

U.S. Department of Commerce  
National Oceanic and Atmospheric Administration  
(NOAA) National Marine Fisheries Service (NMFS)  
Marine Fisheries Advisory Committee (MAFAC)  
Meeting  
Tuesday, May 10, 2022

The Marine Fisheries Advisory Committee met in the Sheraton Old San Juan, 100 Brumbaugh Street, San Juan, Puerto Rico, 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; Southeast Fisheries Policy Director, American Sportfishing Association

Sebastian Belle, Executive Director, Maine Aquaculture Association

Roger Berkowitz, President, Massachusetts Seafood Collaborative

David Donaldson, Executive Director, Gulf States Marine Fisheries Commission

Thomas Fote, Retired, Recreational Fisherman

Natasha Hayden, Vice President of Lands and Natural Resources, Afognak Native Corporation

Robert E. Jones, Chef and Seafood Waste Consultant

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

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

Donald McMahon, III, President, Pensacola Bay Oyster Co., LLC, Pensacola Bay Oyster Hatchery, LLC, and TORCH (The Oyster Restoration Company and Hatchery)

Meredith Moore, Director, Fish Conservation Program at Ocean Conservancy

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

Linda O'Dierno, 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  
Matthew Upton, Attorney, United States  
Seafood  
Brett Veerhusen, Principal, Ocean Strategies  
Richard Yamada, Owner, Shelter Lodge

NMFS Staff Present:

Janet Coit, Assistant Administrator, National  
Marine Fisheries Service and  
Acting Deputy NOAA Administrator (ex officio  
member of MAFAC)  
Jennifer Lukens, Director, Office of Policy and  
Designated Federal Officer  
Helena Antoun, Fishery Liaison, Caribbean  
Fishery Management Council  
Laura Diederick, Communications Specialist  
Paul Doremus, Ph.D., Deputy Assistant  
Administrator for Operations  
Russ Dunn, Senior Recreational Fisheries  
Advisory  
Jon Hare, Director of Scientific Programs And  
Chief Science Advisory (Acting)  
Heidi Lovett, Alternate Designated Federal  
Officer  
Sean McNally, Special Assistant to the NMFS  
Assistant Administrator  
Gabriela McMurtry, Fishery Policy Analyst  
Sam Rauch, Deputy Assistant Administrator  
for Regulatory Programs  
Jose Rivera, Southeast Regional Office, Puerto  
Rico  
Tim Sartwell, Communications Specialist,  
Recreational Fisheries

Also Present:

Walter Butler, Arrecife Condado

Nelson Crespo, Chair, Puerto Rico District  
Advisory Panel

Raimundo Espinoza, Executive Director,  
Conservacion Conciencia

Marcos Hanke, Chair, Caribbean Fisheries  
Management Council

Julian Magras, Chair, St. Thomas District  
Advisory Panel

Miguel Rolon, Executive Director, Caribbean  
Fisheries Management Council

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## Proceedings

(8:39 a.m.)

### Welcome and Introductions

Ms. Lukens: Good morning, everyone. I am Jennifer Lukens. For those of you who do not know, I am the Director of Policy at NOAA Fisheries. I'm also the Designated Federal Official for MAFAC, and I also want to point out that the person that you've heard from the most is the Assistant Designated Federal Official, which is Heidi Lovett down there at the end of the room who does the lion's share of the work here for the Committee. So I just wanted to acknowledge her here.

One of my responsibilities before I turn over the meeting over to the Chair, or new Chair, is that I get the wonderful pleasure of reading Privacy Act Statement for all of you. As you can tell, I'm a little hoarse here. I do not have COVID. I'm getting over a different illness, to please bear with me in my voice as I sing this to you. But this is important, so okay. Here we go.

"Referring to the Privacy Act of 1974, agencies are required to tell people what our authority is for collecting personal identifiable information or PII from them, the purpose of the collection and 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 consequences of refusing to provide their PII. In order to collect PII and this is in the 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 are doing with this statement.

"There is also a statement posted on the MAFAC meeting site for those who are listening in virtually. We are sharing this because we want you as participants in this meeting and public commenters not to provide PII, business identifiable information (BII), or controlled, unclassified information (CUI)

during recorded virtual conferences.

"Speakers, sessions, presentations and any public comments during federal advisory committee meetings are made publicly available, and today this is through this webinar. We are not recording the webinar, but we have a court reporter for the purposes of creating a transcript.

"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 outlets must not collect any personal information from children under the age of 13 unless parental permission is provided in writing. For those of you that may be joining us via webinar, please make sure that no young children are in the background at all while you are on the screen. If that is a possibility, we suggest you blur your background or use a different background.

Long pause, I'm done. So it's just important one of those things in government, so everyone knows that this is a public forum and our responsibilities under the Privacy Act. So with that boring and somewhat bureaucratic beginning to the meeting, I'm going to turn this over to Megan Davis, who is our chair of MAFAC. This is her first meeting as Chair, and I'm so excited for her to be here today.

So I'm going to turn it over, the reins over to her.

Chair Davis: Gracias, Jennifer. Hola and buenos días. Bienvenidos a San Juan, Puerto Rico. Welcome, welcome. We're really happy to all be together. This is the fourth time that we've tried to meet in Puerto Rico, so this is -- the fourth time is a charm, and it's really wonderful to be in person and

to see the seasoned members and also the new members.

So we're going to have a great opportunity to work together and work on things that can also advance NOAA's mission. So I also want to acknowledge Raimundo Espinoza, my colleague, and former MAFAC member.

Just a couple of weeks ago his second term ended, but to host us here, we're very, very appreciative Raimundo. So thank you. So I think the best thing to do right now is to start our welcome and our introductions, and if we can start down with Tom and we'll walk our way around the table here.

If you could, you know, introduce yourself and where you're from, that would be great. So Tom, would you kick that off for us please, and use your microphone as we go along so that the recording and everybody can hear you, and they can also record along the way.

Mr. Fote: Well, my name is Tom Fote. I'm from New Jersey. I flew in at like 1:30, got here at 1:30 last night, nice trip, and I represent recreational anglers, sit on the Atlantic States Marine Fisheries Commission as the governor's appointee. Linda and I go back about 30 years, 35 years. I shouldn't have said that because it makes us look old.

But, yeah, I mean I've been dealing with fisheries in New Jersey for a long time as a volunteer. I mean I've been able to volunteer because I retired at the young age of 23 from the Army. So.

Mr. McMahon: Hello, my name is Donnie McMahon. I'm from Pensacola, Florida. I have an oyster farm and got very interested in aquaculture in the United States, and I'm happy to be part of this MAFAC family, and hope to learn a lot and get to meet most of you. Thank you.

Ms. Kalez: Good morning. My name is Donna Kalez. I'm from Dana Point, California, and I own Dana



Wharf Sportfishing and Whale Watching recreational fishing and also whale watching.

Dr. McDonald: Good morning, everybody. My name is Sara McDonald. I am newly from Charleston, South Carolina, and the Director of Conservation for the South Carolina Aquarium, and I'm excited to meet all our new members and I'm excited to see everybody in three days. So, yeah.

Mr. Dunn: I'm Russ Dunn with NOAA Fisheries. I'm the National Policy Advisor for Recreational Fisheries and work for Janet.

Ms. Hayden: Good morning. I'm Natasha Hayden. I am Alutiiq/Sugpiaq from Kodiak, Alaska. Sorry, it's been a really long time since I've been in a meeting. I'm elected to the Native Village of Afognak Tribal Council and I am born and raised in traditional and subsistence and commercial fisheries in the Gulf of Alaska.

Mr. Veerhusen: Hello, good morning. Brett Veerhusen. I am the principal for Ocean Strategies. We're a public affairs firm focused specifically on fisheries, seafood, and marine resources. I'm also a lifelong Alaskan commercial fisherman. I'm honored to be here today. I also do a lot of work with the nation's largest grocers, restaurants, and distributors on policies that impact their access and the sustainability of seafood. Thanks.

Ms. Moore: Good morning. I'm Meredith Moore. I'm the Director of the Fish Conservation Program at Ocean Conservancy. I'm in Washington, D.C. now and for a while, but originally from Alabama.

Dr. Sullivan: Hi, everyone. Pat Sullivan. And I am a professor emeritus from Cornell University, which means I am supposedly retired. So, I am now living in Northern California.

I am chair of the Steering Committee for the Center for Independent Experts, which reviews a lot of National Marine Fisheries Services stock

assessments, and after being on the New England Fisheries Management Council for 22 years, their SSC, I am now on the North Pacific Fisheries Management Council's SSC, to give me a chance to see what's happening nationally. Great to be here, thanks.

Mr. Donaldson: I'm Dave Donaldson. I'm the Executive Director of the Gulf States Marine Fisheries Commission, an advisor to MAFAC. I have the distinct pleasure at this meeting to be the Commission, so -- but don't worry, I won't let the power go to my head.

Dr. Doremus: Thank you, Dave. Paul Doremus, Deputy Assistant Administrator for NOAA Fisheries. Wonderful to see you all here. A special welcome to all our new members, and thanks again to Rai for the inspiration and for the persistence in finally creating an opportunity for us to all convene here in Puerto Rico. Great to be here, and looking forward to this session.

Ms. Coit: Good morning, everyone. Wonderful to see you. My name is Janet Coit. I'm the Assistant Administrator for NOAA Fisheries, and also the acting Assistant Secretary for Oceans and Atmosphere at NOAA. This is my first MAFAC meeting in person, so all of you who just joined MAFAC, I'm in the same boat. You'll be hearing a lot from me, but I'm particularly interested in hearing a lot from you.

Dr. Hare: I'm Jon Hare, acting Director of Scientific Programs at NOAA Fisheries, and I too work for Janet.

Vice Chair Ralston: I'm Kellie Ralston. I'm based in Tallahassee, Florida, and work for the Bonefish and Tarpon Trust. I've been on MAFAC for four, five, I can't even keep track now. But excited to be back in person. This is just a real thrill. Welcome to the new members and Janet, happy to have you on board as well. So thank you.

Dr. Runnebaum: Good morning, everyone. Jocelyn Runnebaum. I'm a marine scientist with the Nature Conservancy in Maine, and I'm excited to be here, so thank you.

Mr. Upton: Morning. Matt Upton. I'm Seattle-based, and I manage trawlers for U.S. Seafoods, and we also operate a shipyard. Thank you.

Ms. O'Dierno: Good morning. I'm Linda O'Dierno. I live in the suburbs of New York City. As Tom already pointed out, I have years and years of experience in fisheries. I worked for New York Sea Grant. I was coordinator of Fish and Seafood Development for the state of New Jersey, and now I am doing part-time work with the National Aquaculture Association on outreach.

Ms. Moreland: Good morning. I'm Stefanie Moreland, here from Seattle with Trident Seafoods. We have primary processing operations in ten coastal communities in Alaska, and take deliveries from more than 1,000 independent fishermen at those locations and reprocess in the United States as well as other places around the world, U.S.-Alaska harvested seafood. I want to thank this morning Raimundo for his persistence on meeting location. It's a pleasure to be here. Thanks everybody.

Ms. Schumann: Hello, everyone. I'm Sarah Schumann. I'm a small-scale commercial fishermen currently working as a crew member on a gillnetter in Point Judith, Rhode Island.

Mr. Berkowitz: Roger Berkowitz, former owner-operator of Legal Seafoods Restaurants. Now a founding president of the Massachusetts Seafood Collaborative.

Mr. Schumacker: Good morning, everybody. I'm Joe Schumacker. I'm with the Quinault Indian Nation out on the best coast, excuse me, the west coast, and I've been with the Quinault Nation out there for about 22 years. We're a treaty tribe on the coast

of Washington State with treaty rights in the ocean, which are unique in the U.S. Exists in the Great Lakes, but only there off the coast of Washington otherwise.

We manage large stocks of Dungeness crab, halibut, sablefish, et cetera, and we have treaty rights to all the species out there. Appreciate being here today and this is a long ways from 50 degrees. Thank you.

Ms. Lovett: Hello, I'm Heidi Lovett. I'm the Assistant DFO or Assistant Manager for MAFAC, and yes hopefully you all know me by now.

Ms. McMurtry: Good morning, everyone. I'm Gabriela McMurtry and I work with Heidi in the Office of Policy.

Ms. Lukens: Heidi, I just want to check and see if we have some remote members who want to acknowledge that they are participating remotely.

Ms. Lovett: There's Alida Ortiz Sotomayor (phonetic). Alida Ortiz Sotomayor. There's one person on not a member of the Committee.

Ms. Lukens: Thank you, and we'll be keeping tabs on that throughout the meeting if we have any members joining.

Ms. Lovett: Would you like to do other introductions or -- okay.

Ms. Lukens: And we'd like to have our guests introduce themselves as well.

(Off-microphone introductions.)

Chair Davis: Thank you all for introducing yourselves and welcome again. Welcome to our guests, welcome to our members, welcome to our NOAA leadership. What I'd like to do next is just briefly go over the agenda for today, and we will start off after our welcoming and introduction now we'll have the report from our Assistant Administrator, Janet.

And then we'll have a break, followed by the National Seafood Strategy, which will also be by Janet, I believe Paul, and also John. And then we will follow with lunch, and then an Aquaculture Update, also by Paul, and then a Recreation Fisheries Activities by Russ and Tim. Then we'll have a break, and then we'll move into a reflection of MAFAC's ongoing fisheries and seafood resilience work, which is a Working Group, and we'll review that as well.

We'll have a recap at the end of the day, followed by a field trip to Cataño, and we'll talk more about that later in the afternoon today. Okay. So just a couple of housekeepings. You all have gotten used to the microphones. If you have questions, if you could put your tent with your name on it up like this, both Jennifer and I will keep track and make sure that your questions get addressed.

And just another housekeeping that I'd like to pass on with you, having worked a fair bit in Puerto Rico now and knowing that it's quite hot here, to keep hydrated during the day. So let's start the meeting. I will start it with this beautiful gavel that was -- it says "MAFAC." Ms. Lovett: Megan, excuse me.

Chair Davis: Yes?

Ms. Lovett: I have one other announcement. May I just make a quick one?

Chair Davis: Yes, please do Heidi.

Ms. Lovett: Thank you. So we're -- at some point I would like everybody to think about if they're coming or not tomorrow evening for the dinner that Raimundo has organized, because he would like to get a good head count, so he can prepare the restaurant.

Secondly, we're going to be sharing with you shortly, I'm just getting the final prices. For those of you who are traveling on the field trip on Thursday, we're going to be ordering box lunches. They're

going to come prepared, ready to pass off to us. They'll be somewhere between 24 to 26 dollars all-inclusive, and I'll be passing around a menu. So I just wanted to give you those two heads up, to be aware and think about. Thank you.

Chair Davis: Thank you for that, Heidi. How would you like people to let you know about dinner tomorrow night? Do you want to pass around a piece of paper and people sign it or --

Ms. Lovett: We could just raise hands right now.

Chair Davis: Okay. Everybody that's coming to dinner Wednesday, you don't want to miss this. This is an amazing dinner.

Okay, that's great. I do have a gavel and Jennifer said I can use it however I want, so I'm not quite sure what that means. But it feels like I should at least start the official part of the meeting with our discussions, with a little gavel top. If you guys get out of hand, I suppose I could use the gavel top. But anyway, let's get started with our first presentation.

Dr. Doremus: I thought that was to rap on the knuckles of the speakers who speak too long.

Chair Davis: We could use it for that too. I'm open to suggestions. Okay. So let me turn over the mic here to Janet. Thank you.

#### Report from the Assistant Administrator

Ms. Coit: Good morning again. It is truly wonderful to be here. Thank you. Again, I'm so glad that Raimundo was persistent. When I heard the first meeting was going to be in Puerto Rico, a place I've never visited before, I was very excited and it almost was touch and go for a while, even up until recently.

So it's just thrilling to be together in person and to have you all here. So thank you, those of you who

traveled from Alaska and the best coast, and from closer. Thank you all, all of you for making the effort to be here.

For the MAFAC veterans, we're looking to you to help mentor and guide us, and for those of you who just joined, thank you for stepping up. The strength of a team is dependent on having many different perspectives, and I think this is an amazing group of people, and I can't tell you how excited I am to hear from you as our advisors.

I met some of you -- I've met some of you already. Some of you, I met in SENA. Some of you I met at the Recreational Fisheries Summit, so I already know how enthusiastic and informed and special you are. Others of you, I've seen in the virtual meetings, and I do think MAFAC made headway despite all of the impediments of COVID and a virtual format. So thank you for working so hard and doing that.

I encourage, I'm sure this is not a shy group, but let's really make an effort over the next few days to get to know people that you haven't met before, and to become a coherent team.

So I ask of you -- I wanted to share a little more background about me, because it's the first meeting and because I'm new, so this is about ten months into my public service here at NOAA Fisheries. But first, I asked the team to tell me a little bit more about MAFAC, and we're going to check this out.

But we think that MAFAC might be the oldest advisory committee. It looks like Meredith is nodding, but since the Federal Advisory Committee Act became law in 1971, so over 50 years ago. So this is the best body and one of the first -- and it became, MAFAC became an advisory committee right around when NOAA became kind of its current version of NOAA Fisheries, the National Marine Fisheries Service.

So, the instruction for those who serve is to gather

consensus, advice, and input; to be objective; to come from a balance of viewpoints; and to be transparent and accessible to the public. So I'm told that this is where MAFAC excels, that in spite of, or maybe, because of the connections from various perspectives that there's been success in providing consensus advice to NOAA Fisheries.

In the world that is increasingly discordant and fractured, having people come together and provide consensus advice seems extra valuable. So, we really thank you for doing that hard work.

A couple of notable ways that MAFAC has provided advice to Marine Fisheries over the years. MAFAC pushed us for the creation of the first ten-year Strategic Plan on Aquaculture, and we're going to be hearing and seeing also more about aquaculture. It's something that we're really excited about growing and supporting all the way up to Secretary Raimundo, but more work is needed to get support on Capitol Hill and to define a vision that gets enough traction and support. So, we appreciate the strategic plan and the expertise of the people in this room on aquaculture.

The vision for salmon and steelhead, including qualitative and quantitative goals to restore thriving salmon and steelheads in the Columbia River Basin, that report has been extremely valuable. It addressed all 27 stocks, and again, I'm told that it was the first time that all -- this whole disparate group of parties agreed on a common set of goals for salmon recovery.

So that's something I'm working on now in multiple ways -- salmon litigation, salmon recovery, funding habitat restoration -- and that report is something that we both commended to other federal agencies and other states and used repeatedly. So back to Raimundo's point about the value of this group.

And of course, and we're going to talk more and we have good conversation already with some of you about a National Seafood Strategy, and you



provided the advice to establish or reestablish the National Seafood Council. That's an idea that's garnered a lot of attention and something, you know, I'm eager to again see with the excitement of this Administration and some of the multiple goals that a seafood strategy can accomplish if we can actually make a lot of headway on that over the next three days and the next few years.

So thank you again for the diverse viewpoints and for coming together here. I wanted to spend a few minutes -- so I often think every day when I wake up that every single thing I've ever done led me to this day, and that's true of course for all of you. So, I wanted to take a few minutes just to talk about my background, which you probably read my bio.

But the scope and importance of this role is so huge and so consequential, and it's so humbling to be in this position. I've been incredibly impressed with the expertise of the staff and the quality of the people at NOAA Fisheries. So one of the things that I recommend to you is get to know the people here from NOAA Fisheries, just like we want to get to know you.

From me, I'm bringing I think three -- so first of all, I keep finding myself back in D.C. So I've always been passionate about environmental policy and nature, and during college, after college, after law school. I just keep going back to Washington, which I think is just an indication that when you're passionate about environmental policy, it's a good place to work.

However, in the 35 years or so since I first went to Washington, I've learned a lot about other places that are good places to work and that are critical to the environmental work that we're doing here and fisheries work. So my last ten years I spent leading a state agency in Rhode Island, and I've gotten to know Sarah in multiple ways.

In fact, she helped us with our Rhode Island Seafood Marketing Collaborative, and actually really

helped get that off the ground when we created that -- I think just before Massachusetts did -- in Rhode Island. But I'll check the record. But, the ten years leading a state agency, I loved working on fisheries issues.

In that role, we created a seafood marketing strategy. We put tens of millions of dollars of infrastructure improvements at our ports, pulling down federal money. Indeed, much of the money was from the Department of Commerce, the Economic Development Administration. And we improved, I think, both the transparency and the flexibility of our seafood, excuse me, our fisheries management. We worked a lot to improve processes.

One of the things that pains me about fisheries management is how many -- it's so vulcanized -- how many disparate groups there are and how much time the people that do that work have to spend at meetings. We try painstakingly to have solid engagement and to make science-based decisions, but sometimes the over --

The weight of all the different processes state level, the regional level, as with the commissions, the federal level with the councils, makes me worry about the transactional cost and the time and effort that we're spending trying to get to an outcome.

So anyway, a state agency had -- we really tried to make it more efficient and useful, so that the fishing community that was involved could make better use of their time, while increasing transparency, and at the state level flexibility, so people could be more opportunistic and not so straight-jacketed in terms of the regulations.

Anyway, I loved working on those issues. I used to always tell Governor Raimondo at the time -- Gina Raimondo, the first female governor of the Rhode Island -- that if I could do one thing, I would work more on fisheries issues. So I guess -- so when she became -- when she was asked to become the

Secretary of Commerce, which was a huge surprise to all of us and all the people in Rhode Island who had voted her into a second term as governor, she immediately, the first meeting when she said I'd love to have you come down and join me and head NOAA Fisheries.

So there was a lot of work before that happened. There's a lot of process and White House clearances and all. But really my work for her in Rhode Island is the reason that I have this privilege. Just quickly, the ten years before I was the head of Rhode Island DEM, I worked for the Nature Conservancy, and I helped create the marine program in Rhode Island and also a regional marine program, and also helped on the hiring committee to select the first head of the Global Marine Program, who happens to come from Rhode Island, a woman named Lynne Hale, a wonderful person.

So going back to the passion for policy, which is really one of the reasons that you're all in this room, you know, I think the role of the states cannot be understated. The role of the conservation organizations is critical to policy and progress, and one of the most important parts of fisheries management is including industry in every aspect, from collecting the data.

