

U.S. Department of Commerce  
National Oceanic and Atmospheric Administration  
(NOAA) National Marine Fisheries Service (NMFS)  
Marine Fisheries Advisory Committee (MAFAC)  
Meeting  
Wednesday, May 11, 2022

The Marine Fisheries Advisory Committee met in the Sheraton Old San Juan, 100 Brumbaugh Street, San Juan, Puerto Rico, at 9:00 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

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

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 Odierno, Fish and Seafood Development

Specialist

Jocelyn Runnebaum, Ph.D., Fisheries Project

Manager, The Nature Conservancy

Ervin "Joe" Schumacker, Marine Scientist,

Quinault Department of Fisheries, Quinault

Indian Nation

Sarah Schumman, 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:

Ms. 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  
 Advisor  
 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,  
 Regulatory Programs  
 Jose Rivera, Southeast Regional Office, Puerto  
 Rico

Also Present:

Walter Butler, Arrecife Condado  
 Nelson Crespo, Chair, Puerto Rico District  
 Advisory Panel  
 Raimundo Espinoza, Executive Director,  
 Conservacion Conciencia  
 Carlos Farchette, Caribbean Fishery  
 Management  
 Council Member  
 Marcos Hanke, Chair, Caribbean Fishery  
 Management Council  
 Julian Magras, Chair, St. Thomas District  
 Advisory Panel  
 Miguel Rolon, Executive Director, Caribbean  
 Fishery Management Council  
 Edward Schuster, Chair, St. Croix District  
 Advisory Panel

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## Proceedings

(9:08 a.m.)

## Opening Remarks

Chair Davis: Good morning, everyone. Welcome back to the second day of our MAFAC meeting. I want to acknowledge that we have Sam Rauch that has joined us. He'll be speaking later in the morning or today.

I also want to give a big thanks to Raimundo for our field trip yesterday. It was really excellent, the class there. I believe that Tom would like to say a statement.

Tom, if you could keep it brief, please.

Mr. Fote: I will. As I walked into this meeting yesterday, I realized that I got appointed three years ago. This is only the second in-person meeting that I've served in my three years. So we had this lost opportunity over these last three years to basically talk to each other.

I learned more about Matt's business in a half an hour lunch than I learned in the three years. Donnie asked me a question about Barnegat Bay, whether there's oysters being grown in Barnegat Bay. I explained to him about the six businesses that just started up. We've lost that information going back and forth to each other.

I am looking forward to the next three years to meet all of you, talk to all of you. It's done a lot more than I remember -- the other thing I was saying, I'll quit there. I sat on a plane for four hours, sat on a plane at the end of the day for three hours, and the person next to me never said to word.

That's never happened on plane before. Usually, you know their life history by the time you get off the plane. Well, we're used to isolating ourselves so

much and we're actually afraid to speak to the person to next because of COVID. Let's go over it. Let's work together. I'm really looking forward to meeting all of you and working with you through the next couple of years.

Again, if you have any questions, feel free to call us. Pat and Donna and a bunch of us have been talking on the phone. Joe and Roger, I've learned, but some of you that I've served three years, I really don't know at this point.

Chair Davis: Thank you, Tom. I think we all echo how exciting it is to be together. Thank you for those comments.

Today, we have a full agenda. We will start off the morning with Paul giving us a budget outlook overview. We have the Fisheries Commissions and Regional Fisheries Panel after that. We have an update and discussion on climate and science with Jon Hare.

Sam Rauch will give us a habitat and conservation update on America the Beautiful. And then we'll have a report out by the Recreational Subcommittee. We have an action this afternoon on that followed by environmental justice strategy, also given by Sam.

Then, we'll talk about a short recap, and then we have a group dinner tonight. We have a great, full agenda. Looking forward to working with you all on that agenda today.

With that, I would like to turn it over to Paul and start off the day.

#### NOAA Fisheries Budget Outlook & Administrative Update

Dr. Doremus: Thank you, Madam Chair, and great to see everybody this morning.

Thank you as well to Rai for a really interesting

afternoon to get a sense of the local fishing community, their interests and their livelihoods, their businesses.

It was a great opportunity to do that, which we really appreciate. One of the great benefits of being here and looking forward as well to our opportunity to look into additional work in the region tomorrow, which will be with great pleasure.

I'm going to say quickly. We have a short amount of time to cover a lot of ground. I think all of the standing MAFAC members know and the new MAFAC members are finding out right now that you can't talk to a federal agency without wringing your hands over the budget. This is your annual hand-wringing over the budget moment.

We're always executing three-plus years at once. We're getting ready for FY24 right now. And many of the conversations we're having around strategy and the various threads here on our national secret strategy, on climate and fisheries on our equity and environmental justice considerations are all oriented towards future resourcing. Budget and strategy going together.

We're deep into the process of engaging with Congress over FY23 and dealing with a very, very late allocation of '22. So a very short amount of time to execute a '22 budget. I'm going to give you a brief overview of '22 and '23, and then just a little bit on where we are operationally with reintegration, which is sort of the dominant issue in the organization operationally as shifting from our pandemic mode of operations, much as Tom was just talking about from a personal point of view.

We have that for our workforce of roughly 3,000 plus 1,500 contractors all over the country. It's a big challenge for all organizations, and it's going to really be a factor in our productivity and how we work towards our future mission objectives.

So our '22 enacted is \$1.02 billion, and this gives



you kind of a quick breakdown of how that racks out by our major areas, protected resources, our fisheries -- science for sustainable fisheries and fisheries science enterprise enforcement and habitat.

I really want to emphasize that '22 was put together, as is always the case in presidential transition years, very, very rapidly. There is a huge focus in FY22 across the federal government on climate. Broadly construed, it touches virtually everything that we do. Unfortunately when this ultimately shook out in Congressional deliberations, and it was a very complicated year.

In addition to annual agency appropriations, there were the big discussions on the infrastructure bill, Build Back Better, and just a huge array of funding considerations related to the pandemic.

So at the end of the day, we ended up with fairly modest support relative to the request, which was a substantial increase for us. In the climate research arena, we got and continued to benefit from and deeply appreciate the longstanding and solid Congressional support for our fishery survey capability, and that was recognized in an \$8 million increase this year as well as limited investments in offshore wind.

We'll talk a little bit further about that. We're repeating our request. This is a substantial effort where we desperately needed the 20.4 and ended up with 6.3, so we got a ways to go to really build the capability that we need there to respond to very aggressive goals for offshore wind development and their implications for fisheries.

Similarly, some substantial programmatic concepts around restoration and resilience or species recovery grants and habitat restoration. And our initial tranche of requests that were coordinated across NOAA on environmental justice and equity front were not recognized by Congress in '22, but they did recognize a longstanding issue.

This is the big positive story in FY22 of adjustments to base. That's our bureaucratise in Washington for inflationary adjustments, which are all the more important now. We have always had, in science and technology, organizations and research-intensive organizations a rate of cost increase that has been higher than the general rate of inflationary price increases, the general GPD price deflator.

We've been making the case for years that in real terms our resources have been declining. That is the case across the organization. I'm sure all of you are familiar with that kind of pressure, and this was the first year that that was recognized in large measure, along with a lot of Congressional concern about our efforts to recover North Atlantic Right Whale and deal with improvements in our Milford Lab Hatchery infrastructure and some habitat restoration was part of the cost of that.

Some positive aspects of the story there, and we have encouraging outlook for '23 with a very large request for NOAA as a whole. Again, we are part of a bigger and very substantial, over \$7 billion enterprise, which is heavily oriented.

We always talk about dry/wet side. Dry side largely being our satellite division, our weather service division and good portions of OAR, about 70% of which is dedicated towards climate and climate modeling.

More on that, we're working very closely with them on the climate and fisheries connectivity as well. We're less than 20 percent of NOAA's budget, but substantial requests for just over \$1.1 billion. A big increase over where we were in FY21, without a doubt, and a substantial increase over FY22 enacted.

Of that increase, about \$26 or so million was additional adjustments to base and \$34 million in program changes. We have separately in a different part of NOAA's budget, an increase for our facilities.

So all of this, our Blue Book and all of this information is online in great detail. I'll provide pretty much the highlights here. The budget is really thematically driven by our concerns around climate, economic recovery and environmental justice. These are all linked.

There's climate dimensions of all of these. There's interrelated aspects of what is driving demand for what we do as well as the interest in the communities that we serve are related to how we respond.

Our whole effort here is coordinated with a broad thematic effort in NOAA as a whole towards what we broadly calling Climate Ready Nation. We have, through the weather service, years ago at around -- boy, this is about now over ten years ago, shifted the weather service from a focus on forecast accuracy to a focus on Weather Ready Nation.

It's not just the accuracy of the forecast; it's how people respond to it. Similarly, we're trying to kind of move in the same direction for the organization as a whole on the climate front. There's a big, big piece of that related to fisheries.

So when the climate research ended the story, John mentioned yesterday, our Climate and Ecosystem Fisheries Initiative. That is the first piece of this. This is a really substantial effort to build greater capacity. And this is coordinated with OAR.

There's some complementary investments in our Office of Oceanic and Atmospheric Research, a different line office within NOAA, that's working on the climate modeling, regional downscaling and connectivity to living marine resource modeling capabilities. This takes that capability and drives it all the way through to management decisions.

That's the really key strategic thing to emphasize here is this isn't just improvements in science. It's getting science into useable form and guiding its use in fisheries management councils and other

decision-making venues where we need to better calibrate what we're doing based on climate drivers.

This would set up fisheries and climate decision support systems in five regions for that very purpose of improving our knowledge of how climate is driving change in various species and in various ecosystems and deriving management relevant information and guiding the use of that information in the decision support structure.

That's a really significant step forward. Similarly, we have here an important increase around our survey capacity for commercial and recreationally valuable species. This is also heavily influenced by climate, but there's a lot of shoring up, core survey capability here as well that will allow us by increasing and building back our sea days to roughly 2,200 in FY23, making sure that we have a little bit more flexibility in terms of white ships and our charter survey capabilities so we can be a little bit more flexible and responsive to a lot of often unforeseen changes there.

And also investments in new ways to sample, to collect data, new technologies, that will help us develop more robust, more resilient but more diverse and more informative data streams. That will be particularly in the climate arena.

So that's a substantial -- as well as species recoveries grants. This would add \$10 million to a total program, if I recall, around \$17 million. This is a really key partnership with states and with tribes to direct investments into areas where, again, climate-driven threats to key species, what are some of the strategies we can use.

And typically in this program, we invest in something on the order of 35 actions. This would be a substantial increase through competitive grant programs, 25 states, all tribal nations, to bump up that level of activity to something more like 85. So we're more than doubling the level of effort here and very substantial on the protected resources

front.

Those are the key things on the climate arena. Offshore wind, you've heard a lot about. Frankly, we're chagrined at the level of attention that this got in FY22. I can't underemphasize how big an issue this is and how much time, energy, staff time, expense has been oriented towards wind as we've made this huge national shift and kind of put the throttle down with the Bureau of Ocean Energy Management at the lead, as the lead permitting authority to get to this 30x30 goal.

You all know better than anybody that this has substantial implications for fisheries, for fishing communities, for the science enterprise that supports them, as well as for implications for our other statutory mission responsibilities under ESA and MMPA.

We have resources here for the scientific and technical reviews. Survey mitigation is a huge piece of this, figuring out where these new installations, how to rewire our survey capability and to support our fisheries management, protected species, ESA and MMPA responsibilities.

It's a huge thing concentrated at this point in time in the northeast but with some investments, and this was already noted yesterday, with some investments looking ahead in the Gulf and in other parts of the country where we foresee additional development of wind energy. It's concentrated in the northeast now, it's moving down the east coast. It's a burgeoning nationwide responsibility. So we have learned a lot in these initial phases. We're hoping to catch the resources up here. That's the dominant part of the economic story of this budget.

We also have some other smaller investments. The primary one in the Seafood Inspection Program is to essentially deal with the impacts of COVID on that program where we had a substantial, like everybody in the seafood sector in 2021, there was a huge decrease in demand because there's a whole lot less

export activity, which is the backbone of the Seafood Inspection Program does.

That led to a kind of retrospective, and we're rewiring the accounting system for this program at the Department's direction. This is sort of bridge funding. The program is allowed to operate off of a combination of fees and OAR spending. We're trying to drive the OAR spending down and have it more wholly funded by fees.

This is part of a bridge for getting there so it doesn't disrupt base programs, which did happen in FY22. Also, a small amount of money to try to get a little bit more staffing and capability to handle disaster spending as it ebbs and flows in the course of any given year. The basic outlook here being we've seen more and we're likely to see more going forward.

So a lot on the economic development front. Certainly more here to consider as we go forward in time. And then the third major thread for FY23 is our environmental justice and equity ask. We'll have a session later that Sam's going to lead.

He has been quite the force in really working across the agency to develop a long-term strategy, and the thinking in the budget is reflected in that strategy and vice versa that would allow us to focus additional resources on improving, understanding data management in territories.

This would include a focus on the order of 2 million of this in the Pacific territories and around 1 million in the Caribbean. We have resources here to build better analytical tools for evaluating, understanding, communicating vulnerability, climate-driven vulnerability to communities.

And some really interesting pilot programs that I think are likely to be quite valuable if built upon over time that do education outreach to help broaden the level of participation in resource management decisions, essentially.

That degree of access to getting seats the table, if you will, as well as workforce training, which all of us have been talking about and we talked about a little bit yesterday at the dock on the challenge of getting people into this sector in different parts of the country.

Those are some down payments there on figuring out how to do that. The last really substantial piece of our '23 ask is not in the fisheries budget; this is in the mission support part of the budget as I mentioned briefly yesterday when we did our 2030 vision statement that we have, as the seafood industry does, huge recapitalization requirements across the whole organization.

We have recapitalization requirements for our fleet, so the OMAO, the Office of Marine and Aviation Operations, that piece of NOAA's budget is a significant interdependency for us. And the long-term ability to recapitalize our white ships as well as to recapitalize our science enterprise. We have buildings, facilities that are decades out of date, way past their design life, not supporting the science in the way that it needs be and in some cases are going to be rendered inoperable by other factors, such as our Montlake Lab in Seattle, which is a very old -- it's a historical building, or at least a portion of it is.

And the State Department of Transportation is rewiring the exchange there. There's literally a highway being built in the front yard. We ceded some territory to them with some compensation, minor, but that lab is going to be -- it needed to be recapitalized to begin with, and it's going to be basically put out of commission by the construction work taken place over a decade.

So we have, for some time, been building a strategy for recapitalizing. This one has gone in a very interesting direction that I think is very promising for the future where we are putting out a request for competitive lease proposals that would allow us

to co-locate with a research entity in the region that has equities in the marine sciences where we would be able to get out of the business of owning, operating and maintaining our own buildings and focus on partnership-driven strategies to advance the marine sciences in the region.

That serves our mission, serves our constituencies and has those sorts of benefits of collaboration and deep integration that you get from co-location. And we've seen that in other parts of NOAA. One of the first ones to do this was the National Weather Service with the co-location of the National Severe Storms Lab and OAR, The National Weather Service Operations.

