating the ones that are likely to change and would influence where something, one might want to put aquaculture?

The second question is, is the atlas being used for other things like wind placement and that kind of stuff? Thanks.

Ms. Cherry: Sure. So for your first question, the atlases are probably not going to be updated comprehensively. However, as projects are cited within in AOA, there will be additional analysis done on the individual specifics of a project. That will then also allow us to update information as needed that might have changed.

With respect to the kind of process that was used to develop these atlases, it is being applied to other industries. It is highly transferable to other ocean industries, and James Morris, who's led the development of these atlases and his lab is

responsible for the data analysis and the process that was used to create these peer review documents, has been leading work on offshore wind assessments as well.

Ms. Coit: I would just add that specifically in the Gulf of Mexico, James Morris and our team, you know, provided a lot of data and used this approach, and the ultimate energy areas were much less controversial by virtue. It's a whole different scenario too, but by virtue of really working through the data layers and avoiding complex.

The very issue that you've raised is of concern. It's something that was raised recently on the Pacific coast, which is the static nature when we run a prediction where marine mammals and other species will be in the future. Are we really doing a good enough job say for siting large offshore wind if we're not looking at the future potential? So that's something NOAA Fisheries would like to incorporate.

Chair Davis: Linda and then Jocelyn.

Ms. Odierno: Thank you for a very good presentation. I'm glad to see that we're getting some forward motion. One of the things that I like to say when people talk about conflicts between commercial fisheries and aquaculture, is the real threat is not those two industries in this country. The real threat are the imports that are taking up so much of our market.

If you look at the price structure in the market, we do have a market void for a lower-priced product, and that's being filled by imported tilapia, imported Pangasius and domestic catfish. And that void can really pretty much be filled with aquaculture production while fishery prices are escalating to the point where they're no longer reasonable for a family of four, and they have to be a special occasion product.

If we want people to consume two fish meals a week, we have to have some lower priced

alternatives. I think that's an important consideration when we look at our production systems.

Chair Davis: Do you have any comment?

Mr. O'Brien: I would say I agree. I think there's a need for a range of production methods and a range of products, both presumably wild but also certainly in a foreign market from -- and using closed recirculating systems fish to seaweed to shellfish. There's a wide range to capture a wide range of audiences.

But I think to your more fundamental point, I mean you're absolutely right. We've already -- I said earlier, we import at least 70 percent of our seafood. Our seafood trade deficit is up around \$18 billion, which is, I think, the last time I looked, the overall U.S. trade deficit was around 70, 7-0 billion dollars.

So 18 is a pretty big chunk, and so I think there's an opportunity for us to use aquaculture as a complement to our wild fishing, to support those coastal communities and provide more domestic product.

Chair Davis: Jocelyn.

Dr. Runnebaum: Thank you. Kristine I have a regular, sorry, a rather technical question. So if we need to talk about this because it's too technical, we can definitely talk about it separately. So Army Corps and EPA are the permitting agencies. I guess I'm not super-clear on how the PEIS in the Aquaculture Opportunity Areas is going to interplay with the permitting agencies' rules and their EPA or their NEPA process as well.

Ms. Cherry: Yeah, and that's a good question, and I'm happy to talk about it in more detail as well offline. But in short, both the EPA and the Corps are cooperating agencies on this PEIS, for both -- for both PEISs in the Gulf of Mexico and Southern

California. So they are part of the process in helping us design the kinds of analyses that we need to incorporate in the PEIS.

So that the information that we are, we are providing in the PEIS is responsive to their permitting needs.

Chair Davis: Thank you, Jocelyn. Pat and then Brett.

Dr. Sullivan: I have, I had one more comment, and it was just the sort of cautionary note when we talk about production and, you know, the demand and so forth. Back in the 1980's, I attended the first World Fisheries Congress, and the Russian scientists there, I think it was the USSR at the time, I had this idea for increasing production and that was basically getting rid of all of the top predators in the ocean, and then fishing down the food chain of course.

So first step would increase by 20 percent and the next step another 20 percent and so on and so forth. So we have to be a little bit careful about how we talk about production, and especially in comparison to production that may be happening in other countries, where they've already fished down the food chain.

If we're trying to keep up with that, the only way we'll be able to do it is to get rid of our predators, and so I'm just -- I just want us to be careful about production and how we will attempt to compete with other countries, and this comes up with regard to environmental questions and quality of seafood and the quality of the environment broadly in the ocean. But just something to keep in the back of our minds as we're going through this.

Mr. O'Brien: So if I can offer really a response to that? Yes, I think I would not want to do that Soviet style. I would not recommend that Soviet-style approach, whatever that was. But you know, I think an important piece of this, there's been a lot of advances over the past 30 years in aquaculture, and that's one of the things that we're trying to say as

NOAA.

As Sebastian said earlier, we have to speak for the science basically. And we'll go through and listen to the planning effort, but we've spent a lot of money and a lot of effort over the past, you know, 20 years plus in investing in ways to be more sustainable with aquaculture, including things like feed. This is one specific example, and Sebastian would have the exact numbers.

But back in, you know, 20 years ago, an average aquaculture feed for salmon was something like 80 percent fish meal and fish oil, and now it's down to about 20 or less. There's some total vegetarian ones. So the idea of actually the trophic level, I forget if -- Jocelyn, I think you raised the trophic level.

In some ways, sort of that whole idea kind of breaks down and is starting to break down, because if you have salmon eating at a vegetarian diet or something very close to it, it is very different from a trophic standpoint than eating, you know, 80 percent fish meal and fish oil.

So I think there's a number of things like that, where there have been really significant advances that we need to acknowledge, and there certainly is a lot of work to be done and that's going to get into some of the planning effort that I'll talk about in a moment. But I think it is important to recognize that those advances have happened, and do really set the stage for a much more sustainable productive aquaculture sector in the U.S.

Chair Davis: Thanks for that discussion, Pat and David. Brett, and then after Brett I think you all have more presentation, is that correct?

Mr. O'Brien: A quick time check?

Chair Davis: We have another 15 minutes.

Mr. O'Brien: Okay.

Chair Davis: Okay. Thanks, Brett.

Mr. Veerhusen: Quickly on, you know, when we're talking about increasing production, it always seems like we need to increase production. But it's not as sexy to play defense and protect the gains we've already made. It seems like NOAA has and can play a more outsized role than it is, maybe currently with certain states on the permitting and regulatory side that they're facing challenges and, you know, really difficult paths to get permitted, especially with NIMBYism and other obstacles.

So I'm wondering what is NOAA doing to protect the current aquaculture industry that exists today, rather than kind of focused on permitting of what could be? It seems like a path of lesser resistance to protect what's currently existing and increase your role within the states or regions.

Mr. O'Brien: So it's a good point, and you know, of course NOAA's role in state waters is more narrow, of course, because states have their own permitting systems and we can try to provide and help them with the sound science and things like that, to help move their systems along. And going back now probably ten years ago, there was a whole series of shellfish initiatives in various states that was really helpful in working with them at the permitting level to try to hammer through some of the very complex permitting systems that they have, with I think some pretty significant success.

That led in part to a real, a real explosion on the east coast anyway in shellfish production, oyster production in particular over the past ten years or so. That being said, there's still plenty of work to be done, and it's something that we need to take -- we've talked about sort of internally a little bit is how do we or how can we, could we work more with state agencies to help them.

And partially it's a capacity issues, both at the federal and state level. So are there ways we can work with them to help address those things. It's a

point well taken, and I don't have a real clear answer for you with that, other than it has to be in cooperation with them certainly. Because at the states, they have their own systems. We can provide assistance if asked so to speak.

But we don't have much regulatory authority, other than through ESA consultations and that sort of thing.

Mr. Veerhusen: Yeah, for sure and I'd just follow up to the Chair. Totally understand on the regulatory authority. I think that there's a lack of capacity, like you said, even at state level agencies, and we're having kind of a brain drain of people who are really working on this within, you know, the state Department of Natural Resources or whoever has the authority.

And so having even NOAA as consultative experts within the scientific and permitting side I think would be really helpful. States like Washington State are really struggling on the permitting and regulatory side, the state that produces the largest amount of oysters and other shellfish.

And so I think that there is really a role for all of us, not just the agency but as a way to increase social license, and one way to increase social license, of course, is to have that scientific expertise. But really there needs to be the political will and backing to help make those decisions in a more streamlined fashion, and that's where I really can see NOAA playing a really helpful and much needed role.

Whether or not you have the authority or not, you play into your strengths as the federal, you know, body who would provide that expertise. I know that that's certainly something that's needed in Washington, and when, when there is political or public confusion of what type of aquaculture, you know, is what and leases being cancelled, you know, there's generally a lack of understanding of what impacts which type of aquaculture or what's bad and what's good.

So having that more outsized role, I think, is needed in certain areas.

Ms. Cherry: Yeah. I'll just say I absolutely recognize that that concern -- one of the things that we discovered when we were putting together the state inventories was that the -- there are some states that don't even have like aquaculture legislation on the books, right? So there's a very uneven approach across the states to how they manage aquaculture, and there's a lot that the states can learn from each other, and we are always, you know, happy to work with them.

One of the things that we have been doing is working with a group that's currently developing called the State Marine Aquaculture Coordinators Network, and that is a group of aquaculture leads in the states. Currently, they're working in Texas to North Carolina, and they are working to try and coordinate at a state level on sharing best practices, developing data and information about their aquaculture practices, that they can share then with the public.

And also they're going to be next summer expanding into more states, so it would be across the entire United States, the aquaculture state representatives. But I think they recognize that there's a huge capacity gap. They want to work with us, trying to figure out how to do that and we would love to work with all of you to try and figure out how to do that, how to work them better.

Chair Davis: Thanks. Thanks for that Brad and Kristine and David. Great discussions. There's a little bit more of the presentation, so anybody else virtually? Tom, is that your hand up?

Mr. Fote: Yes it was. I've had it up for a while, because I was thinking about when he basically talked about the mappings not being able to update. About five years, Rutgers and the fishing community in New Jersey got together with the -- and went before the legislature and got a million

dollars appropriated to basically look at where we could do aquaculture and climate change.