I would like to do more to support cooperative research. I think it's a tremendously valuable win-win-win type proposition where you get good data and you get confidence in that data from industry, and but the -- as I've learned more about the Magnuson-Stevens Act, the history of NOAA Fisheries, I've realized that some of all these processes that can feel so excruciating at the time are really necessary to get engagement.

What I'd love to see -- and a goal of mine and of Dr. Rick Spinrad -- is to have more perspectives at the table, more diversity. Brett talks about three types of equity, representational equity. So one goal that I have both for this group and, then for our

Councils, is to get more representation from communities and people that aren't well-represented in these processes.

Anyway, so that's a lot about me because you wanted background. I want to shift to just talking a bit more about some of the other leaders at NOAA Fisheries. Sam Rauch will be coming later today, and he is an absolute guru on all things regulatory, and has seen a lot. He's very strategic. You'll hear a lot from Paul, who oversees from international to law enforcement to seafood strategy and aquaculture, our budgets, operations.

Jon Hare is the new kid on the block. He is stepping in as the Chief Scientist. I'm thrilled that he is, while Cisco Werner, who's normally in that role, is acting as the head of the Oceanic and Atmospheric Research Division of NOAA, because Jon, like me, bringing my state perspective to the table, not only does he have years of research and is he a brilliant scientist, but also he's been heading our Northeast Fisheries Science Center.

So I feel like NOAA can feel like there's kind of the mothership and then all these nodes, and one of the things we're trying to do is make sure there's more alignment and consistency across the organization. So having someone who leads one of the nodes in the mothership helping us is I think really helpful for us. So please get to know Jon.

Also not at the table, just a few other changes. Jim Balsiger for 21 years was the head of the Alaska Regional Office, and he retired at the end of last year, so I got a chance to overlap with him for about six months. With that being said, when somebody who's been there that long moves on, and John Kurland, who's had many different roles at NOAA, most recently heading the protected resources division of the Alaska Regional Office has just started, just a few months ago, as the head of the Alaska Regional Office.

So I'm planning to go to Alaska a couple of times

the next, over the summer, and hope to spend some of it with John, as he tries to meet with more stakeholders across the gamut, as he takes on this new role. So, a lot of you here have Alaska connections, and I think spending some time with John would be useful. I know he wants, he brings a tremendous amount of experience, but what he wants to do is spend the first six months really kind of riding the circuit and talking to more people.

We also, probably he'll come to a future meeting, Barry Thom, who's the wonderfully talented head of our West Coast Region moved on. He couldn't resist the job to be the head of one of these commissions. I guess it's one of the best jobs in the world I'm told. So he has -- he retired just a couple of months ago. We're recruiting to fill that position and his deputy, Scott Rumsey, is now the acting head of the West Coast Region.

I also want to mention two people who joined the NOAA political team. As I've learned more about NOAA, there's a policy team that works directly for Dr. Spinrad, who are all kind of political operatives in the nicest way, and they -- and I work day in and day out with them, and they bring a lot of strengths to the organization.

So we have two people who have joined that role that work closely with us. One is Zach Penney, who some of you may know or known as Uncle Sam, who is Nez Perce and has worked -- he has a Ph.D. in Fisheries.

He's worked -- I always get the names slightly wrong -- CRITFC, Columbia River Intertribal Fish. He was the fisheries science head, and he is handling both fisheries and he is the policy lead on tribal issues. So he's brought us -- he's bringing a wealth of knowledge and perspectives, and I commend Zach to you. We'll try to get him at a future meeting.

And then, Adena Leibman joined the team. She came directly from the Environmental Defense

Fund. I knew her when she worked for years as the lead on fisheries and other environmental issues for Senator Sheldon Whitehouse, who's an outspoken member of Congress from Rhode Island.

Adena is working, she really has two areas. One is offshore wind, and I'm going to talk a little more about that. It's very consuming for many of us, and the other is working with our marine and aviation operations. I'm trying to -- right now we have a number of efforts going on to increase collaborational communication around our science mission.

So the big white ships and the aircraft and the uncrewed vessels and everything that we're putting together now and into the future that we're coordinating very well, so that we get more science done to support our Fisheries mission. Adena is working on bringing together all of the Line Offices at NOAA, to try to do a better job I guess I'll just say, at making sure that we're coordinating with the folks that operate all of these vessels that we depend on and that we staff for our science.

I wonder how long I have because I could go on and on before -- okay. I wanted -- so one of the -- Laura is here from Communications. You know, communications is central to achieving our mission. So you are all ambassadors, you are all communicators that we depend on, and there's just a tremendous wealth of information coming out of NOAA Fisheries, and I think if anything we worry that people are missing it or that it's not broadcast and useful in a way that we intend it to be. So we'd love the feedback on that.

I wanted to note just a few reports that came out recently, and we're going to talk more. Jon's going lead a session to talk about climate science and how we're using -- how we're expanding that to hope to use it to inform management. So we recently on Earth Week, we coordinated a lot of this to come out on Earth Week.

We issued the draft Climate Science Regional Action Plans, so those are out for review and represent a lot of work from our science teams in the region. But we want input. Those are intended to be used to inform management. Along with that, there's a tool called DisMAP, the Distribution Mapping Tool, that I think has use. It's very cool. It has use both for -- because you can visualize based on our surveys, and see how stocks have expanded, contracted, shifted.

So you can take a look at the tool and see through a visualization over time what's happened to a number of our stocks. So it gives a very stark visual to demonstrate that things are changing quickly, and that we need to take that into account in our management, and I think it well, has a number of uses. It's very -- I can't, I can't say enough about it. It's very cool, but also you can dig into it and get a lot of information.

We also announced that NOAA researchers have developed global forecasts that provide up to a year's advance notice of marine heat waves, sudden and pronounced heat waves in the ocean. That's the type of thing that we hope to do more of, which is use science to predict what's going to happen, so that managers and businesses can take that into account as they make their plans.

That was just in the last couple of weeks. So check out our website. We do a lot of web stories. We're doing more podcasts. But again, it's a very busy marketplace of ideas and of information, and I think, you know, while everything we do is for public benefit, we want to make sure the people working in this field are benefitting from the science and the products and services.

So finally I'll wrap up before we turn into the next presentation, which I'm also helping to lead with Paul and Jon. I wanted to commend Megan and work for -- that has gone into putting this meeting together. We're hitting on a lot of issues that are

priority issues for this administration and for the NOAA Fisheries team. So I'm hoping that the conversations we have today is a lot more listening by all of you.

I love that quote, "You can see a lot by looking," which is Yogi Berra. But we're going to go out on two field trips that I think will be really instructive at learning more about artisanal fisheries and about what's happening here. It's always smart and important to go and explore a little bit when you're in a meeting offsite.

And then, the next couple of days I think will be more hearing from you in your discussions informing some of these big areas. So I've sent around just yesterday, so you may not have seen it, an FY 2022 priorities document, and that's something that I have been working on and kind of reshaping once I got to NOAA Fisheries, that in a very succinct way provides a synopsis of our priorities and some of the priority actions, and we're going to in a minute talk about 2030 Vision.

This is something that we put together to just try to orient ourselves around as we do fiscal year and yearly plans and strategic plans of where we're trying to go. So when we get to that presentation, I'd really be interested in feedback because we want to move directionally towards this 2030 Vision in everything that we're doing.

And finally before we turn to that, I've learned a lot about how the budget cycle works. Another quote I like is "show me your budget and I'll tell you your priorities." What happens in the budget cycle is, you know, we put a lot of things in the process that demonstrate our priorities, and then we support what the President provides to the Hill.

I think for all of us on some of these areas, climate science, aquaculture, doing our -- playing responsibly our role in offshore wind. We have an equity strategy that we sent out in a draft form a couple of weeks ago. We have some very specific



plans around that that would require more funding. So the budget, we're right in the midst -- the President just provided his FY '23 budget.

We're in the midst of the FY '24 budget, and I think the trick of my role is trying to focus, learn a lot and focus, and then work with all of these people that know the ins and outs of the process, to try to see that our budget can support the work that we need to do, which again is so exciting and so daunting really right now, and as we look at the climate impacts that on top of all the other stressors that, you know, I feel that we're kind of in a historic moment in time when we really need to all work together to make sure of the sustainability of our fisheries, the access to our fisheries and the health of our ecosystems, that we're doing everything in our power to support that mission at NOAA Fisheries.

So thank you. I'll end that opening now and I think, do I turn it back to you Megan? We're going to go right into the next, but I'm happy to have questions.

Chair Davis: Janet, thank you so much for your opening remarks and your updates, and we're so privileged to have you here in your position, so thank you so much. We do have a few minutes if you'd like to ask Janet anything in regards to her opening remarks. Stefanie and then Natasha, and also Joe.

Ms. Moreland: Thank you for the remarks. Appreciate the scope of them. I just have a quick question. You mentioned a tool that you can visualize stock assessment or stock status. What did you refer? How do we find that?

Ms. Coit: It's called DisMAP, and it's showing how the distribution is based on our surveys over time, and it's showing how the distribution of the stocks change. We can send a link. I know it's on our website. Jon, do you want to share?

Dr. Hare: Yeah, we can share the link with you. It takes all the trawl survey data collected in the different regions and then presents it sort of at a national level and a unified format. So we can share the link with you.

Ms. Moreland: Great, thank you.

Ms. Hayden: Thanks Madam Chair. Thank you for your opening remarks. I can -- I really appreciate your enthusiasm and expertise. I'd just like to extend an invitation to you and Mr. Kurland on one of your trips to Alaska to come to Kodiak and get an opportunity to spend some time in the heart of the Gulf of Alaska, where we've been dependent on and stewarding fisheries for thousands of years. So thank you.

Ms. Coit: Thank you. So see Sean. He's helping to put together both these trips. But I know in August we're planning to go to Kodiak.

Ms. Hayden: That's excellent. You must be getting really good advice. That's a good time to come.

(Laughter.)

Mr. Schumacker: Thank you, Janet. So we did, we received the priorities document yesterday and I thank you for that. I've been going through that, so I had connectivity. In Priority 1, your Strategic Goal 1, forgive me, you call out offshore wind and working with the offshore wind process as NOAA Fisheries, to mitigate its impacts, enhance our ability to continue the scientific research that we do, that you guys have to do out there in that process.

That train's really roaring fast, and obviously the folks on the East Coast have been dealing with it for some time now. The west coast is now facing it and facing it fast. We're facing new technologies and new deployments potentially that are really going to be challenging.

So we really -- I would like to know a bit more,

maybe you'll be addressing this later in the meeting here, about how NOAA Fisheries is going to continue to work with BOEM, and how BOEM is working with NOAA Fisheries on these deployments, and how that train is being potentially mitigated.

This is of deep concern to everybody out on the West Coast. So appreciate that, and I'm sure around the nation as well. Thank you.

Ms. Coit: Thank you Joe. Indeed, when we get into the next presentation, I have a slide on that and I'll speak at more depth. But it is -- I am focusing on that issue more than any other single issue. It is moving fast and has both a tremendous impact on our resource in the ocean environment, but also on our staff.

So it's kind of sucking all of the time and energy of the existing staff. So this one area we're asking for a large budget increase, but let's -- I'll get into it more during the slides, and then I'd love to talk more over the course of the next few days about that challenge and our responsibility.

Chair Davis: Jocelyn and then Meredith, and then if you've spoken you can put your tent down. Thank you.

Dr. Runnebaum: Yeah, thanks for that Janet. You mentioned coordination across the different, the partners, I guess different science centers and regional centers for NOAA, and that's a daunting task in and of itself. But I'm also wondering a little bit about coordination with the states, and I'm mostly thinking about coordinating the big white ships and mapping efforts, and some of the state level mapping efforts that are happening.

So particularly in the Gulf of Maine, we have some pretty data poor areas thinking towards offshore wind. I'm not sure if other regions have similar issues, but it seems like coordination between the states and NOAA to get those data gaps filled is really important, and I'm wondering if you've

thought about that at all yet.

Ms. Coit: Thank you. That's something I've thought about a lot in my previous role, because when the Rhode Island Coastal Resources Management Council did its Ocean Special Area Management Plan, you know, it was really a state stepping up to get involved in federal waters in a way they hadn't before. The coordination with NOAA seemed really to me lacking at that time.

Our National Ocean Service does a lot of the mapping and is doing a project right now in the Gulf of Mexico, we're about to kick it off, basing a lot off of the work that we did to create the Aquaculture Opportunity Areas, to try to do more fine grain mapping, to see ocean uses, de-conflict them up front and identify areas that would be suitable.

Anyway, it's something I am thinking a lot about. It's another area where we could use additional resources. But every day in every way I think about what are the states doing. How are we coordinating with the states, you know? These resources aren't static, and so again Jon may have some other thoughts about that.

But I think it's an area, you probably know Betsy Nicholson, and we actually did a presentation yesterday afternoon, my Internet kept going in and out to the White House, on green spatial planning and mapping, things that I think some of us had thought would be a lot further along now. But that yeah, I agree that's a gap and an area that needs work, particularly as we look to lease and site more offshore wind.

Chair Davis: Okay, Meredith and after Meredith we'll move on to the presentation.

Ms. Moore: Thank you. I really appreciate all your comments about the critical moment we're in with respect to climate change and our green, the systems and fisheries. I did want to commend the agency. DisMAP is very cool. Like really happy to

see the regional action plans for the Climate Science Strategy come out, and the heat wave prediction thing is so cool.

But I did want to just flag that I'm happy to do, like happy to see a public comment period on the regional action plans. There isn't a national level piece that's tying those together that's also open for public comment.

So I just wanted to point out that like as you're thinking about how to get that out of those silos of like the national to the regional, that's a place where I feel like those two things aren't connecting yet. I think there's supposed to be a national one in the works, but it's not like available for public comment as well. So just flagging that opportunity I think. Thank you so much.

Ms. Coit: Thanks Meredith. I know there's a National Climate Science Strategy, but I don't think it's serving the purpose that you're talking about. Jon, do you want to comment?

Dr. Hare: No, you're right. Janet and Meredith, there is a National Climate Science Strategy that was not revised. The regional action plans were updated within the context of that strategy. To your point about, you know, revisiting our National Climate Strategy is well-taken and it's something we can think about. I can look and see if there a national regional action plan in the works.

Chair Davis: Okay. Thank you for your questions and comments, discussion. We're going to move now on to the presentation, NOAA's Fisheries in 2030. We have 45 minutes for the presentation, but also to save some time during that for questions and discussion as well. So I'll turn that back over to Janet and Paul and also Jon.

Ms. Coit: Let's see if this works. Give me one second to make sure.

(Off-microphone comments.)

## NMFS 2030

Ms. Coit: Great. So, you see there's a slide presentation at the front of the room, and I'm going to take you through these broad slides and again make some comments as NOAA leadership. As mentioned, as we are going through the churn of the year by year appropriations cycle, we thought it was important to step back and try to take a moment to take stock at a high level of where we're going and where we want to be in 2030, which is a date that a lot of climate plans, you know.

A lot of people are looking at 2030 as a time in which certain things need to happen, and some of this is probably aspirational, but this is what we want to accomplish. So I don't know. Do you also have these, because I can see that I certainly can't read that. But okay, great. Heidi is saying yes.

Ms. Lovett: So these were loaded up to our website, so people can click on any one of these at this time. I can resend the link to the website. You all have it, but I can resend it.

Ms. Coit: Well, just listen and you'll be -- so everything that we do every day is relevant to protecting marine ecosystems and climate change and the climate crisis and what we're observing in the water and through our research, and for me initially just from fishermen who were talking about the degree to which they were hauling in Mid-Atlantic species that they had never caught ever 20 years ago, and we're now catching in commercial quantities.

So the changing ocean conditions is a result of climate change and other drivers. That is a major focus, and the DisMAP that I talked about, the blob off of the Pacific, I think that NOAA Fisheries and our stakeholders are aware of this in a tangible, specific way, perhaps more than any other industry. These impacts affect the commercial fishing industry, their investments, their future.

Coastal communities subsistence, harvest, that's an issue that is, as I've met with tribal leaders, absolutely heartbreaking and devastating in terms of how it's changing culture and as well as other aspects of long traditions. So these changes are serious and at the heart of everything we're going to be talking about over the next few days.

Many of you are very familiar with what's going on in the Alaska, the state that's warming the most quickly and causing all sorts of shifts for pollock distribution, for the structure of our ecosystems, crab crashes, you know, things that we're still trying to get our arms around. My first field trip where I met Stefanie and I met Brett was in Seattle, and I was stunned as we went around the room, just how the first issue that all the industry leaders were talking about was science.

And stunned, just because I guess I wasn't expecting that, just asking Secretary Raimondo and Senator Cantwell to please fund more science, so that we can understand better and make better decisions.

So whether it's our largest fisheries or we've been working a lot, I've spent a lot of time on the North Atlantic Right Whale, and you see how the changes in the distribution of prey are changing their migratory patterns, causing more risk as they travel into areas that are heavily used by the lobster industry and that hadn't been areas where they were traditionally found, the St. Lawrence Bank.

So climate change is just kind of the foundation and underpinning for all of our work in a way that makes us question, you know, necessarily whether the management and governance structures that we have are going to hold up or be nimble enough to address these vulnerabilities.

The seafood market in 2030, I know, we're hoping that the seafood market in 2030 is vibrant, that we've got strong industry for artisanal to the large trawlers that are supporting the resilient food

supply, healthy protein for Americans and serving the rest of the world. But a lot of our focus has been how can we bring more product locally to support jobs, processing, coastal communities subsistence uses.

So there are many, many challenges. I'm kind of setting the stage here. Obviously the accelerating changes to the ocean ecosystem too. We'll talk more about offshore wind, but the increasing competition for ocean space. 3, the rise in costs no one I think would have predicted, how quickly the cost of a gallon of gasoline has changed, how much COVID-19 has affected supply chains.

So the increased costs, so the unfair tariffs, these are imposing terrific burdens. Then we heard a lot about aging infrastructure and concerns about workforce. So these are all sort of conditions and considerations that we are taking into account as we look at helping to support and manage fisheries and support an industry over the next eight to ten years.

Okay. So those were some foundational issues and points, but now we're getting to the 2030 Vision. So the rest of the presentation we'd like to talk about moving forward, and what this vision means for our program. So specifically, you know, our vision for NOAA Fisheries in 2030 is that we have identified modern data requirements, that we have advanced data collection techniques and methods of analysis, and we're using those to inform management.

We have a vision that our climate and ecosystem fisheries initiative is fully funded and implemented, and providing information to managers and communities so that they can respond, they can predict, they can respond, they can adapt to climate change. We hope to have a more dynamic approach focusing on ecosystem function that is implemented in our fisheries management plans, that again predicts and accounts for changes.

We want to use innovative technologies, incentives



and partnerships to work to stabilize and recover endangered species, and I think some of the new technologies, like ropeless gear will, I'm hoping will have moved forward and then be used and useful by 2030.

The seafood sector. We want to work to make it more resilient, help people to predict and adapt to changes, to use innovative and new technologies and to have a better playing field in the global trade market. We're part of an administration goal to produce 30 gigawatts of offshore wind by 2030. That is an ambitious goal.

In order to do that, NOAA Fisheries is going to have to scale up and make sure that those decisions are well-informed. We hope to deconflict up front, to minimize and mitigate impacts both on the resource, on our science surveys and importantly on the fishing community and the coastal communities' impact.

And then around equity, we have two goals. One is we want to have a more diverse workforce within NOAA that better represents the demographics of communities, and that brings us a variety of perspectives, where people feel that they belong and are valued, and we want to do more to improve equity and address environmental justice through our work of identifying.

We have, as I said we have, we've rolled out the strategy and are looking for ways that we can concretely fill data gaps, you know, help in many ways improve access and understanding and participation in fisheries.

Of course, in order to achieve all these, we need to take deliberate actions, and again I'm sure all of you face this in your jobs, so I'm not saying anything new.

But with the vast scope of what we do here, waking up every day and thinking about focusing intentionally on these issues is required of everyone

in the NOAA leadership team, because you can work day and night be busy and not make headway.

So, so that's our goal really, and part of what I would like to hear from you is how do we take deliberate, intentional, concrete strategic actions to get to these goals? We know that states and coastal communities, industry and all our stakeholders need good information, and we're guided by a number of executive orders in this administration around climate, equity.

Dr. Spinrad has, this is actually his slide. He has identified NOAA priorities that align with the administration's priorities around climate, equity and what he calls the New Blue Economy, and for us, we just say "The Blue Economy," because it's old and new. But we want to make sure that there's a vibrant economy around our fisheries.

So through these presentations, you'll see these icons and we'll get a little more in-depth about what that means as we try to achieve these goals over the next few years towards 2030. So I had it off to Jon, to talk about what is now our Climate Ecosystems and Fisheries initiative.

Dr. Hare: Thank you very much, Janet, and we'll be spending a little bit more time on this tomorrow as well. But the climate ecosystem and fisheries initiative is envisioned as a way to provide climate model output to fisheries management and protected species management applications. And so it's building the modeling enterprise for the correct scale of climate models to apply to fisheries problems, protected species problems.

It's building the sort of way that that information is served consistently nationally, but able to be used regionally, and then it's building regional applications based on conversations with fisheries management councils, marine fisheries commissions, species recovery teams about what type of climate information do they need to inform the decisions that they're making.

So it's a cross line office, which is complicated. It's hard to work within line office. It's complicated to work across line office, but this initiative, we see this initiative as a way to sort of take the climate science strategy which we talked about before, and turn it into advice to be used by managers and decision-makers. And so we're excited about it. Initially it was entitled "Climate and Fisheries Initiative," and a number of people when they hear "fisheries" think of commercial and recreational fisheries. But a number of us who work in fisheries think of commercial and recreational fisheries, protected species, habitat conservation, aquaculture and marine ecosystems, and we realized that the name was sort of giving one impression where we were reading something else.

So we changed the name purposely to "Climate, Ecosystem and Fisheries Initiative" to sort of demonstrate that broad expanse of the NOAA Fisheries mission. So thank you, Janet.

(Off-microphone comment.)

Dr. Hare: Thank you. Future data collection and technology. You know, we recognize that most if not all of our management is based on data. NOAA Fisheries has some of the longest-running time series of marine ecosystems in the world, and that really provides perspective for us to think about where we are, where we have been and then informs, you know, management actions to help us get to where we want to be.