And one of our academic research centers in the University of Oklahoma, and that's functioned exceptionally well. That integration of research and operations is a big piece of it. We hope to benefit in that way. This also, wound within this, is a response to laterally the physical collapse of our Montlake Lab, a research lab in the Puget Sound, north of Seattle.

We're rewiring those functions into the Manchester Lab at the south side and of Puget Sound and some investments in our core facility in Adams Point in Seattle as well. So it's a whole complex. It will be funded with 83.2 instead of multiples of that if we had to rebuild completely on our own dime.

Those are the budget highlights. I wanted to give you just a few on the return to workplace and reserve some time for questions and discussion on any of these pieces, but we're in a really critical phase here with this whole re-entry process.

Like every other organization, public, private, academic, small and large, we're all dealing with the fact that the world has changed substantially over the last two years. And expectations around work, the workplace, and the relationship between really employees and management in the execution of work has changed remarkably in different parts of



the country.

I was just talking with folks in the greater New York metro area and people who are in the commercial real estate environment, and they realized that the world is structurally different. A very small percentage, something on the order -- I think the number I had was 8 percent of the businesses in New York City have gone back to full-time Monday through Friday work.

No one's going in that direction. Close to 80 percent are coming up with different structures for managing hybrid work. That's what we're faced with doing here now. So we have a NOAA-wide reintegration plan. We are dealing with a kind of stepped re-entry now.

We started on April 25th, returning to the official workplace in phases. That's supposed to be complete by the end of June. The baseline level of telework flexibility that the Department has provided has been for two days a week.

To be perfectly blunt, that is far less than what most of our staff expected because it's far less than what OPM was basically suggesting that most agencies consider. So at the Department's direction, they want to start with a presumption with more in place than less and request exceptions if we need greater flexibility.

So we're in the process, frankly, of requesting exceptions in a lot of areas. In part because we have found in many areas, particularly with capabilities that are transferrable across federal agencies, many other federal agencies are offering fully remote work.

If you're a budget analyst, if you're a procurement official, if you do acquisitions, grants, a lot of agencies have moved on and said, if you're sitting on a computer in a cube all day, you can sit on a computer at another location all day of your choice and get the same job done. What we care about is

getting the job done.

There's grappling with that reality. There are functions that can be done, if not fully remotely then substantially remotely, and give people greater flexibility to decide when, where, how they get their work done. This is part of what we're all trying to figure out.

I think we're going to be in a period of learning over the course of, a minimum a year. I think it's probably going to take a longer to kind of shake out what works for us and to get to a better balance of what serves employees and their expectations and what serves our mission.

At the end of the day, it's about our mission. As I have always noted to my, frankly great surprise if not amazement, we kept our mission going far better than I ever would have guessed. If you told me we were not going to step foot in our offices for two years, I would have never expected us to do as well as did.

And we did better by our performance measures in some areas. It was an enormous productivity enhancer for certain types of functions. For other types of functions, absolutely not.

John and others can tell you how disruptive, particularly in 2020 it was, to our research enterprise and particularly to our ability to go to sea and collect data, and we are still dealing with the reverberations from that. That story is not over.

But in a lot of areas in our business, that was not the case. People cut a lot of nonproductive out of their day and got an awful lot done. It was pretty remarkable. We're trying to get the best of both worlds. I think every organization is trying to figure that out.

It's the management cultures, the workplace, the business cultures that are going to shape that. It's an interesting point in time. We're pressing ahead

and executing '22, resources coming in late, a lot of staff anxiety and uncertainty.

It's a huge management challenge, but I'm very optimistic that we will gradually piece together mechanisms that work. I think we need to look hard and put our trust and confidence in our local managers to adapt. All business circumstances are different. All individuals have different requirements, and we'll work out from there.

Meanwhile, we're keeping our focus on the big strategic drivers, shaping the organization, shaping demand for what we do and trying to formulate FY24. The Administration has huge priorities.

They continue around climate, around offshore wind and other aspects of economic development pathways, such as our National Seafood Strategy that we discussed yesterday, and continued efforts to figure out how to respond to the Administration's substantial interest in environmental justice and equity.

That is the kind of outlook for the year ahead, if not the next several years. I think these themes will continue to press forward over a substantial period of time. Years, in fact. And we will look forward, as we always do, to your feedback to us on how well we are adapting to the sort of substance and reality of our strategies as we try to execute them and live with the resource constraints that we have, the demands on our mission, the demands on our people and do the best we can to serve our fundamental mission function. That's why we're here.

Madam Chair, I'll turn it back to you for the remainder of our time any discussion on these topics. Thank you.

Chair Davis: Thank you, Paul. We always appreciate your budget update and outlook and operations. Thank you for that.

We do have about ten minutes for questions. I see Joe and Meredith and Linda. I'm not quite sure who was first. Let me refer to my list here. Let me start with Meredith, thank you.

Ms. Moore: Good morning. Thank you so much for the presentation. I wanted to ask one question about the budget and one about the staffing changes.

Appreciating that climate is the framing for all things in your budget and how that trickles through, I did want to focus in on a concern about you're frankly asking for enough targeted funds on some of the climate issues specifically.

I'm really supportive of the Climate Ecosystem and Fisheries Initiative, but I note that it's kind of \$20 million in total if you include the OAR piece. It used to be \$30 million. There's a \$10 from some other line that I forget which one it was. Apologies.

I guess my concern there just generally is whether this is enough targeted funding to address the climate issues across the agency in that sort of function because spending up the CEFI is going to take a number of years.

I understand there will be like, I think, some ambitious two or so years once it's funded to start getting some of the information out of it, but climate change is affecting things now. And I wonder if there's a need to ask for, frankly, rapid response, integrate the type of approaches that we now know are available.

I recognize there's a need for the ability for the Agency to support the technical staff needed in order to implement some of those items. I just wanted to flag my concern generally. Appreciate that in '22 the CEFI funds didn't get provided, and so there's certainly a balancing act that you have to do about what you can request there but wanted to express my concerns there.

Dr. Doremus: Thank you, Meredith, really do appreciate that. I think you can look across many portions of NOAA's budget as a whole, climate and otherwise, and ask a similar question whether it's enough.

These are always, in any given year, a challenge of balancing priorities where the pressures are just enormous. So I do appreciate that. That's part of a national dialogue where the Administration's proposal will get reviewed by Congress and the ability of the secretary to hear from you as individuals, others hear from you about what you see as opportunity and need is part of that whole equation.

That's our interest group literalism at play. Thank you for registering those concerns and views. And many in the organization, obviously, share those, but we're just trying to balance a lot of competing demands.

Ms. Moore: Understood, thank you. My second question is I know that the Agency is really focused on staff retention and attracting a diverse group of people who work at the Agency. I was wondering if you had a sense of how damaging maybe the return to work requirements or structures have been to that effort, whether you feel like something that you're able to handle with the exemptions that are being asked for or just generally any thoughts on how that enfolds with your overall Agency priorities.

Dr. Doremus: It absolutely, in my personal view and anecdotally, I think at least in the near term is a setback. But I'm not sure how that's going to play out long term. What we have done is set in place really close tracking mechanisms. We're looking closely at retention challenges.

We are interviewing everybody who leaves to understand why. We are trying to retain people when they show interest in leaving, especially if it's related to workplace considerations, and we're requesting variances to provide greater flexibility in

large functions so that we have more tools to work with people to prevent that from happening.

But anecdotally so far, I have concerns that it will, at least in the near term, some of the most immediately affected communities are the ones that we have the greatest interest in retaining and attracting, and it makes it harder to do that.

Ms. Moore: I guess as a follow-up is just if there are things that the Agency would benefit from seeing external feedback on those sorts of -- as you said, there were certainly disruptions on surveys and those sorts of things. I think in large part, I think, many people share your sense that the agency worked particularly well on a lot of performance metrics during the pandemic, so just flagging that.

Dr. Doremus: Thank you very much. We're following the data. We're going to look, and we'll try to mitigate, and we're certainly going to telegraph concerns and try to respond accordingly. So we've got a finger on the pulse of that one.

Again, I wish we could start it in slightly different territory, but we will adjust as the circumstances warrant. I, again, remain optimistic that we'll get there. I think we have a ways to go.

Chair Davis: Thank you, Meredith.

I have Tom, then Joe, then Jocelyn. We have the rest of you on the list, too, but we are short on time. Let's keep moving forward.

Tom?

Mr. Fote: In 2008 Lisa Jackson, who then was the Commissioner of DEP, invited me into her office and basically talked about a \$4 million grant she had basically to study wind and its effect on ocean. I said, well, what fish are we studying?

She says, no, birds and mammals. That's all the money I could get. And actually, \$4 million is bigger

than the Bureau of Marine Fisheries budget for New Jersey.

I am looking at three budgets. Your budget, Atlantic States Marine Fisheries Commission budget, and the State budget. And wind and climate change has basically started killing those budgets or affecting the jobs that we can do at all three places.

I look at staff. We finally, after 20 years of fighting, we got six more people into the Bureau of Marine Fisheries, got the funding. What happened? All diverted to wind. And then as the people get into climate change.

I don't think you're asking for enough money because I know the personnel at the Commission. I really do think the other two commissioners from the Pacific Commission and Gulf should look at how they're going to get involved.

Because we managed fisheries in the Atlantic states, so we're heavily involved and the staff time it's taking. I've got concerns for all those budgets that are going on what wind and climate change is doing to it.

Dr. Doremus: Thank you, appreciate those concerns very much.

Chair Davis: Thank you, Tom.

Joe?

Mr. Schumacker: Thank you, Madam Chair, and thank you, Paul. I always appreciate these budget updates. Generally positive in many ways. Good to hear.

Two items got my attention. Actually, a number of them did, but I'm going to ask about two. The President's Budget for '23, the request for wind energy increases. You made a comment that it was basically for the East Coast. That we're looking at those East Coast issues that currently exist and

trying to work it to survey mitigations, science reviews and fisheries management in those areas.

Is any of that money directed to the West Coast for those potential sitings as well?

Dr. Doremus: There is a small amount of resource, and I'll turn to Jon for further detail if he has that for other regions that dominant focuses on the northeast where these pressures are most focused right now, but we are trying to look broadly and get ahead of the game in other regions.

Jon, would you want to comment any further on that?

Dr. Hare: Yes, there is a small amount of support for Northwest, Southwest, and Southeast center. One of the challenges, particularly around offshore wind, is the budget. FY22 budget was developed about a year ago before the call areas in the Gulf of Mexico and the West Coast. We are behind in terms of our budget planning on offshore wind.

Mr. Schumacker: I just want to emphasize that the emplacements are being imposed on the West Coast are different in many ways. Floating wind is an entirely different animal. It involves basically closures. I don't see fishing occurring amongst big floating wind installations, so really wanted to stress that this is a different animal than the bottom-anchored bottom pylon facilities on the East Coast.

Dr. Doremus: Thank you. We do recognize that, and it's going among the many challenges is moving at pace as the technology in the different regions evolves. You're going to have different managements considerations for sure.

Mr. Schumacker: Thank you. The next one, real quick, is I appreciate you bringing up the Washington NOAA facilities. Yes, you need some help there. Thank you for really concentrating on those. We appreciate the work in getting those done. The competitive leasing proposals you're



proposing out there will be probably to academic institutions as well as others, but I would assume that would be where you're going to be heading, hopefully.

One question I did have is with the loss of the Montlake labs and Manchester, you know, its remoteness. Are you looking for a wet lab facility as part of that lease request?

Dr. Doremus: Manchester is a wet lab facility, and we're augmenting it to be able to replicate the capability that we had in Montlake. That's the key. The recapitalization that we're doing, a centerpiece of it at Manchester, is for that purpose. We're building out greater capability there, which is good. We're concentrating effort in Manchester and building the program.

Just want to emphasize when it comes to the lease piece, that is all run by the General Services Administration, GSA. They're the authority and they're putting out a competitive procurement announcement once it is approved by Congress. That should be going to Congress soon or roughly in line with the FY23 budget.

That will be open to any organization that could meet the terms of the lease. So it's about specifying correctly. And we don't have any ability to control that process other than to lay out our requirements very clearly, which we've done.

Chair Davis: Thank you, Joe.

I have Jocelyn.

Natasha and Donna, did you still want to speak?

Okay. We'll have Jocelyn, then Donna and Stephanie.

We'll try to squeeze you in, Matt.

Dr. Runnebaum: Thank you. Just sort of picking up in this offshore wind thread and looking at the

budget items that you have. I was wondering if you could speak to any funding for coastal zone management program? Mostly in light of federal consistency review for the states and any support that might be needed in there.

Dr. Doremus: That's in NOS's budget, the National Ocean Service. I'm not familiar with their '23 requests, so we can get back to you on that.

Dr. Runnebaum: Thank you.

Chair Davis: Thank you, Jocelyn.

Donna?

Ms. Kalez: Yes, thank you.

I think that one of my questions is maybe for Jon. As I look at surveys in the budget, I'm wondering -- a couple of years ago in a MAFAC meeting, we talked about Saildrones and how they could go into the shallow areas to properly survey the species that were there. I've been asking about the Saildrones, and I think that -- are we not using them anymore? Do you know if they're still in the budget? I don't know if this is the time to ask that.

Dr. Hare: I can answer now or during the science update. We have a little bit more information on our survey efforts there, so it's either your choice.

Ms. Kalez: Okay --

Dr. Doremus: The quick answer is yes.

Ms. Kalez: Okay, good.

Dr. Doremus: And we'll get into more detail later.

Ms. Kalez: Okay.

Dr. Hare: Great. Thank you, Paul.

Ms. Kalez: And then the other question is to Paul. I realized that when you asked for the offshore wind or when the request in the budget. So in '22, you

got 30 percent of your \$20 million ask, so now you're asking for \$50 million. What do you believe that you're going to get of the \$50 million request?

Dr. Doremus: In the morning, I think they're going to double it. And the end of the day, I think maybe half. It's very hard to say. I do think that there is broad understanding and a lot of interest in this area. I'm not sure how that shakes out.

Again, it's always competing priorities and topline and pressures across the federal agencies, ours and many others. It's very important, as always, for Congress to hear from stakeholders in this process. That has a substantial bearing in addition to the Administration's ask.

Chair Davis: Thank you, Donna.

Stefanie.

Ms. Moreland: Thank you. I understand we're short on time and I'm not sure if this is really targeted to Paul or it's better for discussion when Jon presents. But the North Pacific Scientific and Statistical Committee I know has received climate regional action plans.

And to Meredith's point, I understand that the purpose of these is to identify and describe a proposed climate change research. I have the feeling that these are actually now developed instead as decision tools towards what could be cut rather than actually genuinely advancing new efforts and research and to ensure that funding is there to address the management needs that we need in the face of climate change.

So just given the squeeze from rising costs and what we saw for the budget levels, by the end of the day it would be really helpful to better understand whether new needs are sufficiently addressed in this or whether we're looking at these lovely reports in terms of what needs to be cut first. Thank you.

Dr. Doremus: Stefanie, that is a big topic, and I think we'll be able to address a lot of it in the discussion that Jon will be leading a little bit later. But suffice to say, we are absolutely focused on developing new capability to better understand some of these dynamics as you indicated.