And after this five year project that I sat on, we basically came up with a mapping system where it's, you know, 40 layers of overlapping things you could put in there. But it's all tied into the agencies and the different people involved in it, so they can update this automatically. Every time the Division of Fish and Wildlife updates the map, updates information it is put into the map.

So it's an ongoing process because we're in a state that, you know, has one of the highest sea level rises around, and we know that we have to start planning for all this. With having all those layers in there, we're able to reduce the areas that we can really focus on for the aquaculture in the state. And I think -- and there's trust in the document because it's continually updated.

Mr. O'Brien: Great, thank you. So should I just --

Chair Davis: Yeah, please go ahead. Thanks Tom.

Mr. O'Brien: Yeah, great. Thank you. So in the next, just in a few minutes here, I'd like to just quickly go through -- I won't go through slides in great detail, but I wanted to give an update on two planning efforts. One just got wrapped up and one is still underway.

For folks' awareness, and I think again as I said at the very beginning, there's a lot of tie-in to the prior conversation about workforce development, training, education, and I know -- and Gabi's been working with us on these planning efforts.

So it's a great connection between feeding in the work from the workforce, Workforce Development Working Group into our efforts at NOAA and the interagency level.

So the first one I want to flag is Aquaculture Strategic Plan. In fact, let me go, go into a little

more detail. I won't go through this. I saved some of these for your background reading if you'd like in the future. But this, this plan, first of all it establishes vision and mission for the NOAA Aquaculture Program, and this is actually the first time we've done this strangely the way it worked in the past.

This is the first time all three line offices, Sea Grant, the Maine office, NMFS and the Ocean Service have all signed on and it says we have a common vision, common mission for aquaculture and here it is. I won't go through the -- I won't read the whole thing, but it's thriving, resilient, inclusive aquaculture industry for jobs and supporting coastal communities, for example.

At NOAA, our mission is to provide the science and services and policies to help achieve that vision essentially. Core values, I'll skip over that in the interest of time. There's four goals in our NOAA strategic plan. Actually, I'll back up for a moment and say that we've actually heard some feedback on our plan. Some people love it, some said it's not detailed enough and it reads to, you know, like a high level.

I'll say we explicitly want to make this a very high level plan to make it accessible to the public. That's one reason we spent some effort to make it hopefully look nice. We think it looks nice, so that you know, talking to whether it be staffers on the Hill or the general public or anyone else, we can say in broad brush strokes here's why the aquaculture's important as part of a comprehensive seafood strategy. Here's what NOAA's doing about it, and here's our four main goals.

We have some more detailed plans, one of which I'll get to in a moment after this, that goes into a lot more, again a lot more detail, sort of tactical level. But this one's meant really with the public as a main audience.

I will hit all the details here other than say Goal 1,

manage effectively and efficiently. Working on regulatory processes and, you know, both in federal waters and to the point earlier, to help with state waters as well, and to make it an efficient process.

We'll say in federal waters in particular, it's extremely difficult for a number of reason we don't have time to get into right now.

Goal 2 is science versus sustainability, and this is kind of what I meant, what I just mentioned just a few minutes ago in terms of this is not a new thing. We're articulating it in a new way, but NOAA has invested for many years in trying to -- you find the right science.

Where do we have those real questions on, you know, risk to habitats, risk to water quality, risk to species and how do we better provide the science to predict those -- predict and avoid those risks. That's what a lot of this part comes down to. We need to invest a lot of years, we need to invest more.

Goal 3, educate and exchange information, and actually Goal 2 and Goal 3 largely go together in the sense that educating the public about what is the current state of science for aquaculture, to the point -- I'm sorry is it Brett, you raised earlier. You're trying to get people to understand what is the science, what are the impacts, who do we avoid those impacts?

And positive impacts as well, positive impacts to coastal communities, for example, is a key part of our education and communications goal.

And those first three were -- we've had versions of that in the past. The fourth goal is really a new one that has really emerged over the past couple of years, and again, it ties in very directly to the working group you heard from earlier. Explicitly pointing to economic viability and growth and economic development as one of our goals at NOAA.

This is again, look at the objectives there.

Workforce development. There's access to funding and insurance programs, things like that that NOAA has never really focused on as much except for the past couple of years, recognizing that that was sort of a missing piece to our program.

And so we look forward to continuing to pursue that, and look forward to working with MAFAC as we -- and I'll say this now, as I said at the very end, for this plan and the next plans I'm going to mention, to the extent we would love to have more MAFAC input, either through working groups or in other contexts that are appropriate to help us implement these plans. How do we do these things the best possible way?

So I'll put it out there right now, to say that we would love to have your continued support and input to do this. I'll leave it at that. There are interagency planning efforts as well. Again, I'll hit this very quickly in the interest of time, but back in 1980, Congress established a Subcommittee on Aquaculture interagency body to be led by Departments of Agriculture, Commerce and Interior, to basically advance U.S. aquaculture in brief.

That subcommittee recently over the past few years has stood up several task, three task forces to establish three different plans. I won't go through all this detail here, except to say this is under the White House OSTP.

Office of Science and Technology Policy is leading this charge, and again NOAA, USDA are the co-chairs, along with the White House OSTP. Lots of other members including, and I'm sorry for the acronym soup here, but U.S. Army Corps of Engineers, Department of Interior, Food and Drug Administration, EPA and Office of Management and Budget.

So as I said, the subcommittee set up three task forces to develop three different plans, two of which are complete, one of which is getting close to being published for public comment in draft form. The first

one is for aquaculture research. This is, it ties in, it maps to our NOAA aquaculture plan, but this is with an interagency lens. What can NOAA do, what can USDA do, what can FDA do collectively to advance aquaculture in a variety of ways.

Again, I'll leave it at that in the interest of time. On regulatory efficiency, similarly it's what can NOAA do but working with our regulatory partners, primarily the Environmental Protection Agency and Army Corps of Engineers, which are the two primary permitting bodies in federal waters.

But also Department of Defense, for example, they have a lot of military bases, etcetera, that we need to work around and with as we look for siting opportunities and trying to really produce, you know, increase the efficiency, the predictability, the timeliness and reduce costs, all of which are really major factors certainly in federal waters and also in state waters.

The third leg of the stool, so to speak, is this one still under development. I mentioned the co-chair of this effort, and Gabi is the program coordinator or the task force coordinator. Like in aquaculture development, looking for a robust, resilient seafood sector, of which aquaculture's a component, globally competitive, etcetera.

I'll say of this part of the plan in particular, we really break down and to the point that was raised earlier, I forget who raised it, of looking at not just aquaculture and wild fish, but collectively seafood-wide, because for a lot of these pieces, whether it be workforce development or marketing, it doesn't make sense to break things down for aquaculture or wild. It's a one-way, one series of way to raise fish and seafood and market it.

So we're working on this right now. This plan, we were hoping to get out for public comment by the end of the year. I don't think it's going to happen at this point, but maybe hopefully early next calendar year, we can get this plan out for public comment,

and then go from there. It's more details on the time line right now, so we're at the interagency review stage before it goes out for public comment.

And I forget if we say this or not. No, I'll skip that slide again in the interest of time. I will just back up and say one of the things that these three interagency plans will do is collectively they will comprise the entirety of or perhaps the bulk of at least a new National Aquaculture Development Plan. This is actually called for in the Aquaculture Act of 1980 that I mentioned a moment ago.

There was a plan put out in 1983. It's not been updated since. So this will be the first chance for us to -- not our first chance, but the first time we're actually taking the steps to update this plan. This is important. So that Aquaculture Act of 1980 does say, amongst other things, you know, the various leads, Commerce, Agriculture and Interior, you will go forth and implement these plans.

So it has, it doesn't have regulatory teeth, but it does have a strong policy direction to make sure we go forth and implement these plans, and that again will be published hopefully next -- well, hopefully early next year. We'll see how the clearance process goes and all that.

I know I went through that last part rather quickly, but again the main messages are these plans are out there. We would love to have your help to help implement these plans or ideas and to guide us as we move along in the implementation phase, and also as we finalize the economic development plan, and I'll stop there.

Ms. Lovett: So I just wanted to add for those members who have been with us for a while, some of that should have been familiar because David has spoken to this group and I think it was two years ago with Andy. In fact, was it in this room?

Mr. O'Brien: It wasn't this room, no.

Ms. Lovett: It was virtual with -- I'm going to not say his last name correctly.

Mr. O'Brien: Andy Jermolowicz. He was my co-chair from USDA. He's, we have another co-chair USDA. But yeah, myself and the USDA co-chair are leading the economic development effort, with Gabi's help.

Ms. Lovett: So I know the new members who just joined us this current year won't be familiar with, but those that have been with us for a little while have heard a little bit about the economic development plan, and Andy and David presented jointly and you all sort of provided some input in the early iterations of the outline of that plan.

Mr. O'Brien: Yeah.

Ms. Lovett: So I just wanted to help you recall that.

Mr. O'Brien: Right. And Heidi, if I can say one another thing I should have said a moment ago. For the science and regulatory efficiency plans, you have long-standing partnerships with other federal agencies. I think one of the exciting things about the economic development plan, it's really led to new partnerships that were not really there before.

Like working with, more explicitly with the Economic Development Administration, for example, or Small Business Administration. At USDA, not just the science side but the Farm Services Administration, which does things like, you know, gives loans and insurance products to farms.

So we're working with them in these new partnerships. It's been a little slower going because actually needing to get a lot of people up to speed. But I think it's going to bear fruit in a really powerful way in the future.

Chair Davis: Thank you, David. So we have about seven minutes for further discussion, to be exact. So let's go ahead and start with Pat and --

Dr. Sullivan: Do I have like three and a half minutes?

Chair Davis: And Kellie. No, because we've got Pat, Kellie and then Jocelyn.

(Simultaneous speaking.)

Chair Davis: And what's that, and then during our discussion this afternoon we can also bring up aquaculture, because I think that there are probably some action items that we can come up with and recommendations to help further along the implementation. So let's keep that in mind for this afternoon's discussion as well. So with that, I'm sorry to use your minutes up --

Dr. Sullivan: No, that's okay.