And we recognize that our current data, you know, as I think we can all agree, we can always improve. So there's the act, there's the fact that we can always improve, and we are facing several particular challenges at this point in time. So we envision a future where we're going through a next generation data acquisition plan process now.

That's currently underway, so when that completes we'll see what our -- put together a data acquisition plan and in 2030, we imagine a future where we

have implemented that plan. We also, you know, understand the need to work sort of public-private.

It's easy to say public-private, but like in actuality what does that mean? That means working with commercial fishers and data collection cooperative research, working with recreational fishers in the collection of data, working with whale watchers or others in terms of collecting data on protected species.

So it's really developing those cooperative data collection efforts. Then there's also the public-private in terms of the uncrewed systems. There's a lot of development in that area, in working with some of the companies that are developing those technologies to make sure that they're fit for purpose, for NOAA Fisheries' needs, for your needs in terms of the advice that we provide.

We also, you know, see this new technology really as a way to fuel, you know, an efficiency of data collection, a cost effectiveness of data collection but also even, you know, like a more comprehensive data collection. So really trying to imagine a future where we're collecting, you know, more data maybe for less cost, but much more efficiently.

And then we really understand, I think this is something, you know, Climate Ecosystems Fisheries Initiative, in this sort of a data collection. We need to work more across NOAA. There are a number of data collection efforts within NOAA. There are a number of climate efforts within NOAA.

So we need to think about how we work across line offices to be as efficient as possible, to make sure we're not duplicating each other, to make sure that we're supporting each other, and then make sure what we're doing is fit for purpose, which in the NOAA Fisheries lens is supporting marine ecosystem management.

Next one of mine as well. Yes. Ecosystem-based fisheries management. So I will be honest. I think

what we're really talking about is ecosystem-based management, but we have fisheries in there to make people comfortable, because we clearly are able to handle the fisheries realm 100 percent. So we can say ecosystem-based fisheries management to establish our ability to work in that realm, but what we're really talking about is ecosystem-based management.

Two things point us to that. One is the offshore wind conversation. That is a classic ecosystem-based management challenge. We heard earlier that it's a challenge that we are facing now. We've actually been facing it for about ten years, and the other is climate. Climate is affecting every aspect of our ecosystems, affecting every way in which we interact with our ecosystems. So we really are sort of an ecosystem-based management.

NOAA Fisheries works through the fisheries management process, so ecosystem-based fisheries management becomes our entry into that larger conversation. So we imagine a future where we are really thinking about fisheries management, protected species management in the context of the whole ecosystem, how all the different parts interaction, and then a clear understanding of where we have, you know, the authorities to act directly and where we need to act indirectly to inform others who have the abilities to act directly.

So it's sort of that similar issue we talked about in terms of working cross line office, but it's really working together to, you know, utilize and use and protect and conserve ocean resources for the long-term.

So that is an ecosystem-based management question, and we imagine that in ten years our fisheries management plans will implement a more flexible approach that focuses on ecosystem function and sustaining economically viable coastal communities, recognizing that species contributions will change with climate change.

Ms. Coit: Jon, you can lead off on this, and then I'll wrap up. This was Sam's slide.

Dr. Hare: Thank you. You know again, going back to the NOAA Fisheries mission is broader than the name implies. We have substantial authority and responsibility with regards to protected species, Marine Mammal Protection Act, Endangered Species Act, and both of those and the Magnuson-Stevens Act have got components to protect and conserve habitats.

And so you know, we imagine a future where we are able to successfully have sustainable fisheries, sustainable aquaculture and recover and restore our endangered species and continue marine mammal protection. Again, that too is an ecosystem-based management question. It's bringing all the different pieces together to achieve multiple goals.

You know, one area where Janet, you mentioned earlier, which is sort of front and center right now is this development of ropeless or on demand systems for line fisheries, as a way to reduce entanglement of -- on the Atlantic, it's North Atlantic Right Whale-specific and humpback whale. There are a number of examples. So trying to work with industry with -- to develop these systems and see if they are a way to help line fisheries and marine mammals coexist. So I'll stop there Janet and turn it over to you.

Ms. Coit: Thank you. Yeah, I just wanted to add here, I mentioned salmon already, North Atlantic Right Whales. We struggled on this vision statement and ended up with the word "stabilized." When you look at California's persistent drought, the less than 400 North Atlantic Right Whales, far less than that in the Pacific, it's hard to have a vision for 2030 that is based on actually our requirements under the law to recover these species.

So the probably most hopeful, there's a few hopeful things. One is the Infrastructure Improvement Act. We have just at NOAA Fisheries \$1 billion, across

NOAA \$3 billion. We're coordinating with U.S. DOT. They have a billion dollars to spent on culverts. We're coordinating with the U.S. Fish and Wildlife Service.

We have many billions of dollars through that Act that we can put into habitat restoration, fish passage. There's one grant program that's oriented around the Pacific Coast salmon recovery. So in -- that is something we have a number of. We'll talk a little bit more about it, but we have a number of competitive grant proposals coming out that at least gives us the opportunity to help fund the portfolio of restoration projects and address some of the dams and culverts and other impediments.

But truly when you look at Central California, I know these are -- the folks that work on these issues are doing their best and, you know, our 2030 goals are infused with reality when we look at how difficult the recovery of some of these significantly imperiled species are. It always gets down to habitat. There's a lot going on outside, with climate change that's outside of our ability to address it quickly.

I was talking to -- I don't want to digress here, but I want to talk about Alaska more too. But anyway, you know, our goal is to -- and Jon, and the reason we have the picture of ropeless gear is in some instances we have technologies that can really help us to mitigate risk to species. In other instances, we want to develop adaptive management techniques where we can do a better job of conserving habitat and species and changing conditions. Paul.

Dr. Doremus: Thank you, Janet. We have an opportunity after break to talk about our National Seafood Strategy.

This piece of our overall strategic architecture is a distillation of the essential elements of that strategy. The pieces here on increasing aquaculture production, strengthening wild capture fisheries, increasing seafood consumption, strengthening domestic processing capacity and workforce

training, and ultimately reducing fishing are kind of four of the major outcomes that we expect from that plan.

So when we talked with many of you in our kind of informal discussion session on a National Seafood Strategy, one of the major comments that we heard from many of you is where does this fit within the overall strategic architecture of the organization. This presentation covering the vision for our entire organization over time does exactly that.

A key element of our ability to move forward in our overall mission is really understanding the situation that industry is in today and the types of major pressures that are bearing on the ability of those who have stakes in, participate in, care about or are involved in the overall health of our seafood sector need to pay attention to these kinds of pressures, and that's what our strategy intends to do.

So we have an opportunity to focus on the elements of that in our upcoming session. But I wanted to really draw your attention to the 2030 Vision, because when we talk about a resilient and competitive seafood sector, you know, the first question is what does that mean. We had in some of the commentary some discussion about the resilience piece, the competitiveness piece, and we try to distill the elements of that here by outlining that a more resilient seafood sector is one that has stronger production, stronger U.S.-based production, increased and consumers are buying more seafood. So there is that element, that all of you have contributed towards with your recommendations on a National Seafood Council.

We have supply chains that are more diverse, shorter with greater value-added processing and production in the United States, and the seafood sector overall is contributing towards a more climate-friendly food production strategy. So yes, we're part of the Department of Commerce. Yes, we're concerned about the overall health,



competitiveness and profitability and resilience of the U.S. seafood industry, but there are enormous public policy dimensions to this strategy.

This is about adapting to climate. It is about our future food security. It's about public health and nutrition, and it's about creating a more diverse economic opportunity, particularly but not only in our coastal zones. So there's really substantial policy dimensions of this strategy that will play out over this time period by 2030.

That's our vision is that we've come a long way in modernizing the seafood sector and improving its ability to function in a very uncertain world and generate more secure, stable, sustainable and resilient sources of supply, but also have greater connectivity to U.S. consumers who are benefitting more from a higher seafood component of their diet. So a lot of pieces come together here, and we're very industry-centered in this strategy, but it's with a very, very strong, our feet kind of rooted in these many dimensions of public benefit over time.

So that 2030 Vision is the motivating vision for our overall seafood strategy. We'll look forward to a greater conversation around that in our next session.

Ms. Coit: Thank you, Paul. So take a few minutes. The vision here is 30 gigawatts of offshore wind are under development with informed and balanced decision-making that includes consideration of NOAA Fisheries, science, regulations and stakeholder equities. We're talking a lot about the impact of climate change. This administration from Day 1 is committed to reducing greenhouse gas emissions that contribute to and accelerate climate change.

A big part of that strategy is addressing the energy sector, and a major part of that strategy, particularly as you see solar panels caught up and other issues that are preventing development and expansion of solar right now, is expanding offshore

wind. So when Secretary Raimondo asked me to take this job, she said your top priority is delivering on this offshore wind goal, in a way that's responsible and sustainable, and looks out for marine resources and the future of fishing in America.

The best approach to this is again the ocean mapping and looking for the areas that avoid conflicts, but this is moving so quickly. I think on the west coast and in the Gulf, you can benefit and we would be interested in having more side conversations from lessons we've learned in Southern New England, where the first two major projects have been approved.

We have nine projects underway right now that we're addressing, another several. These are projects where the leases have been sold and the developers are putting forward their plans. There's many more coming down the pike, and I'm in touch with the head of the Bureau of Energy Management every day. The White House is in touch with me almost every day, in terms of how do we do the permitting and the regulatory process in a way that is efficient and compliant.

We're working on a survey mitigation strategy, we're working on a fisheries compensation strategy. We're working to better understand and require monitoring and collection of baseline scientific data. But we're also, and I can't emphasize enough the pressure on our regulatory staff in particular from the Protected Resources Division, from our regional offices on the Atlantic coast, to do the Marine Mammal Protection Act permitting, the Endangered Species Act consultation, the essential fish habitat advice, the NEPA documents, and to work with industry and with the Interior Department and the Department of Energy on the siting, development, transmission and with states, who are after all the ones who are purchasing this power.

So I could talk for a very -- we have Jennifer Lukens

has been critical to coordinating this across NOAA Fisheries, and we're trying to increase our resources. We're trying to take the lessons that we've learned to date and to apply them both within NOAA Fisheries but even more importantly to the Interior Department.

We're trying to educate the industry, so they understand why the spawning aggregation are essential fish habitat, you know, why certain mitigation measures are required to try to relieve some of the pressure on us when we try to do what's required under the law and get so much pushback.

But the need to do this quickly is counter, a countervailing force to doing it in a way that many of the scientists and regulators in NOAA Fisheries would like to do it. So it is a tremendous challenge, and one that we'll be expected to deliver on, no excuses. So again, I'll talk more about this.

The better vision is that we do this in a way that allows fishing in and around these wind farms, and that minimizes disruption of habitat and where it impacts both the losses and the costs associated to the coastal communities and the fishing industry are minimized and compensated.

It's a tremendous area focus that NOAA Marine Fisheries wouldn't have even talked about 15 years ago, probably maybe 20. Okay. Jen is telling me we are going to discuss all of this across the next few days, so if our discussion is truncated now, we'll get back.

This is the slide to Paul. It's NOAA Fisheries is a modern agency.

Dr. Doremus: Thank you, Janet, and to be brief, to generate the kind of mission impacts we've been talking about, we've really got to be paying attention to the resilience and health of our organization as well, and there's -- the centerpiece of that is really not just our current but our future,

our future staff, really. It's the intellectual capital of the organization that generates these impacts.

We have to have the right physical infrastructure assets, we have to have the right tools, the right laboratories, the right data collection capabilities. But ultimately the centerpiece of our organization is our people, and what we are doing now to generate the type of leadership and workforce capability of the future is really at the center of it.

So we'll talk tomorrow a little bit more about the kind of pressures on the workforce these days. It's extraordinary, the rate of change and uncertainty that is in our overall working environment, and this challenge of building a hybrid workforce and providing circumstances under which people really feel empowered, engaged and able to do their work despite an extraordinary level of uncertainty in their environments, is the key to not just our but all of our success I think.

We have a huge focus long term on diversity, equity, inclusion, and accessibility. This has been a long-term issue, but frankly, the nature and tenor and urgency of this discussion really changed after the spring of 2020. The whole national dialogue around this has changed since then, and we've got not just a commitment but just a really compelling need to very pragmatic, focused and purposeful about how we deal with these issues.

The way those needs translate into our organization and the way we build greater capability through diversity, equity, inclusion is going to be part of our ability to attract, retain the type of workforce that will generate these benefits over time. We also have to have places to work in. Our facilities are in dire need of modernization. A big, big pressure on the organization there and we'll be talking about further as well.

It's going to be a -- is now and a big part of our fiscal requirements for some time. We have enormous deferred maintenance; we've got facilities

that are in dire need of recapitalization, and with all of this is not just budget urgency, but an opportunity to really change how we operate as well, how we use facilities and with our facilities and with whom we do that.

So a major strategy that we're advancing starting in -- it's really deepening in FY '23, you'll see an \$83.2 million for recapitalizing our Northwest Science Center. That is a partnership-based strategy. We're not building and owning. We're looking at a co-location lease opportunity.

So it's a new model and a model that will allow us to approach an innovative organizational kind of extensive organizational model that we're very excited about, and we could likely pursue in other parts of the country as well. So lots that can happen there, but really central to our overall vision of being able to have the workplace environment and the people that can generate these kind of benefits out to 2030 and beyond. Thank you, Janet.

Ms. Coit: Okay. That's a summary. Megan will send it back to you, and we didn't save much time for a discussion. But again, we'll be here for the next three days.

Chair Davis: Thank you Janet and Paul and Jon, for this great overview of the vision for 2030. It really sets the stage for the next three days, and we'll have a lot of time to discuss this, and also see how MAFAC can have some action to help with some of these goals and some advice. And so we have about ten minutes for questions.

I also want to let you know and acknowledge that Robert Jones, Sebastian Belle and Clayward Tam are all on right now, and we'll have a chance in a few minutes when we come back from break for them to introduce themselves. So Kellie is first up with questions.

Vice Chair Ralston: Thank you, Megan. A great presentation and excited to hear kind of about the

vision for 2030. I think there are some huge challenges on the agency's plate as we move forward.

The two that I wanted to focus on really were the ecosystem-based management and the climate change, particularly from a fisheries management perspective, and kind of as you work through that process, I know you'll be collaborative in that effort. But to really develop some discrete not only funding needs, but also statutory or regulatory changes that may need to be addressed, for you to really kind of fully envision that and get us to where we need to go. Thank you.

Chair Davis: Tom, did you have your card up?

Mr. Fote: Yes, but it fell off the table. Last week I was at the Atlantic States Marine Fisheries Commission. We were doing striped bass, a never controversial subject, and basically I brought up a subject that I've been bringing up the last 30 years, and I'll go back to 2000. We'd been having a discussion around the table with EDF and RDC, was called the Center for Marine Conservation back then instead of Ocean Conservancy.

I walked into the room, I says I guess I'm the only liberal sitting in this room, because I'm the only one that cares about the poor and the subsistence fishermen. And I says when are we going to address it? I did the same thing last week, since we're now moving into supposedly an environmental justice. I grew up fishing and Linda, as I told her about before, Canarsie Pier. I'm a Brooklyn boy by heart, and basically fishing off the bridges and bringing home for my fish at 12 and 13 years old for my family to eat. I was first generation; my dad was from Italy, and that we've taken that out of the mix.

That's where I learned about conservation. That's where I got excited about fisheries, and that's where I put my life for the last 35-40 years, dedicating and volunteering all my time to protect them. But we put those people out of the fisheries.

We've never addressed it when you raised the size limit.

I was hoping to see something about environmental justice when we look at subsistence fishermen and the poor. And that's really, I didn't see much on recreational fishing in this presentation, and it concerned me. And I'm always the pain sometimes in the room, as Bill Goldsborough pointed out when he was talking about the Commission David Hart Award.

And so I'd like to look at some discussion about that in the next couple of days. I think it's a job for MAFAC to maybe look at how do we handle these problems, that we put those people out of the fishery. I mean I spend a lot of time in Hawaii, because I'm retired military. So I spend six weeks there. They fish for food, same thing they do in Puerto Rico. It's my second trip to Puerto Rico, the first one was '69.

And so basically I see the differences in the people that do not do that, if you walk along the docks and the banks. I'll leave it at that.

Ms. Coit: Thanks, Tom. We do -- so first, you're right. I noticed when we went through that recreational fisheries and subsistence fisheries weren't highlighted. So thank you for that. Second, we do have a session on environmental justice and equity, where those types of issues we can get in more depth in. And third, species like striped bass that are managed at the commission and the state level.

I know that the, those types of considerations were certainly on our minds when we were managing those species from the state perspective, and I think we want to delve into exactly those issues when we're looking at equity and access. So thank you.

Chair Davis: Okay. We have Matt next.

Mr. Upton: Thanks for the presentation. A lot to think about there. One thing that I hope you all will consider is really working with your kind of in-season management folks at the real local level, because that's where harvesters are interacting the most I think with NMFS, and encourage those folks to maybe kind of shift their thinking around being a little more flexible towards the people on the boats trying to get the fish out of the water.

Because one of the things I think that I noticed is that there's almost this impression that people out on the water need to be controlled or guarded against. But I think a lot of times they just want to be partners with the industry. I think another thing that's happening is there's a lot of regulations that have been on the books for a long time, that as kind of things change don't always make sense.

In-season management has to make difficult decisions, and most recently during the B season cod fishery for trawl, they had a 24 hour opener, and even though they had heard a lot from the industry about how hey, this is April 1st. There's not a lot of cod there. They're not going to be here. Well, we've got to do this opener. 24 hours is all that we can do. We're just worried you guys will go over and there's a lot of ways that the industry can kind of work on communicating how much fish they're catching when they see the nets coming up.

It turned out that fish weren't there so then we went to a 24 hour opener to a, you know, four or five days later the fishery's still open and they changed it around. Just kind of working around at that real local level to have more flexibility and really kind of work with the harvesters, because it's really challenging, I think to get fish out of the water and sometimes there's that impression that while, you know, NMFS is kind of working against us and kind of policing us. I think that's something that could change. Thanks.

Chair Davis: Okay. Meredith will have the last



question before our break.

Ms. Moore: Ooh, pressure. Really happy to hear the terms like "dynamic" and "adaptive" being used to talk about fishery management approaches. A key focus and concern for me is getting all the science that the agency's doing into management decisions, and that crosses obviously across things besides just fisheries with many of the other approaches y'all are having to take.

I just wanted to highlight a couple of things, which is I'm interested to hear more, when we can get to it, about you're going to take the EBFM strategy, which is eight or so years old now, dust it off and move it forward. I know it's been moving in different regions, but not sure whether you can uphold the national strategy backup and the road map and think about looking at that, and how that might work with the Climate, Ecosystem and Fishery Initiative.

So I'm definitely interested to learn more there. And I just wanted to emphasize, especially given, the data focus that you have and also the wind issues that are coming online, how important, as Dr. Hare talked about, the importance of the long-term data sets that the agency has, and trying to figure out how to build on top of those as opposed to like end up having just end one and starting a new data set because of the disruption that that adds, and the need to calibrate across our long time series. So just wanted to highlight those are key concerns.

Ms. Coit: Thank you all for the wonderful comments, and looks like we're headed towards our break.

Chair Davis: Yeah. Thank you again Janet and Paul and Jon, and for MAFAC's questions and comments. So we will take a 15 minute break. We will be back here at 10:30.

(Whereupon, the above-entitled matter went off the record at 10:15 a.m. and resumed at 10:36 a.m.)

Chair Davis: Thank you. Okay. Welcome back after your break, and before we get started, let's go ahead and have Sebastian, Robert and Clayward introduce themselves. Sebastian, would you please start?

Mr. Belle: Yeah. Good morning and apologies to my colleagues for not being there. I am COVID-isolated as we speak. I'm Sebastian Bell from the Maine Aquaculture Association. I'm the current president of the National Aquaculture Association, squirreled away in the far woods of Maine needing isolation.

Chair Davis: Robert.

Mr. Jones: Good morning. Also sorry that I'm not there with you in person, and that I wasn't on the first part of the call. We got trapped in a testing session apparently. My name is Robert Jones. I work with a variety of clients in food tech and seafood tech space. I support my family between Europe and Texas, so right now I couldn't make it to be with you in person, but excited to participate virtually.

Chair Davis: And Clayward?

Mr. Tam: Yeah, aloha. Sorry I couldn't be there this time, but nice to be on board. Honored to be and privileged to be on this panel. Been an avid fisherman all my life, and now forwarding my career towards sustainable fisheries, responsible fishing and supporting our community and industry out here in the Pacific. Thank you.

Chair Davis: Great, thank you Sebastian, Robert and Clayward. We're happy to have you part of our meeting. So we're going to move on now to our next topic, which will be the National Seafood Strategy, and I thought before we get started on that, that I would just for the review of our seasoned members and for our, especially for our new members, that I would give you a little bit of background on some of the ways that MAFAC works.

So we have five subcommittees, and the subcommittees sometimes have different charges or tasks that they're working on. And then there can also be task groups and working groups that cut across the subcommittees. So you're going to learn more about that throughout the, throughout the next few days.

But I also want the new members to be thinking about what subcommittees you would like to join. You can join as many as you'd like. Usually it's at least one or two, and as you start to learn about some of the topics over the next few days, you can start to get an idea of what subcommittees you might be interested in working on, or what task groups or working groups.

So the subcommittees are the Strategy for Planning, Budget and Program Management, and I believe that Donnie chairs that subcommittee, right? And then there's the Commerce Subcommittee that Roger and Sebastian chair; the Protected Resources, which Sarah chairs; Ecosystem Approach. I'm not sure who --

(Off-microphone comment.)

Chair Davis: Oh, Rai. Okay, right. We're in need of a new chair. Okay, and Recreational Fisheries is --

Participant: Donna.

Chair Davis: Donna, that's right. Thank you Donna, and thank you all. So as we start to talk about the national strategy for seafood, I want you to realize that there's input from MAFAC that has gone into the thinking and the outline, such as the National Seafood Council, such as the Aquaculture Strategy, and there's a number of other things that are starting to come in and help, to help to build a very strong National Seafood Strategy.

We're also working right now on workforce development, and you'll be hearing more about that later this afternoon, along with Thursday morning.

So I want you to keep that in mind about the impact that MAFAC is providing into NOAA's strategy and into NOAA's work. So with that, I'd like to turn it back over to Janet.