Sufficiency is a whole other matter, with respect to Meredith's question. But that's certainly our commitment. We know that there are substantial needs to understand broad ecosystem impacts. We'll get into greater detail about what the plan of attack is with those resources, if Congress approves them.

Chair Davis: Thank you, Stefanie.

Matt, did you still want to speak and then Natasha will be last?

Mr. Upton: Thanks. I just want to echo Meredith's comments and maybe push you all on that a little bit more. What would it take for NMFS as an agency to be fully remote or give folks the option in terms of if it made sense for them to work from home or work from wherever because it seems like that would help with your retention.

It could also help with some of these infrastructure concerns. We wouldn't have to build as many offices. I can see the time of the 30x30 just have less people commuting. I'm just curious. It seems like it's kind of a concept that people are thinking about. But what would stop you guys from that being kind of the competitive advantage that you might have if someone wanted to, say, work at another agency?

Dr. Doremus: The short end of a long story is we operate within a bureaucratic ecosystem. Ultimately, we don't call all the shots. We'll try to advocate for those sorts of flexibilities, but it is at the end of the day, the Department is going to have to agree to give us the capability to do that, and we're not quite there yet.

Chair Davis: Thank you, Matt.

Natasha?

Ms. Hayden: Thanks, Madam Chair.

The portion of your presentation talking about the infrastructure, I think -- actually, I'm going to come at it from the opposite direction about how important I think it is to have in-person in-community operations that are -- I've been very concerned about with the Alaska Fisheries Science Center being located in Washington State as an example that the disconnect between all of the research that governs what happens in federal fisheries not happening in Alaska.

The surveys are done in Alaska, but then we've got continuing cuts to budgets for scientific surveys, for data collection, for observers that make it -- at least the impression that I have is that the people that are lowest in the food chain are the ones that suffer because of that. So from a budgetary standpoint, I would like to see more funds for -- what we have in the Gulf of Alaska is the Partial Observer Coverage program.

And what has happened, at least in Alaska federal fisheries is LAPPS, Limited Access Privilege Programs, that have been thought of as being somewhat of a panacea for fisheries management. I hate to be so Alaska-centric, but I don't know if these problems are nationwide or not. I would be looking forward to more discussion there, just getting more informed about that.

But the impact of those types of programs have been, again, negative impact on the bottom of the food chain, which is the residents of the communities that have lived in these fisheries dependent on environments for hundreds of generations.

What I would like to have a broader discussion about is how the rationale for implementing that

type of program comes in part as budget constraints. Well, we don't have the money to fund the observation required to be able to have a hard decision about what is needed in management.

And so more funding -- I would request that we would have full funding for a full observer program for the Gulf of Alaska for three years so that we can get some baseline data on full coverage, what that would look like. And to look at the Alaska Fisheries Science Center back to -- I don't know if it's ever been in Alaska, but to Alaska. I think that that should be a priority.

I understand that from a national standpoint, Seattle is far more economical and practical for transportation, but what we see is a talent drain of the best of Alaska going out of Alaska because we don't have the training and the job opportunities to be able to go through that channel -- what do you call it, the upward mobility through management to get into those management positions. That's probably a lot more than I meant to say, but thanks. I really appreciate it.

Dr. Doremus: Thank you, Natasha, and appreciate your concerns. I don't have time to do justice to the breadth of your questions, but I do want to want to say that we have an absolutely strong presence and commitment to Alaska, both from Seattle and in Alaska.

Our whole regional office is in Juneau, the head regional office is in Juneau, the head of our science center is in Juneau, and our Ted Stevens Marine Research Institute just down the street from our regional office in center of Juneau is, I think, a really strong basis for having our feet on the ground at Alaska. We have a lot of commitment there.

The broader questions you have, we'll take up as time allows in terms of how fiscal pressures play out in the organization. And a lot of what we're talking about, both with John and subsequently with Sam's presentation, will touch on some of those themes.

Chair Davis: Thank you, Natasha.

Thank you, MAFAC members for your great questions and comments. And Paul and also Jon for responding to the questions and comments. Some of the items that you brought up today, as Paul mentioned, will be elaborated on and also in some of our working groups. Let's keep that in mind, especially as go into workforce development discussions on Thursday as well.

We're going to shift gears now and have David Donaldson give an update on -- you're going to give it on all the commissions, David? Okay, awesome. Thank you.

#### Reports from the Fisheries Commissions and Regional Fisheries

Mr. Donaldson: Thank you, Madam Chair.

Paul, if you were able to answer Donna's question about the money, I wanted to talk to you about six numbers related to Powerball. But unfortunately you weren't, so.

Usually, the three Commissions are at this meeting and they give individual updates by the region, but I'll be providing all three. Kind of a brief history for those new to MAFAC, the three Commissions -- there are three Commissions, Atlantic, Pacific, and Gulf.

They were created by Congress in the mid to late-'40s. We provide coordination administration of regional programs related to state fisheries issues. In addition, as Tom alluded to, the Atlantic Commission has regulatory authority for state-managed species. The Gulf and the Pacific do not.

We work closely with NOAA fisheries on a variety of different programs, and the executive directors of the three commissions serve as advisors to MAFAC because the three Commissions represent 23 coastal states and it allows input to MAFAC on the

issues related from the State's perspective.

As I mentioned, we coordinated a variety of different programs. The main focus is data collection, both commercial and recreational fisheries. In the Gulf and Atlantic, we're working on MRIP issues, reconciling the new effort survey estimates with historical estimates.

In the Gulf, we are also working on developing and reconciling the data from the state surveys versus MRIP. Regarding red snapper, I'm hopeful in my tenure as a director, I will provide a report where I will not have to mention red snapper, but today is not that day. Maybe, maybe.

And on the Pacific and Atlantic, they're still dealing with whale interactions with fishing gear and dealing with those issues. In addition to the data collection programs, the three Commissions are coordinating Cares Act payments, both Cares 1 and 2, to qualify participants. And a large amount of those funds have already been distributed and are working on distributing their remaining funds.

Personnel news within the three

Commissions, Barry Thom was newly selected as executive director for the Pacific Commission. Randy Fisher, who's been with the Pacific Commission maybe since the beginning of time or maybe slightly past that, but Barry unfortunately wasn't able to attend and apologizes for not being here but plans on being at the October meeting.

And then the last issue is the National State Directors meeting, which was scheduled for November 2020 got delayed because of COVID, but it's my understanding that we're moving forward with hopefully having the meeting in November of this year in San Diego, and the Pacific Commission will be working with NOAA Fisheries to coordinate that. That's a really high-level overview, and if there are any questions, I'll try and answer them. Or do we want to go through everybody and then have



questions?

However you'd like to do it, Madam Chair.

Chair Davis: Okay. Thank you so much, David, for updating us on all Commissions. We can take a couple questions, if you have them for David.

Tom?

Mr. Fote: Do you see the Pacific and the Gulf Commission getting involved with wind like Bob Beal is involved in the Atlantic States Marine Fisheries Commission and his staff?

Mr. Donaldson: I can't speak for the Pacific, but the Gulf has already had several presentations and coordinating with BOEM and trying to get ahead of the curve. We see the issues that have arisen both in the Pacific and the Atlantic, and we'd like to prevent that and learn from those.

We have been involved in talking about it. We've had several presentations to our Technical Coordinating Committee, which is our scientific committee on the Commission. So, yes, we're involved in that.

Chair Davis: Thank you, Tom.

Thank you again, David.

We're going to move on now. We have an exciting opportunity to hear from the Caribbean Fisheries both from Puerto Rico and also the U.S. Virgin Islands. We're excited to have you all here and very much appreciate the opportunity to be able to hear from you all.

I believe, Marcos, you're going to run the panel, is that right? Oh, Miguel. Okay.

(Simultaneous speaking.)

Chair Davis: Miguel, so you'll introduce everybody and I'll let you take it away.

Mr. Rolon: Good morning, I have thirty seconds to tell you all the Caribbean Council and the people here. It's scary, but we only have five minute for each, so we will keep within the budget of 25 minutes. We have two people in the internet.

Edward Schuster, he's the chair of the District Advisory Panel for St. Croix. And we have with us Carlos Farchette. He's a council member. He's been a vacation fisherman since he was a little kid. Julian Magras, chairman of the District Advisory Panel for St. Thomas/St. John. Nelson Crespo, he is the chair of the District Advisory Panel for Puerto Rico. And then Marcos Hanke at this time, he's the chairman of the Council.

Each one of them is going to talk about their respective fishery. If you want all the years they have and experience in fisheries, about close to two centuries, and each one of them will have five minutes. The Caribbean Fishery Management Council is one of the head Council, if you don't know. We are part of the southeast region. We're the smallest of the council.

Sometime, people Caribbean Fishery Management Council with the Caribbean Fisher Organization. Which as you know, those are international components. Since the get-go, we have been working with international bodies, the Western Central Atlantic Fishery Commission. We have OSPESCA, which is an organization for the central America countries.

This is important because our fisheries are influenced with whatever happening in Barbados. Central America has influence of what happens in the U.S. Caribbean.

With that, I will go back to my seat. I'm going to leave you with Marcos, and they will talking in the order in the program.

Madam Chair, please keep them with the five minutes. Thank you very much.

Chair Davis: Thank you so much, Miguel. We really appreciate those opening remarks.

Mr. Hanke: Thank you very much, everyone. Can you hear me well? Welcome to Puerto Rico. Thank you for this effort to be here. The biggest challenge for us was to taking advantage of this opportunity to address the MAFAC and for how important this group are and the opportunity for the Caribbean to be listened, to put the right perspective on the table.

I will be covering my vision as my experience as chairman as part of the Caribbean Council, but my background is I am a charter operator for 30 years. We have the same questions for everybody. Everybody going to follow basically the same format. It's going to be easier for guys to understand.

Some of these points going to be repetitive, but it's important because we manage island-based management. Each of the islands going to be represented on what we're going to say here.

For Puerto Rico, my perspective. In terms of challenges we're going to see in the fishing community regarding commercial and recreational fishery, addressing infrastructure related to very basic environmental justice is the access is to the water.

The boat ramps around and access to the water in Puerto Rico are in really, really bad condition. On the east coast, there is an area with one single boat ramp, but the seven private marinas and people have a hard time to get into the water. It is important recreational and commercial fishing ground. This is in Fajardo.

In terms of science need and assessing the fishery, aside from CRP and SK funds and priorities, there is a need to promote new, highlight new, industry and citizen science to fill multiple basic data gaps for our region, especially utilizing commercial, recreational

groups and associations to lead this new approach.

This will result in community engagement, trust and capacitation for the community, yes, meaningful data at lower cost. How to engage young fisherman into the industry. Promoting capacitation course for young and women that participate and learn the new skills that are prerequisites for a new special loans or federal programs or initiatives to develop -- to engage those new fishermen.

Courses must promote safety at sea, processing methods and strategies to enhance catch value, sustainable methods under climate change circumstances that are we all facing nowadays, especially if you use the technology.

The capacitation course must include opportunities to refocus the new species and adapt to new fishing methods. Issues with the market, support with training and technology fisher and dealers maximizing product value.

For example, our catch of the day virtual auction. That's one idea, one approach to do it. Operated by fish buyers and our independent fisher. It has to be discussed which is the best approach. This could facilitate acquiring important missing data like price fluctuations, species preference and other important information for management of our fishery.

Why do we need to develop new fishery? Actually, we circulate some of the effort of the Council a little pamphlet about deepwater squid. This is an example where the industry, the Council's Sea Grant, got engaged to start to move this along as well as other people around Puerto Rico are trying to promote the same.

This is just one example of things that we must do in order to get in a better position or better place. New target species must include recreational anglers, sharkers, and commercial fishers. This will promote security, full security for our area.

You must choose potential species resilient to fishing pressure and climate change, like the deepwater squid. I want to highlight something very important. This is an initiative that is a continuation of effort made by FAO, but on the front page of this pamphlet there is a species that was not as meaningful because of FAO because it's really the neon squid caught with the diamondback squid.

We cannot get into the trouble of developing a fishery for it because there was a market preference today and leave another species aside. In the Caribbean once you go fishing, we have to eliminate the chance of creating something that is artificial, something that is not just responding to the market, not responding to the reality of the fishery.

Create essential courses and new fishing opportunities through association university DRNA, Sea Grant to allow new access to loans and other programs. Any other comment to consider appropriate? Yes. Explore multi-trophic aquaculture and various secondary value.

You guys are going to have a chance to visit today the effort made by Megan Davis and Raimundo. I fully promote that, and I think it's the right way of doing that promote by design -- I'm sorry, explores multi-trophic aquaculture and various secondary values that promote by design other species natural stock recruitment, erosion control, community resiliency, education, FAB applications and our tourism.

This is very important for the Caribbean. You cannot analyze an aquaculture unit as a single unit per pound. We need to include other values like, my opinion, one of the highlights of what you're going to see today is the opportunity to engage scientists with the fishing community like Megan and Raimundo and the community are experienced right now that open the opportunity for many other reasons I think is a great thing.

Also, solar and wind farm energy either on a big

scale or at fishing facilities and communities. NOAA must keep a representative on this body on MAFAC. This will promote environmental justice at a higher level in NOAA and on the decision-making. Thank you. My partner is going to follow up on me. Thank you very much.

Mr. Crespo: Thank you very much.

Good morning, everyone. I am going to talk about the issues regarding the west side of the island.

I am a commercial deepwater snapper fisherman for more than 40 years. This is one of the most important fisheries that we have in Puerto Rico. Day by day, our fishing community must face challenges, and the safe access to the sea is one of the greatest. The west of Puerto Rico is the most forgotten area of the island in terms of infrastructure.

This side is home of one of the largest concentrations of fishermen and where the largest catches of deepwater snapper and highly migratory species among other species occur. We are limited in our trips due to the precarious condition of the few boat ramps that we have.

Science plays a very important role in fisheries. In my opinion, it's necessary that both scientific and fishing communities get involved and understand their roles of each other to achieve better outcomes. Definitely, working together is the best option to obtain reliable results.

To carry out that good research, it's necessary to invest money from science, including the stakeholders. Science requires money. Soft science means soft measures. The recruitment of young fishermen is very limited, and every day we are getting older.

The use of new technology and effective fishing styles with less impact on fisheries is very important. It's necessary to funding to expand the

location and training offered not only to the fisherman but actually to their community so they support each other on fishing, sales, collaborations of sea products, et cetera, to improve the socioeconomic around them.

Creating a small-scale industry in the community will make the commercial fishing a more attractive alternative for the upcoming young fishermen. The sale of catch from noncommercial fishermen is an issue that must be addressed because this cause unfair competition in the market.

Also, it's necessary for fishermen to have training in marketing, how to handle the catch and the use of technology so they can obtain the best price for the product. In order to develop new fisheries, in my opinion, it's necessary to evaluate with the fishermen possible species to work with and support them in the process.

It's already been proven that fishing for lionfish, giant squid and swordfish are real alternative that we must develop in the Caribbean. Also, can be good to evaluate the aquaculture as alternative in the development of new fisheries. This would help to reduce the fishing pressures on species of greater demand. But honestly, I think if we do not educate the consumers, we will not be going to have expected results.