Chair Davis: So Pat, Kellie and then Jocelyn.

Dr. Sullivan: So thanks again guys for that presentation. It was really terrific and it's really nice to see the high level stuff, and I understand why one meets at a high level and kind of going. Something that Kellie raised with regard to we were looking at the high level policy for recreational fisheries, was the use of metrics.

That, you know, I'm a statistician, so that struck me as a really useful thing to be thinking about. Have you thought about ways to measure whether you're accomplishing what it is that you're setting out to do?

Mr. O'Brien: That's a great question. Certainly, we've identified the need to do so. We have not specifically come up with those metrics as of yet. But that's a good point, a good reminder for us to go back and make sure we're putting those in where we can.

Ms. Cherry: Yeah, and I'll just add. So I mean so this is, this is going to be kind of a collaborative process going forward over the next five years,

working with stakeholders, continuing to get your input. We are working through implementation plans that will allow us to that will allow us to be very specific about what our actions will be year to year, how our program work together across the line offices and metrics will certainly be part of that.

Chair Davis: Very good, thanks. Kellie.

Vice Chair Ralston: Kind of -- oh, thank you, yes. Could you explain kind of the -- so you said there was a science National Strategic Plan for Aquaculture Research. Has that been completed, or are you rolling that into the five year strategic plan? How do those two things relate to one another?

Mr. O'Brien: So the science, the NOAA plan that was just published what, two-three weeks ago now, maybe three weeks ago, it's out there. It certainly largely captures what we're doing in sort of the forward vision as well. But I think what you're maybe referring to is the interagency science plan, which was published -- that plan and the regulatory companion were both published in what was right on Agriculture America last year, so February of 2022. Yes, thank you.

So they're both out there, and they're on maybe I don't know if you can add this to the agenda Heidi, but the Synchrony of Aquaculture website. It's not very pretty, but it's effective. It does have links to both of those plans, as well as the outline of the economic development plan.

Ms. Lovett: So Dave, can you send us the link to that NOAA Science Plan? I think I might have missed it while all of the trouble getting lately, because this group again provided a lot of input to the NOAA Aquaculture Science Plan. Is that what you're talking about? Did I get that right?

Vice Chair Ralston: So there was a slide that you have that says National Strategic Plan for Aquaculture Research on page 32 of the slides. I don't know if we can pull that up, but -- and that

was right before you went into the strategic plan to enhance regulatory efficiency in aquaculture.

Ms. Lovett: I realize there's, and I realize there's two different plans. So I just wanted to clarify.

Vice Chair Ralston: Well it sounds like there's even more --

(Simultaneous speaking.)

Ms. Lovett: Well no. This group was very instrumental in providing the backbone input, particularly an industry perspective input back when Dr. Mike Rust was still with our group and he's since retired. But he helped the Aquaculture Task Force and provided a lot of direct input into help build the NOAA science research plan. It was called the SAP, SRP or SAP.

Mr. O'Brien: Right, well thanks for that clarification. Yeah, there's a number of parallel planning efforts going on. So the SRP, the NOAA Aquaculture Science Plan has largely been first of all, pieces of it had been included in the NOAA Aquaculture Program Plan. Both these plans I just mentioned, and the intra-agency plan.

I need to go back and look frankly where those, where that stands. I know at a certain point it became more of a compendium of all the things we do in NOAA aquaculture science. It wouldn't have a strategic, as much of a strategic element to it. So we're trying to sort of go back and review that, and make sure it's in the right format.

But certainly all the key elements are included in the interagency plan and the NOAA Aquaculture Plan.

Vice Chair Ralston: Yeah. That would be really helpful. I just, I know from kind of being out in the public and kind of in my sphere that there are still some concerns about the sustainability of this and environmental impacts. And so I was hoping that

some of that had maybe already been addressed somewhere but if not, if there's an opportunity for us to provide input we'd appreciate that too.

Chair Davis: Okay, thank you Kellie. Jocelyn.

Dr. Runnebaum: Yeah, thank you. I guess my question is around the Aquaculture Development Plan and then I think it's a little bit more of a general question for you guys. It seems really difficult to have a conversation about aquaculture that doesn't touch on the economic, social and environmental impacts all together. It seems really hard to separate one specific issue around aquaculture out, at least from the experience that we've had.

I guess my question about the Aquaculture Development Plan is are you taking sort of a comprehensive approach to the planning, so that it encompasses all of these issues that are touching down on aquaculture, sort of to Kellie's point?

And then the second question, somewhat related, it seems like fisheries is really starting to ramp up social science research, and I haven't really heard much about social science research related to aquaculture and what that might look like, and it might get to some your indicators that Pat just mentioned as well. So I think those are separate questions but somewhat related.

Mr. O'Brien: Well yes. To your second point, the question for social science, we'd love to do more social science. But we did actually hire through a contract a social scientist to work specifically on our AOA work about a year and a half ago now, to dedicated, you know, dedicated to that effort. We do have other social scientists around the nation who are working on a variety of things, including aquaculture.

But that's an area I think probably, I don't want to speak for Janet here, on the parts of my colleagues, but I think overall we can probably use more social

science on a number of fronts, certainly aquaculture being one of them, to your point.

As far as the economic development plan and -- I mean I guess you kind of alluded to what we call the triple bottom line of sustainability, social, economic and environmental, that's really kind of woven in at the higher level with all these three plans combined is the way I would look at it, the National Aquaculture Development Plan, because of a lot of the sustainability aspects really come to like the regulatory efficiency, but also that it's regulatory effectiveness as well, right, making sure we're doing regulations the way that's allowed for sustainable development of aquaculture.

A lot of the science plan focuses on that as well, how they make sure things are developing sustainably. The economic plans don't focus on that as explicitly. Some the social science stuff, absolutely. I want to talk about education and outreach and things like that, as well as workforce development. So they collectively do cover all those bases, but it's not just all in one plan.

It will be in the National Aquaculture Development Plan when these three plans are kind of bundled together, if that makes sense.

Chair Davis: Okay, thank you Jocelyn, and thank you David and Kristine very much for the presentation and bringing us up to date on where things are at. I'm sure that aquaculture will continue to be a discussion as we move through our sessions these next couple of days. So hopefully you'll be able to join us, continue to join us, and I want to thank the MAFAC committee for your great insights, comments and questions.

What we're going to do now is I'm going to turn it over to Heidi, to see if there's any public comments. Then we'll take a break, and then we'll resume our discussions.

Public Comment

Ms. Lovett: Is there anyone in the room that would like to share public comment?

And then is there anyone online, I know we have three guests in addition to staff on the webinar. And we will unmute you and you may -- you can announce yourselves, and we'll take public comment if you have any.

(Pause.)

Participant: They've been requested to unmute if they want.

Ms. Lovett: We'll just wait one moment.

(Pause.)

Ms. Lovett: Any response? Nope, okay. So while we have no one additional interested in providing official public comment at this time, so we can move on to the next item. Is someone there? I think it's just an echo. Thank you.

Chair Davis: Thanks, Heidi.

Ms. Lovett: Oh go ahead, yes.

(Pause.)

Mr. Raymond: Hello. I'm Lucas Raymond. So my comment is probably going to be controversial, and I don't necessarily mean to be that way. I naturally, due to the things that I've seen, am not a huge fan of the catch share system, at least under its current implementation.

Earlier, it was stated that catch shares have been phenomenally successful in conservation efforts, and I guess I'm -- I would like to know where that has been, in what fisheries that has happened, because any of the fisheries that I've known that this has been implemented in has consolidated the industry, and I haven't seen the benefit on the

conservation effort.

I'm not saying that the whole thing is, you know, I think there needs to be a major revision, which I'll talk about later. But I just, I mean it's been implemented in the Gulf of Maine for cod. When it came out, it was supposedly an all-time high biomass, and two years later it was an all-time low. You have the King Crab fishery in Alaska, which is now closed down as well. So I just, I would like to hear some positive examples where it has worked.

Dr. Sullivan: You know, so I definitely hear what you're saying, and it's challenging. Where I experienced this was at the Halibut Commission. I was there for ten years before coming to the east coast, and there they implemented an IFQ system that was -- I really appreciated how it was organized to bring all the fishermen together and the fishermen themselves sort of decided how it was going go. It happened.

It happened in British Columbia first, where there was like 400 boats, and if you had asked me would this have happened in my lifetime, I would have said no. But then it happened, and the fishermen in Canada were getting twice the ex-vessel price for halibut that because they could, instead of having the three-day opening where we bring in all 50 million pounds of fish and it all goes in freezers, it allowed folks to go fish throughout the season and then market it and get better prices.

When the Alaska fisheries saw that, two years later they changed over too in order to achieve that. In terms of conservation, what I noticed as the population dynamics for the group was I was suggesting quotas and the fishing community said no, we want lower quotas, because they could control the price per pound and so forth by doing that.

Now that being said, the halibut fishermen are struggling with this now in the sense of, you know, the stocks going down, right, and one of the

challenges associated with going with a system like this is sort of closing it to opportunity for other folks to kind of come in, or even if you're -- if you're fishing halibut and it goes down, switching over to salmon and so forth.

So there's a lot of -- there's a lot of issues around this. Similarly around the world, it's led to better prices and conservation efforts like New Zealand and Australia and so forth. My own personal opinion is that it was sort of not implemented right on the east coast, and I really valued the effort. The Commission itself wasn't involved with this. It was like individuals kind of coming together and determining this with the halibut fishery.

I just really -- I think, you know, it was kind of implemented with sort of conservation reasons, but if the fishermen had been more involved, it probably would have come across better. So as a way of sort of remediating that, now I don't have any suggestions for you. But I definitely hear, I feel your pain in the sense that I saw it sort of coming from my end and I -- it's hard for me to see what's happening with the fisheries here. But it was, it was seen as a sort of positive thing in fact.

But the Halibut Commission is an international agency, and we were able to implement it independent of the federal. My understanding was that Congress prohibited it shortly after we did it for many of the reasons that you're seeing. But then it sort of opened up later. Unfortunately, it kind of didn't turn out well. But it has the opportunity of doing that if it's done right. So I, that was just from my perspective.