Ms. Coit: Thank you, and also folks on the phone, thanks. I know it's difficult to join a meeting where most of the people are in the room and you are not alone. We know you're out there and appreciate you making the effort to join us today.

This session, as I look around the room, a number of you have been involved, and we did a conference call, we did a session at SENA in previous discussions. So I know; I'm going to turn it over to Paul in a moment, who's been shepherding this and leading this and exhorting us to do more and better for quite some time.

But we're really -- I want to emphasize this is actually before the draft goes out for public notice. So we're still shaping this with your input, and again emphasize that this is bigger than NOAA Fisheries. We have other parts of the Commerce Department and other agency partners across government like the U.S. Department of Agriculture, USTR that we know we need to work with on aspects of the strategy.

So I will hand it over to Paul Doremus to do the presentation and review, and then we hope to have a lively discussion. Thank you.

### National Seafood Strategy

Dr. Doremus: Thank you Janet, excellent, and as Megan captured right at the outset, it's fabulous to have an opportunity to have an open session, open conversation with all of you about where we're going with this National

Seafood Strategy.

Your work streams over a long time period have informed our thinking in a very substantial measure,

and will continue to do so as we go forward from here including, but not limited to, the workforce focus later in our session here in Puerto Rico, and then subsequent activities as well as you think about the mechanisms that you can use to support our long-term strategy.

So our goal here is to very quickly update. I'm not going to review the Strategy again. We had an opportunity to do that. You've seen a document. I'm going to review very quickly what we didn't talk about, which was a little bit of response to some of your input and a characterization of what we've heard so far. So these are the things that we're going to be talking about.

So we'll go through that, and really open it up for conversation. I'm going to be very brief. So this again is about where we are with our current capabilities next five years, and as Janet indicated, there are resource pressures as there are at all times on our ability to execute against this. So I'll reference that a little bit.

But our goal is to really lay out what needs to happen, and we will do our best against those goals and objectives with our existing capabilities, our existing resources.

The policy objectives here really are -- we have talked about. One of the major comments that we got from all of you was where does this fit within the overall strategic architecture of the organization, and we tried to represent that in our last session, Fisheries in 2030, and we reference these objectives. But that's just again pointing to some of the broader, the policy context and the sort of benefit streams that we expect to see from a successfully executed strategy.

That centers, as we have indicated many times, on two goals around the supply of seafood, with improvements in our wild capture fisheries and improvements in our ability to sustainably harvest farmed seafood products of all types, as well as a

great deal of attention to the international dimensions of the trade in seafood products including, but not limited to, IUU fishing, which has a substantial bearing on the competitiveness of U.S. globally, but certainly of U.S.-based fisheries.

So that's a substantial piece, as well as our focus on infrastructure aspects hard and soft, the ability to do pre-competitive collaboration on marketing and promotion, a topic that all of you have contributed to enormously, as well as some of the limitations on our physical infrastructure assets in the country which came to our -- in our view, the need for modernization came through very, very powerfully during the pandemic, and where some of the friction points were in the ability to move seafood through the global supply chain.

So those are well as workforce considerations are pretty substantial aspects of a supply chain at the health and vibrant degree of resilience, I guess you could say, in our seafood sector as a whole. So those are the -- that's the framework, and I really wanted to spend time here very quickly talking about what we have picked up so far in our discussions that we have had around the country with select but broadly representative groups in the Northeast, Southeast, Gulf, West Coast, Pacific. Alaska we've had conversations with you.

We've had one of two tribal consultations so far just last week, and have another coming up later this month as well as engagements with others in the front end, as we really work off of an outline of the essential elements of this strategy. We got a lot of very -- its structure needs to be open-ended, you know. With that formative strategy as a reference point, what really matters to you most, what should we be doing first and foremost; which are the highest priorities being any things that they see that we should avoid, right?

We didn't get much of that, but we got some adds, and I wanted to just provide a couple of slides here

on some of the major lines of feedback that we are considering, as we pull this strategy together and get it out for public comment over the course of this summer.

So one, interestingly and coming a lot from the commercial sector, was just a broad appreciation for fisheries pulling together an industry-facing plan. So we, you know, we have an overall strategy for the agency that's rooted in our fundamental missions around sustainable fisheries, around protected resources, around habitat and around our sort of organizational health and well-being.

This is, like our other strategies, some that we were talking about here during the course of our session around climate, ecosystem-based fisheries management, around environmental justice considerations, these are major strategic initiatives that are coming off of an environmental assessment. In this thread, it's very much centered on our reading of the circumstances that the seafood industry is in.

And that was broadly recognized, and again not just the production of fish but the whole supply chain, and that was recognized as a positive attribute by many folks. It's the first of its kind for fisheries, and very compelling in the degree to which its comprehensive speaks to the whole supply chain.

The other thing that was a super-loud voice was the bearing of climate on pretty much everything we do. Not just wild capture fisheries, but on the motivation behind the whole plan to begin with. What's the long-term supply going to look like? If we sustainably manage our fisheries and are able to extract greater value, how's the balance met through aquaculture? What does that look like nationally? What does it look like globally?

So that, that kind of overall framing of climate driving so much of what we do is also part of I think a very broad focus on making sure that we're committed to and doing our best to advance the

science around ecosystem-based, that's really the underpinnings of ecosystem-based approaches to management, and an understanding what's happening to stocks, what's happening in changes of abundance, distribution and get to better, more flexible management regimes, and to get to a deeper, richer understanding and hopefully some degree of predictive capability in the future, to understand how wild capture stocks are changing and to map all that into a broader and more flexible management regime.

So those, those were some dominant threads in the conversation. We have had input along the way, and as I said we've had one of two formal consultations so far. But we also heard along the way and heard some here today and from you in our prior session about the importance of all dimensions of the seafood sector, rural, tribal communities, subsistence fishing and the connectivity of all of this to recreational fishing as well, where those components fit in, which were not in the really skeletal three-page outline, were not tended to very broadly.

We heard enormous concerns on both coasts about working waterfronts, access to the water. There's a lot of environmental justice considerations around this that are coming forward of late, or at least that's the lens through which much of this is seen. But these pressures are very, very real. They're fundamentally economic in my view, and they're shaping the avenues through which the, particularly the harvesting community will be able to operate in the future.

This is in part why I think a full supply chain view is very helpful. It's not just about access, it's not just about getting vessels out. It's about the whole supply chain that supports a healthy and vibrant fishery, which could combine and should in our view combine a very holistic look at fisheries, at wild capture, at aquaculture, of all forms, and how can those work together with our view of other



dimensions of the supply chain through facilities for landing, for cold storage, for processing, for distribution.

All of that is part of a system, and if we take a system level view, you're likely able to get a healthy, all the components being more healthy. So that, that was a big source of input along with, you know, considering the connectivity to recreational fishing as I mentioned before, and a fairly strong signal that I think there's different views about how best to respond to it.

But this body has taken a really hard look at some of the challenges around marketing and promoting seafood, and just getting at an absolute minimum a positive association in consumers' mind between seafood and their health is fundamental to our ability to get to a stronger sector in the future. By our own FDA dietary guidelines, we're eating half nationally, half the local seafood that we should be, and there is a lot of noise in the system in terms of what people think of when they think of seafood, and the places and manner in which seafood is being consumed.

Very heavily affected by the pandemic as well, consumption patterns changed. Things happened in the space of two years that normally take two to three to four times as long to change in terms of consumer behavior, consumer attitudes. Much greater health consciousness now. Much greater willingness to prepare, to buy and prepare seafood at home, which has always been a big challenge to all of this, and much greater focus on sustainability and understanding where seafood came from and what its health quality and sustainability dimensions are kind of as a set.

So a lot of needs there for the seafood sector to pull together and attend to those sort of pre-competitive needs, and much of our thinking has been shaped by the recommendations of MAFAC on our National Seafood Council proposal, and that was I think

broadly recognized as an avenue that we should be pursuing. Along with, and this is challenging territory and as Janet mentioned earlier, a lot of what we're putting into this strategy includes things that we can affect but don't control, and there's many, many fragility and global supply chains that came forward during the course of the pandemic.

Food supply chains, not just seafood. Huge concern about points of weakness with a disruption like that, and how it could strengthen through de-risking and diversification of food supply chains. Access to the type of quality and consistency and security of supply that we're accustomed to and have largely taken for granted. So food security and de-risking supply chains is a major element.

We have been working through, as I'll talk about a little bit later, through a variety of existing channels as well as agency to agency contacts. Very strong and I think promising connections with I think USDA and other parts of the federal government that could affect the kind of evolution of processing capability, distribution capability, et cetera in the United States.

So that's a big one there, and I think a lot of industry concerns pointed to that. We heard concerns about infrastructure and supply chain everywhere. They came up -- Joe spoke to this in our tribal consultation just the other day, as well as other tribal interests. It exists everywhere, and so it's not a concentrated issue. It's a very distributed issue.

Likewise, concerns around labor, and this is why we're so enthused about the workforce focus that MAFAC has just throughout the supply chain, and certainly in the harvesting and production sectors, a lot of concern about where our labor markets are and where they're going, and whether we'll have the right type of talent to develop and respond to these types of concerns that we're laying out with the strategy more broadly.

Very interesting to see how that's playing out in different sectors. There's a lot more younger people and business formation happening in the aquaculture sector than we have seen in some time. So there's positive signs, but I think something we need to look at closely and cultivate, and we've certainly got strong relationships with the Office of Atmospheric Research National Sea Grant Program, which some of you are well familiar with, that will help us speak to that issue.

And likewise, the global nature of this, of this industry is well-known, well-established, not going to change. So we need to tend to the trade issues and those came up very, very loudly in the course of our conversation as well, the overall concern with insufficient voice and lack of a coherent national strategy on trade to take, to take that into account very directly and help make that happen again.

We are not the nation's trade agency, but we are the voice for the seafood industry in the national trade environment, and we certainly do a lot that affects trade, particularly technical barriers to trade in different pieces of our enterprise. So we're looking fundamentally at the end of the day. Your guidance has affected our strategy and its evolution, and we'd like to get your feedback to make sure that there aren't any major gaps, we're on the right track.

We hope to eventually have, as we pull this strategy together and get a full document in front of you, the ability for MAFAC to endorse the strategy. I think getting your views and perspective up front today and taking into account some of the views that many of you have been able to provide already in our first sort of initial description of this strategy, will be helpful for us getting it right and helping us get to the types of benefits that we outlined in our Vision 2030, of a long-term resilient, competitive industry that's really helping us adapt to climate, helping us diversify our coastal economies, helping us provide new kind of streams of economic benefit,

and helping us improve the overall public health, nutrition and wellness of the American people.

So those are our requests, big, simple but big of you today, and really look forward to opening up for broad conversation. I did want to note in the last slide our two key staff contacts, Sarah Shoffler and Laura Diederick, who's here today with us, who have been helping us throughout all of these engagement sessions take good note of what people are recommending, what they're saying, helping us respond.

So, in addition to our discussion here today, you have those avenues for providing further views if you'd like to do that, and certainly for those who aren't able to attend here today. Appreciate. I'm glad we've got a line of connection to the folks who are operating remotely as well, and appreciate hearing from them in the course of the conversation here.

So thank you, and I'll turn it back to the Chair.

Chair Davis: Thank you very much Paul. That was a great overview. It's exciting to see the insights that are rolling in from your discussions with our stakeholders. I am, I'm going to ask the first question. I'm curious how long the process will be, and then we'll -- please we'll open up for 30 minutes of discussion on this topic, and Jennifer will start noting your requests.

Dr. Doremus: Our goal is to pull a draft together that we can put out for public comment, formal public comment through the Federal Register in the summer. So we're -- we're committed to getting this out, and we're committing to implementing it. And as Janet noted, we're not -- again, we're realistic and I'll talk to this more in our discussion after lunch about the aquaculture piece of this, which is where among other areas, but that's where that we have particularly profound resource constraints.

So this is also a frame of reference for how we think about future fiscal initiatives in this arena of our, of our mission and of our work. So it's significant from that vantage point as well. Thank you Megan.

Chair Davis: Okay, excellent. Okay. We have Sara, then Donna, Pat and Linda. Sara. Dr. McDonald: Thanks Madam Chair and thanks Paul for the interesting overview. So I have a question and some comments. So my question is when it comes to combating IUU fishing, I'm just wondering what is the strategy? Are you going to be increasing the number of species covered under the Seafood Import Monitoring Program, and are you planning to allocate more resources toward that. So that's my question, and then I have a statement.

Dr. Doremus: Happy to speak to that. At this point in time up to FY '23, there has not -- in the FY '23 there's not an increase directed towards IUU fishing activities. We have base resources to work with there, and we have substantial programs to work with there. There's a lot of attention in the administration to this in the discussion about not just with Fisheries, with our organization, but with other federal agencies and with other kinds of national assets, looking at the adequacy of those resources in future years. But that's the case for much of what we do.

SIMP is a piece of a broader kind of suite of programmatic capabilities that we have. We have announced an intent to continue with our -- it's kind of built into the structure of it, where the risk-based approach to managing species under SIMP and we have done a review and we'll be putting out notice in the relatively near future about potential expansion based on review, which is designed to be done occasionally, of species at greatest risk of IUU fishing.

So we're moving into a phase, I think, of consolidating the functioning of that program. We're investing in better analytics. As we gather more

data, we have more to work with and we're investing in some technology and assets that we think will make a big difference, particularly with the ability to do on-site species tests like DNA bar coding would allow us to do if we can get to a future where we can use that kind of technology to more rapidly assess inspected seafood products.

There are other areas. As I have often noted, there's other areas where we collaborate with other federal agencies such as through the Maritime SAFE Act, and work that we do directly to try to improve how other nations manage the fisheries, to really get to the source, as it were, and constrain IUU fishing activity where it takes place.

Trying to track and chase down fish after it's moved into the market is very, very difficult to do. So I think a really robust strategy is one that has a big focus on capacity-building and international engagement, that would provide for better management and enforcement of fisheries in other countries that have been particularly susceptible to IUU fishing. That's part of the Maritime SAFE Strategy as well, and the State Department has produced a set of recommendations for priority regions in flag states that would allow the entirety of the 21 agencies that collaborate under Maritime SAFE, to focus on those areas as a way to constrain IUU fishing to the greatest extent possible.

Dr. McDonald: Thanks, and my statement, and this group's probably sick of hearing me talk about the link between forced labor and human trafficking and IUU fishing, but I'm going to say it again. I know that you're trying to focus on, you know, promoting the health of seafood. But I also think that when it comes to U.S. seafood, you know, we do have some of the strongest labor laws in the world.

And so promoting the closer you are to the fishermen who caught your seafood, the shorter the supply chain, the less likely that there is any abuse in that seafood supply chain. Tied with that is that

it's expensive, that to protect the resources that we have costs money, and so whenever I talk to people the human trafficking component is of real interest to people as far as driving them to purchase locally and regionally caught seafood or U.S.-caught products.

And it's generated a lot of interesting reactions even in my new position, where a lot of people have never heard of it. But a lot of times I just tell them, you know, a can of tuna should not cost \$1.99. Where are they cutting costs? Oftentimes, that's in labor. So just another tactic of promoting, you know, U.S. seafood is don't, you know, don't discount that.

You know yeah, it is expensive, but we do have -- it costs a lot of money to pay our workers and to make sure that we're -- that our fishermen are abiding by our environmental laws. Thanks.

Chair Davis: Thank you, Sara. Donna.

Ms. Kalez: Thank you. Paul, thank you so much for your presentation. So I just have a comment. I just wanted to applaud you for talking about working waterfronts and that they are disappearing, and from a recreational fishing standpoint, the commercial fisheries go hand in hand. So we need to make sure that if we have working waterfronts with commercial fisheries, just make sure that you realize that the recreational fishing community is right there too.

So if one closes, the other one closes. So it's very good to see this. We remain very concerned about our recreational fishing community, and also I will continue to say that recreational fishing is the gateway to all kinds of fishing. So when you go out and you fish and you catch your dinner, which as Paul pointed out, people are really dependent when they go recreational fishing and they get fish for their family.

Then the next time they go to the store, they will

look for fish that they can feed their families with. So that is a gateway, and we have to be really focused on that as well. So thank you so much.

Dr. Doremus: Thank you for those points. Well taken. Thank you very much.

Chair Davis: Thank you, Donna. Pat.

Dr. Sullivan: Great, thank you. I've been really appreciating the whole presentation this morning. This has been really terrific. The comment I want to make is something I made last time too, and it's with regard to the policy objective, maintain, restore fish stocks for species conservation. I do really feel strongly that that's a very positive and strong perspective. The challenge that I'm facing recently was at the North Pacific Fishermen Council meeting, and the Council was basically asking NOAA and the SSC to identify how to maintain and restore the fish stocks.

One of the things that was not coming through is that you cannot always maintain or restore the fish stocks, especially under climate change. I don't want this to be a major statement with regard to this, but it has to be acknowledged. You know, we have in the Magnuson-Stevens Act this word "overfished," right, which we use generically to say that the stocks are down.

But they're not, it's not always because of overfishing. These days, it's because of climate change and other things like wind power. So one of the things that we have to acknowledge somehow is that some of the fish stocks are going to go away, and what are we going to do about it? If we look on the East Coast, yellowtail flounder, for example, is decreasing, has been decreasing rapidly, and is a choke species for scallop, for example, one of the biggest fisheries in the U.S.

And how, how do we navigate that? I think it's a tough, a tough question. Similarly, we see haddock going through the roof, but cod going in the



dumpster, and that's difficult to see. In the North Pacific, we're seeing movement of the fish out of the region, and so even locally we'll have just diminishment just because of shifting fish.

So I know it's a tough thing to talk about and remain positive, but people -- some need to know that some of these stocks are going to be going away, and what I really appreciate and wanted to point out as a sort of secondary comment is that I think one of the strengths that NOAA and National Fisheries Service has is its research base relative to BOEM, let's say, and that's a really important element to leverage.

I'm really appreciating hearing about this DisMAP. This is one of the areas that I'm an expert in the spatial distribution of fish species. It's nice to see that. So there might be some additional communication of what happened with that, and in addition to just hoping people read it and respond to when they see their fish stock is going away, as well as other ones increasing.

So anyway, a tough thing to communicate, but if you're thinking about it, I think that would be good.

Dr. Doremus: Thank you. In the interest of time, I'd really love to hear everybody's views. So I'll limit my response. But just broadly speaking, I couldn't agree more with the observations you're making, and they're absolutely a major motivator for this whole issue of being concerned about future sources of supply and how we respond to changing ocean conditions.

Chair Davis: Thank you, Pat. I have all of you on the list here in order, but it's going to be Linda, then Brett then Natasha, and I'll keep reminding you of the order. So go ahead Linda please.

Ms. O'Dierno: Well, I'm really excited to hear about this initiative, and one of the things that I was thinking about is how did we build the U.S. squid fishery? And what was done is NMFS took an

integrated, vertically integrated approach. They brought over fishermen from Japan that taught our fishermen how to harvest the product. They found some guys who were interested in doing processing.

NMFS had the equipment in Gloucester. They loaned it to those guys who had a storefront in Newark. When they went out to look for a processing facility, they bought a facility in a Portuguese neighborhood because there was a workforce there that was interested in those jobs, and then they had a marketing program.

Now every single restaurant you go to has fried calamari on the appetizer menu, and the price is going up and up and up. It was also a product that they could bring into the restaurants at a reasonable price structure. I think instead of taking a piecemeal approach to a lot of these things, vertical integration is really a way to have a successful effort.

Dr. Doremus: Thank you, and I will point to the last objective of the strategy, is better economic analytical capability, to understand those sort of market dynamics and do the right type of adaptation from that vantage point. So thank you for that good reference point, the squid industry, which is a nice success case study of how it can be done.

Chair Davis: Thank you, Linda. Brett.

Mr. Veerhusen: Just a comment and then just a question at the end. I really appreciate the goals for the strategy because they really seek to, you know, holistically capture the importance of fisheries across many users and sectors. Mr. Berkowitz certainly is one of the nation's leading experts on seafood and also the food service industry, and I'm sure you've provided a lot of great input on this strategy. I look forward to learning more from you.

But one of the sectors that I've noticed is largely missing in gathering input on the strategy are those

who have direct connection to consumers, who are the educators of seafood to consumers who are the ambassadors and likely the final people who are educating, selling new consumers, current consumers of seafood both in the food service and in the retail, so the grocery sector.

You know, I really appreciate Laurel Bryant, who really got involved with NOAA, being involved with FMI, the Food Industry Association Seafood Strategy Leadership Council, and Laura Diederick has done a great job as well-being, taking the lead there. I think that there are a lot of examples where NOAA could gather input from restaurants and from grocery stores, to understand what their feedback could be, and see where we could better integrate their input.

Because if we're trying to, you know, take a step back and just educate on the basics, the fundamentals of getting more people to eat seafood or understand seafood, or understand that a working waterfront is important for recreational and commercial, but also for processing and transportation corridors, workforce development, people willing and able to work, you know, everybody there is unified in some common goals and needs.

I mean I certainly see those businesses have a direct impact on a lot of the goals that you've outlined. So I'd certainly invite NOAA to share these results with that industry, and see if we can gather some of their expertise. Thank you.

Dr. Doremus: Thank you, Brett.

Chair Davis: Thank you, Brett. Natasha, Matt, and then Kellie.

Ms. Hayden: Thanks, Madam Chair. I'm glad we're going to be here for a couple of days, because there's just so many, there's so many things that I have thoughts on. I do also appreciate the strategy and the way it's outlined. I think it's really good.

A couple of things that I'm thinking about are to me, they seem somewhat opposing. Food security for people dependent on fisheries, living in fishing communities, you know, living on the coast and providing seafood for the nation or global supply, and that there is a bit of a tradeoff to --

I think, I don't really know if this -- I think I'm trying to find a really -- I don't know how to diplomatically say it, at the expense of the people who are living in the coastal communities working, you know. We're talking about working waterfronts, we're talking about the environmental justice and the priority to provide seafood to the world.

And just I'm looking forward to having more discussion about that, and the -- shoot. I think some of the things that weren't really discussed is consolidation, and how that has played a role in limiting coastal communities' ability to remain diversified. Mr. Fote's comments about fishing as a young child and when I was a kid growing up in Kodiak, we used to be able to catch King crab off the dock in the harbor.