For the behalf of our marine resources, it's necessary to attend the issue of land-based pollution. Bring back to the field the port samplers team is really necessary. Their role is very important in the management of our fisheries. It's time to implement the recreational fishing license once for all.

Also, it's very important to continue the stock assessment of the species that are under management. Finally, I would like to thank all of you to for the opportunity to be here, and I would like to see in the near future representation of the Caribbean in this honorable committee. Thank you

very much.

Mr. Magras: Good morning to all. I'm Julian Magras. I'm a 30-plus year commercial fisherman. I'm a trap fisherman, and I'm also a line fisherman. I'll be representing the commercial and recreational fishers of the St. Thomas/St. John district. Some challenges that we've seen in our fishing community presently, infrastructure, some improvements that are needed to one of our well-known fish houses, the Gustave Quetel Fish House. It's been damaged since the hurricanes and still hasn't been repaired.

We need improvement to the fish markets. They're air fish markets. They're not enclosed fish markets. There are three of those besides the Gustave Quetel Fish House because we'd like to see all of these fish houses come into federal FDA seafood standards, which is very important nowadays.

Also in the St. John area, there are no fish houses, so the fishers are left to -- tend to sell their catch on the street. There's no designated area, and we would like to see one to two fish houses be built on that island.

Also, we'd like to see more informative posters explaining the laws for recreational fishers at the airport, beaches and dive shops. Science needed for assessing the fisheries. Scientists and fishers working together to do studies are one of the most important aspects that I can continue to preach on a weekly basis whenever I attend any meetings.

The scientists presently hold the degree by paper, but the fishermen hold the degree by their hands-on experience. Many times, I see we do studies and don't include the fishermen. And always in the reports, the missing links are the information that the fishermen hold. And how to do proper stock assessments, especially when you're dealing with the SEDAR process.

You need to have both pieces tied together. I feel moving forward and I hear it more and more at



meetings of us including the fishers in the process. That's the key. If we do it from the beginning, two things are going to happen. The fishers are going to get to see what the scientists are doing. The scientists are going to get what the fishers' doing.

You're going to save a lot of money because the project will be completed the first go-around instead of trying to do it over and over to close the missing links. That's a very important step that needs to take place. The implementation of recreation fishing license program, that needs to happen by the end of this year in the U.S. Virgin Islands, especially St. John's sector, which I speak for.

Mandatory catch reporting needs to become mandatory that both the commercial and recreational fishers do this mandatory catch reporting. Port sampling, we always struggling with the port sampling aspect trying to find people to do port sampling.

I feel as if we include the fishers and even their family, the fisher wives or the wives' husband, their kids, if they're trained properly, you're going to have your hands-on most important collection that can take place because everyone is familiar with the process and you can have someone from the Division alongside of them and you can collect a lot more information that's needed to accomplish the data collection.

How to engage young fishers in the industry, direct funding dedicated to fishing associations to conduct educational outreach. Summer youth programs working with commercial fishers and recreational fishers for a wage. Workshops that show a side of the industry along with the hands-on learning.

Another thing that's needed for the market is we need more promotion of the fresh local product instead of the amount of imports that are coming in. We are market-driven fishery. We don't export out of the island. Everyone that is caught is sold locally, but we see a lot of times where we have the

undersized lobster tails coming in.

We see a lot of species that are coming in that are mislabeled and sold in the supermarkets and the restaurants. We try to address it with local and federal enforcement recently. We have been able to stop some of it, but we need to see more of that.

Help with developing a new fishery, collaboration between fishers and scientists to identify species' stock assessment and socioeconomic impacts on the fishery. Examples, deepwater snapper, deepwater squid. That's going to be my presentation.

I would like to thank this committee for giving us the opportunity for presenting today and also I would like to see the presence representation from the Caribbean and the committee if not in the panel, in attendance through meetings. Thank you very much.

Mr. Farchette: Good morning. Thank you for the opportunity. My name is Carlos Farchette, and I hail from the Island of St. Croix. Similar to MAFAC, St. Croix as well as St. Thomas has a Fishery Advisory Committee. They collaborate with the commissioner of the Department of Planning and Natural Resources in the development of fishery management plans for territorial waters.

In the St. Croix District presently, there are 11 members representing the commercial, recreational, charter-for-hire, tourism, dive charter, science and government sectors. On topic of infrastructure, the Department of Planning and Natural Resources Division of Fish and Wildlife is in the process of upgrading all boat access facilities.

St. Croix has three official boat landing sites. One in the west end, one close to the harbor entrance in Christiansted, and one in the south shore in three marinas.

The boat access facility on the south shore is a very important boat access site because the only access

point in the entire 27-mile end of the south coast of St. Croix.

This site is critical to recreational and commercial boaters and fishers as well as boat access for the U.S. Coast Guard, the Marine Police Units, and the Oil Spill Control Unit at Limetree Bay Oil Storage Terminal.

This boat ramp location provides safe ingress and egress to offshore waters 24/7, 365 days a year, because it's protected from the rough seas. St. Croix has two government-owned fish markets. One in the western end of the island and one mid-island and approximately eight roadside sites where fishermen sell their catch. The roadside fishers, by law, are required to have a lease with the property owners in order to sell at the various locations on the main road. One thing I can say about the fishers on St. Croix is that they take really good care of their catch.

Food safety for the consumer is very important to the fishers. Their catch is iced from the time the fish is landed on the vessel to the time it's sold at the market roadside. With stock assessments, the U.S. Caribbean uses a SEDAR process for conducting stock assessments.

Unfortunately, stocks are scheduled along with other council like the Gulf and South Atlantic and funding for the U.S. Caribbean is not adequate and scheduling takes a few years to address Caribbean stocks. Recently, the Southeast Fishing and Science Center has developed a Caribbean branch, which should alleviate some of these issues.

On compatible regulations, the St. Croix fishery Advisory Committee has completed the task of reviewing and making recommendations for compatibility between local fishing regulations and federal regulations.

We have submitted our report to the Department of Planning and Natural Resources for review and

consideration and are awaiting the final outcome to be submitted to the Caribbean Council and NOAA for compatible language that will harmonize regulation from the shoreline up to the 200-mile boundary of the EEZ.

On youth in the fisheries, another topic of interest to St. Croix is developing a program to engage young fishers into the commercial and recreational for-hire fishing business. The St. Croix Fishery Advisory Committee, along with the Fish and Wildlife Fishing liaison, Mavel Maldonado, and the Caribbean Council Outreach and Education Chair, Alida Ortiz, are working together to find ways to attract young fishers into the fisheries.

One of the plans being discussed is to conduct workshops for the youth so that they can understand fishery science, fishing methods and the importance of fishing management to achieve sustainability.

We're also with the Caribbean Council and local governments to promote fishing for underexploited fisheries on St. Croix such as a deepwater queen snapper fishery, and the silk and blackfin snapper and the yellowtail snapper. Only a handful of fishers target these species presently.

Recently, efforts are underway to educate fishers and developing a deepwater squid fishery thanks to our Council Chair, Marcos Hanke. On recreational fishing, a recreational fishing license program has been developed for the territory and will probably be implemented in late 2022 or early 2023.

An important being discussed is data collection from the recreational sector. We need to begin by first having mandatory reporting requirements from the for-hire recreational sector to the submission of catch reports or electronic reporting and work our way to the collection of data from the near-shore and shoreline fishers.

Also, bag limits for the recreational sector should be

in place with the implementation of a recreational license program. This can be achieved through compatible regs since there already exists bag limits for reef fishing in the EEZ and commercial bag limits for pelagic species.

With a recreational license program and data collection in place, we can then have annual catch limits for the recreational and recreational for-hire sectors. Presently, catch limits are based on commercial catch data. So if overfishing occurs in the commercial sector, the season is shut down for all user groups.

Finally on aquaculture, the government of the Virgin Islands have appointed five members to the Aquaculture Commission. Presently, four members are pending confirmation by the Senate before meetings can begin. This committee will work on developing a five-year plan that will be submitted to NOAA for consideration by the aquaculture Commission. Thank you very much.

Chair Davis: Marcos.

Mr. Schuster: Good morning. Can everybody hear me?

Chair Davis: We can. And if you would like, you can turn your camera on and we can see you as well.

Mr. Schuster: Oh, okay. Good morning. My name is Edward Schuster. I've been a commercial fisher from 1991 and I'm a member of the Caribbean Fishing Management Council from 2004. Currently, I'm the District Advisory Panel chair and also the chair of the Fish Advisory Committee, which advises to the commissioner in St. Croix.

My report's a little bit different. I'll just touch on the topics. When it comes to infrastructure, we build boat ramps, but we don't actually maintain them. It's very important to have these boat ramps being maintained, especially when you build them you build them to sustain rough weather and have the

material that's built with them to sustain saltwater, wind and waves.

FADs, fish attracting devices. When those FADs are deployed, you also need a maintenance schedule for those. Don't deploy them and they're not maintained. Maintain them so they can last, that the fishermen can use those FADs because the FADs program was implemented to relieve fishing pressure off of our shallow shelf.

St. Croix is a sea mountain that sits in the middle of the ocean. It's surrounded by deep water, and our shelf is really small. It's not connected to anything else that the fish can traverse or have recruitment there.

Science needed for assessing the fisheries. Scientists and fishers need to work together, but not only the fisher. Pick the fisher that is specific to the fishery that you're actually doing any science on. You don't want to take somebody that's a conch diver and have them to do a deepwater snapper study. Pick the experts for that science that is being done. Therefore, you have better results.

Also, study species that are targeted and that are staple foods within our community. Yes, we're all here for sustainability and all the other species that are managed by the Council, but to me in my years of experience, a lot of those species that are staple foods in our community have been neglected and we don't know the life cycles of them.

For example, one of them being the parrot fish. With the experts on board and giving us advice, finding out that they spawn every lunar cycle. That's a whole different issue. Also, revisit the spawning aggregations in the marine protected areas.

I think in my years of experience and sitting in on these council meetings, doing an assessment of what it was before, come back, do it again within a time period and then do a follow-up. Sometimes because of climate change, one hurricane's bottom

surges, a whole bunch of other reasons, the fish may move. Not to a complete different area, but maybe within close proximity because of the bottom that may change due to whatever reasons, oceans or whatever.

Number two, how to engage young fishers into the industry. Get the kids involved at a young age. Have tournaments on docks, piers, whatever, even from the regular shoreline. Education must start from within the schools and to have outreach and education, Alida Ortiz, Mavel Maldonado and the others that their names are not near the top of my head have been very instrumental in getting some of this outreach and education out to schools and other NGOs and also associations.

I say this because when I was in high school, there was a forage program. It's just if we could implement something similar to that forage program but within the marine industry, I think it would work great.

Number three, issues at the market as you see it. We have an uphill battle when it comes to St. Croix. We have a closed season of our conch fishery which, great work with our Fish Advisory Committee, and we actually expanded our conch season from a three-month closure to a five-month closure.

It was a 150 conch per diver per day, and we limited it to 200 conch per boat. This was just to protect that species of product actually, the queen conch. We have seen importation of other, of same queen conch but coming from other places along with groupers that are prohibited in our U.S. Caribbean waters and other species.

So I feel that having a general closure and these species should be prohibited from coming into our islands, especially when there is a closed season for it. Along with undersized species, we land all our product here whole, but we see fillets coming in and also lobster tails that are way undersized from other places like Honduras, Nicaragua and so forth.

Fourth, what we need to do to develop new fisheries. There are actually three new species that are on the market. I wouldn't say species, but one would be the deepwater squid, deepwater squid, and then actually aquaculture.

I think it's very important with this aquaculture, I'm not being able to come here today to see this conch farm, but I would like to see it. It was done once upon a time here on the north side of St. Croix by the university, but I don't know the extent of it of how far they got in terms of being productive.

But with these two species on the radar, the shrimp and the squid, I would like to see that they explore the sustainability of these species before -- and explore the sustainability and let's do the science before the fishers get into that fishery.

They invest thousands of dollars and then we realize that it could only be a three-month fishery out of 12 months. And then you shut them down, and then, therefore, all of their thousands of dollars of investment has gone down the drain. Let's do the science before, especially if it's a new fishery on the radar.

Do the science and then figure it out, not let the fishers go crazy into it and then here it is, we deplete two species that were untouched for some years. That would conclude my report. I thank everybody for giving me the opportunity to speak on behalf of St. Croix.

Chair Davis: I think we should give a round of applause for our guests.

(Applause.)

Chair Davis: I want to give a special thank you from MAFAC and also NOAA leadership to Miguel, Marcos, Nelson, Julian, Carlos and Edward for presenting today and giving us your insights. They were very, very valuable.



We don't have time for questions and answers, but I do hope that you will be here for a while longer so that our MAFAC members can talk with you. And you brought up many good points, especially in the workforce development, that we will also take into consideration along with your other points.

Thank you again for being here today and presenting to us.

(Applause.)

Chair Davis: Okay, we're going to take a ten-minute break now. It is 10:38, so approximately 10:50 we'll be back.

(Whereupon, the above-entitled matter went off the record at 10:38 a.m. and resumed at 10:55 a.m.)

Chair Davis: Okay. Welcome back from the break. And I just want to acknowledge two of our guests today that are new. And welcome, Janet. Nice to see you. Good morning. We have Helena Antoun with Natural Resources. She's a natural resource specialist with Protected Resource Division at NOAA here with us today. And we also have Dan Namur, who's the Director of Grants for NOAA Fisheries, with us today. And he will be here all day today and will be happy to discuss any topics with you. So thanks for being here as well, Dan.

Okay. So we're excited to have Jon Hare, our acting Director for Scientific Programs and Chief Science Advisor, that's going to present this morning. We have allowed a considerable amount of time for both the presentation and the question and answers and discussion. So thank you, Jon. We look forward to your presentation.

### Science Update

Dr. Hare: Thank you very much, Madam Chair. So I guess I have control of the slides. So I'm going to talk about the science in NOAA Fisheries, and I'm not going to try to cover everything. We're going to

focus on some specific issues. So, defining those specific issues, we've been starting to think of them as sort of our three grand challenges.

The first is climate change and marine resource management. We've heard a lot about that here already. Ocean ecosystems are changing at an unprecedented rate and affecting all aspects of the NOAA Fisheries' mission.

The second grand challenge, which we have also heard about, is offshore wind energy development. There is rapid national development that needs to coexist with our existing uses, including fishing and conservation.

And then our third grand challenge is adapting our survey enterprise. Surveys and other ocean observations are essential currency for the scientific advice that we provide to support management.

So I'm going to just go through where we have been, where we are, and where we're going, relative to each of these three grand challenges. And then the question at the end is, do we have this right? Are these really the three areas that we should be focusing on, obviously, not ignoring our entire science portfolio. But are these three areas worthy of calling them grand challenges? And so I can also answer questions about details if interested.

So climate change and marine resource management. We all understand that there are growing challenges for effective resource management as a result of climate change. Climate change is happening. It's been documented across all of the earth systems. It means changing habitats, changing species distributions, changing species abundance, changing ocean uses. I could talk all day on this one slide, but I'm not going to. The point is is that climate change is happening. The impacts are real, and it's affecting pretty much everything that NOAA Fisheries does.