Chair Davis: Thank you for providing information for the public comment, Pat. Matt, do you have information you'd like to provide for the public comment?

Mr. Upton: Sure. First off, thanks for coming and providing public comment. I know it's always a lot to get up and say it. A bunch of strangers might not

have your view. I guess I'm one of those folks who has a different view on catch shares. I manage trawlers in Alaska and fisheries that our group's involved in are under catch shares and to provide some context, prior to the catch share and Amendment 80, our season lasted a few months.

A bunch of the companies were on the verge of going bankrupt, and in terms of the conservation benefits, we were encountering lots of bycatch because we really basically had to go out and whether it was there to get our fish, and that meant that we couldn't really avoid halibut. We couldn't avoid crab.

The catch share, that's allowed for us to slow down the fishery. The halibut that we're encountering has gotten significantly less. We're able to get more value out of the product. Some within the group weren't happy with it because as you know, a lot of these catch shares, it's kind of how they get figured out. Some people have very strong feelings that they're history and you get captured, and folks who may not be in the fishery yet could be frustrated.

But we had to make a lot of tough decisions in the group and come together. I mean the company that I work with, a lot of guys were initially not wanting to see it for some of the reasons I think that you probably might share. But I think now after, God, I think it's ten years of this. I think we're at almost 15 years of the catch share, and people are pretty happy with it.

But it's so fishery-specific. So I'm really interested in hearing your thoughts on New England fishery and the specific parts of the program that you're frustrated about. But I just want to provide an example of a trawl fishery that I think is doing well with a catch share. Thanks.

Mr. Raymond: Well, I thank you guys for your response, and as I said, I'm not trying to get bluntly confrontational and I'm not, you know. I think it's important that all of us work together and hear

different viewpoints, and I did want to hear some examples of it working.

I will state that I did just take a trip to Alaska and from the fishermen that I talked to, both in British Columbia and in Alaska, they have different viewpoints than what you're saying, at least the people that I was talking to. But again, I'm not trying to be confrontational. We all need to just work together and figure out a path forward.

I just, I guess want it to be known that from my point of view and many of the fishermen that I know, the way that it currently works is very flawed. So I would appreciate a review, revision, any form of, I don't know. I just want it to be known and thought about please, and thank you.

Chair Davis: Lucas, thank you very much for your public comment and MAFAC for responding to public comment, and Heidi would like to share something.

Ms. Lovett: So as we -- we're going to break soon, but as we go into the next session, some of you may recall and you'll be seeing it up on the slide in a minute, that the sort of unaddressed work plan action that you all had identified a year ago was identify opportunities and barriers to create pathways to access the resource.

And I think that some of you in the conversations, as I recall from the past, catch shares and that's an access issue. And so -- and I also heard earlier Sam note, and I think Meredith asked a question about the catch share review that's going, that's going to be underway, which I'm less familiar with so I won't talk about.

But in general, I think what Sam was saying was that the Conservation goals were met, but that communities have been impacted. So it was more the economic and social aspects have not worked as well in many communities, and I think it is really telling that it's -- I think there's different perspective, east coast-west coast. But anyway, I

just raise this to kind of tie it together.

I think Lucas' comment was very relevant to the conversation you'll be having later, and we'll definitely enjoy your company later at the dinner and would like to hear more from you on that point. So anyway, I just wanted to kind of tie it together a little bit for you, and I'm sure there's going to be other perspectives shared at that point too.

Chair Davis: Thank you for that Heidi. So we'll take a break now. It's about 3:25. So we'll come back at 20 minutes of 4:00 and resume our discussion then. Thank you.

(Whereupon, the above-entitled matter went off the record at 3:25 p.m. and resumed at 3:48 p.m.)

Work Plan Discussion Part 1

Chair Davis: Okay, great. So this is -- this is one of three discussions that we're going to have over the next, this afternoon, tomorrow and the next day, and the idea here is for us to come up with some additional work plans, you know. We've been through the workforce development, which was part of a bigger initiative that we undertook.

And so with that starting to wrap up under Joe and Roger's leadership, it's time for us to be thinking about what other advisory capacity recommendations and projects that we can be working on. And so I know for some of the new MAFAC members, this will be sort of maybe some of the first times that you're seeing us work into an exercise that brings the task group together. So I just wanted to give you a little bit of background on this.

And so nothing's defined right now. We have some guidelines that we're going to work on today. We're going to have some time to discuss and sort of come together. We'll be looking for some chairs or co-chairs and some tasks that we really feel are in the right direction.

We're fortunate to have Janet continue to be with us through the rest of the afternoon. This morning, we had some great presentations by Janet and Sam and also by Jim, and the Aquaculture Group as well. So there's definitely some general themes that are there that are general themes that we've been discussing even as a group.

So you might remember a few days ago I sent you an email. Hopefully you all had a bit of a chance to look over that, but if not, Heidi's put together a presentation that's going to be able to trigger this discussion, so don't worry if you haven't had that chance. So let's, let's keep these questions in mind, as we work on this today together. We're going to be looking at, you know, where our work plan is today and what ones we hope to address or modify.

And so I'm going to show you some slides. We're going to talk about them, and it might take us some time. Like I don't think we're going to come to conclusion today necessarily, but that's what is great about a three day session, is that you can sleep on it, you can talk about it, and by the time we get to the third day, we might have some very concrete work plans that we can work on.

So let me find the clicker, as Roger calls it. This is really small. Any chance you can make this a little bigger? I don't know.

Ms. Lovett: Could it be the full screen?

Participant: Enlargement and make it full screen?

(Off mic comments.)

Chair Davis: The other, the other thing is, oh I can't talk up there because I have mic. Okay.

Ms. Lovett: No, they're going to make it bigger.

Chair Davis: Ah, much better. Thank you, and we still all know that the virtual participants are still there, so we haven't forgotten about you all. So we

have a -- we had a long document that under Erica Feller's leadership, that we had put in place. And then as I just mentioned, Roger and Joe worked on the Workforce Development part of it.

So this section here is like a catch-all, okay. So it has a lot of topics. Some of them go well together, some of them may not. And so -- and as Heidi read earlier, this is identifying opportunities and barriers to create pathways to assess the resource. This is building resilience in fisheries and coastal communities as an overarching title.

And so the need for sustainable, healthy, well-managed stocks with attention to unutilized species is a topic. Explore how climate change is affecting future fisheries, very broad topics. How can entrants access opportunities in commercial and recreational captured fisheries? Some of that also goes into the workforce development.

Support opportunities for aquaculture, access to offshore/nearshore sites as was just discussed by David and Kristine. Address regulatory complexities. That's also part of -- I assume that's regulatory complexities and demands for transparency. Is that just in aquaculture or also seafood in general?

Consider focusing on the needs of rural communities. We've talked a lot about that today, and we had some great overview and discussion around that with Zach, and their challenges, and also with EEJ and the challenges may be unique and different by region. Describe barriers to opportunities, as well as how these can be addressed.

So let's keep moving through this, and then we'll come back to these. Next slide? Oh, that's me.

Ms. Lovett: I can do that.

Chair Davis: So then -- so we have these items that we just discussed, and then we have these overarching themes that take into account all of

these different types of topics that we could discuss. And climate change and other change or disruptions, right? We talked a lot about that today and how stakeholders can be better prepared to mitigate these impacts, understand what the new normals are with climate change, knowing that it's happening. How can we anticipate other changes coming?

These are discussions and questions that we've already been talking about this morning. Can NOAA help communities be more proactive and disaster-proof, rather than simply being reactive, especially some of the during and after fisheries disasters? So being much more proactive and prepared. Leveraging partners who can help make the pitch of investments and preparedness, and where those investments should come.

Some really good questions there, some really good topics. Outreach and communication with stakeholders. Oh, just in general we've talked about that on a variety of different topics. Equity. We've already been talking about this diversity and equity and inclusion. So what I'm seeing is that there -- that these overarching themes are coming up in all aspects of what NOAA does. So that's good. They are definitely overarching themes.

So let's keep on moving through the next couple of slides only, and then we're going to open up to some discussion. So you'll remember in May that Janet provided her and the agency's 2030 Vision, and this is a summary slide to that, which I think is great because it's sort of brings everything together in one place.

And so it's the potential of our ocean ecosystem is realizing, realized. This is like the vision, right, using innovation and understanding of the changing world for the benefit of the nation. So this is where the vision's going. Let's think through what we can help provide advice and recommendations on.

The vision includes modern data requirements are

identified, advanced data collection techniques and methods of analysis are implemented. Remember, this is where we want to be in 2030. CFI is fully implemented.

Ms. Lovett: CFI is now called CEFI, but its Climate, Ecosystems and Fisheries Initiative.

Chair Davis: Oh, that's great. Thank you Heidi. Fully implement the information NOAA provides. Enables managers and communities to respond and adapt to climate change. So that's one of the overarching. A flexible approach focusing on ecosystem function is implemented in fisheries management plans and accounting for change using innovative technologies, incentive partnerships. The status of endangered species is stabilized.

The seafood sector is more resilient and can be more readily adapted to environmental, technological and global market changes. 30 gigawatts of OSW are under development with informed and balanced decision-making, including NOAA science, regulations and stakeholder equities.

Ms. Lovett: Offshore wind.

Chair Davis: Yeah, offshore wind. The fisheries workforce is more diverse, productive and engaged, and the agency continues to attract and retain top talent. So some pretty big topics there. Some of them fall nicely into the overarching topics, and then the last slide here is a table that actually Heidi and Jennifer helped put together, and on the left-hand side are the 2030 Vision that we just discussed.

Interestingly on the right-hand side, you might remember we wrote a transition report for the Biden administration, and some of our major focus areas align really nicely with the 2030 Vision, such as integrated ecosystem management in response to climate change, increasing U.S. consumption of seafood; aquaculture and fisheries growing healthy seafood jobs; preserving working waterfronts; and

protecting critical protected resources.

Some of these we're already working on or have worked on. So there's a lot there. I must admit, when I looked at this and read it and thought about our discussions, this is a lot of topics. It's a lot of, a lot of areas, a lot that NOAA's already undertaking. 2030 is many years from now, so there's time for MAFAC not to have to figure out all this in terms of advisory and recommendations right away.