And there are no King crab in, you know, hardly in the Gulf of Alaska anymore, and the gentleman commenting about how the regime shifts and changing and, you know, it's different species moving out and having to come to the -- come to accepting that some species are going to disappear. That causes me a lot of stress and anxiety because I feel like that kind of dovetails into how indigenous people who have been dependent on those resources in coastal communities for thousands of years, you know, kind of getting lost and disappearing along with those species.

And so kind of having a conversation about how remaining diversified, you know, or staying diversified, whereas we had all of these different species and what we've seen is, you know, the elimination of crab, shrimp, you know, cod collapse. We've had all of these different collapses of different

fisheries that have made it impossible to be diversified within those communities.

And so also speaking to vertical integration, where we've got -- we have these bottlenecks in the ability to harvest in a diverse manner, and then to be able to have access to processing facilities and markets that are not just singular species or singular product-focused. So again, I'm really glad we're going to be here for a couple of days, because I think that there's a lot to talk about. Thanks.

Chair Davis: Thanks Natasha. Matt.

Mr. Upton: Thanks. Paul, I was hoping you could speak a little bit more in terms of the infrastructure modernization around vessels. I guess, I'm particularly focused on trawlers to build the new catcher-processors north of \$200 million. A catcher vessel would be around maybe \$40 million. To do so in Norway, Iceland, and Russia, it's a fraction of that cost.

That's who we're competing against and the vessels that are operating in Alaska, those are the same boats that Brett's dad and my dad were probably fishing on 50 years ago. And so I think that really impacts kind a lot of systems that you were talking about.

So I was wondering if you had more thoughts on what that would look like, if it would be, for example, borrowing from some of those countries kind of what's allowed, the kind of flywheel of vessel construction happen there, what are the barriers to that happening in the U.S., because I think that's a big problem now. I was glad to see it on the list.

Dr. Doremus: It's definitely a consideration. We have to figure out ways to deal with the aging of the fleet and the need to modernize. Too big a topic to take on to really answer your question, but we need to figure out how to do that and what type of loan and other type of mechanisms we could use for vessel recapitalization.

So a major issue. We'll look forward to working with you and getting further advice from you about what kind of tools would be most effective.

Mr. Upton: Thanks.

Chair Davis: Thank you, Matt. Kellie.

Vice Chair Ralston: Thank you Madam Chair. Paul, I really appreciate the way this is laid out. I think it's a really thoughtful process. I also appreciated both Donna and Pat's comments, because I feel like even though this is a National Seafood Strategy, there's so much overlap with everything that NOAA Fisheries encompasses.

So thinking in terms of, you know, recreational applicability, even though this is a seafood strategy, talking about access to water like Donna mentioned, talking about seafood and health, talking about ecosystem-based management and how much of a priority that is. I think those things transcend seafood and recreational fisheries, but also looking at global supply issues when you're talking about parts for repairs.

You're talking about boats, you're talking about motors, you're talking about fishing equipment. A lot of hook and line that happens in the Southeast part of this country. That ties into trade issues as well as labor shortage for full repairs, for working the docks because it is both recreational and commercial. So I just wanted to highlight that and I appreciate that.

Chair Davis: Thank you, Kellie. We'll have Donnie, then Jocelyn, and then Tom. Go ahead, Donnie.

Mr. McMahon: Yeah. I just would like to have Paul comment about USDA's involvement along with their other partners. I'm aware of Sea Grant, but where are we in that aquaculture strategy working with USDA?

Dr. Doremus: Again, something I'll speak a little bit

about that in our next session, where through an interagency mechanism as well as direct work with USDA will open up, I think, new avenues for a more holistic perspective on aquaculture development across the federal government. So, we'll be able to talk to that at greater length after lunch.

Chair Davis: That's great. Thanks, Paul. Thanks, Donnie. Jocelyn.

Dr. Runnebaum: I think I actually want to build off of a couple of points that were just made. Paul, I think in addition to recapitalization of vessels, gear recapitalization is also going to be important as we think about North Atlantic Right Whales and the Maine lobster fishery, or the Gulf of Maine lobster fishery I should say.

And then I guess to the point that you just made about aquaculture, I'm curious if permitting is also part of that collaboration across agencies. You're nodding yes, and then I have a -- okay. And then just sort of sticking to this aquaculture theme, I think it would be helpful to have a discussion with the aquaculture folks on MAFAC, maybe at this meeting right now, to think about a little bit of a reframing for that goal too.

I think one of the things that is within NOAA's responsibility is sort of this environmental protection piece in addition to sustainably managing. And so shifting the frame to expanding production, our aquaculture production, sustaining production of a sustainably managed aquaculture industry. I think striving to be a global leader is a good goal, but it's a little bit outside of the purview of what can be achieved in terms of the mission.

And then sorry, I've got a laundry list of things here. Yeah, and I -- just speaking to that point, I think really focusing on the science around the aquaculture development, research and development and how it intersects with the ecosystem and protected species I think will be really important to help this industry grow

sustainably. I think I'll leave it at that. Thanks.

Dr. Doremus: Thank you Jocelyn, and we'll have an opportunity to get a little bit further into that.

Dr. Runnebaum: I'm looking forward to it, thank you.

Chair Davis: Okay, thank you Jocelyn. Okay. We have about seven minutes left, and I have Tom, Robert, Stefanie, and Meredith. So if you can keep your comments and questions brief, we'll be able to make sure that we get everybody, and also break for lunch.

Mr. Fote: Well then I won't repeat what Don and Natasha and Kellie said and, you know, about I support their statements. But when I look at seafood safety, one of the reasons I got involved in doing a lot of this besides fish was the environmental issues. During the 80's, we were dumping at the mud dump dioxin, Agent Orange that was in -- from Newark Bay. When I look at seafood testing and the safety that we do in the United States, especially I know in the Northeast, we test for PCBs, we test for mercury, we test for all the things.

Now Paul, you were talking about testing for DNA, but my concerns and especially with aquaculture coming, being from -- you know, serving in Vietnam and seeing what we did to that country, environmentally the destruction we put on, we need to start testing for other things coming in on seafood from out of the United States, because we have safe seafood.

We do a great job with oysters and things like that and make sure that it's safe, and that's why we sell oysters all over the United States. But I'm not sure about it, and that's why when I, people ask me what should I get as far as in the market on certain species, I say certain countries you don't buy their shrimp or their scallops or anything else, because of



my concerns because of what I've seen over the years.

We need to address that in this, not only for DNA, but also look at what at what's in fish.

Dr. Doremus: Thanks very much, Tom. It's an important add.

Chair Davis: Thanks, Tom. Robert.

Mr. Jones: Thank you so much. So based on my years of work in ADF, I don't think it will be a surprise to anyone that what's top of mind for me is how critically important it is to address shifting stocks and the trans-boundary issues that are caused by climate change, while still meeting the social and economic objectives of the fishery.

So I've been really pleased that I'm finding here some of the neutrals that were discussed, and beginning to see this more adequately addressed across a number of strategies that NOAA has talked about. As we all know, under Magnuson though, in our fishery management system many of the stock management decisions are made at the regional council level.

Paul, I'm wondering if you can address either now or later some of the ways that NOAA is working to share the tools that we've seen today and the frameworks of your discussion at the regional level to help them build in better hard triggers and make better climate-smart management decisions?

Dr. Doremus: Thank you, Robert. We will indeed have an opportunity at some of the other sessions later today, and then that will be an ongoing avenue of conversation, I think, that we'll be engaging MAFAC on. But certainly a major part of our climate strategy involves measurement scale, data modeling and input into decision-making.

Chair Davis: Thank you, Robert. Okay. We're going to wrap up our discussion questions with Stefanie,

and then Meredith.

Ms. Moreland: Thank you, Megan. I just want to resurface a discussion that we had with both MAFAC roundtable on this report, and I thought it was an important addition based on previous MAFAC work, that we've all talked about how much is on NOAA's plate, that only NOAA, NOAA Fisheries can accomplish, and so getting that core-mission critical work up front structurally in this report, and that those things that are mission-enhancing follow I think would be valuable to provide everyone assurance that NOAA first and foremost will continue to fund and prioritize core work.

Regarding trade, you've all heard a lot from me on that, and I just want to thank the leadership for some organizational changes that I see as potentially making NOAA's voice more effective and more informed when it comes to trade policy and being set up to be able to do some of the work that is envisioned through the draft outline and strategy.

And then last comment, since we're in the first of three days of somewhat provocative and follows Pat's comments, and not something that previously have we done and with respect to this report. But it strikes me that there's a lot in this report. There's a lot of pressures on everything. There's a lot of aspirations regarding ecosystem management, resilience adaptation, all things that I support.

But we can execute really well on all of it, and the benefits and investment are all at risk when we're subject to single species management requirements that ETP Marine Mammal Protection Act puts on the table. And so I think that's something that needs to be acknowledged, and we have to figure out how Marine Mammal Protection Act and ETP requirements or the ESA requirements fit into all these aspirations regarding resilience and adaptation, and impacts on abundance beyond fisheries control.

Dr. Doremus: Thank you, Stefanie.

Chair Davis: Thank you, Stefanie, and Meredith.

Ms. Moore: I'm ashamed to have a closing question in yet another section, so I'll try to do better next time. So I did want to say, it was really helpful to see this in the context of the previous morning's presentation to add that in. I do think there's still an opportunity to add more to the -- more climate to the fisheries management goal in particular. That seems like a missing piece to me.

The concept of resilience is like not carried through in that section. So just managing or preventing overfishing and rebuilding stocks is a really important and crucial aspect of fisheries management for resilience, both for communities and ecosystems. But it's not going to be sufficient to just do overfishing and rebuilding.

So I think taking another look at that and not siloing the climate piece into the science goal, but including it and carrying it through the management goal is going to be really crucial.

And then maybe this is a closer for you, but I was wondering what a revised version of this looks like, because I know you have lots of public comment in on the outline that you've provided, and I'm just -- I would be curious to know what you see the version going out for public comment to look like different from this, if it's more specific about actions or any of that. So that, thank you for the opportunity.

Dr. Doremus: I'll close on that last question, and certainly acknowledge before doing so that just the enormous value in the comments and the different perspectives that all of you are providing here, that's exactly what we built this committee to do, and you are certainly delivering on that in full measure.

As far as the content of the strategy, we will be building out some text around each of these objectives, strategic objectives and goals to better explain what they are and what they will mean in

action with some high level metrics, and each goal is successful. You will see the following things: It will still be short, very short, and very focused. We will do our best to attend to the streams of input that we've heard, probably more than we can respond to fully.

But to recognize some of the linkages and some the nuance in the goals will be really significant and all the suggestions that you all are collectively providing here today will be real helpful in that exercise.

So it will be built out, but it's not going to be a tome. We want to keep it focused and we want to keep it implementable, and we will be connecting it to executability discussions or feature discussions with MAFAC will be around, as we will a little bit in our next session will be around what we're positioned to execute and what we aren't, given existing resources, which I heard in a number of the comments here being a major consideration. So thank you all. Enormously helpful.

Chair Davis: Thank you again, Paul, and thank you MAFAC members for your great comments and questions. It's really an excellent discussion and it's going to lead in future discussions that we have during the next few days. So with that, we are going to break for lunch. We have an hour and a half. So if you could plan to please be back here at one o'clock.

(Whereupon, the above-entitled matter went off the record at 11:33 a.m. and resumed at 1:07 p.m.)

Chair Davis: Okay. Good afternoon, welcome back. Hope you all had a nice lunch, a nice break. And so we have a great afternoon lined up. We're going to talk about aquaculture with Paul, followed by recreational fisheries with Russ and Tim. We'll have a break and then we'll move into some of the working group reviews.

Then we'll have Rai come up and tell us about the

field trip, and then we'll have a little break to go back to our rooms, take things back, maybe change if you'd like and get ready for the field trip after that. So let's go ahead and get started. Paul, with your aquaculture update. Thank you.

### Aquaculture Update

Dr. Doremus: Thank you very much Megan, and great to connect on this topic, again a natural follow-on to the material that we discussed earlier in the day. I did want to draw your attention at the outset in particular to the components of the aquaculture goal in our draft strategies, the second goal, and it has four components.

One is on aquaculture opportunity areas, the second is on aquaculture science, and the third is on the National Aquaculture Development Plan, which is an interagency effort, and then the fourth is on the kind of legislative work to establish a stronger policy framework for managing marine aquaculture.

We're talking today about two out of the four of those pieces: the Aquaculture Opportunity Areas and then the interagency work that we're doing through the National Science and Technology Council Subcommittee on Aquaculture, to work on an interagency basis, again within existing resources, current agency authorities, coordinating for better support for sustainable aquaculture development.

We'll be talking predominantly about the NOAA pieces at the front end here, and this is not just NOAA Fisheries. This depicts up here the first slide, the National Aquaculture, the NOAA Aquaculture Program has three components. There's the fisheries component, which centers on our National Program Office, the Office of Aquaculture, headed by Danielle Blacklock, but also has components in those science centers, particularly the Northeast and the Northwest, as well as other activities regionally and nationally.

We also have the National Sea Grant Program, which has put significant resources into aquaculture grants of various types, and does a lot of outreach technical training and development and is key to our workforce considerations that we'll talk about later. Then third, and of real significant import at the beginning of the aquaculture development pathway is the spatial planning work that's done out of the National Centers for Coastal Ocean Science.

So those are three different line offices within NOAA, and we are the program that plugs into the interagency effort that coordinates across all the federal government. So just some orienting landscape there about the nature of what we're, what we're talking about.

Central to our aquaculture program is, you know, tying it all together strategically. As you can tell, this is a big part of how we operate, is having good clarity long term what we're trying to achieve, and how the different pieces that we have at our disposal can work together.

So we're in the middle now of developing an Aquaculture Program Strategic Plan, which will be the development of Goal 2 in a real concentrated way, and that will be coming forward for a broader public input in a few weeks, so that will be also available for comment. Right in the center of all of this is this little puzzle chart, which was intended to convey the sort of cornerstone role that Aquaculture Opportunity Areas play in this whole construct moving ahead.

We are ultimately looking at all of the different components of a resiliency food sector, and in particular the contributions that domestic aquaculture can make to that, in terms of opening up future sources of supply, and providing -- in effect bringing local back to the table in many areas, and Aquaculture Opportunity Areas are the pathway to do exactly that.

And many of you should be familiar. We have

discussed Aquaculture Opportunity Areas on many occasions with all of you, and we are well underway and I'll outline where exactly we are in this new work. It is new to the United States but not new to the world, this whole concept of doing the upfront analytical work, both the spatial planning and the stakeholder engagement required to know from an environmental, social and an economic point of view what areas are most suitable for aquaculture development.

So this is an extensive process that involves aligning literally hundreds of data layers to understand spatially and represent spatially what's happening in our ocean neighborhoods, and where can you best suit -- where would it be most suitable to locate aquaculture operations in ways that have minimal use conflicts.

By the time you sort through all, and we're talking everything. We're talking from, you know the depiction here is marine transportation on the right, but we're talking about biological uses where protected resources reside; we're talking about energy, oil and gas, offshore wind; and we're talking about the military, enormous spatial considerations when you look in the marine environment and you see the Navy.

So we, as a matter of fact I just met with senior officials in the Navy about our coordination. We have a very deep participation with them in this whole process. When you go and look in some areas, what looks like vast ocean turns out to be small slivers of space in terms of potential aquaculture development, from a federal waters point of view.

What we're looking at at the end of the day in these Aquaculture Opportunity Areas are areas that are suitable for three to five farms. These are not massive areas. They are tiny compared to the type of spatial planning that we're doing, that the nation is doing for offshore wind. We're looking at

hundreds of acres max. These airways can go up to a thousand acres, but most likely we won't need that kind of space.

Three to five farms are dots on the map when you look at it from a spatial point of view. But the real key to do the upfront work analytically to understand where the use conflicts are lowest, where viability is highest and to have a lot of stakeholder engagement to make sure we're targeting areas that make sense from all kinds of vantage points, and that's what AOAs are designed to do.

In my view, you spend the time, the resources and the attention up front to get it done right, and to do that on a broad basis through AOAs that will allow for really targeted development of permits within those AOAs is the core concept for allowing our existing regulatory system, with all of its pieces, to work more efficiently on behalf of industry development than has been the case up to this point in time.

I think as all of you know, there are no other than one mussel farm that is currently not in operation but trying to get back into operation, there are no aquaculture farms in federal orders to date. There's a lot of interest in doing that. There are a handful of what are ultimately commercial-scale pilots and one demonstration case off Florida.

So this is going to be a slow, incremental, thoughtful scientifically driven process, and I emphasize that because I think generally in the public, the view was that this is a pathway for rapid, extensive papering of entire coastal ocean ecosystems with net pens, and it is nothing remotely of the type. This is precise location of a modest number of commercially viable farms, building out from there. It's a very incremental and slow process by nature.

So since May of 2020, this all launched, right, as we all went into our foxholes with the pandemic. So



we've been doing a lot of this virtually over this entire time period. I'm going to provide a little bit of detail here. But on Round 1, so the original vision is it would start on a pair of Aquaculture Opportunity Areas and then sequencing it over time as you progress through those, bringing online efforts to add additional regions.

We are deep into Round 1 with the Aquaculture Area development for Southern California and for Gulf of Mexico. Big milestones there, which I'll talk a little bit more about, where the request for input that we did in October of 2020, and then the really substantial one was the development of the atlases, which I'll reference next.

And then Round 2 was started but is in a holding pattern for the resources issue, which I'll also reference. So that's, that's the general status. The atlases, if you haven't looked at these, I highly recommend them. They're phenomenal pieces of work and really, I think, represent the way things should be done in terms of planning for and considering use management in the ocean environment.

In fact, we have had many, many stakeholders come forward and say this is the way to do things. This is the way the nation should be doing things in offshore wind and it didn't work that way and should. So the methodology is very, very rich and is considered to be, from our vantage point, state of the art, and I think a very powerful mechanism.

Again, centered on identifying the opportunity set. So this is not defining Aquaculture Opportunity Areas. It's defining the areas that would be conducive. It's the beginning of the process, and will be one really key but one of many sources of information that we use to define the specific AOA areas themselves. So that's going to involve additional public input and consultation within our agency in particular, on identifying AOAs.

So the atlases were a big step forward, and we've

got some management of the slides happening there I guess for access to our external colleagues dialing in. But the next step that these go on to demonstrate is stepping towards the programmatic environmental impact statements that need to be done as the process evolves for the West Coast and the Gulf.

So that involves Notice of Intent for each PEIS, and narrowing down the field using the atlas contributions, contributions from the Protected Resources side of the house, from the Sustainable Fisheries side of the house, from the Habitat side of the house, and public stakeholder and agency input. So that's -- thank you for getting everything arranged there, and that is the next step with this first tranche of two AOAs in those two regions.

Meanwhile, so that'll follow a typical path for NEPA in terms of public input, scoping, all of that kind of stuff, and is a big, big project for us. The second round of AOAs, we started the process in October of 2020, with three national and two regional public sessions around after California and Gulf of Mexico what would be next, and the ones that really jumped off the stage in terms of stakeholder contributions are centered on mariculture in Alaska, support for Aquaculture Opportunity Area development in the Western Pacific, as well as in the U.S. Virgin Islands and Puerto Rico.

There was also an incredible amount of interest by the state of Florida to focus exclusively on the state of Florida, so we're kind of figuring out how to do that in the context of the Gulf of Mexico Aquaculture Opportunity Area and whether we add another layer or work off of that. So that's still in consideration.

We heard through this second round of public input a lot of opposition in the Northeast, protected resources conflicts. North Atlantic Right Whale in particular are dominant issues there, as well as off Oregon and off of Washington state. We're hearing in particular from the Makah Tribe. But we're

hearing, we're hearing different things from different places, just the relative amplitude.

There's interest in these areas. There's opposition in these areas. There's recognition that a lot of science needs to be done, for instance around protected resources interactions for things like mussel farms in the Northeast. A very viable, commercially ready construct in understanding how those work and looking at example cases from New Zealand and other areas are one of the ways you can sort of progressively dig into that.

But those are kind of an indication of where we will go, but all of that really is contingent on resources, and we have been doing this off of existing capabilities, existing staff. We have not had a proposed increase in our budget. We've had some increases from Congress and I'll land on that point, but nothing that gives us the flexibility to do this.

And so we are in a holding pattern until we get a greater expression of interest from members of Congress and from the Administration and continuing to go down this path, and that's really what, what's -- the rate limited factor for us, taking the steps in Round 2 for wherever it turns out to be, Alaska, Pacific, our likely case is and we would go through the same process of establishing a time line and a very extensive engagement and mapping work that would be done to make those areas open up in terms of AOA development.

So that's the state of play with Aquaculture Opportunity Areas. Slow, steady, science-driven, patient, incremental development of our options.

Meanwhile, we're not the only agency that has a bearing on aquaculture. Issues related to other agencies, USDA, others, came up earlier today. One of the main venues we have for coordinating across federal agencies is the Subcommittee on Aquaculture under the National Science and Technology Council, which is part of the execution machinery of the Office of Science and Technology

Policy.

So I co-chair for NOAA with Jeff Silverstein from Agricultural Research Service and USDA, and Deerin Babb-Brott from OSTP. We're the three co-chairs of this effort, which dates to the 1980 Aquaculture Act. It existed for many, many years as an interagency working group, and was elevated in recent years to a more visible role within the NSTC world.

We have had very interesting meetings with NSTC appointed leadership in the White House, and for all the policy reasons I pointed to earlier, climate resilience, food security and food systems, public health and nutrition, diversification of economic opportunity in our coastal zone. All those policy reasons are pointing to substantial interest in the continued work that we're doing here.

So that work is centered around the core participating agencies, USDA, multiple pieces of USDA. It's a huge agency. Pieces of USDA are as big as our whole organization. Obviously Department of Commerce with NOAA Fisheries at the center there, but also Sea Grant and NCCOS. Our aquaculture oriented pieces of the Army Corps of Engineers, of EPA, and of interest from OMB.

We've subsequently added others as well, as additional agencies have come forward and said that they were quite interested in participating. State Department, National Science Foundation and other bureaus of the larger agencies that we have here. So it is a very public process, and we have engaged in a variety of ways that try to make, in the interest of transparency, all our work readily available.

So this is a screenshot of the Subcommittee on Aquaculture web page. If you just Google NSTC Subcommittee on Aquaculture this will come up. It captures the major work products. It has all the details about the Committee, who's on it and that kind of thing.