In 2015, NOAA Fisheries put out a climate science strategy. And that strategy recognized sort of different needs. The idea that our infrastructure, our science infrastructure, needs to be supported. That tied into our survey conversation, our grand challenge three. How we need to track change and provide early warnings. We need to understand the mechanisms of change. We need robust future projections of how the environment's going to be in the future. We then need adaptive management. We need resilient management strategies. And we need to sort of revisit dynamic reference points.

And these tiered science strategy really kind of lays out, the boxes on the right. What is changing? Why is it changing? How will it change in the future? And how will we respond? And so this was a framework that we set up in 2015 that we've been following since.

Recent accomplishments relative to that climate science strategy. We've released a sort of five-year progress report on that strategy. People have sort of asked, well, NOAA Fisheries hasn't been doing much on climate change. And I guess my response is, we haven't been communicating. That tells me we haven't been communicating enough about what we have been doing on climate change because we've been working actively on this area since the release of the climate science strategy. And there's been a lot of progress around the nation, and that's all been recently documented in our five-year progress report.

We talked a little bit yesterday about this distribution mapping and analysis portal. This takes the regional trawl survey data sets, brings them into one framework, and then allows a user to interact with those data to evaluate how species distributions are changing over time. And it's just a very powerful way to communicate sort of the national level changes that we're seeing relative to species distributions.

And, then just very recently, last week or the week before, a group of NOAA scientists, at the lead was a NOAA Fisheries scientist, published a paper about forecasting marine heat waves. And there is skill, and depending on the region, the skill varied. But there is skill in the ability to forecast marine heat waves. So that ability is there. And now, how do we use that ability to inform management? So we have been working on climate change, and there's a lot that's going on. And the bottom two bullets are just recent advancements.

So our climate science strategy, again, it sort of lays out the tracking change, assessing the vulnerability, understanding and projecting climate impacts, building capacity to use climate information, beginning to identify climate-ready management strategies. And this is all documented in this five-year progress report.

We have been working very hard on this, essentially, with no new resources. And we have very interactive programs looking at the interaction between fisheries and the environment. And so we're sort of building and turning the programs and activities a little bit to meet this climate change challenge.

The Distribution Mapping and Analysis Portal. We shared the link yesterday. Looking at, this is an example from the northeast. It's black sea bass distribution in 1974 and black sea bass distribution in 2019. Those changes in distribution are creating a number of challenges in the management arena. There's geographic, state-based allocations, sector-based allocations. And these climate-driven changes in sea bass distribution are putting pressure on both of those.

And this tool, bringing into the national framework, helps us establish best practices for species distribution modeling and also helps us integrate our regional trawl survey data. So it's an advancement in terms of providing information but

also in terms of collating information and developing sort of interactive tools for people to visualize and work with our data.

And, then finally, the predicting marine heat waves paper is a global -- the climate models are generally global. So it's a global forecast that provide up to a year's advance notice of marine heat waves. We believe these forecasts will help resource managers, ocean users, and coastal communities prepare for heat waves and respond to heat waves. And we also anticipate that it will empower decision makers and stake holders with information to mitigate the ecological and economic impacts of heat waves.

There was the marine heat wave in the Pacific recently that had significant biological effects and then downstream economic effects. Also, a significant heat wave in New England in 2012 was similar. Significant biological impacts and then economic downstream impact.

So then our future plans are, we talked a little this morning about the draft regional action plans that are out for public comment now. So we would encourage you to look at those, review those, and submit your comments. I did check on the national plan, Meredith, and there is one in development. It hasn't been, it's not ready to be released yet. But when it is released, it'll sort of follow a similar process.

And then we have the Climate Ecosystem Fisheries Initiative, which we've talked a little bit about and we'll talk more about in a minute. And then our FY 23 budget request. Paul talked about it. Just to reiterate how we're -- Janet, show me your budget. I'll tell you what your priorities are. We've got three priorities in science, climate, wind surveys. And we're trying to structure our budget request around those priorities.

So the climate regional action plans. We've got seven of them. They were released, initially, after the climate science strategy in 2015. They've now

been updated. These are identified, proposed actions to be taken over the next three years in each region. They're addressing key regional needs. They're coordinated across NOAA Fisheries trying to, again, align many of our current activities to face the challenges that we're confronting with climate change.

They are very much sort of building on progress since 2016, this incremental, step-wise improvement of our science. They are informed by the previous responses that we got. When the regional action plans were initially released, they went out for public comment. They were modified, adjusted based on that public comment. And then we're following the same process here.

We're currently requesting public input by June 2nd, but we're likely to shift that date later to be more consistent with the counsels' schedules. And so we're kind of working through the specific details around that right now. But right now it's June 2nd but very likely will be later. And there's more info. This presentation is in your documents, and there's a link there for you to get more information about the regional action plans.

In terms of the Climate Ecosystem Fisheries Initiative, when you look at our climate science strategy, one of the middle tiers is forecast future conditions. And, in sort of developing the regional action plans and working in this area, we realized that our ability to project climate into the future is dependent on the climate models to, basically, project climate into the future. And, upon those, we build our biological models to project into the future.

And we realize that that modeling component was a major gap in implementation of the climate science strategy. We have always had an excellent working relationship with the NOAA Office of Oceanic and Atmospheric Research, which is a preeminent climate modeling institution in the world. So

working with OAR and NOAA Fisheries, we put together this Climate Ecosystem Fisheries Initiative to really meet that modeling challenge that we see as a major limitation for us in terms of advancing the climate science strategy.

This Climate Ecosystem Fisheries Initiative envisions an end-to-end system. So climate models to biological models to human community models. It envisions robust forecasts and projections of future ecosystem conditions. So using state of the art climate models and state of the art biological and ecosystem models.

It also envisions the operational delivery of climate-informed advice. So it is connected directly to the NOAA Fisheries' regional management system. So we envision developing tools that will directly support fisheries' management counsels, marine fisheries commissions, the protected resources take reduction teams, and working collaboratively with those groups in the development of these applications. So it's not science that will be used by managers in the future. The intent is to design a modeling system to directly support managers and management decisions now.

We have ongoing pilot projects in the Northeast, on the West Coast, in the Gulf of Alaska, in the Bering Sea. The Alaska ongoing efforts are called the Alaska Climate Integrated Modeling System. In the northeast, the similar, Northeast Climate Integrated Modeling System. And on the west coast, the marine heat wave paper which came out, which we talked about earlier, was a result of this pilot project that we have going on the west coast. So we're not starting from scratch. We are continuing to build on what we have done in the past.

So just a little bit more focus on the end-to-end system that we imagined. So it's climate models to biological models to applications to support management. And so we envision decision support teams in each region to provide climate-informed

advice to users in the region. Fisheries Management Councils, marine fisheries Commission, some of the protected species decisions that we make.

Some of the applications that we know this information can be used in is scenario planning, risk assessments, rapid responses, maybe in-season decisions, protected species consultations, the development of management strategies, and the development of recovery plans and rebuilding plans. So we are, I think the intent is to have this information be used.

So the current status of Climate Ecosystem Fisheries Initiative. There is strong support from the NOAA Science Advisory Board, which is a similar group to MAFAC but looks at science across NOAA. We requested 20 million in the FY 23 budget, 10 million for NOAA Fisheries, 10 million for OAR. The Climate Ecosystem Fisheries Initiative pilot projects are underway in four regions. And we are updating sort of the build out plan for CEFI for FY 23 to 26 currently.

In the initial steps, we'll define additional observations and research activities that are needed to support decision support. And we're happy to provide more detail in the question and answer period. So when we go to the budget requests on the NOAA Fisheries side, we have, as Paul mentioned, we have \$10 million in the requests for this climate-informed fisheries assessment and management strategies for a changing ocean.

One point I'd like to make, at this point is, it initially started NOAA Fisheries and OAR. But over the past six months, we've been working very closely with the National Ocean Service to bring in some of their modeling capability on the integrated ocean observing side and to sort of envision some of the climate-informed advice that they could develop with regards to national sanctuaries and national estuarine research reserves.

So they are becoming partners of CEFI, but that



development didn't happen in time for the FY 23 budget request. So we are in conversations about what a joint FY 24 budget request would look like that's inclusive of NOAA Fisheries, OAR, and NOS.

So now moving onto our second grand challenge, the offshore wind energy development. We've heard here today, I think we all know, that off-shore wind energy development's a national issue. It is further developed in the northeast. Janet, I think, indicated yesterday that two projects have been approved. There's eight or nine which are in the pipeline to be approved.

There are additional call areas in the northeast, in the Gulf of Maine, and off the southern mid-Atlantic Bight. There are areas, lease areas, in the southeast US, and then there are call areas in the Gulf of Mexico, off of California, and off of Oregon and Washington. And those call areas, there's sort of plans to begin leasing in some of those call areas as early as late this calendar year or early calendar year 2023. So it is a national issue that will affect many regions in the United States.

So in NOAA Fisheries, we've identified sort of six buckets of need, in terms of how to sort of work with off-shore wind energy development, while promoting ocean co-use and protecting bio diversity. The first bucket is in the policy and legislation arena. And we have been providing technical drafting assistance on a variety of bills in this area.

The second bucket is regulatory process and science to support the regulatory process. And, in the northeast, I think it's fair to say that we are overwhelmed. We are receiving new funds in FY 22, and the review of these projects has started well before. And we are pulling resources from other areas to meet this challenge. And we're trying to set conditions, learn the lessons from the Northeast to set conditions in the southeast and west coast to, hopefully, help those regions get in front of this

situation, as opposed to in the Northeast, we describe ourselves as sort of being behind and trying to catch up.

Fourth bucket of need is surveys to assessments to advice. And that the impacts of off-shore wind on NOAA Fisheries surveys. We have been working hard with BOEM for the past year to develop a draft implementation strategy for a survey mitigation. And that draft was open for public comment. Closed for public comment last week. We've got a team who are reviewing comments, and we hope to finalize in June.

That strategy will be implemented in the Northeast region. And, then the intent is, the template or the framework and then be quickly moved to the Southeast and to the west coast for those regions to then develop their own survey mitigation strategies and implement those, probably, early 2023, again, taking what we've learned in the Northeast and quickly trying to apply that to other regions.

The fifth bucket for need, science for understanding. You think about, in essence, large-scale development of our continental shelf areas and what are the impacts on marine ecosystems? It's an easy statement to say, but when you think about the scientific needs that are entailed and understanding the impacts of this development on marine ecosystems, it becomes a huge topic.

It's a large area of unknowns. And we recognize that there is going to be a need for science to understand those impacts. And we have started working on how do we develop sort of national and regional science plans to provide the science that is needed more broadly to understand the impacts on marine ecosystems? And so we'll continue to work that fifth bucket, science for understanding.

And then the sixth bucket is fishing industry mitigation. NOAA Fisheries does not have any sort of legislative authorities in this area. But we do have a lot of expertise and data that can contribute

to fishing industry mitigation. So we've been working closely with BOEM and the states to try to come up with guidelines for how to mitigate fishing industry impacts of offshore wind energy development. And BOEM has the lead on that, and we are in a supporting role and working actively in that market right now.

So from those six buckets of need, I do want to spend a little bit of time talking about that fourth bucket, the survey mitigation strategy. So we have a draft strategy. The strategy identifies the essential components of mitigating the impacts of offshore wind energy development on our surveys, as well as actions to accomplish the goals and objectives of mitigation.

And then we fully intend to share our experiences and lessons learned in the northeast with other regions where offshore wind energy development is being planned and is occurring. And we've been having conversations, I've been having conversations with my counterparts the past two to three years. A team has been established on the west coast and is really getting started now. Across NOAA team Southeast, there's similarly a lot of activity going. So we hope to be able to rapidly transfer these lessons to these other regions.

And, then again, sort of show me your budget, I'll show you my priorities, in the FY 23 budget request, we have 8.7 million for the fisheries science and technical reviews. That's equivalent to bucket 3 from the previous slide. We have sort of a scientific survey mitigation, which is bucket 4. We have protected species environmental reviews and science, which covers buckets 2 and 3. And then we have the fisheries management lines, 6.2 million, which is bucket 2 and 3 as well.

So you can do a relatively quick gap analysis to understand which of those six buckets of needs we are prioritizing and which buckets we're not prioritizing at this time. It doesn't mean we're not

working in those buckets. But in terms of this budget request, we are focusing on bucket 2, 3, and 4.

So then adapting the survey enterprise, sort of the third grand challenge that we are facing in NOAA Fisheries. So NOAA Fisheries surveys are essential for sustainable management of our nation's fisheries, for the recovery of protected resources, conservation of habitats and management of ecosystems, and an understanding of the impacts of climate change on marine ecosystems. And this data forms the scientific foundation for our management and conservation work.

In fiscal year, so 2020, we had significant challenges from COVID. And some of those challenges we're still experiencing now with the supply chain issues and the sort of the hiring issues that are really being seen broadly across the country. We're also feeling them in our ability to execute our survey portfolios in FY 22. So we have completed a number of surveys. Quarter 1 and quarter 2 is what this slide is through. But we have also have canceled some surveys. And those cancellations have been related staffing challenges on vessels and related to maintenance challenges with the vessels.

So when we look forward with our survey vision to the future, our goal is to sustain our core strength while we build additional capacity needed to face the ever-growing challenges of climate change and the immediate challenges of off-shore wind energy development. We have a vision whereby we are modernizing our survey enterprise whereby we're evaluating and implementing new technology platforms for collecting data and enhancing workforce proficiency. And then our third vision is to strengthen our survey planning prioritization and management of our survey resources to optimize the return on investment.

And, so in terms of sustaining our current survey

enterprise, this slide is just a summary of our days at sea. It's not the best measure to measure our survey enterprise, but it's a coarse measure. And what we see over time is a decrease in the days at sea that are available to us. The blue are -- I can't read it from here. I think, can you help me? The dark blue at the bottom are our OMAO fisheries survey vessel resources. The orange are our charter vessel resources. And the gray is our small boat survey activity.

And so we see sort of a decrease in the OMAO platforms and in the charter platforms. So we are experiencing limitations in our survey enterprise. Thank you for whoever zoomed that in for me. We can zoom back out again. It was a good test for my eyesight, and I think I failed. So then our goal is to restore our capacity to somehow get this line to bend the other way and to build our days at sea or build our capacity, not sort of continually work with a declining capacity.

We need to build our capacity because we also recognize we need to expand our regional coverage, particularly in Alaska. Their survey footprint continues to grow north. The need for surveys continues to grow northward which, currently, comes out of our current survey capacity. And, so as resources move into the Arctic, we're going to need resources to be able to survey those resources. And our survey needs in some of our other regions could be improved. So in the Pacific Islands, in the Caribbean, there is room for improvement and for expansion of our regional coverage.

There's also an opportunity and, really a need, to increase our data collection. The number of our assessments, our ability to provide scientific advice, is limited by the data that we have. So there's this need to increase our data collection. And we also fully recognize the need to continue to use advanced technology. Saildrone came up earlier. Promising technology. There's a DriX system, which

was being evaluated in Alaska. Promising technology. And what we need to do is convert these promising technologies into our survey operations. And we need to make that transition quickly.