But I think there are some key things that we can certainly focus in on. I'm going to pause for a minute and see, see what areas you all think would be areas that you're interested in pursuing, what really sticks out, if you're still in agreement that these are the general characterizations of areas that we should be working in, if there should be other areas that are missing from the list, and if there's anything that should be modified.

So I'm thinking maybe we go back to the first slide, because that has like the bullet points. But now you have some background and can be thinking about the overarching. So what do we have here? Two, four, six, seven different bullet points to think about opportunities, barriers. I'm going to pause for a minute and let you all think about this.

This is just an open discussion dialogue right now. We don't have to make any fast decisions.

Ms. Coit: I think that open discussion and the time to discuss, throw ideas out and shoot them down is really important. I also think that it would be interesting perhaps during the discussion or during our days together to think from some of the veterans here about which MAFAC initiatives have been most effective and why, in terms of advising and moving policy, as kind of a separate filter. Not to squelch anything at the outset, but as you narrow your focus.

Chair Davis: Thank you, Janet. That's really helpful. It's really helpful. Thank you for helping us keep

focus on that, and we really want to hear -- we like charges. Like that really helps us to really focus it, so thank you for that. Okay, I see -- was Meredith first, and then Pat? Yes? And then Stefanie. Okay, great. Let's go.

Ms. Moore: Hi. I wrote a variety of thoughts, I'll try to be quick. One, I feel like Meredith, what do you want to work on?

Chair Davis: Everything but climate.

Ms. Moore: Everything but climate. Everything and climate, definitely climate. But I wanted to -- I wanted to say that structuring the conversation around this particular slide feels challenging to me, because I feel like the -- if you look at -- when I look at the other slides, like the articulation of sort of the things that were in the work plan, you know, climate and equity and those pieces that's the next slide, and then you know the vision from the agency and then the crosswalk between where the transition things, I see things that are in there that feel important for us to work on that are not captured within this list, and I guess procedurally I'm wondering how we want to handle that if this is the framework that you want to start having the conversation in, because I don't want to be like disruptive or whatever in how we're providing this feedback.

But I think this structure is the more challenging one for me to think in. So I just wanted to raise the process question first.

Chair Davis: Yeah, thanks for that Meredith. I feel the same. I think, I think there's a lot of topics there but they haven't really congealed, and so this is what's called the catch-all. In fact, it's like that. I think the 2030 Vision document is quite exciting, because it's something that you're striving for and how can we put things into it?

And then I think the crosswalk one is probably quite nice to work with as well. So we're not, we're not

stuck on this by any means, but I really appreciate your viewpoints on it, because I also found that to be somewhat challenging too. So let's bring some consensus and discussion around it.

Ms. Moore: Yeah thanks, and I will have a million other things to say later, but I'm happy to get started with that conversation here, so let's keep going.

Chair Davis: Okay, thanks Meredith. Pat and Stefanie. Oh, did you want to say something Heidi?

Ms. Lovett: Yeah. So I can try to -- I can resend it, but all of these pieces were in the November 22, so just last Tuesday's email from Megan to MAFAC, and so you can look at the individual pieces from that email.

Chair Davis: Thanks Heidi. Pat.

Dr. Sullivan: Yeah. First with regard to Meredith's comment, I mean I would hope that every time we meet, because there's new people, new things will be introduced, and I -- as you're saying, I think we're open to that.

The comment I want to make I'm struggling with a little bit. For me, the biggest issue is communication. But I'm not sure that this is the best group to provide advice on communication. This group is really diverse and in that sense, getting different ideas on these things that are actually happening out in the fisheries would be accessing the diversity here to get at that.

When I communicate -- I was just talking with Lucas about this. Through my career, I've learned a lot about communication, listening to fishermen and so forth. What I heard us talking about this morning was I was really pleased with.

That to me, you know, what I do for communication with my staff, who work for the state, and working with federal government and working with the

fishermen is I travel to places and spend time with people and talk with them and listen, which sounds like what you're doing.

And you we're scientists, right, so the idea is, you know, scientists typically have a very difficult time communicating. I was just talking with the state three days ago, and when I was done, they go we didn't understand anything you said, but we trust you because you're here talking with us.

You know, I thought well, that's a lot of responsibility. I don't want that to happen, so I've got to work on that. But anyway, I really applaud what you're doing and it seems like the right thing and there's a lot of places to go to get communication. Again, another sort of side comment. When I was at the Halibut Commission, they were -- they employed a science writer to help communicate what I was trying to say and so forth.

But then when I read over that, you know, Sullivan's stock assessment is like a runaway train about to go off the tracks, I didn't think that that was a very good way of communicating what I was doing, right? So there can be, there can be missteps in terms of like trying to bring people in and do these kinds of things, also creating silos in terms of like the communication group is over here, and we're going to stay over here as a scientist and so forth.

So this is my long way of saying that I do feel like communication is really, really important, and there's lots of ways to achieve that. I don't want to -- if somebody else, if the rest of the group feels like communication is what we should be focusing on, I'm happy about that. But I think with the diverse group that we have, there's other things that we would be more efficient at communicating than on how to do communications. But I'd be open to ideas on that.

Chair Davis: Yeah, thanks for that contribution Pat. I think, I think we need to put it on the list. I think

it is overarching, so I mean that's me personally. Stefanie and then Matt.

Ms. Moreland: Yeah, I have a question before providing further input later, and it was prompted by Janet's wise advice and thinking about what has been successful in terms of work streams from MAFAC.

I recall before I joined MAFAC several years ago that some work group, climate change and resilience work had just wrapped up, and I'm wondering if Heidi now or at another time could provide any kind of a scope as to what that work was and what was learned about that activity.

I understand that the interesting climate change momentum and how we think about climate change has evolved since then, so I'm not intending for this to be limiting at all. But I'm aware that MAFAC had done some work. Just scanning quickly, ironically I'm seeing MAFAC was requested to suggest effective communication strategies, to provide forecasts of environmental change and impact to fishery, key fishery audiences, stakeholders and communities at one point in time.

So I also agree with Pat's point and I might disagree. I think MAFAC may be able to also provide some input on communications.

Ms. Lovett: So that work was linked to resilience as well, and I guess we were ahead of our time as a group or you all were, and in particular so there were like five or six different tasks that came out of a long conversation about resilience and climate change and impacts.

And one of the tasks resulted in developing a communications survey, which we've discussed in the past because it -- and some people have seen it, because it's like a model for the survey work that Sarah's group is doing now. So the survey asked a variety of stakeholders to self-identify what kind of stakeholder are you and how do you get your

information when it comes to climate or weather or fishing conditions and things like that, and what ways do you prefer getting your information?

Do you go to NOAA, or do you go to your local weather station, or do you go to -- do you trust your state scientists? It was those kinds of questions, and the information was definitely shared and used by the Office of Science and Technology, which helped to guide us in developing the survey. And was used by the climate team within NOAA. Since then, as they've refined their climate.gov page and other things, and then also --

I don't think it was a Sea Grant fellow, but a fellow dug a little deeper into the data and even sort of pulled out more salient facts for the agency to think about how do we communicate and what tools and what kinds of -- how people like to get their information.

So that was one piece. A second piece focused in on what are fishing communities doing with respect to resilience now, and actually Sarah was interviewed as part of that project amongst other fishing communities that were ahead of their time in my view, and thinking about doing forecasting and scenario planning, and envisioning where they wanted to see their fishing community in the future.

We interviewed -- you, MAFAC members, interviewed four different communities around the country in Alaska, Rhode Island, North Carolina and I'm forgetting the fourth. And then through all that, those interviews, teased out some salient points for the agency to consider. One was that it takes a lot of effort and usually some skill in knowing how to do scenario planning, and I think you had some external help, some scientists particularly from North Carolina if I'm not mistaken, or maybe you used other people.

A consulting group. There were some certain key consulting groups that were helping communities do this, and funding in part came through NOAA to hire

consultants to help communities do this visioning, and the recommendations which are on the MAFAC web page were to continue providing those resources and technical support so communities can move, can do that work. That was the primary one.

The other piece had to do with looking -- one group focused on the council process and how to be more flexible in fishery management plans, and they honed in on -- I'm going to not say the right term though --

Participant: Framework actions.

Ms. Lovett: Framework, thank you. Framework actions, and potentially encouraging councils to use framework actions more regularly to provide triggers for when things might need to change. Like a trigger if a species is shifting and moving, what would trigger a reconsideration of the current fishery management plan and actions, and the various regulatory processes?

And the last one was on aquaculture, the fourth piece. The aquaculture folks on the Committee and Sebastian should remember this, and maybe Megan as well, under Skip's leadership, Bob Roe, looking at -- they did a more scientific technical report that was like publishable style scientific technical report, looking at how aquaculture could support and benefit coastal communities and provide better environmental services to the waters that maybe aquaculture is being used in. I'm not going to say that very clearly but --

Participant: It's a risk management strategy for those communities.

Ms. Lovett: Right. So particularly like oysters do help purify the water and things like that, and so that -- again, all four of those documents are linked on the website. When that, so those reports were shared and I know the aquaculture one was shared with all the scientists within the aquaculture group within NOAA fisheries and other parts of NOAA, and

so I can't tell you more specifically of other outcomes maybe from that work than what I've just shared.

But it was all very supportive, very beneficial at the time. Just it's been five or six years now since those were completed. What I do want to add a little further insight into this conversation, and to add to what Janet said about thinking about the documents that have been well-received and they're relied upon that MAFAC has produced in the past, and we did provide in the email that Megan sent to you all, a link to the Vision 2020 document, which is what it was called at the time.

It was an effort that got started before I came to work for the Policy Office, and it was revised and updated in 2012, that vision document that MAFAC had. And that really looked at -- it had like seven or eight different chapters and each one on a different, you know, area that the agency works on, habitat, fisheries, recreational fisheries, ecosystems, protected resources, etcetera, and looked at the current trends.

Like looked at sort of a history and where things were going, and then made recommendations for the future, like how to get to a particular goal by 2020. I think that the building resiliency, have I got the name right, the last document that was sort of visionary, if you will, that you all MAFAC put out was just two years ago, and it was the transition document.