But what I want to talk about are the three major workstreams that are the first three pieces related to economic development, research, and regulatory efficiency. Those are big work products that are going to be knit together into a National Aquaculture Development Plan. But we also do other information-gathering and a presentation that we have heard through various stakeholder engagements people would benefit from.

So there was a lot of folks in industry saying we have a very difficult time knowing where and how to access existing resources. So we did a compendium, a guide to Federal Aquaculture Programs, to help knock down that information barrier. We also put together a sort of handbook on federal aquaculture regulatory facts and information about those regulatory facts.

A lot of people think there is no regulation, because we don't have a national, clear national policy, but there absolutely is. It's been operating for a long time period and in fact it operates very well. People don't understand it because atomized. There's all these pieces in different, in different parts of the federal government.

We don't play a direct role at this time in regulating, but we're a consulting agency to EPA and to Army Corps of Engineers, who are the principal regulatory authorities for aquaculture, with water discharge permits and with location and structure permits that the Army Corps of Engineers provides.

So the core of it is centered on those roles, a lot of details, and we're trying to make the process clear, transparent, more efficient and more strategically driven. The key elements to that that we've done so far, as we've kind of expanded the agencies involved, was the production of a research plan and the production of a regulatory efficiency plan where we worked through task forces across all the member agencies, brought additional people into the task force from other agencies that weren't

involved that needed to be, and those products have been completed and approved by the NSTC.

They're publicly available and we're currently focusing on an economic development task force. That's the piece that -- where we're working very, very closely, that's co-chaired by NOAA and USDA. We're working particularly closely with USDA on understanding the policy levers that are available, but are under-utilized in the aquaculture space relative to terrestrial agriculture.

As a matter of fact, USDA has a really interesting internal initiative called "Aquaculture is Agriculture." It's trying to bring awareness to their agency where seafood has historically had very little presence, and trying to sort of make it part of the food discussion. Which is a simple thing you would think, but it isn't when you're dealing with a terrestrially bounded and sort of very, very large highly structured bureaucracy and set of policy incentives and fiscal incentives that are all based on land-based ag.

So there's a lot that we can do. If we did for ocean production of food what we do for land production of food, we have a different equation. So that's part of what we're trying to do with that economic development task force. We're already moving ahead with implementing aspects of the regulatory efficiency and science plans.

So just some indicators here. EPA has done some work in the regulatory efficiency front to explain how the pollution discharge elimination system permits work, and to demystify that process, and they're progressing with existing permit requests in some parts of the country. Army Corps of Engineers with their nationwide permits for finfish and seaweed underway.

The atlas work that we're doing and the path towards aquaculture opportunities, that's all part of implementing the regulatory efficiency piece. There's a lot happening on the science front to coordinate across agencies on science needs, which

are constantly being reassessed. We're just participating in an interagency discussion around seaweed and around the concept of carbon sequestration, and what kind of research needs to happen to understand those processes and what could the benefits. I mean, there's a lot of interest.

So we're trying to make sure through this venue that whether the resources are coming through Department of Energy or Ag or Commerce, that we know what the research threads are and we're taking best advantage of them from a broader aquaculture management perspective. We also are developing a science plan within our own agency to -- so that we can again effectively use our limited resources and the edge overlap that exists between science that's relevant for aquaculture and science that's relevant for fisheries broadly construed.

The economic development piece is the one that we have public comments recently closed in April, and got around the same level of input that we've got from the research and regulatory efficiency pieces. Very broad support overall. There was only one sort of set of negative comments, but most were I think emblematic in my mind of a broad change in attitudes towards aquaculture and the need for aquaculture, and I think that's showing up in the type of stakeholder input that we're getting around this topic.

It's not an "over my dead body" kind of response. It's more under what conditions kind of response. We realize that this needs to happen; let's do it right. So that's very encouraging, and I think the economic development piece is going to be the third leg of the stool that will comprise a National Aquaculture Development Plan.

That was called for in the National Aquaculture Act of 1980. It was produced in 1983. It was supposed to be every three to five years. There was never another one after 1983. So we went back and unearthed that. We found a microfiche copies. It

was like on an IBM Selectric, you know, the letters misaligned. It looked like it came from another era, if not another planet.

But interestingly, a lot of the same types of considerations existed then, and man has the technology changed. The technology, the science, the business practices, and the environment for aquaculture is so radically different now than it was, and the ability to address. There's sort of in my mind a gap between the development of science and best practice in industry, and where generally both in the policy space but also in the general population where their knowledge is of aquaculture and what goes on there.

So that's part of our issue too, and you all have spoken to that as helping close that gap between public understanding and what is -- what the world of real sustainable aquaculture development actually looks like and could look like if we concentrated our national efforts a little bit more effectively.

So budget-wise as Janet says, show me a budget, I'll show you your, I always call it our "revealed strategy." There's a lot to navigating fiscal increases in the federal government. You all know that very well. Our aquaculture budget lines are very, very modest relative to our organization and relative to, I would say, the potential payoff from further public investment in this space.

Our aquaculture program is small. It's about 18 million. That's our National Aquaculture Program Office. We do have resources in our laboratories. There's resources in OAR. They put out close to 14 million in grants related to aquaculture, and we have resources in our lab. So in rough measure, we have roughly 40 million available total in our -- in all of NOAA, not just NOAA Fisheries to advance this space.

And as I'll talk about tomorrow, our budget in broader context and where the areas of emphasis



have been. To the extent that we've gotten resource increases in recent years, they have been Congressionally driven. We haven't had an administration proposal for increased resources in aquaculture for some time, and we have seen growing Congressional interest but very directed Congressional interest.

So when we get increases, we're told what to do with them. So we don't have flexibility to use the resources for something like Aquaculture Opportunity Areas or areas of science that we've determined to be a strong need. So we've got in our current request five million on Eastern oyster research, two million on regional pilot programs, two million on integrated multi-trophic.

All good things, not saying they're not good things. It's just that we don't have any flexibility to use our resources in any other way. So that's a substantial issue. From '21 to '22, we had a \$500,000 increase and it was directed to be towards staff and our Milford and Manchester labs, where there's some external stakeholder concerns and Congressional concerns with maintaining staff capabilities in those two labs and elsewhere in Fisheries for that matter.

So that's, that's the bottom line as it were. We're trying to maximize our use of a very limited resource set to help address a very distinct and large public need, both with our resources and our ability to coordinate through this interagency network with other agencies, so that we're getting the greatest concentrated effect and greatest available use of, or greatest use of available resources and programs, to allow for focused, thoughtful, right place, right way development of food production in an ocean environment, and marine environment in particular.

So with that, open for discussion. Thank you Megan.

Chair Davis: Thank you, Paul. That was a very comprehensive overview. It's great to see the progress in the AOAs, and excited that we'll have a

chance to look at the strategic plan that comes about, and hopefully MAFAC can work together on the comments on that. We have participated before in the Aquaculture Task Group, so let's think about that as we continue the discussions and the interagency work that you all re doing.

So let's open up for some questions, discussion, comments. We have a few people already keyed up. We have Donnie, Pat, and Kellie. We have about ten minutes for discussion. Okay, Pat. Sorry, Donnie, you're second.

Mr. McMahon: Well, it was a great presentation, but it was very disappointing at the end to see really we don't have any funds to kind of make it move forward. I was just wondering how much does USDA have in the funds area to help aquaculture? That's one question.

Dr. Doremus: I don't know that number, but we'll get that and make it available to you.

Mr. McMahon: Okay, and the portion of NOAA that does habitat restoration, which restoring oyster natural beds and so forth, is that a different budget? Is that part of your Fisheries budget, or is that a different one?

Dr. Doremus: We have a habitat conservation, Office of Habitat and Conservation and a lot of habitat restoration and conservation efforts that are funded outside of this. There is a lot of interest in using aquaculture capabilities for restoration purposes, and that's part of our thinking in our Aquaculture Development Plan.

So you're hearing me emphasize, in part because of the context we set today on a National Seafood Strategy, but there are clearly environmental benefits, ecosystem services and other kinds of reasons for different types of aquaculture development. We actually do a huge amount of that, and that's aquaculture but often not called that, particularly with protected species and stock

augmentation for endangered salmon species.

That's aquaculture. Those salmon hatcheries are helping maintain population viability in key listed species. So there's a lot of dimensions to aquaculture and the restoration and conservation mission is a very significant one that we -- is in our plans, but we probably don't emphasize as much as we should.

Mr. McMahon: Excuse me. I was just wondering what that number is, because they do tie in exactly together. Oyster beds, for instance, create a large amount of secondary biomass that goes onto the shrimp and crab industry, and there's a lot of economic, what am I trying to say, millions of dollars spent versus what comes out the other end. But thank you very much.

Dr. Doremus: Thank you, and we really value hearing where you are seeing that, and doing to the greatest extent we can the type of research that's required to measure and value those types of services, ecosystem services. So that's a big part of our agenda we well. But thank you.

Chair Davis: Thanks Donnie. Pat.

Dr. Sullivan: Great. Thank you, Madam Chair. So I have a sort of general question. When we were doing the seafood strategy virtual discussion, I had raised being integrative, and I really feel, as I said earlier today, that National Fisheries Service and NOAA broadly are really positioned to be integrative in many ways.

So a little bit of context here. My daughter's a food scientist. She and I were discussing genetically modified organisms. She was for, I was against, and I didn't understand what was going on in our discussion. We are actually arguing, which is unusual for me and my daughter. Turned out she was viewing things from a food point of view and I was viewing things from the environment point of view.

When I look at the partners that you have here with regard to this particular issue, I see USDA, I see EPA and then I see us, right. It really seems like there's a role there in terms of the integrative part in terms of these different positions, and I'm wondering if you see the opportunity of using that as a strength to help guide where these discussions go?

Dr. Doremus: Absolutely, I think it is, and we're really trying to build the NSTC Subcommittee as a venue for those kind of discussions. We've been making a concentrated effort even -- the pandemic has been a bit of a problem, because it usually works better to show up at major industry events like Aquaculture America. We did that. That was the first thing that I did post-pandemic was fly out to Aquaculture America in San Diego a couple of months back.

Saw some good colleagues there, and had a federal town hall and talking about this work, and met with National Aquaculture Association and other interest groups there and industry people broadly construed, and talked with a lot of folks in Southern California in particular about regional pathways for aquaculture development there.

That's all about getting into the communities and connecting with the private sector, public sector and academic resources that we need to answer a lot of these questions. So that's very much part of what we're trying to do is get out of Washington, get out of our agencies and get connected in that way.

We have a long way to go frankly to do as well as we probably could, but we're definitely self-conscious about trying to provide that integrative capability.

Chair Davis: Thank you Pat, and we have Kellie, Matt, and then Sebastian.

Vice Chair Ralston: Thank you Madam Chair, and I echo Pat's comments about the need to integrate. I

think not only does it help the folks that are applying, but I think it also helps the general public's understanding of the process and kind of the steps and potential pitfalls there. Kind of along those same lines, I think it would be really helpful for the agency to consider some sort of communications program to go along with the AOAs, particularly on offshore pens with finfish.

I think a lot of people understand the benefits of having shellfish, you know, as far as water quality and those sorts of things go. But I think there's a lot of either outdated or misinformation about potential impacts on finfish offshore, talking about, you know, information from 20 or 30 years ago or how technology has advanced.

So I think if there's something you can do on a broad scale to say in general, this is the pros/cons of those types of operations, and then when specific projects are proposed, either work with the folks that are proposing them if it's something that the agency feels like it's worthy of moving forward, to help them kind of navigate that public perception process.

That was something that we talked about a lot on the Meridian Institute event that we did with Brett, so just FYI.

Dr. Doremus: Thank you, and we've been collaborating with Meridian and with others to that effect, and there are things that we could do, I think, beyond that that would be very, very helpful. A lot of people don't know while we don't have any finfish operations in federal waters, we have an offshore company, Blue Ocean Mariculture, that's been operating in state waters off of Hawaii using state of the art, offshore, ocean smart pens, that really defines what offshore aquaculture would look like.

They have been operating for ten years inside a humpback whale sanctuary, and have been measuring every conceivable potential effluent,

benthic impact interactions in a marine environment. We've got all that data. Great case study. The same technology is being deployed in Mexico, Panama, other parts of the world.

People don't know it. They see that and they're like oh, this is different. They have a concept in their head that's really radically different from what it looks like and how it's managed. So I think it's a great suggestion. Thank you.

Chair Davis: Thank you, Kellie. Matt.

Mr. Upton: Thanks. In terms of that company you just mentioned, I mean have you talked about why they wouldn't be trying to expand their operation to offshore aquaculture? I mean it seems like I think a few years ago you said it wasn't anyone who's doing it, and now there's like one permit had been granted.

I mean is industry baying at your door to try and make this happen? Is it difficult finding sites outside of state waters because it's deep presumably? I mean it's great that you guys are doing all this work, but I'm just worried where is the industry interest on the other side, and are there market barriers at sites? I mean what, how on that?

Dr. Doremus: I probably would need an hour to really fully answer that. But the short end of the long story is the regulatory barrier is a very, very substantial one. And generally speaking yeah, the offshore environment is a much more difficult environment to operate in. It's more capital-intensive. So firms are going to be cautious. They want to have a clear, certain regulatory environment with long permit pendency, and right now that doesn't exist.

So some of the folks that are trying to demonstrate commercial viability or folks that are essentially backed by what I would call impact investment and philanthropic, semi-philanthropic impact investment resources, and there's a lot out there. And when

you go to things like the investor conferences in Inter-Fish, and there's an enormous amount of interest in finding pathways for particularly fish production.

They see the same thing we've all been talking about here today. Greater uncertainty and limits to the viability of long term supplying anywhere close to demand levels, globally or domestically, with wild capture fisheries. Hasn't happened for 40 years. We could have very vibrant, very healthy fisheries, but we're going to still be importing a lot of aquaculture product.

So there's investor interest. They want a more stable, predictable, certain regulatory environment. So we're progressively working towards that. The AOAs help, but I think ultimately we're going to need to have some degree of policy consideration of a different regulatory architecture for marine waters, which is why that's the fourth objective under our aquaculture goal.

Mr. Upton: Thanks, and the wild capture fisheries are also for the stable regulatory environment too. That sounds good.

Dr. Doremus: Absolutely and I -- yeah, I got you. That's another discussion.

Chair Davis: Okay. We're running up against time, so we're going to take one more question from Sebastian, then all of you that have comments, please make sure you voice them somehow along the way.

Dr. Doremus: If I could say too, I'm here, so please -- we've only had a chance to touch on some of the issues.

Chair Davis: Yeah.

Dr. Doremus: So let's -- I'm happy to talk with any of you at any time. So please make sure you get to me.

Chair Davis: Thanks for that Paul, and Sebastian, go ahead please.

Mr. Belle: Great, thank you Madam Chair, and Paul, good to see you even though it's remotely. As always, a very comprehensive and clear summary and thank you for that. I just really have one statement and then a question, and I think to Matt's point, I think the security of tenure is what is holding back investors with respect to investment in federal waters, as well as the fact that they can go to other countries and frankly get licenses, permits, leases relatively quickly.

Look at what just happened in Brazil about a year ago, where one of the largest leases in the world was granted, you know, under a year's time worth of review. I mean quite a phenomenal achievement. You could argue one way or the other whether that's a viable lease and whether it's a viable company and all sorts of things, but certainly the time to acquire licenses, leases or permits. There are other places in the world where investors can go and get them done more quickly.

The question I have for you Paul is on the economic development plan, and you know that that's something that's near and dear to my heart, and you may have said this and I may have missed it, but what's the timeframe for a first draft on that? You guys have produced an outline. You've gotten some comments. You're obviously mulling that stuff through internally. But do you have a sense of when you might come out with a first draft on the plan?

Dr. Doremus: We're hoping to come out late summer. It's what we're shooting for. We're hoping to be able to wrap that product and tie it together into a single National Aquaculture Development Plan by the end of the year. That's our goal. The key thing will be how this third piece, the economic development piece, how that comes together. But we're aiming for a draft for public comment in the late summer.



Mr. Belle: That's great, Paul. Thank you so much for that, and then one final just quick question. We have heard kind of through the grapevine that you guys are doing some internal white papers on aquatic animal health, and as you know, at least from the National Aquaculture Association's position, we have viewed USDA as the competent authority, because they're the OIE signatory.

When are those white papers going to become available to review by industry folks, and hopefully they will not add a layer of regulatory review on existing layers, but will coordinate with the USDA National Aquatic Animal Health Plan?

Dr. Doremus: We coordinate really directly with USDA on all of those issues, and it really is the center of gravity on aquatic animal health. So there's scientific collaboration, but certainly no expectation that we would be adding any, from a regulatory vantage point, any additional layers if you will. I think there's been interagency collaboration on some of the areas of greatest scientific need, and questions about how we can pursue those.

We'll get back to you on what those look like and what the timing is for greater public access.

Mr. Belle: Great. Thank you so much.

Dr. Doremus: Thank you, Sebastian.

#### Recreation Fisheries Activities

Chair Davis: Thanks Sebastian. Okay, thank you Paul again for the discussion and the update, and for the members' inputs. We're going to switch gears now to the recreational fisheries activities, and Russ, Dunn, and Tim Sartwell are going to present, and then our vice chair Kellie Wilson is going to carry on the questions and discussions with you all.

If this goes a little longer, we have some more time

tomorrow when the recreational group reports out their task. So that's possible, you know, that there's more discussion then. But let's go ahead and start then, and so --

Mr. Dunn: That is not where we are. We are, should be at recreational fisheries update. That's tomorrow's presentation or discussion. So while we are queuing that up, I'm Russ Dunn. As I mentioned at the outset, I'm the National Policy Advisor for Recreational Fisheries, and I am joined by my colleague, Tim Sartwell at the end of the table, and Tim works directly for our Office of Communications, but has been working hand in hand with me for five or six years now and is a great asset.

All right. So we're going to do this a little bit as a group activity, since I looked around the room and when Sam walked in that made ten people, not including myself, who are here who were also at the Rec Summit. And so if there are things that I miss or mischaracterize, I'm sure someone will speak up and correct me. But I'd also like feedback from folks at the end, any comments for those folks on MAFAC who participated and have any other thoughts to offer.

So just the green one, I guess. Yes. Okay. So as I mentioned, in late March of this year, we cohosted along with the Atlantic States Marine Fisheries Commission, the latest saltwater recreational fisheries summit. It was the fourth of these that we've held since 2010. So we did every four years, 2010, '14, '18 and '22.

This time around, we focused our agenda topics on climate resilient fisheries, balancing ocean uses. That really is code for wind and aquaculture in this instance, data collection, recreational data collection and use, and then management flexibility and a sort of subset of that, optimum yield.

We had about 175 in-person participants each day, and about 90 people online each day, and the

agenda was really established and developed by a -- collaboratively with a panel of 13 anglers and interstate fisheries commission staff. Dave Donaldson was good enough to lend us one of his staffers to help with that. It was -- I will say, patting ourselves on the back, it was the first large in-person public event that was held in two years. So we were pleased to be able to help sort of kick the door open on COVID, and we came out okay. We only had two known cases that were connected to it, so we did all right.

Let's see. Okay. So what did we talk about? Well, we started with a climate session, and we had an overview of essentially the status of the climate, ocean climate science. What do we know? What is the science telling us? We then heard from a series of anglers about what are they seeing and hearing or experiencing on the water. We heard about habitat tools and investments, and the importance of habitat in or to climate resilient fisheries.

And then we heard from the councils a little bit about their efforts in terms of climate scenario planning, trying to anticipate, get ahead, begin to lay the foundation for responding to climate changes. So what did we hear? Well we heard first and foremost that participants were really concerned about adverse impact to the natural resources, both because of impact to the resource, but also in terms of how it affects their access to fishery resources and the activity that they wanted to engage in.

We heard that there's real concern, that there is a perceived lack of hard baseline to really fully understand climate changes in the short term and the long term, as well as concerns about our ability to monitor climate change impacts over time. As I mentioned, there was concern about access to the fishery resources as climate impacts mount, and there was concern about loss of revenue on the business side of things, primarily the for-hire aspects and shoreside businesses as climate change

occurs.

And a theme that we heard throughout the Summit was really that the pace of change they believe is exceeding the ability of management and science processes to keep up. We also, we also heard across a few other discussions that issue about a lack of scientific baseline, to really understand what's going on there, not just with climate.

There is one other issue that was -- that's not on here, that came up and it's tangential to but it's related to climate and other issues, which is that in certain instances, fishing stocks declined but not necessarily because of fishing pressure. In those cases, for example in this one, if it's driven by climate change, how do we manage that so that anglers aren't penalized if it isn't "their fault."

So what we heard in terms of interest from participants was we heard very strongly that there is interest in having NOAA provide leadership on inter-council governance issues, and what does that mean? Well, during the -- the example that was given during the Summit is they want leadership and guidance from NOAA on how to deal with shifting stocks as they cross management boundaries.

So if Species X goes from the South Atlantic the Mid-Atlantic Council, who manages it when, and when do you revisit that? They'd like to see us provide leadership there. There again as I mentioned, I think the theme of the Summit was regulatory and scientific nimbleness. We heard nimbleness probably 50 times during the meeting. So that is a cross-cutting theme, and then I was a little bit surprised but pleased to see that there was a real interest in additional engagement on climate in two fashions.

One is that participants were interested in trying to help provide data to the agency where they could, but they also wanted to know more about it and have improved engagement and outreach by NOAA

and the states and the councils on climate-related issues.

I guess the only other -- oh, let me just see. The only other thing there is people really recognized that there were different impacts to different fisheries in different parts of the country, that there are climate winners and losers. Where we see, for example, black sea bass creeping up the east coast, that's providing new fishing opportunities up north.

But if you're, for example, in the Gulf of Mexico, what we're seeing is lower DO, dissolved oxygen. We're seeing increased harmful algal blooms. We're not necessary seeing new species come in, and there's nowhere for those fish to go. So there was a real recognition of differential impacts.

Ocean uses. So again, wind and aquaculture were the focus of this, and how do we -- how do fisheries deal with these either new or emerging uses? What we heard -- well, the way we started off is we heard from industry about what is going on in the water now and what their plans are. We heard from BOEM. They came in and told us basically all about their process and what is coming down the pike in terms of wind farm activity.