And then making a transition in survey technology also means that we need to make a transition in our staff proficiencies. There's a different skill set needed for Saildrone operations versus working on a deck on a fishery survey vessel. Obviously, we need both in the future, but we do need to sort of build our staff proficiency with these advanced technologies as we deploy them in our survey enterprise.

So in terms of modernizing the enterprise, we are, currently, working through what's call the Next Generation Data Acquisition Plan. And it's a series of workshops and engaging with our stake holders to understand what we need to do in the future, and what opportunities are there for us to do those things in the future. We also, the Office of Marine and Aircraft Operations, has a fleet recapitalization plan. And they have an aircraft recapitalization plan. So we're working with them to ensure that our needs and priorities are aligned.

We anticipate an exponential increase in acquired data through the use of remote technologies, largely, require modernized data management and analysis. So you think about the data, which comes out of a survey trawl versus the acoustic data, which comes out of a passive acoustic mooring. And it's an order of magnitude or two orders of magnitude more data coming out of some of these newer technologies that we need to be prepared to use.

We also fully recognize that the survey enterprise supports assessments, and we need to make sure that we're providing continuity to those assessments so we can continue to provide advice how to support fisheries management, protected

species management into the future. And then we need to make sure we're sort of integrating with the Climate Ecosystem Fisheries Initiative, our environmental justice activities.

And then sort of with the advanced data needs, we have high-performance computing interactions that we need to make sure we're staying in touch with. And, then again, we have the advancing our workforce proficiency in terms of training and new hire. So we are working hard to modernize the enterprise while, at the same time, trying to mitigate a decline in our capacity in conducting surveys.

So the last piece is this need to strengthen our national survey program management. I'm not sure if this group has been briefed on the National Academy of Professional -- help me out, Jen. NAPA. I just know the acronym, which is not the best thing. Association of Public Administration. So there was a review of a number of our processes that Congress requested. One of the recommendations was, this is paraphrasing. This is the way I like to think about it. They would not state it this way. I don't think they would use this word. But get your survey house in order, is how I think about it.

So they told us to get our survey house in order. And so we are strengthening our national survey program management. We're going to evaluate sort of a national model of a survey program. And so we're thinking of, currently, our survey enterprise runs regionally. And so what would a national model look like?

The NAPA report asked us to produce an annual survey and stock assessment priority list, which also gives us the opportunity to report on how successful we were in our survey operation, how successful we have been in our assessment operations. It also gives us the opportunity to look forward and say, over the next several years, this is what we're planning for our survey enterprise, this is what

we're planning for our assessment enterprise.

And then it helps us also think about what would the cost be to support our current level of effort? What would happen if we had a reduced level of funding? What would happen if we had an increased level of funding. So we really see this as an opportunity to help us, first off, get our survey house in order but, second, to be able to communicate, much more clearly, about our current survey enterprise and the future of that enterprise.

A key part of that is to just continue understanding the cost of our surveys and to improve this national survey prioritization budget formulation and execution. And then this, I think, by being more formal about our survey program enterprise, it will much easier for us to see the emerging gaps in that vision, for all of us to see, at a national level, where are the gaps that need to be filled?

So then that's it for the science enterprise update. Again, just picking three topics and coming back to that question to you. Are we correct in thinking that these are our three biggest challenges? These are our priorities. And just have a conversation around where should NOAA Fisheries science be headed. So thank you. I think I left plenty of time for questions.

Chair Davis: You did. Thank you. Jon, thank you so much for laying out the climate and science update. So we really appreciate it. We do. We have 45 minutes for questions. So, Meredith, are you first? Okay. Okay. Here we go. Okay. We have Sarah Schumann up first. Thank you.

Ms. Schumann: Hi. So we just discussed the Climate and Ecosystem Fisheries Initiative in the context of a science update. And, when you look at the Climate Ecosystem and Fisheries Initiative, it's very heavy on improving data and information streams that feed into management and making sure that those information streams are as robust and up-to-date as possible and transmitting all that climate-related information into management.



But I want to come back to something Meredith said yesterday in the context of the NOAA Seafood Strategy, which is that climate resilience is not just about improving the science but also directly about improving management.

And, although we all support, wholeheartedly, the notion that we need to invest in our science and improve our science and keep it as robust as possible, I think we also need to acknowledge the fact that that's going to be harder and harder to do, particularly under the budget constraints that we discussed early this morning, and place an equal emphasis on equipping fisheries managers to be making decisions without information that they'd like to have, with more unknowns and acknowledging the fact that sometimes the predictions that our science may make may turn out to be wrong and putting the tools in our fisheries management's hands to rapidly adapt to that type of situation as well, in equal footing with improving the science.

Dr. Hare: Thank you. That's an excellent point and could be much, much more relevant if we don't get additional funds for our climate priorities because the need that you expressed, that's the one thing that we know is not going to go away. So we need to sort of make sure that we're helping managers make the best decisions they can. Hopefully we can improve the information we're providing to them. But if we can't, we still need to help them be able to make the best decisions they can. So, yeah, that's an excellent point. Thank you.

Ms. Schumann: I have a second comment. Should I make it now? This is unrelated, but in the context of the, I'm blanking out now on the name, but the, improving the, sorry. I'm completely blanking out on the phrase we're using, but the last Next Generation Data Acquisition Plan.

I think it would be worth exploring adding fishermen's ecological knowledge to the list of

things that could be information streams that could be integrated into fisheries science and management, particularly in light of, I saw the electronic reporting and recreational fisheries on that list. And I know we'll be discussing that later this afternoon. And I think that framework is such a great example of tapping into an existing knowledge base that's out there that hasn't yet sort of crossed that bridge into being used in fisheries science and management.

And commercial fishermen, I mean subsistence fishermen, all fishermen have equivalent sort of observations from years on the water that are, not only sort of backward looking, in terms of the knowledge they've accumulated over the years about things like where a shark nursery might be off of Puerto Rico, as we heard yesterday, but could become really critical in terms of real time observations as our ecosystems change.

And I don't think there is, yet, sort of an infrastructure there to guide how that knowledge can be utilized, whether it's in fisheries management, whether it's in off-shore wind decision making, sighting of aquaculture and off-shore wind, protected areas, all of that stuff. It's a huge, untapped source of information. And it's sort of in the hands of, I think, social scientists and related fields to figure out how to make that information readily usable in all of these practical applications. So I would add that. Thank you.

Dr. Hare: No thank you. That's an excellent point. There is a socioeconomic piece of the Next Generation Data Acquisition Plan. I can just make sure that, so the idea of fisheries ecological knowledge and traditional ecological knowledge is part of that. And we heard some of that at the Recreational Fisheries Summit too is, it's one thing to collect the data. It's also to have a clear plan of how to use that data, which is sort of the next challenge is how do we use that information? What pathways do we use that to inform management?

So excellent point. Thank you.

Chair Davis: Thank you, Sarah. We have Roger, followed by Matt, and the Kellie.

Mr. Berkowitz: Thank you, Madam Chair. Jon, in theory, there's theory and there's reality. And, in theory, what you're saying sounds appropriate, having NOAA work with BOEM to assess impacts. The reality is this thing is moving so fast that the fishing industry, especially in the northeast, has been completely sidelined. There has absolutely been no opportunity to meet with BOEM and to tell them about what we're seeing out there. And any attempts is sort of, it's almost purposeful in terms of how it's been done.

And then we're talked about the Gulf of Maine, which is, perhaps, the richest fishing ground in the northeast, and putting up wind farms there. Again, that's a lot of concern. So on the one hand, we see the waters warming up and the stock sort of diminishing and sort of the added impact now of wind without a lot of input in terms of what's in terms of what's happening

And it could very well be the death knell to the Northeast. And now taking that and, now if it is accelerating that fast and the input isn't there, and now you take it to other areas of the coast, whether it's in the east coast or the west coast, I think we need to slow it down. I think one of the things that Paul came up with in the AOA for aquaculture, was very thorough and thought out and showed impacts. And we're not getting that with the wild fisheries and impacts recreational fisheries as well.

So I'm fearful, and I think the fishing industry is very, very fearful that we're not spending enough time to assess the actual impacts.

Dr. Hare: Yeah. I appreciate that perspective tremendously. I've sat at many fisheries management counsels where that has come up multiple times. And, I think, from a NOAA Fisheries

perspective, we are working with BOEM as hard as we can to try to get sort of the voice of our stake holders represented in that conversation. But I acknowledge and, I think we all agree, it's been challenging to get that.

And that is, in part, why we, in the northeast -- the way we've been thinking about it is there's two different -- northeast, there's a lot going on. Leases have been made, construction operation plans have been approved. We need to do what we can in the northeast. And we need to get as much pre-information to those other regions to give them more information to get started on a better foot than we got started in the Northeast.

And you mentioned the Gulf of Maine. The whole Gulf of Maine is a call area. It's the whole area. And, to your point, Joe, any development in the Gulf of Maine will be floating. Most, there's also a call area in the central Atlantic. About half of the area is off the continental shelf. Any development in that would also be floating. So the floating issue is, it is a national issue as well. And all I can say is we're working as hard as we can to bring the fishing perspective to offshore wind energy development. I don't know, Janet or Sam, do you want to add anything to that?

Mr. Rauch: Yeah, I could add a little bit. I think it's a distinction. BOEM has clearly tried to reach out, in many forms, to reach out to the fishermen. I've been at New England Council meetings repeatedly over the last decade where BOEM's been in the other room, hosting side meetings with the fishermen.

The issue's not that they haven't had an opportunity to do that. I think the issue is how effective that has been. Are they talking at the same level? What sort of economic data are they able to bring into the analysis? That has been challenging given the pace and scale of these projects, which is often at a level, individually, smaller than our fishing management

areas, and how you translate that into economic data.

There have been issues with certain fishermen, fishers, which we don't have the data. So it's hard for us to tell what the economic impact's going to be on the fisheries because there's not that data. It's not true to every fishery. So that has been really difficult and challenging to go through this with BOEM is how we're doing this. They're working on a number of forms to try to account for the fishing interest.

There's an issue of authority which, I think, Jon laid out, which neither we nor, apparently, BOEM have the apparent ability to aggressively manage a fisheries compensation package coast-wide, which is difficult if you're going to look at those kinds of issues. So these are issues that we're working on. But there's no ready solution to a lot of those in the short term.

I will say, once you step out of the northeast, where we've got, as everybody's indicated, a lot of things going on very quickly, and you start looking at what BOEM's plans are for the second phase, beyond this initial round of permitting decisions that are coming up the next year and a half. Things like New York Bight area. Things like maybe Gulf of Maine area. Or development in the Gulf of Mexico and the west coast. A lot of these programmatic things, like you mentioned, like using a model similar to the culture opportunity areas. BOEM just, we have reached a tentative agreement with them to do something like that in the Gulf of Mexico, perhaps.

So there are things we are doing in the longer term to help take some of these lessons learned from this quick permitting process and try to do it better in the long term. It doesn't make it any less challenging in the near term to work with that.

Chair Davis: Thank you, Roger and Sam and Jon for responding to those comments. And up next is Matt and then Kellie and the Meredith.

Mr. Upton: Thanks, Madam Chair. So what really got my attention, not just because of the special effect of the zoom-in, zoom-out, which was cool, was just the decline in the days at sea. And it sounds like that's something that you're aware of and working on, specifically on the trawl survey vessels in Alaska, which I'm most familiar with. What are some other ways that we can kind of get at that issue?

On the vessel management side, I try to get fishermen that don't smoke and are social on the boats and really good cooks and make it as fun as possible. But it seems like, from the agency perspective, people aren't really excited about being on the boats. That's like a real challenge that you mentioned. I was just wondering how we might get at that.

And, in terms of the costs, some other ways I've seen that happen for the state of Alaska is to do cost recovery or look at vessels of opportunity because there's got to be ways that we can really dig into that problem, make some incremental progress because I just, I feel like it's going to be something that's going to continue to go the opposite direction unless we really figure what's the root cause of that.

So I don't know if you had other thoughts on how to get at that. But it's something that's troubling, given what we're all seeing with climate change and just in general. You've got to have hard data, and that means being at sea. So I just wondered if you had more thoughts on that. Okay.

Dr. Hare: Yeah. I hope didn't give the impression that we're not dedicated, yet, to doing our sea work. And sometimes I enjoy being at sea more than other things. But, yeah. So I think the point of, what are we doing to address that challenge? So we either contract the vessels to do surveys. And that's a direct relationship. Or we work on Office of Marine and Aircraft Operation vessels. And that's another

way we do surveys.

And so your question immediately separates into two issues. In terms of working with the contract vessels, our primary issue there has been we had fixed funding for contracting, but cost of the contracting has gone up. So the days at sea that we're able to execute has gone down. And so that's the challenge there. On the OMAO side, NOAA Fisheries largely doesn't pay for those days. OMAO pays for those days out of their budget. So it's in terms of how we use those days. That's why prioritization is important.

They are working very hard to improve working conditions on the vessels and trying to meet regular maritime standards. I don't understand general maritime standards, but they're trying to work in crew rotation, sort of improve berthing, improve sort of accommodations, to have better retention of individuals working on platforms. So they are actively on that component.

And then your third part of your question about how can we more effectively use sort of a different way of thinking about it. The presentation and, I think, our focus is on new technology. But your question is asking how can we use, currently, or current opportunity, working primarily with commercial fishermen to collect data. And I think that's an excellent point, something we've been talking about actively in the northeast, similar to Sarah's question too.

There's fisheries' ecological knowledge and there's a lot of data that comes off of vessels. And so really challenging us to work more collaboratively with industry to meet some of our management needs. I think there's real opportunity there. I'll just, I'll take your question and make sure that that is part of that Data Acquisition Plan, that it's going to be fully examined as part of that plan.

Mr. Upton: Thanks. That's really helpful. I guess, on that, one thing I really would encourage you to look

at is doing some work in the winter where you can kind of use vessels as the opportunity because it seems like there's specific sites that you want to look at. And it's pretty easy on a trawl catcher processor to have an additional net. And I can see a season where, oh, okay. You're fishing in this area. We want to collect some data here. Please put on your survey net. You have two federal observers on the vessel already. In terms of compensation, that fish that you're catching, once it's been caught, you're allowed to keep and sell it. That can be put up.

But just some ways at getting more data in a really economical way because I think you're absolutely right. The economics of operating vessels, whether trawl survey vessels that are fishing or the big white boats, it's not going to get any cheaper. So I think you've got to figure out other ways to get that data. Thanks.

Dr. Hare: Thank you.

Chair Davis: Thanks, Matt. Kellie?

Vice Chair Ralston: Thank you, Madam Chair. That was, actually, on my to-do list, or my speaking list, to talk about cooperative arrangements for both survey and data collection. So I won't beleaguer that point. I do appreciate the focus on the need for additional information related to climate change. However, I also recognize that sometimes the agency struggles just with the regular data, the data that we know we need right now. And so I appreciate the climate overlay, and I think that's important to keep in mind, but I think also really looking for the data gaps and needs that we have now are equally important. And we can have an offline conversation about that.