But it also set -- it also sort of frames up those big topics that you all as a group have had an interest in. Again recreational, you know, a vision for where things should be in the future, which seems to align a little bit with the vision that our leadership has been put forth, the Vision 2030 for the agency.

They don't -- that's where that table came from, like those things that you all were aspiring to or wanted to comment on and wanted the agency and wanted the department and the administration to focus on,

aligns with what was in the vision presentation that you saw from Janet for 2030 . So I think the question is do you want to hone in on a couple of these topics, or do you want to think big and maybe grapple with multiple topics in a vision-style document from you all, like update the Vision 2020?

It's sort of -- those are some of the questions you can think about.

Chair Davis: Heidi, thank you so much for that input and overview. So I have Matt then Barry, Meredith and Donna. Oh, Jocelyn, Meredith and Donna. But I also want to find out if there's any of our virtual participants that have had their hand up, because at this point we can't see you all. I see Tom has his hand up. Right Tom, we'll make sure we call on you. So let's go ahead and have Matt.

Mr. Upton: Thanks Madam Chair. Can you go back to that, the slide that had the kind of list of different things?

Chair Davis: Yeah.

Mr. Upton: The one I'm interested in and been thinking about a little is that kind of focus on the underutilized species, and why that comes to mind is right now in Alaska, we're going through the annual process of kind of figuring out how much the different sectors are going to catch. It's a multi-species tack sheet.

So every year for some context, pollock and cod are pretty much fully utilized. But there's a number of other species particularly in the multi-species trawl fisheries that for a variety of reasons don't get fully harvested. So I think in other areas, I would imagine there's similar variations of this, where there's fish that's a hypothetical opportunity, but for whatever reason is not happening.

So I think it would be interesting to kind of build off of that, to look into some of those reasons that's not happening. I mean for some of the fish that I'm

thinking of, it can be a Steller sea lion area restriction that might be difficult to change, that can limit something, or it may be that there's a rockfish that a scientist feels very strongly about in terms of spatial management, that causes the industry to give pause to how they set a tack level, which really could allow for more fish to come out there.

Or it could be even more controversial, where some of the species are just mixed in with halibut, and so to really get them out of the water, you're going to encounter more halibut, which then begs the question of well, why are you throwing the halibut overboard that you're catching with this other food. So I just think that in Alaska, it's really glaringly clear to me that's something we could look at, and I'd be curious about other areas where there's multi-species on the tack sheets that aren't being fully utilized.

So I think that's really how we can try and get at more kind of food security, because that's what jumped at me a little bit when we looked at the kind of great aquaculture and wild capture chart that shows the aquaculture going fully up.

I think there's still some potential for wild capture fisheries to increase, because a lot of the underutilized -- it's super-frustrating that you're just not able to kind of get at it, and a lot of it I think actually is regulatory barriers, not so much market considerations or innovation on the product side. Thanks.

Chair Davis: Thank you Matt for bringing that up and giving some examples. Next we have Barry.

Mr. Thom: Heidi addressed my issue.

Chair Davis: Oh did she? Okay, very good. Jocelyn and then Meredith, then Donna, then Tom.

Dr. Runnebaum: Yeah, thank you. I think I have a lot of thoughts floating around that feels a little bit overwhelming, and the themes that I feel like I

keep coming back to are resilient ecosystems and resilient communities in the face of climate change.

I'm looking at the 2030 Vision and I'm looking at some survey results from some work I did on the east coast, and of the 418 survey respondents that replied to the survey, 52 percent don't think that fisheries management can adapt and respond quickly to changing environmental conditions.

And in the 2030 Vision, it states that the information NOAA provides enables managers and communities to respond and adapt to climate change. I think I'm starting to really feel that NOAA also needs to respond and adapt to climate change quickly, and there's an institutional adaptive capacity that is also going to be needed. That is going to require funding, it's going to require collaboration with other agencies in order to meet the needs and the funding pitfalls that exist.

It feels really big, and so I just -- going to put it out there. But I think that there is -- there is an institutional adaptive capacity piece that maybe is separate, is maybe part of these bigger conversations around climate and resilient communities, but I do think that in order for our fishing communities and for the aquaculture industry to be resilient, the agency also needs to be resilient.

Chair Davis: Thank you for that Jocelyn. That's a really good contribution. We have Meredith next.

Ms. Moore: I'm likely just going to build on Jocelyn's comments, and I'm going to go a little heart on my sleeve at the beginning here, which is the thing I like most stress out about in this work is the fact that we have at a minimum 30 more years of increasing climate impacts before any emissions reductions help at all.

Like there is so much latent heat. We will only see things get worse for 30 more years. And so to me, the question is like we are at a really critical

moment I think, where if we really do figure out how to build more resilience into our communities and into our ecosystems, we can get away from some of the worse outcomes of that. We're still going to see a lot of disasters. We're still going to see large scale declines in productivity and globally, we're estimated to go at least a four percent productivity decrease.

So that's a huge impact on communities in and of themselves. What I don't see happening, I see copious amounts and like thank you for it, because it's all excellent, of science happening at the agency, to try to understand this. I don't see it making it into the management process, and Heidi talked about, you know, previously MAFAC has provided some guidance on how to do that.

It's not working. Like it's not being used. The GAO just did a study that found that only -- I think it's less than a quarter of fishery management plans include any climate information in them. Less than a quarter, and climate change has been happening for a long time. So there's some sort of significant structural barrier in between bringing the science into the management.

I hear lots of people saying, you know, like well we just don't know enough yet, but that can't be true. That's not going to be any comfort to people 20 years from now, when we were like yeah, we didn't do anything because we decided we didn't know any, like know enough yet. So we have to, like there has to be some way to build resilience now, and what I see missing is like a real description of what we think building resilience means from a management perspective and from a community perspective.

There's not a goal, like a defined goal. There's a lot of effort to try to understand the impact of current conditions, how those will change and what the future looks like. But if we're just chasing that downward decline instead of establishing for

ourselves like what we want it to look like, if I look back at your 2030 Vision, which I don't have in front of me, but it says the potential of our ocean ecosystems is realized.

But we're not going to achieve that potential if the way that we manage is by like chasing after those declines and doing our best to understand or describe those. So to me, there are a lot of really key missing pieces here on the management side. I see it too just in our core sustainability work. Like I think over a dozen plan or fisheries are in repeat rebuilding plans, second or third rebuilding plans where we have tried over and over to rebuild them and they're not rebuilding.

And so there's a lot of key questions I think there about like how are we going to respond to these situations where we need to do better for these stocks, and to build in resilience? I think that's been a missing component of management for a while.

I followed the National SSC meeting that happened just recently, which I think was really interesting but didn't like -- I think that's excellent work and is an important component of it. But again, my question is like how are we defining what resilience status information criteria area, so like you're managing in the right directions?

So to me that feels like a really big missing piece, and I like go on and on and on. But that interface between science to what decisions we can make now that put us in a better place for the disasters to come, for the declines to come, and for the new opportunities to come, because some stocks are going to do better. How do we get more fishing on those stocks? I just don't see that happening fast enough.

I think we have a limited amount of time to make like prophylactic decisions now, so that we're in a better position later. So that's the thing I really would love us to focus more in on, because I am stressed all the time about that opportunity slipping

away. Thank you.

Ms. Coit: So I share your stress, and it's starting with the beginning of this conversation, I wrote down what does climate-ready fisheries mean as a summation of what you just said, because when we've been discussing it in our meetings, we realized we don't have a common understanding of what that means.

So one idea, so I think further delving into some of what you two just said would be an interesting, and I think it could include underutilized species and some of the things that have been mentioned. But so I was thinking, just I wonder if MAFAC could help us define what climate-ready fisheries means in a way that is meaningful to regular people, and that includes -- I totally agree with you. I think that we're backward-looking with our stock assessments, with our science and not maybe even measuring the right things, and just like the Huffman bill tried to look at things beyond fisheries that are affecting stocks.

That we need help. We've got a lot of advocacy around the science, but how to deploy that science more quickly and management to create climate-ready fisheries and what does that even mean? Like I think somehow if we tease that apart, it could be a role for MAFAC that could be really helpful. One thing that I remember from some of the earlier jobs I've had is like really giving people concrete examples so that they can see what success looks like.

So another thing again that I thought of and that we've been talking about is trying to pick specific examples in specific regions of the country that we work on to demonstrate what this means. I think the MSA and the council process isn't well suited to doing this, and so I'm not sure. Like I think we should discuss more what the role of MAFAC could be, because we've got several efforts that we're trying to address this, like I mentioned Kelly looking

at the governance issues, the wonderful scenario planning that's going on that we participated in, that TNC has helped.

There's a lot going on, but kind of how do you define what it means to be resilient or climate-ready, and then how do you get there is I think an area that we're struggling with, and where MAFAC could be helpful.

And I actually want to just tie that your earlier comment, and yours Jocelyn, Meredith's earlier comment about budget issues. I actually think also that issue of what do we really need as NOAA to participate in this urgent, important area, build staff capacity actually is part of that too and could be another, could be a whole separate endeavor.

But I don't think we have that institutional resilience or even capacity that we need to really address all this. So I just have been thinking along the same lines.

Chair Davis: Thank you Meredith, thank you Janet. That definitely helps us with some focus areas. It's really great. Next we have Donna and then Tom, then Brett and then Sarah, and then Pat.

Ms. Kalez: Thank you. I have some comments. When I look over the document of building resilience in fisheries, the plan that was for 2020, and it says unaddressed work plan actions. I don't believe that the improve recreational fishing opportunities has been addressed, so I would just like to make sure that that is in there, because there's plenty that needs to be followed up on, as far as improving the recreational fishing opportunities.

In that document, it says that if we do improve the recreational fishing opportunities, that we can better manage the timeliness, the accuracy, the precision of recreational catch data and socioeconomic information. So we all agree that we need a lot more data to manage our fisheries, and we do need

a lot more money to do that.

And so I just want to point that out, that -- because it's in the document and we have not improved the recreational fishing opportunity. There's so much that's going on, where recreational anglers are losing access all over, and a lot if it is due to management. Some is due to climate. We're also looking at our working waterfronts, coastal communities. There's just a bunch that we haven't looked at yet.