We heard from anglers about their experiences both on the water around existing wind farms, really the wind farm in Rhode Island at Block Island. Not only on the water but also in the sort of policy forum, how would they engage, how were they brought in, how do they need to be engaged to be part of that process?

We heard from participants that they are concerned about the impacts of wind and aquaculture to target species, to forage fish, habitat-protected resources, but also in terms of the access and opportunity to get out there. They're concerned about the impacts both during construction, so disturbance of habitat with the pounding, with the noise issues, driving fish away, shutting off the Bight, but also during

operation once construction's completed.

What impact do the electromagnetic fields have, if any? What is that doing to do to migration, et cetera? And then there was concerns about sort of long term not just immediate but what are the long term and the cumulative impacts of all these farms? If you see the maps and charts of these planned wind farms up and down the east coast, there's a substantial amount of infrastructure going in the water there.

What's the real cumulative impact there? So we also heard that there was a concern that there is, as I mentioned before, a perceived lack of baseline understanding there in the water, and that then without that baseline we won't be able to monitor effectively short and long term to understand those impacts, and we heard that there, and recognized that there's a real lack of the recreational data that's needed to be incorporated in planning and development processes.

So in short, there's a fair amount of for-hire data out there, geospatial data, where they fish, when do they fish, et cetera. But that's really missing for the private sector component of the fishery, and we don't have a mechanism -- we don't have the mechanism in place to collect that, process that or anything else.

There was interest in, as I mentioned, monitoring short and long term impacts. There was real interest in and frequent stakeholder involvement in all aspects of design and siting development. There was interest in identifying secondary and ancillary benefits of this new infrastructure. So how do we expand the value chain of that? If it's possible, what other opportunities might these wind farms provide?

And then for those folks who were comfortable or are already comfortable with infrastructure in the water, primarily as folks in the Gulf of Mexico, there was interest in maintaining those long after the wind farms are being decommissioned. How do we

maintain that structure because, at least in the Gulf of Mexico, it is viewed as really prime fishing ground in many instances.

Recreational data. So this is a perennial favorite. We heard -- basically what we did, because this is a difficult conversation. So rather than having breakout groups among people, where it's hard to grasp a lot of these in the weeds statistical concepts, what we decided to do was more or less have sort of a 101, if you will.

And really so we provided a series of presentations to help inform folks at the Summit about how are recreational data collected, catching effort data primarily, collected. What is the federal system to do that? And then how are those data integrated into monitoring the regulatory process and the stock assessment process?

And then we asked the question of how can we work to improve competence among anglers, among the angling community, in the federal data? What we heard was that there are a lot of concerns that the data that we are collecting now is being used beyond its capability, and what does that mean? Well, for example, MRIP was primarily designed really to provide annual estimates at a regional level.

Given the requirements within the Sustainable Fisheries Act for annual catch limits, et cetera, there are instances where data are being used at a finer scale and more frequently. In-season management at a sub-regional level, and that introduces statistical uncertainty in many instances. We're hearing that all that uncertainty is undermining trust among anglers, that when anglers voice concerns about data and how they're being used, they feel that they're not being heard and their concerns are not being addressed by the agency.

They are also concerned that the additional variable of climate change may be adding to the uncertainty that's already out there, and that it's just

compounding issues and sort of lack of trust in the data that we're seeing. And then really, for the first time that I recall, we heard a real expression of concern about the level of funding being provided for recreational data collection.

We've had more or less a sort of static budget for recreational data collection for a number of years, but now they are in the face of increasing need for more and better data, and that's an issue that they expressed needs to be addressed.

So what they do want? Well, not surprisingly they want more and better recreational fishery dependent data, more and better independent fishery data. They want to understand how to incorporate, how to provide data themselves to us, forgive me, my phone is ringing here. How to provide data to us, and how to be integrated into the federal system.

There was real frustration and someone gave an example of where they were part of a cooperative data project with the agency, but then when that data was to be turned in and used for an assessment out on the West Coast, they were told that the data wasn't able to be integrated into the system. And so there's frustration of how do we, how do anglers provide data that can be used, so that they have some more confidence, that what they're seeing on the water is reflected in assessments.

And then there was interest in greater public engagement, not just by the feds but also by states as well, on data collection and application, as well as getting feedback, disseminating results of on projects, stock assessments, et cetera. When that data is applied, tell us what it meant and how it was used.

And then I think for me one of the most interesting conversations that was started but really didn't go anywhere, we just -- the thread just didn't get picked up, was the question of data robustness



versus intrusiveness, and where is that balance. So there was a comment made that look, we can obtain recreational data that's on par in terms of completeness and with similar certainty to commercial data.

But that comes at a price and a cost to anglers, not just a monetary cost but a cost in terms of burden on the angler and where is that balance. When you find that balance, how do you deal with the remaining uncertainty? How do you live with that? Oops, all right.

And then the last session, there we go, was on recreational management. Now what we heard here really was we had an overview of ongoing activity that sort of fits in the management flexibility or now I guess the new term is management, adaptive management and reform.

So we had a whole series of presentations from the South Atlantic Council, the Mid-Atlantic Council, Pacific Council, Alaska anglers on management and what's going on at the Councils there.

What we heard was that this concept of management flexibility is really flexible. One of the best quotes I heard was we're being very flexible with our definition of flexibility here. For some folks it meant how do we circumvent ACLs, and how do we avoid using MRIP data? I mean that's the base for some folks. For other folks, it was really how do we change the system to be able to respond more quickly and adapt to changing conditions?

And for others, I think what it means for a lot of people unspoken is that -- it means how do we deal with issues of uncertainty and data gaps while maintaining fishing opportunity? I think that's really the core of what we, of what people were trying to get at. We heard a lot of support for management flexibility, but that was tempered by very real concerns over the understanding of associated risk.

Some folks felt that councilmembers are being or

will shortly be asked to select alternatives, where they really don't understand what the risks are because it may represent a substantial regime shift in how fisheries are managed. We heard that there's, as we've heard in most of these sessions, there was an interest in increased speed and responsiveness of management, but that was again tempered with the need to incorporate backstops so we don't misstep and slide back into overfishing of this fish.

And then there was what I really saw as a sort of debate between the for-hire and the private sector over flexibility versus stability, and where is that line. The private sector more being interested in how do we get flexibility so we can really fully achieve that ACL, with the for-hire portion of the room saying look, that's all great, but I'd rather have a stable business and planning environment. So where do you find that balance?

With then shifted into optimum yield, which is kind of a very challenging conversation, because it's both a weedy concept and a bit of amorphous concept. Again, what we found is that there were a lot of opinions in the room about what OY is, and it really varies frankly, if you think about it, by fishermen, by fishery, by region. It is very -- what optimum means to you may be different than what it means to me.

What we -- there was, I think, common agreement on is the need for a better understanding of human dimensions aspect? We need to understand motivations and better quantify the socioeconomic impacts, and the value of fish left in the water.

That last point was highlighted a couple of times, that there is a real fear that within the rec community, in those fisheries where abundant is important so there's a high encounter rate, if we leave fish in the water, we're going to be seen as failing to achieve MSY, and then you're at risk for having that reallocated to another sector.

So oops, let me just give you a quick view about what's coming next, and then I'll -- I'm going to step back and I'll ask the MAFAC folks here if they have any additional thoughts of what their perceptions were. So what's next? Well, we sort of have a three timeframes for responding to the Summit.

First is immediate. So this actually -- the slides were due before we got everything finalized, but we have now an active website that sort of gives a quick summary of the Summit and lays out some of our next steps. We have been holding internally conversations with different offices who were participating in the Summit, to understand how they may be able to respond to what was heard at the Summit.

We've been holding conversations with some of our external partners like the commissions about how to follow through on what was heard at the Summit. We anticipate a final -- oh, and five minutes -- a final Summit report on June 30th, and then we're sort of going to take it -- oh, that last bullet shouldn't be on there. That's supposed to come off.

We are going to take a two track approach where we are going to review the National Saltwater Recreational Fisheries Policy. It's ten years old. Given the findings of the Summit and then in parallel with that, develop a new strategic plan, a multi-year strategic plan. So let me pause there and ask the participants if they have anything they want to add. I'm not trying to force it, but Pat. Pat, Kellie.

Vice Chair Ralston: Hang on. I'm going to help moderate this per the Chair's instructions.

Mr. Dunn: Oh, oh.

Vice Chair Ralston: And I'll reserve my comments for tomorrow when we talk about a task force report. But appreciate the agency's commitment to recreational fishing and for you all putting on that Summit. I know it was a major undertaking and it

was appreciated. So with that, we have about five minutes for Q and A. Pat, I'll recognize you. You have the floor.

Dr. Sullivan: Great, thank you. Thanks for this Russ, and I just want to say that I really, really valued the Rec Fish Summit, and clearly what you got out of it was really valuable and important. I wanted to start a conversation about the sort of, sort of deeper level stuff. I mean there's a lot of hot button issues, especially with MRIP and other kinds of things, and I'm wondering --

I'm just, I don't know if I have a solution for this. I'm just wondering out loud if there's a way for us to address those things, because I think it's really cutting into NOAA and NOAA Fisheries' credibility, and I'll try to be brief. But one of the things that I'm reminded of is when I was -- I was a stock assessment scientist for the Halibut Commission for ten years, and my boss, Don McCaughran and I would meet with the fishermen every year, talk with them and kind of alert them as to what was going on with the assessment before we had their annual meeting.

At one point at one of the commission meetings, one of the commissioners asked the fishermen do you believe anything, you know, Pat says? And he said, you know, I don't understand a thing he says, but he meets with me every year and we talk about things, right? And it just seems, and I know, you know, NOAA's a bigger agency than the Halibut Commission, but we were having some issues with regard to the summer flounder fishery and I helped the summer flounder recreational fisherman organize a meeting.

Jon Hare was there and Bob Beal was there, and it was tough, because whenever these things happen, there's always somebody in the room who wants to get up and start yelling. In this particular case, the recreational fishermen were helping to organize this. And so when that one person stood up to do

that, the others in the room, their peers actually said hey, listen. You know, these guys are here because we invited them in here and let's be nice to them and let's talk, because we're really getting information that we wouldn't get otherwise.

So I'm wondering in this case, I mean the MRIP, as you've pointed out, has some sophisticated statistics in it, and it's hard for some of us to understand, even though we helped create it, right? And so I'm just wondering if there's a way to get at what some of those perceptions are about and one can work on it on a one-on-one basis, maybe do it from the grassroots up, as opposed to from the top down in terms of trying to deal with it?

Like I said, I understand that that would create a lot of work and effort, and it's hard. You have to come out of the bunker sometimes to deal with some of those kinds of things. But I thought maybe if we could get a conversation going around this maybe offline, it might be helpful. But I'm curious what you think about that.

Mr. Dunn: So it sounds like you're angling for a consulting gig and -- yeah, no. I'm kidding. I don't disagree. I think engagement is a key aspect and one that is often early on the chopping block when budgets get tight. I think it's something that the agency, in terms of rec fishing, we were doing better a few years ago than we are now.

I think there's been a, what's the word, a slight diminishment in terms of our effort on engagement, and particularly given COVID there certainly has been. And I think it goes back to what Richard Heap from the West Coast said about warm data and cold data, and getting that understanding of -- that in-person understanding of what people are talking about, rather than just getting the raw numbers, because you get a lot more than just the number behind what they're saying. You really get an understanding of the concern.

So I think it's something that as we look to move

forward with this, we're really going to have to think about how to ramp up engagement again.

Vice Chair Ralston: Thank you. Natasha. I think you're next, and then Jon and then Donna.

Ms. Hayden: Thank you. So my question is about recreational fisheries and I'm just not very familiar with the management of it. But so what we've got is we've got personal use fisheries, we've got recreational fisheries, we've got subsistence fisheries, we've got commercial fisheries, we've got like all of these different labels on ways to harvest and what you do with the harvest once you do.

And so my question is about recreational fisheries. Is there -- is that a blanket description for all people who are using like a single, you know, hook or way of harvesting, and does that include somebody who's fishing for personal consumption or for, you know, feeding their family or, you know, friends, and people who are selling an opportunity to harvest to others?

And then if that is indeed what I think it is, I see you nodding your head, does that include the -- does it include a description for people who are selling the opportunity to harvest to others as catch and retain and catch and release? You know, is it a meat fishery and catch and release, depending on where you are?

Mr. Dunn: Yeah. So you have a very, actually a timely question for conversations that are going on internally. But in short, Magnuson defines it as recreational fishing for sport or fun, I think, I guess. Sport or enjoyment. It does include the way we typically deal with it, the for-hire component. So if you're a charter operator, that's the charter operations fall within that as well as the private guy.

The question about subsistence fisheries is a tricky one that I think the agency is currently sort of revisiting. Traditionally, there -- I will say I have had a view that there's a thin federal nexus in a lot

of places around the country, not in all, between federal resources and the subsistence fishing community, but not everywhere.

I think particularly under this administration, there's a -- we are revisiting what does recreational mean? Should it be recreational and non-commercial? I don't know what the exact label is, but I think we're really undergoing that conversation as we speak. Yeah, please.

Vice Chair Ralston: Briefly.

Ms. Hayden: Yeah, thank you. So that's what -- that's kind of what I was wondering about is that, you know, the recreational for the meat, you know, the meat catch versus the personal enjoyment and how that is parsed out within management.

Mr. Dunn: So Alaska is different in that it has, you know, personal use and subsistence categories, where most other Councils have commercial or recreational, period. And so you're in a little bit of a, I would say ahead of the curve actually, and I don't -- I don't have an answer about how we're going to end up handling it.

I would just say I think we're probably going to handle it better. I don't quite know where to go here. But yes. So actually I wanted -- I would want to talk to you more offline about how to begin to address this and have a more inclusive response.

Vice Chair Ralston: Thank you, Russ. Donna, we're going to let you have the last question.

Ms. Kalez: Okay, I'll make it quick. Thank you Russ. The meeting, the Rec Summit was really good. I learned a lot, but I left with a lot of questions as we talked about. I have a few things. So as it relates to wind, can you talk about once the site is determined and the construction of the wind farm, that means that NOAA access to recreational or commercial for five years or during the time that the site is built?

Mr. Dunn: So I don't -- there's no set period. My understanding, and I may have to sort of roll this back later is, you know, recreational fishers or fishing activity obviously won't be allowed to take place right around the site just for safety reasons, right, up close. It's really Coast Guard and maybe Army Corps that sets those restrictions about -- Coast Guard --

Ms. Kalez: That length of time was just very concerning.

Mr. Dunn: Yeah, no. It's not, there's no set period five years. It's just during the construction period. So if it's a very rapid construction say period, then it'll be a shorter sort of exclusion period. But it's, I think someone was just giving an example at the meeting when they said five years.

Ms. Kalez: Okay, and then the other thing regarding wind farms was, and it keeps coming up a lot, but why are we already talking about decommissioning them? Do you know? It keeps coming up.

Mr. Dunn: Because the guys in the Gulf love metal in the water, and there was an issue a few years ago with a lot of rigs coming -- idle iron coming out of the Gulf, and there was a panic that all their favorite fishing spots were disappearing.

And so they're trying to sort of just lay the groundwork for hey, when this is done, let's not be hasty. Leave it in the ground. It will grow habitat. It will grow corals, et cetera. It'll become good fishing area. And so they're just trying to set the, set the table for that.

Ms. Kalez: Okay, and then we've talked a lot about data and no data and missing data and bad data, and we talked a lot about during COVID, like for instance on the West Coast, we didn't have any samplers. We didn't fish, and then the minute that we were able to start fishing again, one of our stocks was deemed overfished.



We don't really know how that happened because we didn't have any data because we weren't on the water. So all those things just make a recreational fisherman feel very threatened because when that happened, then they lower our bag limits and they increase the size of our, length of our fish and then every time we release those fish they get eaten by sea lions.

So there's just a bunch of recreational woes that are very concerned, and when we talk about data, please use the fishermen to collect that data because we know where the fish are and we go to the areas where we can collect the data. So other than that, it was a pretty good meeting, and I did like appreciate that everyone got to speak and got to ask a lot of questions. So thank you Russ. It was good to be involved.

Mr. Dunn: I'm going to ask my new consultant Pat, to go address her concerns.

Vice Chair Ralston: Yeah. With that, I think we can hold a response to the data issue for tomorrow, and look forward to that conversation on the task force. So we are on break, and when would you like us back, Madam Chair?

Chair Davis: Russ, thank you very much, and then Kellie, thank you as well. We're actually going to forego the break. Sorry about that, because we're actually going to break in about a half an hour and get ready for the field trip. So that will give us the time that we need for our next discussion, and then Rai will come up, Raimundo will come up and tell us more about preparing for the field trip.

So thank you for your input. Also Clay, I saw you had your hand up and hopefully you can provide your questions and comments to Russ and the group at a later time. Okay. So we're going to move into and Joe's going to help with this discussion, and we're going to move into the next agenda item, which is a reflection on the connection of presentations to MAFAC's ongoing fisheries and

seafood resilience work.

MAFAC's Fisheries and Seafood Resilience Working  
Group

And so just to give you a little background, in October at our last MAFAC meeting with Erika as the chair, we came to an outline and a work plan. And so we have these major categories and we want to spend some time looking at them and still see if they're applicable.

You've also heard -- today you heard many presentations with both Janet and Paul and John and others about not only the National Seafood Strategy but the 2030 Vision, and how our work can -- how our MAFAC work can be complementary and provide future input, especially in terms of implementation and how to reach goals and metrics around the National Seafood Strategy especially.

So Joe's going to give an overview and talk about the outline. I want all the MAFAC members to be thinking about areas of interest, areas that interest you, areas that you'll want to work in, because there's still plenty to work to be done. So we want to make sure that we come together into these working groups and continue the work that we're doing.

And so we'll talk about the outline and then tomorrow we're going to talk about one particular aspect, or excuse me on Thursday, the workforce development. So Joe, I'm going to turn it over to you and I'll help also management of the discussion.

Mr. Schumacker: Thank you Madam Chair. So I want to note that my co-chair is with me of our working group, and it's Roger Berkowitz, who's here beside me, and you know workforce development is dear to my heart. It's dear to everybody's heart around this table. Our coastal communities are in trouble, and we haven't seen anything more than this COVID epidemic recently that really highlighted all those problems that are out there.

I mean we've got enough issues already that are coming down the pike, from climate change to aging and graying of the fleets, et cetera. But then COVID just really, really put the spotlight on all of these issues, and showed us that we need to do some work. MAFAC can help in that matter in recommending to NOAA Fisheries what they can potentially do to help with these coastal communities and their resilience over time, workforce development and resilience.

But you know our brains. We've got a few brains and been working on this, but we've got a bunch of new brains here right now too, and we're really hoping that we get some input from you all as part of this as well. So what I'm going to quickly go through here is this document that is in your agenda.

It's building Resilience in Fisheries and the Seafood Sector in Coastal Communities Reliant on Marine Resources. I'm sorry. Oh, and Heidi just sent it back around, so you all have that again. So please check your email boxes there, and we're going to go through this. What this, what we found out was that this was daunting. This was a very, very broad and complicated issue, and involved a lot of different moving parts.

Eventually we began to concentrate on certain parts of this for the recommendations that we're going to put forth to you guys on Thursday. And I want to show you what we've been working through and particularly I've probably highlighted a few of these areas that we really use more input on, but we could use input on all of it.

So the intro to this is pretty much what I just gave you. There's a lot of challenges out there, and we realize that there's a lot of workforce and training needs across the -- across all of our sectors. But the main questions that we address, what's the current state of the fishing, seafood and aquaculture workforce?

What are the gaps that need to be filled, changes that need to be made that will ensure their resilience and adaptability, dah dah dah, into the future especially? And specifically, what can NOAA do to assist these industries in preparing them?

So in the work plan, we've got four identified areas of focus that you'll see below there, with subheadings below them. Number one was identifying opportunities and barriers to accessing resources in particular and for all of our communities out here, and those would obviously include continuing on the great science that NOAA has done over the years, and making sure that that works for us into the future.

Preparing for, preparing for, for goodness sakes, adapting to and preparing for climate change. It's here, so that's where that's at. Aquaculture opportunities that are out there now. Understanding regulatory complexity for various industries. Transparency. What kind of barriers exist out there for different seafood industries and so forth.

Something dear to my heart is rural communities, making sure that although all of our coastal communities that work with the fishing sectors deserve attention, deservedly so, there are many, many smaller communities out there that are also part of our fishing industry that need attention, and the problem is that there's many of them. So it's hard to go out there and address all those communities, but it needs to be done. And opportunity barriers, what we can do to fix those and how we can address those. So that's number one for identifying opportunities and barriers.

Number two, identify future workforce needs for U.S. fisheries and all types of aquaculture. Recommend indicators to assess progress. I want to note that this is where we've kind of concentrated our efforts as we went forward, and the membership that we -- the members have been working on this, of course Roger, the co-chair;

Sebastian Belle, Megan Davis, Tom Fote, Robert Jones, Stefanie Moreland, Pat Sullivan, and Richard Yamada, and we have room for more. So step right up. We really, really, really would like other's input on this process.

This has been a challenging time for this group. We've gotten a lot of presentation from great, great people out there. But the problem is that we've been doing this remotely. We've been doing this kind of in a vacuum, and we really need to get our brains together to work on this, so I'm really hoping we get to have some of that time here at this meeting and going forward. We got some great information and we were able to compile that.

So ID'ing future workforce needs for U.S. fisheries, you know. So we addressed obviously the attrition and changes in the workforce needs out there, both in commercial, recreational and in aquaculture. Of course we looked at climate change and how future fisheries and communities would be impacted by climate change. How do we address those future workforce needs?

And then COVID. What has COVID taught us. We're down now on the second page of that thing. What has COVID and other disasters taught us? NOAA spends a lot of money on disaster relief out there in the fisheries. I mean what do these -- what are all of these instances telling us in the long term?

But COVID in particular, really like I said, shined a light on so many of the market weaknesses or marketing weaknesses I should say, supply chain weaknesses, employee limited workforce weaknesses, that these need to be addressed specifically. So if we can think through those type of things, we could use that input, and of course outlining the future workforce needs, numbers, roles, skills needed, et cetera.