But, related to that too, I think, talking about the budget, the way I've heard it laid out this morning, there are lots of buckets that combine all go towards data collection, but there's lots of different pots. And sometimes that makes it harder for those



of us on the outside to help advocate for specific needs. And so I would encourage, and maybe this is another offline conversation, to have a combined. This is the big number, and these are all the spots that it goes.

And then, and I know we're trying to do national, and I appreciate that because I think from a climate perspective, particularly on the Atlantic coast, we need to have more than just a regional approach, but looking at those appropriations from a political strategy level, to advocate for funding, sometimes regional is more helpful because of the distribution of our congressional delegation. So I would put that on your radar. And I know a lot of folks that would be happy to help advocate on behalf of agency for those needs

Dr. Hare: Yeah. Thank you for the comments. In terms of the, you talked about the budget structure. I think that was one of the, the NAPA report was sort of came back into -- our budget is complicated. And it makes it difficult to communicate our survey enterprise when we're using, call it, 10 budget lines to support it. And so I think our approach is to show how our survey enterprise is being supported to be more transparent with our budgeting in general. And then, hopefully, that will allow us to sort of simplify our budget in a way that you sort of suggest would be helpful.

And, then in terms of the national survey program regional implementation, your point about the political dimensions about that is well taken. It's excellent. And a lot of our support for your programs is very regional. So if you look across our budget, you see pockets of support and that those pockets are generated because of that regional interest.

And so this NAPA report really sort of encourages us to think about what is our national program? Can we build regional support for a national program and then use that support to leverage nationally,

not just regionally? So it's a multi-step process. But yes, the politics of it drive us to regions specific. And so we need to get better at those conversations to pull it back to national level support. So any help in that area would be greatly appreciated. Okay.

Chair Davis: Thank you, Kellie. We next have Meredith, followed by Pat and the Jocelyn.

Ms. Moore: Well, I have a few. At some point, you can just gavel me out. No, I'll try to be very respectful about the amount of time. So, first, I wanted to complement you on the five-year review of the regional action plans and the science strategy because it's a very good document and very thorough. I have heard from a number of stakeholders that they would appreciate extra time in providing comments on that, so just a note of support on extending that time period.

I would also encourage you, and maybe this is a personal request, to find ways to communicate to stake holders about what's in those so that they don't ask me because that's happening. And I'm certainly not an expert on all of those. So I think there are opportunities to maybe do some webinars. I know you're talking about trying to get to the counsels. So I would just encourage finding ways to communicate outwards in those regional action plans. And the results of the five-year assessment, I think, to a broader audience would be extremely helpful, probably to more people than just me.

But, so just wanted you to note that. And then I wanted to say, it's tricky for me, and I'll just, I'm trying to be wildly supportive of the climate science side of what you guys have been doing because I do think it's really impressive, while also continuing to stress the need to address the management side. And I just want to be fair about that.

When you look at the five-year review, the top three parts of your period, which were the management period, were rolled up into one and reported as one group. And that's because there has just been less

progress there. And I appreciate that. But that's the thing that we're going to need to overcome. And so I'm just going to continue to raise that point.

And I wanted to ask, I'm excited to hear about the decision support teams as part of the Climate Ecosystem and Fishery Initiative because I think that is the kind of thing that's going to be incredibly important to overcome the linearity of the way things have been going now, whereas we've been focusing on the science side and sort of stumbling to get it into the management side.

And I'm hopeful that that idea of decision support teams can kind of unite the science side of the industry with the sustainable fishery side and, then down into the regional offices and science centers, get more in front of the counsels and commissions so that it ends up in fisheries management plans, bring the stakeholders together. So I just see a real big need to connect all the great science that you're all doing but actually get it into the way that we're managing our fisheries and our other marine resources.

And so I just wanted to say yes, please. And thought we need to find a way to do some of that now. Yes, let's definitely get the funding. But there are so many tools available now. You have done an amazing job with the vulnerability assessments and all of those things. We need to start using those to think about how we're managing these fisheries because I'm really worried we'll get to a point where we just didn't act fast enough. And then it'll come down to disaster funding or other sorts of things. It'll be huge impacts.

If we can mitigate now what each one of these coming disasters and everything will be, that'll be all the difference, I think. And so I just want to soapbox that for a minute.

Then I wanted to say a couple other things which is that, on the wind strategy, I did review the survey mitigation and really appreciated the work that went

into that strategy. I just wanted to be clear that like monitoring standards for a wind installation will not, that in and of itself, will not mitigate the survey impacts.

And I think it's going to be super important to try to quantify what those impacts to the survey were in the sense of adding additional uncertainty, and communicate that to SSCs and to Fishery Management Councils so that they can start understanding if the baseline data that's going into stock assessments and everything is getting disrupted in a way they need to include more uncertainty in the way that they're managing. So I just wanted to flag that.

Very appreciative of the idea of doing a more programmatic approach to some of the surveys and impacts. And I also just want to point out, and I don't have a solution here, but there's a lot of money coming into the government and everything from some of these windmill farms. And you all are like scraping together budget requests for like oh, please. Can we have a few million dollars to do some of this work that's taking up all of our time? And there's a big disparity there that like should be addressed. So I'm just flagging that.

I don't see how the agency's going to handle wind on an annual appropriations basis, where you have to fight every year for the dollars to do this. And so trying to establish something that's more consistent, I think, will be really important.

Last point, I'm so sorry, which is that, in your Next Generation Data Acquisition Plan and all of the data work that you're doing, would really encourage you to think about the need to integrate all these new data sources and maintain these time series, like I've mentioned earlier. Yes, we need more. And we need different and we need modern. But we also need a way to transition from the past so that we maintain a consistent understanding of the status of our stocks and other marine resources.

So okay. I think that's enough. Thanks. I did it very fast. Pick one to say.

Dr. Hare: I think I wrote, I'll pick three.

Ms. Moore: Okay. Great.

Dr. Hare: How's that? And I ran out of paper, so bear with me. In terms of the decision support teams, 100 percent agree. And just to sort of provide a little more context, is we don't imagine setting up, within each science center, a new team. We imagine sort of adding resources to a science center to work within the current processes to help Fisheries Management Councils, marine fisheries Commissions, sort of the protected resource decisionmaking made by the regional offices. So those teams will be made up of new staff and exiting staff.

To your point about that we need information now, I 100 percent agree. And I think East Coast, the climates and aerial planning that's undergoing in the East Coast -- that's New England Council, mid Atlantic Council, south Atlantic Council, Atlantic States Fisheries Commission. The agency has been very supportive, but the Councils have been the ones that are leading this.

So the management, the fisheries management are ready for this type of information. So they do climate scenario planning. They will evaluate what type of management options they have, given different climate scenarios, which will then perfectly set the stage for us to say, okay. This is how we can support this. This is how we can support this.

The last point on sort of the decision support teams is in our stock assessment processes, there is a structural impediment to including climate change because when our stock assessment enterprise was developed, it was never envisioned that the environment would be changing. It was only envisioned that the environment would be variable. So the models themselves are structured in such a

way to take into account a variable environment, but not a changing environment.

So that we've been working very hard at that fundamental modeling level to remove that structural barrier. And there are several models which are coming online now, starting to be used in management, which allow the environment to change and be variable. So we have been working hard in the weeds to overcome some of these barriers that we know are going to come up against very quickly.

Sorry. I did it to myself because the papers got mixed up here. Your point about the project-specific monitoring will not serve as survey mitigation is excellent. Please say that loudly and to whoever will listen. Personally, I think we try to clarify this in strategy. The term survey is used generally. But it has specific meaning. So when we say fishery survey, we mean a long-term, standardized set of operations that provides information in support of fisheries management.

When a wind developer says survey, they mean several years of work to understand the impacts of our wind energy development on our area. So we realized that that disconnect was there in putting a strategy together. And so we clarified that when we say survey, we mean that long-term effort. And we call the wind developer activity studies because they really are more sort of project-specific, study based.

But trying to be clear, when we use the term survey, we mean it generally, similar to fisheries. We use fisheries generally. Sometimes we mean commercial fisheries, sometimes we mean marine ecosystem. Just being clear, I can't even believe I'm saying this, being clear in our language is very important.

Third point on the Next Generation Data Acquisition Plan. The importance of calibration is excellent. We can't turn off one time series and turn on another time series and expect our management system to

work smoothly. So the calibration is critical. That's been in the survey mitigation for off-shore wind. Calibration is a key element. We recognize that we are going to need to change our survey approaches in these areas. We're going to need to calibrate the new approaches to our old approaches. So thank you for that comment as well. And I hope you took the opportunity to comment on the Data Acquisition Plan for that element. Thank you.

Chair Davis: Thank you, Amanda. Thank you, Jon, for your responses. And Sam would like to say a few words.

Mr. Rauch: Yeah, I just wanted to clarify. Well, I want to add to that excellent response. When we talk about the climate initiative that Jon laid out, it is a very ambitious way to generate new data and new tools for people like the Councils, the Commissions, us on the protective resources side.

And it's over time, right? So you develop all this new science. If that's all we do, then you have a whole bunch of science waiting for somebody to do something with it. We know that. But you have to get the science first. But looking at the out years, a budget is a very one-year centric thing. To the extent that we get funding in the out years, in order to actually achieve that vision, we are going to have to invest in the Council, the Commissions, or us so that we can actually implement that, to take that implementation. It's not just a decision support team. Then somebody's got to do the regulations. Somebody's got to actually apply it, work with the fishing industry to apply those kinds of things.

We know that. It's just that that is further delayed. You've got to develop the data first and then that's out there. But that's in our thinking going forward to the extent that this initiative is funded by Congress.

Chair Davis: Thank you, Sam. We have about 15 minutes left of our discussion. And this has been a great discussion. So I want to make sure that we get the questions and comments out. But we may

not be able to have as in-depth conversation. But Jon's going to be around. So let's definitely make it through. What I have is Pat, Jocelyn, Clay, Tom, and Sarah. And so let's try to make it through the list. And Stephanie as well. So go ahead, Pat.

Dr. Sullivan: Great. Thank you, Madam Chair. Thanks, Jon, for the presentation. Really appreciated that. You ask us what the biggest challenges you see are for NOAA Fisheries. And I would add to that, based on where Sarah started us off and has been echoed throughout the room, is communication.

And I put that out there, in part, because scientists in general have a difficult time communicating. But also we have a representative in the room from NOAA who's a communication expert. And I think this is an important thing for us to bring up and comment on. And I want to emphasize that this is not sending information out but receiving information back from all the various constituents.

So I'll keep this brief, but I do want to acknowledge and thank you for the value buckets in the offshore wind discussion. I think they well represented a white paper that we put together as MAFAC on the wind. And I look to Heidi to suggest that I don't know that all our new folks have access to that yet or even know that it exists. But I've received a number of questions on that already from our new folks. So maybe we could get that out there. And so I really appreciate that our concerns were reflected on that list.

Second, with regard to the survey enterprise, I really appreciate that. Of course, you know that this is an important to my heart, this standardized approach for collecting information. And remote sensing, of course, is important and, as we'll hear later this afternoon, viewing fishers as citizen scientists in some sense. Citizen science really came out just within the last few decades. But I thought, we've been doing that for years and years. And so



accessing that, I think, will be really important.

And, then finally, thinking about communication as dialogue will be really important for us to be thinking about engaging stake holders, which include fishers and the fishing industry more broadly. But in developing what we'll hear about this afternoon, Meredith was talking about people approaching her. Folks have been approaching me too, state folks, for example, going things like, does NOAA listen to us? Yeah. And fishermen as well, right?

And so I'm appreciating that this body serves in that role in some sense, and I'm really appreciating all of the workshops and outreach and so forth that's being done. And I'm just reemphasizing that that's really important, to reassure folks that they're being listened to and to access, as we've all heard, the information that's out there to be used. So I'll close with that and thank you for the presentations.

Dr. Hare: Yeah, thank you, Pat. And I'm going to take the opportunity to make the statement I was going to make yesterday. We talked about a ferry. I think people hear engagement and hear communication, and it doesn't necessarily sink in.

So I think you qualified it, meaningful. It needs to be meaning two-way communication, meaningful communication, meaningful engagement. And that meaningful implies that both sides feel like they're getting something out of it. So yeah, I think you're right. That is a -- we have a lot of need buckets of need. But I think that we'll make sure to add that because it is critical that we communicate across the board.

Chair Davis: Thanks, Pat. And Jocelyn?

Dr. Runnebaum: Yeah, thank you. A lot of really great points have been raised, so I'm going to try and maybe just ping a could that, anyways. So Matt's point, Jon, about survey vessels of opportunity or not using commercial vessels as

vessels of opportunity, transitioning that and being able to sell the fish really follows the Maine Center for Coastal Fisheries Sentinel Survey design in some ways. And I think it's a really great suggestion, and it's going to be really necessary, especially in Alaska where we're in a gridded schedule.

So, Sam, to your point about BOEM and NOAA not having authority for fisheries compensation packages, I'm wondering if there's conversations of looking to the disaster relief process and mimicking that for fisheries compensation packages, notwithstanding the issues that we heard yesterday that exist with disaster relief.

Mr. Rauch: Yeah, so BOEM is working on an initiative to look at how compensation might be structured more specifically. They are adamant that they do not have authority to engage in a collective, coast-wide compensation package. They may have some authority working with the developers on a project-specific basis for a narrow focus. But we've heard, clearly, from the states and others, that they're looking for a more coastal solution. And that's difficult for BOEM.

Even once you get beyond that question, the question is how do you evaluate the loss, because as I indicated, maybe not clearly, we know how to look at a closed area and, on a fishery-wide basis, assess the impact of moving fishing from where it was in the closed area beyond that. But that's on a fishery-wide basis. That's not on an individual-vessel basis, mostly.

And our areas are not necessarily the same as where the wind farm's going down. So there's a lot of issues there that we're working with of how do you actually assess displaced effort? Is it going to be displaced? We talked early today about the difference maybe between floating and set ones. Exactly what's going to be displaced?

We haven't really done this in the United States. So we don't have a lot of track record to know exactly

how the fisheries are going to react. What can and can't happen, how long those effects are going to be. So we're trying to get an estimate of those kinds of things. And then how do you translate those broad industry-level assessments into what's actually going to happen with the vessel.

Once you get down to vessel-level impacts, you could use a disaster or a COVID relief kind of model where you have fishermen coming in and claiming individual losses, running through something. Not the Gulf Commission, but the Atlantic Commission did something like this with COVID relief funds. You guys did too. Right. Where you have the fishermen claiming the losses and then getting some compensation packages for that.

But there are these other issues you've got to get to before that, including exactly who has the authority to set up some program and whether it can be coastal. I don't want to minimize this issue of the fishing industry, the states, are really looking for a coastal solution. And right now that is the one thing BOEM is clear they don't have the authority. They have to look at it on a very narrow, project-specific basis, which is frustrating, but that is they're view of their authority.

Ms. Coit: I'm going to add a quick comment. And, also, we could talk about this for hours. Combining Meredith's comment about the billions of dollars coming in on these sales and your comment or Sam's about the lack of authority, the answer here is a legislative solution. That's the answer.