When I look at the document, I'm kind of upset that recreational fishing is not really in it, and we didn't really address it. So I would just add, like to add that to the unaddressed work plan items. Thank you.

Chair Davis: That's great. Thank you so much

Donna. Definitely a topic that we should continue to work on. Next we have Tom, and then after that Brett.

Mr. Fote: I don't really think you want to listen to what I have to say, but I'm going to put it out there on the table right now anyway. I've been dealing with fisheries management for about 35 to 40 years in one form or another, 28 of those years sitting as a commissioner and basically doing jointly managed plans with the Mid-Atlantic Council.

In my earlier years, we looked ahead. We looked at rebuilding stocks. We looked at we would increase bag limit, size limits and both the commercial and the recreational sector would benefit from what our fisheries management and the pain that you suffered. So as the years progressed and we started going up until about 2000, 2003, when we started getting sued by everybody and then all of the sudden we've got all these lawsuits, that people were making money at certain places in the NGO communities, so they kept suing.

And also we changed how we managed, and we

started managing to avoid lawsuits and not for fishermen. We're seeing what has happened. There is no trust in the recreational community for NOAA's regulations, and it's just -- because they repeat it time after time. I mean the latest example is, and I'll use it because I was involved in it.

It was the scup fishery. Now we fought four years to get a reallocation of the quota, because the recreational side was greatly cheated 25 years ago when we set up the quotas. So we've been suffering under this 18 percent quota. So we increased it to 30 percent. Now understanding, scup is an interesting fishery because it does highs ups and highs-lows and has been going up high for the next year. As a matter of fact, we're three times above target with this one species.

So we just had a meeting on scup and what do we do? Because we didn't want to restrict the recreational sector to what we -- the proposed quota that we have, that none of us agreed to in the recreational community, we basically cut them back. I can understand if the stock was in trouble, but this stock is going to be 20 percent under harvest this year, of the available harvest.

We're going to be like 20 percent of it, because the commercial quota does not house 20 percent of the fishery or greater, which is actually almost larger than the whole recreational fishery. So you've got a decrease instead of an increase on a stock that's going great, just because you've got to hold this 18 percent quota.

Now when we looked at things like summer flounder, what happened if you did MRFS survey and you looked at the increased, what you estimated was an increase in the number of fish in the stock, you'll increase to 49, the commercial quota by 49 percent, and you did not increase to the recreational quota. When you did other species using the same kind of changing of the numbers, on the MRFS numbers, you actually said no, you've

been overfishing.

We did that with bluefish, we did it with striped bass, we did it with scup and we did it with black sea bass. So there seems to be no rhyme or reason. We don't do the same thing consistently, and I've been doing this. I've been sitting at the table. I can't figure out why we didn't do it. I guess the question will never get an answer.

Why is this a problem? Because there is no trust in this, because 25 years ago when we put regulations in the recreational community, it was the recreational community basically enforcing those regulations on their peers. I mean we've got 11 police officers in New Jersey dealing with marine fisheries, for 1.3 million anglers.

They can't do a lot of checking. But it was the pressure you put on as a peer from one recreational fisherman to another. I am now seeing, this is my frustration, I am seeing people that I knew that respected these laws breaking the laws now. It's gotten so bad that I don't know what people are doing. They're just basically taking because they have no trust in the regulations.

The other problem I see is we make cutbacks because we're going to rebuild these stocks. Well, weakfish. We did every regulation that we could on the east coast. The stock started building up. We never changed the regulations, and all of a sudden it collapsed. Now we've been fishing out one fish in a 50 pound bycatch for ten years and we see no difference in the stock.

There's all these other factors that we can't control on these stocks, and the only way we have to address is basically we're going to cut you back so you can harvest more quota. The only thing they see is more cutbacks for the last 20 years, and they don't see it. Again, I'll point to a stock that's in pretty good shape, summer flounder. On the recreational side, we might be catching almost as much count as we were 20 years ago.

But because we're fishing on so much larger fish, that we basically, are basically actually harvesting, recreationally success rate is a quarter it was 20 years ago. So that means 75 percent of the anglers are catching no fish, less fish than they were 25 years ago. So they have no respect for the system, and as well we're projecting these fish to 18 inches.

This is a fish that spawns at 12 inches and goes on. So when we had the regional regulations in place, we had great recoupment and we were harvesting 15 to 16, 17 inch fish. We are now harvesting 18 inch fish. We're letting them spawn six to seven times more than they did before, and they're still not reproducing. The recoupment has been disastrous. And then look at lobster.

Chair Davis: Tom?

Mr. Fote: There's nothing we can do with lobster. It's going to collapse because of the warm water in the southern New England area, and you start saying well, we're going to do regulations to build them up. We gave up trying that at the Atlantic States Marine Fishery, because we can't promise we can do anything on lobster.

At least we're being honest about it, and we're not honest to know the fisheries will just further restrict. The main reason I think what upsets the recreational and the commercial community now is we're discarding a huge number of fish in almost every species we fish for, commercially and recreationally.

The recreational sector, I guess, has the greatest fault because of regulations we put in that promote recreational discards. And then you penalize us for recreational discards, because we --

Chair Davis: Tom, can you start to wrap up your comments?

Mr. Fote: Okay.

Chair Davis: Thank you.

Mr. Fote: But I'm just saying, I'm frustrated and I don't know what to do, because we're losing the trust of the recreational community unless we get that trust back again. So talk about communications, that's what Pat was talking about. We have to communicate to the public and be honest with them. We can only do what we can do. There's a lot of things we can't control and we can't rebuild.

Chair Davis: Thank you for your comments and your examples, Tom. We appreciate that. So we have about another 20 minutes, so let's keep, let's keep - - not narrowing down, because I don't want to be narrow, but let's keep on focus and also be thinking about how we can think about things on a broad scale, you know, not just individual type of fisheries, for instance. Brett, I'm going to turn it over to you next.

Mr. Veerhusen: 20 minutes until cocktail hour, so I just wanted to say that on the record. No, thank you Madam Chair. Just two points that I'm trying to string together in some of my thoughts. One is probably something that's been discussed a lot, and bet you Stefanie is somebody who could educate me a lot on trade and tariffs and imports and rules that are happening on seafood imports.

I am just frankly really confused, and so I don't really understand everything that's happening, the authorities, the information that is available that isn't the costs that are going to be accrued, the costs that aren't, and I would like to understand that, because I think generally like the American public is also, you know, part of the beneficiaries.

Should we have better import rules and better information about our seafood, and which brings me into communications. So I think part of my confusion also is around just generally communications about really complex topics, and I think what we've been hearing is that

communication is something that has been identified. I'm new and don't know anything about MAFAC up until this year, as far as an active member.

But as a participant, I remember some of the communication topics being talked about, and I'd like to raise that back up. I think that communications can have a positive benefit on many of the subjects that we are passionate about. I'm hearing, you know, budget. In order to get things done we've got to have the money around climate, whereas fishing being impacted, to get people to care within our community and outside, being able to properly communicate is something that's needed.

I think NOAA's doing a good job with it, but I think that we can have a more active plan I think around seafood consumption. I know if you think about it, you know, a seafood consumer goes to a grocery store and there's generally four things they think about. Chicken's easy, pigs are cute, beef is bad and seafood is confusing. I'm going to go with chicken, and so those are the issues that we have.

I think that if we tell our story a little bit better, I think we'll find a little bit better public good will on supporting on working waterfronts, our infrastructure, the co-management of our species between recreational and commercial. I think that we have a lot of gain in communicating better not only to ourselves but externally to build that social license, so that there is less confusion about what one type of aquaculture is and another, and being able to properly identify, you know, the various components that, you know, are under NOAA Fisheries.

And so those are just some examples I'm trying to think about, as far as how do we communicate better amongst ourselves but externally, and so that I can understand something about imports.

Chair Davis: Thank you Brett. You bring up some

really good points, that's great. Sarah, then Pat.

Ms. Schumann: In addition to all of the other great points that have already been mentioned, I want to put in a plug for literacy. How can new entrants access opportunities in commercial and recreational capture fisheries, in part because of what I said earlier, that if we do workforce development, we sort of obligate ourselves to also, I think, looking at the other side of how to sustain future generations in fisheries and beyond.

And the issue of access, also I believe overlaps with climate change because it's not just new entrants into fisheries that are seeing themselves sidelined from accessing fisheries, it's also established business owners who are catching species that they don't have access to, which comes back to the discard problem. So for all of those reasons, I think that that also should fit within the purview of this work.

Chair Davis: Very good. Thank you Sarah for that. Pat and then Sebastian.

Dr. Sullivan: Great. I'm glad there's so much interest in communication. I'm glad I raised it earlier, but it seems like we need to have some discussion about resilience and adaptation, and in other venues I've noted that fish facing climate change basically have to adapt, move or die.

If we apply that to our fisheries, our fishery community, there's that there too. And so one of -- one of the aspects that we've included in resilience in this work I was talking about earlier was basically doing something else. If we look at resilience in -- we kind of broke it down into different subject areas, sort of environmental.

There's environmental resilience. There's resilience in governance, there's economic resilience and there's social resilience. So in those areas, a fishery, for example, may be able to be resilient to climate change by changing their governance system or it

might be from, you know, they have an economic capacity to wait it out and then come back in or change their gear, the social capacity to listen to their elders and figure out, you know, one of the things we were hearing about in Pribilof, I think it was, where going back to hunting temporarily before, you know, while the fishery is declining and going out.

But and each of these areas have different attributes and one can go through and identify the attributes and see where your strengths are and your weaknesses in terms of adapting. The challenge is one of the messages that we're unfortunately continuing to send out is in one sense or another, is that we'll be able to get back to the way it was.

That's clearly not the case for some of these fisheries. For some, they're just going to be gone, and so we're just going to have to recognize that and move on. This has implications in a number of different levels. One is of course for the fishery, like if you're a cod fisherman, what are you going to do now that cod are gone, and you know, that sort of thing?