Number three in our list of priorities was -- or our areas of focus was training opportunities, and recommending areas for expansion, and what we

could do. This is where we got a lot of good input on current training opportunities and the existing programs that have been developed out there that have really done well in producing new entrants into the workforce.

They've become in our minds, many of these are models for what can be the future for something that NOAA Fisheries can hang their hats on, to really start to incentivizing people to come into these fisheries fields. And we want to -- we reviewed the NOAA fish training catalogue, which is extensive, and got a lot of input from Sea Grant and all that.

Fisheries processing and aquaculture workforce. We had some good input on the needs that go beyond the boat, the dock, the trucks that goes into the processing field and the marketing field and the management fields that are needed. We need people in all of these fields to go, to bring this industry into the future, these industries I should say, into the future.

They go beyond, you know, just the catching part. There's certainly needs for apprenticeships and so forth there. But we need people that can work within the industries in things as varied as refrigeration and processing and fileting and shipping methods and so forth. So just some things that need forward thinking in that regard.

Support services, new techs and trends. This is an interesting one. We have a little sub-bullet there that says "Needs some predictive modeling and new technologies." That sounds pretty fancy, but basically what it is, is use your crystal ball, folks, start thinking ahead.

What's going to be the technology of the future, and how do we train folks for that, not the technology of yesterday, and how do we keep them involved in it so that they can lead the way with these new methods of doing everything that we've discussed here.

And then of course the science and data needs. Who are the future managers and what skills and knowledge should they have? We've discussed a bit of that already, but it's critical obviously to everything we do.

And in our fourth area of focus, which we really haven't got too much into yet, but something that we really want to dig in deeper on and we could really again use a lot of input on this, is identifying effective incentives and target audiences. This could have a lot to do with capital, you know, incentives. How do we incentivize people to get into the industry, into these jobs? Not just the training and so forth, but how do people begin small businesses and make them work, and what can NOAA do to help that?

So and then in transitioning workers and tradespeople, either into different fields within the industry, or from other industries into the seafood industry. Consider better outreach into young people in the schools. We saw some great examples in Maine and the Carolinas and Alaska on outreach from the Sea Grant Program. Sara, it's fantastic. They've really made great headway in bringing young people into the fields and meaningfully, I mean actual boots on the ground.

So those are types of programs who we felt were very, very appropriate, and we would like to see more investigation into that. We know that there's, you know, there's been long-standing vessel apprenticeships that have gone on through deckhands, just to work their way up to skippers and so forth. But what can NOAA help to incentivize that type of, that type of program?

Is there something we can do to get folks beyond just a skipper that's going to do that for his crew? Is there something that NOAA can do to help get boats involved in that apprentice program, or is there another way to do it as well?

And of course the same with the other parts of the

industries obviously, the same thing with the areas that I mentioned earlier, processing, refrigeration, transport, marketing, dah dah dah. And then of course lastly I'll leave you with the overarching themes which NOAA would take into account for those things. Obviously, the new normals, a big one. New normals are what they are right now. We're all looking at baselines have shifted, so to speak, you know. We're really dealing with something new daily, and we have to adapt and think ahead and plan, and not deny. Sorry, my two cents.

And then climate change obviously goes right there. Planning ahead is crucial and we, you know, NOAA and Sea Grant should really, should really emphasize that they need to -- that they can help with this in getting investments and preparedness and resilience. So help people think ahead and leverage that thinking as best we can.

Gosh yes, and of course equity, inclusion, diversity, and environmental justice. This was sadly lacking, sadly lacking throughout most of our, a lot of work out here. We need to really get on the ball in this. We heard some good comments about that today. It needs to be included dearly. That's going to be it.

I'm going to defer to Roger to see if there's other points on that. We'll bring this back to you on Thursday with basically a two-pager for your review. It is out there for your review. We would welcome your comments while you're here, and for that discussion coming up on Thursday.

Mr. Berkowitz: Thanks, Joe. I think you did a great job of capturing the theme of this. It's a very broad subject as you can tell, but we will get more into it on Thursday, perhaps have a resolution as we drill down on it more. You know this, and you said Joe, I mean this, the fisheries are evolving. Some of it has been exacerbated with the pandemic, but it's evolving and we have to think about how we can be nimble and move forward.



But people are still going to eat and they're still going to want to eat fish. We just have to figure out how to get it to them. So we'll continue that discussion on Thursday.

Mr. Schumacker: Madam Chair, just one last. Heidi made me clarify obviously. What the recommendations on Thursday are for workforce development specifically, and there's certainly much broader stuff that I just went through here, so thank you.

Chair Davis: Thank you Joe for going through the outline, and Roger for your inputs and both of you for your hard work in chairing the -- one section of this, the Workforce. And so as Joe mentioned, on Thursday we -- the working group has put together a set of recommendations. So as part of your homework, you could read through those, because we will have an action item on that.

So we have about 15 minutes, about 15 minutes, and what I'd like to do with you all is to look at these other sections, because Joe put a work, laid a work plan out there that has three sections to it, four sections to it, which is also the overarching that goes over all the sections.

We have, with the guidance of Joe and Roger, we have been focusing on number two, the workforce. We should spend a little time right now looking at the other ones, looking at identifying opportunities, barriers to create pathways to assess the resource, categorize existing training opportunities, identifying effective incentive to the target audiences, and then the overarching.

So I'd like to see if these are still relevant topics, that these are topics that we want to jump into next as a focal point, which one would be the ones to jump into. Are there ones that are missing? So I'd like to open up the room for you all to comment, ask questions. I know this might feel very unfamiliar, especially for the new members.

But let's just open up to some discussions so that we can become more familiar with this work plan that we have. So ahead, Joe.

Mr. Schumacker: Yeah. Just a, just a note that, you know, you're going to see the draft that we put out for Thursday. When you do, there's really not a lot of new stuff that NOAA doesn't know in there, and you know, you guys know more than this. You guys have specific needs out there and specific information and knowledge that we don't. So that's what we're really looking for. Thank you.

Chair Davis: Thanks for that, Joe. Be thinking also with the lens of the National Seafood Strategy, of the 2030 Vision. Be thinking of that because it's also input into implementation, what kind of guidance that we can provide with MAFAC. First will be Sara with comments.

Dr. McDonald: Thank you Madam Chair. Thank you Roger, Joe and team for this really interesting document. This is just something I want to actually capitalize on something that Linda suggested, because I feel like there's a fit there somewhere with this vertical integration, her story about squid. I feel like there's a way that we can somehow merge that vertical integration with maybe number three or some other things on this list.

So I just wanted to put it out there as a brainstorm like my brain is full of ideas right now of all the different conversations that we had, and I was super-interested in what Linda was saying. I feel like there's an application here in some way. So I just wanted to bring that up as a suggestion.

Chair Davis: Thanks, Sara. We'll make notes from everybody today so we can keep working on this. But we have Brett, Meredith, and Jocelyn, so Brett and -- are you going to go, Meredith?

Ms. Moore: Yeah, I'm going to go. I'm going to ask a dumb question. This is a new person question, and then later I'll have smarter questions to ask.

But so this, with this work plan is sort of a self-driven MAFAC created to try to align with what the agency's doing, and so we work to try to narrow this down, and it changes over some frequency to -- yeah, great. You understand the dumb question I'm asking.

I'm just trying to figure out like is this where -- like is there some level of self-determination here, where we try to add into this work plan and figure out the things that we want to all be focusing on? What's the timeframe for a work plan? How should we align it with like the 2030 goals, if there's any answers there, and apologies but --

Ms. Lukens: There are no dumb questions. I'll give a smarter answer. So with MAFAC in general, things happen two ways in terms of the group giving us consensus-based advice. One is we can ask a very pointed, specific question to MAFAC. Other times throughout discussions, issues come up that MAFAC is interested in, that they want to provide some thoughts or input to us on. So there's two different ways of going about it.

The time scale of MAFAC's work products vary from doing a really discrete letter at a meeting to provide immediate input on something, and that has to be done in a meeting usually to over two years' worth of work. Usually MAFAC's work products do take quite a while, and we don't ask MAFAC an immediate answering question. They usually do give them time to deliberate and work through those issues and come up with their own recommendations.

With that said, on this particular one, this issue did come up because it does align with a lot of the work that we have been doing. It kind of tiered off of the seafood recommendations and close into the Seafood Strategy. So sometimes when we do get a question come up with an issue, it's -- we're asking a question. You know what our priorities are, but you are helping shape that sometimes.

So I feel like I didn't give you a very discrete answer, but there is kind of case-by-case basis there.

Ms. Moore: Thanks. I hope that it was helpful to other people too and not just me. But thank you, and I will -- I'll come up with smarter things to say next time with my card up.

Chair Davis: Meredith, that was the right question to ask, so thank you for that and you know, we're all learning. I've been on MAFAC for four years and, you know, how you determine the priorities. So Jennifer thank you, that was really helpful. And Brett, did you have a comment?

Mr. Veerhusen: Yeah, thank you. Madam Chair, just a couple of quick comments. If Meredith's don't make sense, then mine certainly will just be a jumble heap of thoughts. So excuse me, but just quickly into the parking lot then for discussion at another time, kind of relating to the Seafood Strategy and then the workforce development kind of document and overall the other, you know, goals that we're discussing.

On 4.3 of the Seafood Strategy around workforce development, just a couple of suggestions that come to mind is better understanding of mental health across all industries, and the importance of making sure that people working across, I would imagine, most if not all sectors of the seafood industry have the adequate support.

I know certainly from the commercial fishing industry, that is an issue in making sure that we are protecting and providing the services. I know folks in Maine have really elevated that conversation and I appreciate their work, and also just understanding. I come from a family. My mom, my stepmom all are strong women helping raise a family and working most of their lives commercial fishing, and it's been awesome as their son to fish with them.

But also understand just some of the systematic, cultural barriers, norms and opportunities that make it to where women can participate and maybe cannot, you know, being more closely linked often to shore-based fisheries, communities that lend themselves to raising a family and participating is one parallel.

I'm just kind of using personal examples, but really just understanding and diving deeper so you're not trying to come up with solutions on a much larger maybe issue or opportunity or just barrier. I don't have those answers, but I think that way we're using limited resources wisely.

And then the next point, just to discuss at another time is around Objective 4.4 with Market, Economic and Social Impact Analyses. It could be really fascinating to know if the agency has the capacity or plans to really understand and Paul, this may be in your economics/aquaculture discussion paper, on the market impacts of introducing farmed as seafood that competes and potentially complements wild capture fisheries.

What are the opportunities created when you do have both species interacting in the market potentially for stability, but also so that we don't repeat past mistakes, as has been done in the salmon industry for example in the 80's and 90's, but potentially looking at where, where the opportunities are for especially finfish aquaculture, whether the, you know, six to eight species that are likely going to be farmed and can really only be viably farmed and really understand how those introductions would interact with the wild capture fisheries, in making sure that they don't cannibalize each other and actually find a really strong balance in complementing each other.

Chair Davis: Thank you so much, Brett. Those are very helpful comments, and please keep those in mind also when we talk about workforce development again on Thursday, and see if we need

to maybe add some other recommendations in there. So thank you very much for that input. We have Jocelyn, Linda, Natasha, and Matt, and that's probably as many as we'll be able to have for the rest of this session. So Jocelyn.

Dr. Runnebaum: Yeah, thank you. I'm sort of having a hard time digesting all of this as a new person, so thank you Meredith for raising that question. Just as a scientist, I feel like it's really helpful to think about this in a social-ecological system, where humans and the environment are together basically, and we have layered governance structures, human social structures including well-being and family structures that Brett raised, and then the ecosystem.

I think one of the things that I've started to come to realize is that talking about climate change as a separate issue and not integrated into each of these issues makes it really challenging to actually address well-being, like fishermen well-being in the face of climate change. So I appreciate that it's raised in the overarching themes of something to come up in the top three. But I think it's really helpful to just have thoughtful conversations about or I guess making sure that we have thoughtful conversations about how climate change is impacting each of these issues.

Chair Davis: Thanks for the input Jocelyn, and we need to make sure that that -- because it isn't overarching, we need to make sure that it's always in whatever we're presenting and providing advice in. So thank you for bringing that up, and let's see. We have Linda next.

Ms. O'Dierno: Thank you. One of the things that I was thinking about with processing, if you look at a lot of the harvests we have, they are seasonal. They don't produce that much product. I think an important thing to look at is contract processing. We can have one plant processing for a number of different harvesters and growers.

I think that's a way, a possible way forward. It will keep the plant working year-round. So I think that's a positive benefit, and if you look at the markets, they are more and more looking for processed product. If you go to the supermarket and say can you filet that fish for me, most of the time they say no, no. Take it home whole.

So I think we have to look at those opportunities. I think another important thing is to kind of connect the processing sector with some of this grant money that's out there. I don't think people are aware of the SBIR grants. I don't know if those can be used for retrofitting fishing vessels but certainly, you know, it's another source of government money, and all of the export opportunities that are out there.

I don't think the end users are really connected to the source of those funds, and I think that's really an important aspect. Thank you.

Chair Davis: Thank you Linda for those comments, and that falls in nicely with workforce development and opportunities and diversification. So please keep that in mind also for Thursday. And let's see, Natasha.

Ms. Hayden: Thanks Madam Chair. So for this topic, I have a lot of different things that I want to put out there for consideration for working waterfronts and how integrated between harvester, processor, markets, all the supporting industry it seemed to me were, and not as much anymore, and that has led to the -- contributed to lead to the aging of the fleet, this you know, limitations in available workforce.

And I don't know if this is intentional or if it's just not something that has been considered, but workforce development and incentivizing training, incentivizing apprenticeships, these types of initiatives are being separate from community, you know, what had been -- what had previously been, you know, like a community's economy, right?

And if that had been separated out or if it's not just having been talked about, it's one of the things that I think is really important, because what we've -- what we've seen in Kodiak with, you know, my community's fairly reflective of a lot of coastal Alaska, is that there's -- has been a reduction in the attractiveness of getting into becoming a boots on deck fishermen, because of lack of opportunities for upward mobility or for permanent ownership, vessel ownership, these kinds of things.

But concurrently, we've also seen an increase of people being brought in from other countries and continents for like processing capacity, and these other necessary roles in the seafood and the fishing, the whole entire system. So there's this, these classes that we've got throughout our fishing industry of, you know, the community people, the permanent owners, the vessel owners, the deckhands, the processors, the transient workers and the market.

And I don't know, again I'm looking forward to the discussion on Thursday and talking about this some more. But if we're looking to incentivize workforce development, that we need to be looking at the communities whose entire economy is based on the fisheries and of the seafood production.

And so I am looking forward to more conversation about this on Thursday, because what we have seen is just this complete, you know everybody always -- when I was high school age, it was go to college, go to college, go to college. Now we're like we need fishermen, we need fishermen, we need fishermen, and we've got boat owners and permit owners who are like well, we can't find anybody to work these days and I don't really know what the problem is. So it's just very layered.

Chair Davis: Natasha, thank you very much for those comments, and this is very applicable to the work at hand with MAFAC. So thank you for that, and Matt.



Mr. Upton: Thanks Madam Chair. So I guess I'm focused on 1E, just address regulatory complexity and demands for transparency, ensure this isn't a barrier. It currently is and that's a statement I definitely agree with. I think what NOAA can maybe do is just focus kind of at the council by council level, and really look at what's going on in terms of those barriers to optimum yield.

I'm most familiar with the North Pacific and by way of example for cod. You know, there's five different gear types that harvest cod and you have to do it in a year. So maybe there's way that you could look at harvesting your cod over two years or more flexibility with people being able to shift cod between the different sectors, similar to how the CDQ groups do it.

I think also gear type flexibility can be important too. I think we saw that in Alaska with using cod, well actually sablefish black cod, and caught by pots instead of hooks. But just really kind of digging in on the council by council, region by region level, because I think if you talk to some of the fishermen, there's regulations that they find really frustrating that might be on the books for a good reason, or it might need to be revisited.

The council system kind of does that in a slow way, but there may be a role where NMFS could kind of outline and kind of really present it to kind of jumpstart that process. Thanks.

Chair Davis: Thank you Matt, that's great. Well this is a discussion I think that could use a lot more time, and that's fine because we are in working mode. This is what we're doing, and you'll see some of the product on Thursday, part of this outline. I think we need to think about what other aspects of this we can start to work on and provide recommendations, because the recommendations do go to NOAA leadership and also the Secretary of the Department of Commerce, and they really do look at MAFAC's recommendations and it's a big

help for the agency.

That's why we're here, as advisors. So this was the beginning of a discussion, and I think it was really productive and great to hear your inputs. So what we're going to do now is turn to Raimundo, and Rai if you want to come up or grab the microphone at the end next to Paul, and give us a little overview on our field trip this afternoon.

### Field Trip, Recap and Overview

Mr. Espinoza: So I get to speak after all. You know I was dying over there.

Okay, so today you're in San Juan. In this area, there are actually several fishing associations. There's actually one very nearby in Old San Juan, but they're one of the smaller ones and they don't have that many members. So we're actually going to go to the one in this area that produces the most fish in this area. They also have a very healthy membership.

It's also one of the fishing associations that is very interesting in how they're structured, because it's a commercial fishing association that also welcomes recreational fishers to be members of the facility that the local Department of Agriculture provides fishing associations. So that's part of the conversation we're going to go into. A lot of them are from the NGO sector that we see in South America and Central America and Asia, and we always try to -- in the Caribbean, we see how we want to promote cooperatives, between cooperatives to help organize the sector.

This is something that's been more standard in Puerto Rico since decades. So it's really interesting to see how that works and how it doesn't work. But anyway, so we're going to be going across the Bay to Cataño, which is again has that interesting relationship with both commercial and recreational sectors.

In addition to that, we also have one of the only HMS person that does the offloading for the longliners, for there are only like three or four longliners that have permits to fish in U.S. waters off the EEZ, and they offload in San Juan. So he's the one that -- I think he's with Scott Taylor, and he brings it off here and unloads it there. Most of that gets shipped off island. Some of it stays on.

So that's also interesting because it's the only operation. They also have one vessel from the USVI that also offloads here. So it's really interesting because like my friends in the Gulf say now, it's you know fisheries, everybody gets along. It's really easy to work and collaborate with everybody, so it's just very simple, one big happy family.

So anyway, like every place there's a lot of issues, but again it's also very representative of the diversity of the fisheries in Puerto Rico, as well as the scale. So that's something that we were also very interested in to show you. Again, at least nearby, you can see some of this as well when we go to Naguabo, of how somewhere nearby you can get to see the local fishers.

So I do know that I was -- I just got confirmation that some of the fishers that went out today, they have a decent catch. So you'll be able to see some of the catch that was brought in today. That's I think, I think maybe three or four them went out. Let's see. They've had representation -- go ahead Heidi. You raised your hand.

Ms. Lovett: Yeah. You can finish.

Mr. Espinoza: Okay. I like the power so anyway. Anyway, you raised your hand.

(Off-microphone comment.)

Mr. Espinoza: So that's right. So anyway, so that's part of what we're going to be visiting in Cataño. The people that are waiting for us there are the president, the vice president, and some of the

commercial fishers as well, hopefully some of the recreational fishers will also be there. They're going to -- they're expecting us between 3:30 and 4:00, and of course throughout the time that we're there, they're going to show us the facilities and you're going to see what --

This is one of the bigger facilities in terms of what they are able to host there, in terms of vessels. So they don't leave them in the water, they take them out. And so you'll see some of those places of how it is. And again, we'll explain some of the details when we're there, the fees, the structures, who is able to participate, who's able to join, and yes, that's part of what we're going to do today.

Ms. Lukens: Thank you Raimundo. I think what Heidi might have been raising her hand about is logistics, and getting this large herd of people and it is like herding cats sometimes, to follow individually where we need to go and when we need to leave. So that's why I think Heidi was raising her hand.

Mr. Espinoza: Yes.

Ms. Lovett: So my understanding is it's Pier No. 2, essentially across the street a little bit to the right. When you come out the door, you go towards the Bay. So you make a left out the door of the hotel, but when you hit the street, you turn right and it's the pier that's almost across from the Ralph Lauren store that you see on the streetside when you're walking.

It's the first pier when you head in that direction, as I understand it, and you can buy a ticket, which is only 50 cents if it's correct on the web, and there's two vessels that leave. You want to be on the one that goes to Cataño, and I believe it goes every 15 minutes at about from between 3:30 and 6:30.

But when we get off the boat, I'm not clear where we go.

Mr. Espinoza: So we get off the boat on Cataño, and

then it's going to be like an eight minute walk towards the association. So I'll wait for you there. I'll be with you. I'll take the ferry as well. So we'll just -- we'll whenever a critical amount of people gather in the lobby, we can go there. If you struggle, if you're a little late, just make sure you head over in that direction. Heidi explained it.

Again, there's not that many -- you'll see the -- don't get on the cruise ships. That's not where we're going. You'll see the vessel. It's the little boat like down there and like you said it's -- she explained it really well. It's Pier 2. There's not that many docks. I mean there's --

Ms. Lovett: There's a few people that are going to be a little bit later. Do you have an actual address of the association that we can share?

Mr. Espinoza: Yes. It's once you get out, you walk eight minutes to the right.

Ms. Lovett: So you just -- it's just on the waterfront. Okay, just making sure.

Mr. Espinoza: You call me, I'll go get you.

Ms. Lovett: Okay.

Mr. Veerhusen: And what time do you -- what time are we trying to reach critical cat mass?

Ms. Lovett: We're trying to meet at the boat. It's about a two minute walk to get there.

Mr. Veerhusen: We're going to meet at the -- downstairs in the lobby first and walk.

Ms. Lovett: Yeah. I would say if we can collect ourselves, move pretty fast and try to 10 to 15 minutes, meet down there and walk over. There is a 3:30 and there should be a 3:45.

Ms. Lukens: Heidi, what is 10 to 15? Give the me exact number. Cats, remember the cats. What time should we be down there.

Ms. Lovett: 3:20.

Ms. Lukens: 3:20.

Ms. Lovett: And then a second group can --

Ms. Lukens: We're going to leave at 3:20 from the lobby. Be there or we'll see you tomorrow, tomorrow morning.

Ms. Lovett: Take your computers up to your room now.

Ms. Lukens: Tomorrow morning, there is an administrative session at 8:30 for members who have not done their ethics training. For the rest of you, we start at 9:00.

Adjourn

(Whereupon, the above-entitled matter went off the record at 3:09 p.m.)