But it also has implications in the sense of like if you look at yellowtail flounder. I mean basically that's gone, but it's the choke species for scallop, for example. And so when, when do we make the decision that we're no longer going to try to create a fisheries management plan for that species? Do we even put it, want to put it into endangered or something status or some other one?

There are those kinds of issues that need to be worked out, I think. I was a fireman. We think a lot about triage, right? There's some folks that are doing fine, there's some folks that are dead, and you've got to kind of figure out what to do with what's in the middle there and kind of focus on it.

So I think some kind of rethinking of how we manage these fisheries is in place. So we were

talking about status quo sort of management, and I think we have to move away from that unfortunately, and see if we can introduce some new things. I'll shut up here in a minute.

One of the challenges, of course, is as an agency, you have to follow the law, and I've heard this a lot from my federal colleagues a lot. Well, we can't do that because the law say we have to do this. Well, this group is a group that we can access Congress and Senate about, and if we need to change the law to do some things, then maybe we ought to do that.

And under, with climate changing, the laws that we have may not be sufficient for us to be able to manage that. So I think a conversation we shouldn't be prevented from having is, and I know how dangerous it is to change the law. National Academy group suggested some flexibility at some point, and that word was pulled out of the entire recommendation, and use like well maybe we can do anything.

So we have to be careful about changing the law and so forth as we look at it. But and I'm pleased with hearing about suggesting a revision of the guidelines, and I hope that applies to the science too, because we definitely need some of that there. But let's think outside the box a little bit in terms of how we're doing this. So thanks for letting me ramble on a little bit there. Thanks.

Chair Davis: Thank you Pat. You brought up some new ideas and directions. Thank you for that. Okay. We have Sebastian and then Stefanie and then Jocelyn.

Mr. Belle: I'm going to ramble too Pat, so don't feel bad. So I have to say, listening to these conversations at MAFAC reminds me why as a young student I decided to get out of fisheries biology and into aquaculture. I don't regret that decision, but I -- before I forget, I want to just support one thing that Matt said earlier, which is this difficulty around underutilized species and the

regulations as they exist, and not being able to capitalize on those opportunities.

I think that's something that MAFAC should frankly weigh in on, and I don't know, you know specifically. It's not in my wheelhouse anymore thank God, but I do think that that's an important point. I want to just kind of bring us back to reality here a little bit. If everything that we landed or grew in the United States of America stayed in the United States of America, we would supply four months of our national seafood demand.

Think about that. That's crazy, right? That's why we import as much as we do. So we can all discuss, you know, different fisheries or different aquaculture, the potential, whatever. But the reality is we are fighting a very uphill battle here from a supply point of view and demand point of view, and I think you said something Pat that I, and it's an expression I think that sometimes is overused, but in this case I don't think it is.

The status quo is not going to, is not going to work, right? This is, I mean we've got climate change, we've got communities that are facing dramatic, dramatic regulatory changes. In Maine, as everybody knows, if in fact we go down the route that we probably are going to have to go down mandated by ESA, all those little communities along the coast of Maine will probably lose major parts of their working waterfronts.

That's a cultural, social dramatic change that's going to happen in about a ten year period. This is not, this is not -- we're not talking 50 years down the line here. We're talking what happened in the cod fishery essentially, in the same kind of time frame. So my question is what can MAFAC recommend to the agency to push the agency to think more proactively and yes, the agency's hands are tied from a local point of view.

But the reality is it's the agency that is going to be able to be best positioned to figure out what some

of the innovative solutions are. The agency, all due respect to the agency, and I'm going to make myself unpopular here, is struggling between litigated risk management and limited resources, and a changing world around them.

We as MAFAC I think have a responsibility to kind of get above all that stuff and give them some concrete recommendations in terms of what they can do to position both their own agency but also all those coastal communities and the resources that we all love and want to protect, in a really innovative way.

We've got to, we've got to figure out what those recommendations are to the agency. I don't know how we do that. I think the visioning process and scenario planning is important. Sometimes people outside an entity can vision and think about things that people inside an agency can't do. We do that in the business sector all the time when we bring in external experts into our companies and use them to lead us through a visioning exercise or a scenario planning exercise.

But I really think MAFAC has kind of this -- it's kind of a pivotal role with the agency to have a very frank discussion amongst ourselves, but also to push the agency to think and come up with ideas that aren't just status quo or aren't just litigating risk management, but are ways that could allow those communities to be more resilient, and those resources also to be more resilient.

Now I realize that's -- I mean we talk about this stuff all the time, and we kind of go around and around and around in circles. But I don't, you know, MAFAC I think has a responsibility here to really kind of make some hard recommendations to the agency and push them a little bit. I'm probably going to get beat up over that by the agency folks over dinner, but that's our role, right?

I would assume that's our role, and we need to take it seriously and push on it. So I'll stop spouting

here.

Chair Davis: Thank you Sebastian. Appreciate your words there.

Ms. Coit: And I have to leave for another meeting. It's not because of anything you said Sebastian.

(Laughter.)

Ms. Lovett: And she'll be at dinner.

Chair Davis: Yeah. Stefanie and then Jocelyn.

Ms. Moreland: Yeah. Considering where we are on time, I just want to add to the list for further consideration. I feel like it would be a mistake for us to not acknowledge each MAFAC meeting we've talked about disaster policy. And so I think it should be part of this discussion and MAFAC's work plan considerations ahead.

I really look forward to further discussion on the bigger picture this week. I feel that we've been having to -- missed a lot in correcting misinformation, or updating people on stale understandings of where we are today. I feel like investing in the future and where we want to go is really important at a time of constrained capacity and constrained budgets. Thanks.

Chair Davis: Thank you Stefanie. Jocelyn.

Dr. Runnebaum: Yeah, thanks. I put my tent up when Pat was talking, and I think that he raised some points that are pretty, are being explored pretty extensively right in the vulnerability research literature. So I would encourage us to not reinvent the wheel, but to think about a lot of the social vulnerability to climate change research that's happening and relying on that to help inform us. I really just want to echo Sebastian's point and I guess building up --

Mr. Belle: It's dangerous. It's dangerous to do that.

Dr. Runnebaum: I know it is. I know it is. Dangerous to build allegiances here.

(Laughter.)

Dr. Runnebaum: Just kidding. Yeah. You know, I have been going over this. I have sleepless nights like Meredith. I'm just trying to understand how we -- what our role is in implementing change and sort of rising above a lot of the issues that are surfacing that are making it difficult to find solutions.

You know, Maine is a really challenging place right now with fisheries because of protected resources obligations. Yeah, I guess I would just be remiss to say that, you know, protected resources are part of this conversation and climate change and the impact that they're having on fisheries.

And so we can't, we can't leave that out, and I have a few other disparate thoughts, but I know we all want to go take a break. So climate resilient aquaculture maybe is something to include in the fisheries, and we think about it from a sort of climate resilient seafood industry.

Chair Davis: Thank you for that Jocelyn. Does anybody else have any additional input that they'd like to provide today? It's not the end of the discussion by any means. Anybody on the screen? Who?

Ms. Lovett: Clay.

Chair Davis: Oh, Clay. Great.

Mr. Tam: Yeah, thank you Madam Chair. An interesting conversation we've had today. I think that oh man, Sebastian and I feel Meredith's and Jocelyn's pain about impacts to our resource and, you know, until we can fathom that we do have a finite resource, it is going to be that and all we manage, and climate change is only one of the factors that will affect our oceans.

I can say that because in Hawaii, especially here where we have a lot of I would say microenvironments and smaller, being an island we don't have a continental shelf for every -- I've seen personally in my lifetime the loss of fisheries due to urban sprawl, development, lack of fresh water and those species that have evolved over centuries to adapt to these conditions, only to be threatened now.

Even with non-consumptive use of the resource, with COVID we saw that tourists were not here. Nobody was in the water splashing, but we saw return of some of our nearshore forage fish that were never there before or were there very infrequently. But we notice that a lot of when the environment was left alone, things started to return.

You talk about resiliency within these species. Many of them are. They've been around a long time, but we need to give them a chance. We need to support them, because without the right habitat, without the right food source, it's going to be even harder for them to survive. It's not only extractive consumption, but it's also these other impacts I think that, you know, plague us.

I think that when you talk about resiliency, you also talk about responsibility. Our responsibility as man as part of the ecosystem and trying to determine and better balance what we have, you know, we have technology, we have tools and, you know, I think coming up with something even within this committee and pointing us in a direction will be something we'll be looking forward to. But thank you.

Chair Davis: Thank you as well Clay. Anybody else have any last minute comments? There will be time tomorrow to discuss as well. I know that Heidi and Gabriela have been typing in on the notes. I've been taking notes. I really feel like there's some overarching themes that have come up.

So what I'm going to do tonight is look over the

notes and be able to provide that tomorrow as a starting point. I like that we've thought outside of the box as to where we could go and really make some impacts. So I think some really good things surfaced, and I do think that they blend in nicely with previous documents and plans. So I'm excited by the conversation.

So we're going to wrap up for today. But I just wanted to give you a brief overview for tomorrow. We will meet again at 8:30, and we have some reports from our state directors and fisheries commissions. We have the budget outlook tomorrow. We have the bipartisan infrastructure law, informational by Carrie Robinson.

Russ Dunn will also be here tomorrow. Donna will give us a presentation on the Recreational Fishing Subcommittee. And then after lunch, we'll have Cisco here giving us a science update, which will be really great, and maybe some of the things that we discussed today will come up.

And then we'll have another hour of working on Part 2 of this discussion, and then remember that this evening if you have time, to please look over the workforce management work plan or excuse me working group document, because tomorrow we'll have a subcommittee meeting, be able to complete that up so that we'll be able to have an action item to vote on it the following day.

And so yeah, we've got a busy day again tomorrow, but it's been a super-productive day today. I want to thank everybody for your great inputs. Looking forward to those that will be able to come to dinner tonight. Heidi, do you want to mention anything about how we're going to get to dinner? All right. So I'll turn it over to Heidi then.

Ms. Lovett: Who's got the best thumb? So thank you Mr. Court Reporter. I think our meeting is ended for the day.

(Whereupon, the above-entitled matter went off the

record at 5:04 p.m.)