Dr. Runnebaum: Couldn't agree more. If I may do one more comment, Jon. So we heard from our Caribbean Council members expressing a need for collaborative research. Sarah has mentioned collaborative research, and Kellie have both mentioned collaborative research and applying it in different aspects of your priorities that you laid out.

I've done some work looking at harvester perceptions of the impacts of climate change, on

species that they're targeting, and realizing that this is really necessary information in the management context. So really my question for you is, is NOAA Fisheries looking to incorporate harvesters' knowledge into the climate research bucket as well?

Dr. Hare: The short answer is yes. I'm trying to think through examples. Yes. And I think NOAA has been working in that area for quite some time, put out some guidance in terms of how to use traditional, local fisher ecological knowledge in NOAA products.

And then the other answer is not enough. Most clearly, not enough. And so we've started some efforts, but we clearly need to do more. And I think there's a lot of value there. At the national level, I can speak more directly to the Northeast. And the national level I also think that there is a growing recognition of the value of that type of information. So we can make sure that that is better communicated in what we're doing.

Chair Davis: Thank you. We are going to go another 15 minutes. We want to continue this discussion, and I think we have some wiggle room in the agenda for the afternoon. So we'll have Clay will be next.

Mr. Tam: Thank you, Madam Chair and committee members. Just a comment, Jon does a great presentation. Just a word of advice or comment is that I hope that NOAA continues to support cooperative fisheries and maybe even expand it to the point where we've been involved with NOAA here. Our group has always had the motto, fishermen should be part of the solution and not the problem.

And through this program, through our bottomfish independent research now going into its 12th season, it's been highly successful. From day 1, it was scientists and fishermen sat down to design and collect data that was important to the

assessment models. It started from day 1.

It's progressed to the point where now our fishermen are involved in stock assessment. They're in data workshops, PSTAR review. We've totally incorporated them into the process. And that has set for better data collection because they better understand and support NOAA in terms of management decisions based on data collected. It's a great program.

We do go out to the communities as part of the project, have meetings with the different islands, share results from each year with constituents. During COVID, it was a bit difficult. But that provided us an opportunity now to reach other island areas we didn't such as Guam, American Samoa, and Saipan through video.

So that was actually a blessing that we didn't go out to our neighboring individual islands because the farther islands all in the region is something where NOAA's looking to expand this program. Again, budget. But I think having fishermen that we contract -- our high liners and our fisheries are part of this bigger data gathering.

And much thanks goes to NOAA for providing guidance and oversight and to Dr. Ben Richards and Dr. Mike Seki, director of the center. It's been a very positive program for the community and something that I hope can be expanded as a model program. I think there's room for growth. But it's so much better now that the scientists and fishermen come together. They can meet in a room. They know each other by name. And it's big difference from before when it was more kind of an adversary approach. And NOAA would just, hey. This is it. But I think now it's been a huge change.

And with that said, I agree with the earlier comment about communications. And this is where -- I've worked with a state agency 17 years. And now I've done work with NOAA for the past 15 years. But definitely, for our organization, it's been -- one of

the keys is to provide sort of a conduit between agency and community.

It's a large task, but we, as fishermen, an organization, know our community best and provide that opportunity to network, to reach out. It's hard to compare us with the mainland. We're a small island area. We have smaller networks, but still. I think that the opportunity to help scientists help ourselves is really important.

And, to those points where you talked about empirical knowledge and working with the community, we've always, as fishermen, managed our fisheries that way in Hawaii. And with the start of last year and COVID, we started to collect fishermen observation data from the region. It now goes into our annual safe report in Hawaii.

So those information will be added to it when scientists will have the ability to look at that in terms of looking at trends and models in our fisheries. You know there are cycles in our fisheries 5, 10, 15 years in our fisheries. So reflecting back on this kind of data that's not collected through conventional, dependent, fisheries data and other means, it's important for us to better understand and manage our fisheries.

And so we've seen other projects where cooperative fisheries have worked really well out here. And we thank you for the support and hope for continued support in the future. In fact, COVID in 2020, in the heart of COVID, we were one of only three live projects that was conducted during COVID in the nation.

And I'm proud to say that our guys got out there in the water. We have seven vessels. We did 750 sites, including marine optical camera drops and fishing efforts. So we do. We have the built-in capacity. We have been able to expand and work with scientists in terms of training, education. And it's been a great program. So I thank you for that.

And just another comment on the BOEM issue and the wind energy out here. With the advisory kind of set up a committee to review, and we've had presentations from BOEM. But it's been a disappointment because we've asked them for information about endangered species or mitigation with some of the species, especially in particular birds. We fished amongst birds. We work with the birds to find fish. And that has been a big issue in terms of interactions with species out here.

We do have wind farms on land. And we know that there's interaction with our endangered species Hawaiian, that there's a like 150 per year kill rate from these turbines. So we know that it's going to happen to the birds. And I've talked to other scientists who have done studies. And they said it's not a good mix with those big turbines out there and the birds. It's going to be an issue.

And we've asked them to provide us with some sort of research from ongoing projects and to look into what are the impacts. And we have gotten nothing. Nothing from BOEM at all. And they came in with the initial site. And all I've heard is the site has changed where they're looking.

And we don't have a continental shelf, unfortunately. So the placement of these wind farms is going to be very critical, especially for the fishermen around the islands that rely on the ocean to stay in our culture and heritage out here. It's very important that these areas remain fairly open and without impact. I've seen the report that came out of Denmark that the areas where they've had wind turbines functioning are now closed to all access to boat traffic because turbine blades are starting to fall off. And so it's been a huge concern here.

And that aspect, too, is that the percentage of off-shore wind energy produces is something. But what about, the question I've had is what about security? In terms of threat from terroristic threatening or

impacts from sabotage because now you put your energy off-shore. You would need more coverage in terms of protecting your energy because these systems go down, they affect the grid. And then what? All of our electronics, all of our cell phones, computers is gone. It's something to think about. And it's more so out here in the Pacific where we're very susceptible to being isolated. Some of your states can interconnect power grids and systems, but not here.

And so the push to get wind energy, I support conservation, but it needs to be done right. And I agree with it perhaps being slowed down because, especially out here in the islands, it's something that is going to affect us tremendously although maybe the footprint is not as big as some of the projects ongoing on the mainland. But definitely for the guys out here it can become a huge, huge impact. So that's all I have to say. Thank you.

Dr. Hare: Thank you very much, Clay. And I really appreciate you identifying sort of the different values of cooperative research. There's the data value, there's the working together value, there's the trust value. I appreciate you sort of walking through those for us.

And, then on the BOEM issue, Mike Seki who you mentioned, director of the Pacific Islands Fisheries Science Center, has been part of our conversations around offshore wind. So we will continue to work with him and other regions to, just basically, learn the lessons that we've learned in the northeast and try to translate those to areas where wind energy development is going to occur next. So I appreciate the comments very much.

Chair Davis: Okay. Thank you, Clay. Okay. So we're getting close to lunchtime. And we have four more members that would like to provide some questions and comments. Could I ask you, please, to make them very brief so that you can have a chance to do it rather than cutting off the conversation. So we



have Tom, Sarah, Stephanie, and Brett. So, Tom, please.

Mr. Fote: Yeah. A lot of the points I was going to ask have been covered by many of you. And Jon's heard me talk about them before. So has Sam. But I'll talk about two things right now. Last week, at the Atlantic States Marine Fisheries Commission, we gave an award of excellence to Jimmy Rule and his son. And what did we, basically, give that award for? Because Jimmy came to the counsel in 2007 and says, we need to do better research with trawl and use what they call RSA money, research set-asides. So we took fishing money that we basically sell for quota and, basically, do that.

That program now is, what, 15, 16 years later. And, basically, it's NIPAP (phonetic). I mean, we get a lot of our information, which commercial fishermen did that, but they used research set-asides. So, Matt, we can talk off-line on that. But that's impressive. And I'll send you out the press release from the Atlantic States Marine Fisheries on Jimmy's award last week.

The other thing, windmills. My problem is just the opposite of yours, Roger. I've got invited to more meetings of BOEM's for the last 20 years than I can deal with. Truthfully, when I came on MAFAC, I was just like, I don't need to deal windmills now because that's all I seem to be doing the last five years. And the first thing is get put on a task force that we're going to deal with windmills.

And, basically, stating that Pat was saying, I feel that they are meeting us to death. I have two people, we have a small organization called Jersey Coast. Small organization. I have two of my board members, I only have a board of about eight members, that spend their time at windmill meetings, with either Orsted or one of the other companies or with BOEM. And the problem is that communication back and forth, or getting answers back from the real problem.

I dealt with BOEM in one form or another. Going back 20 years or 30 years when we'd do sand mining, dumping stuff in the ocean and stuff like that. So it's a long history and a long history of having problems with communication, almost as bad as the Army Corps of Engineer. And I can say that because I'm a former Army Corps of Engineer retired officer. And so I understand the problems dealing with this. So I really respect. But sometimes you might get what you're not wishing for. So those are the two points I want to make.

Oh, sea bass. I'll point at sea bass because it is one of the prime examples. When we started looking at climate change, all New England, because they were seeing more fish, wanted to get in.

And, I always make the distinction, there is New England and there's the mid-Atlantic because on some of the species like lobster, we are called southern New England. Well, southern New England's New Jersey, New York, all part of the mid Atlantic Council, all the way down to North Carolina. That's not southern New England. That's mid Atlantic. And we, basically, talked about that and how do we deal with those separate issues on lobsters and that.

But on black sea bass they, basically, started saying, because all the fish are moving north. They weren't all moving north. There was a base of stock that was still off South Carolina, North Carolina, and Virginia. But, as we know looking at the migratory patterns that we have information going back 75 years because I look at all this old information, the fish, as they get bigger, move north.

And we were allowing more bigger fish because they were expanding their range. And so we have more fish. And it's not allocations how do you handle new fish? And the problem is, you're not set up to deal with quota to handle this, basically, influx of fish. So you, basically, said we're over fishing. And we wind up with all those things. So I'll leave it at those two

points because we got short of time. But I think you understand what I'm saying.

Chair Davis: Okay. Thank you, Tom.

Dr. Hare: Yes, just quickly, you know, the conversation around expanding stocks and shifting spot stocks, it comes back to language. You know, when somebody hears shifting stock they have a very different impression about what needs to be done action wise than when someone hears expanding stock.

And so I think, you know, how we describe changes in distribution is very important. We need to be accurate, so we give the, sort of the direct impression to decision makers about what types of action should be considered. But fully agree, you know, black sea bass is a range expansion.

Chair Davis: Okay. Thank you, Tom. And, Sarah.

Ms. Schumann: Thanks, Madame Chair. And thanks, Jon, for the great presentation. After Sarah, Meredith, and Pat had spoken I put my card down about, talking about bridging, you know, science and management.

But then Sam said something that made me put my card back up. I feel like -- Sorry. So, very understandable that the science needs to happen first.

I just want to mention that I think this is a great opportunity for the Agency to set up a framework for how to communicate the science to the management. And I think that, you know, these decision support teams are a good start.

But if you can get that formalized, a formalized mechanism to communicate the science to the managers, and make sure that you have that dialogue formally set, I think that might ease that, bridging that gap.

And then the second thing is, Pat did mention that you definitely hit on a lot of the parts of our offshore wind report. And I totally appreciate that you're playing whack a mole right now, especially in the northeast.

But I don't want you to lose sight of thinking about how you're going to tackle measuring the long term and cumulative impacts of these, on marine ecosystems.

Because this is going to be an issue that you're going to be dealing with, and we are all going to be dealing with for a really long time. And so, just keep that in the back of your mind as well. So, thank you.

Chair Davis: Okay. Thank you, Sarah. Stefanie?

Ms. Moreland: Yes. Thanks for the Presentation, John. I thought that the buckets and organization was nice for being able to capture the overwhelming amount of new in a way that's easily understood.

There is a lot of new. And so, I support many comments that have already been made. But at a higher level I'm just really concerned, as probably some of your team is, in terms of resourcing relative to needs.

Much of the new is required new. And yet, many things aren't displaced because of the annual and regulatory environment that you're supporting. And the budget isn't commensurate with the amount of new that you're having to take on.

We're aware that in this situation there's a few compromises that can be made, which is that you've got more protracted timelines, not an option with most of the stuff that you presented, and in the face of the changing climate as has been presented.

Scope, you're already grappling with that. It's big. And it's clear that you're trying to get your arms around what's possible, and organize things in as

efficient way as possible.

But I, you don't seem in a position to say no. We maybe need to help empower some nos. I don't know what's possible there. More resources. Obviously Congress can weigh in with their thoughts on that.

But that only leaves really a compromise of quality in the end. And that's my main point, as I'm really concerned that if the other parts and levers don't move and improve for the Agency with the amount of new that's happening, that you're looking at compromised quality.

And as it affects the year to year opportunity, that means either, you know, poor outcomes on the ocean and with management regulatory thoughts and reg writing, and management outcomes.

Or it means a more conservative and precautionary approach to deal with the uncertainty that would be created. And either way it's a really bad outcome for those dependent on NOAA Fisheries.

So, I'm really concerned. And I'm not sure what we can do about it, but to try to move the other points.

Dr. Hare: Yes. Thank you, Stefanie. I, you know, want to, I agree with everything that you said. And I just want to emphasize the precautionary approach piece of it.

As our, you know, offshore wind energy development, as our ability to execute our surveys is eroded, that's going to create more uncertainty in our survey estimates.

And then, you know, your point, you know, Meredith and Pat, you know. Then how do we then evaluate what that decrease in certainty in survey, how does that propagate through the system, through the precautionary approach to setting quotas?

And that's an effort which we're sort of getting started in the Northeast now. We're doing a simulation experiment with the bottom trawl survey, taking areas out based on wind energy development, evaluate the increased uncertainty.

And then we plan to propagate that through a management strategy evaluation assessment to get a handle of that. But I think it's, you know, it's, that's just one specific example you're bringing up.

That's not, that's a, that's something that we're all going to be challenged by as the scientific information erodes. Precautionary principle has, you know, it's going to lead to what you've talked about, Stefanie.

It's going to lead to increased precaution, which is going to effect the businesses which many of you, or all of you are involved in.

So, I think that's sort of the high level take home, that we need to do everything we can to not allow that erosion.

Chair Davis: Thank you, Stefanie. Brett.

Mr. Veerhusen: Just some thoughts. I really appreciate the strategy and the thorough discussion. There's so much expertise in this room. I look forward to just learning from everybody.

Mind just taking a quick step back, and just some kind of high-level creative thinking. I think today we've heard themes around communication, cooperative research, baseline information to be consistent, how that information is used and weighted, that's equitable, wind energy, you know. There's a lot more. But overall it's also budget.

And I'm worried that the discussion around fishermen who are willing and able to provide cooperative research around, you know, climate change, is playing opposite to the narrative around wind farms. And that fishermen oppose solutions to

climate change, because that's not true.

And if we look at overall macro relating to the seafood strategy that Paul discussed, you know, we're trying to get people to eat more seafood.

And generally there's lots of surveys out there that consumers will, are either purchasing or would purchase seafood more, between like 50 and 70 percent of consumers would purchase more seafood based on environmental considerations. Climate change would be one of those of course.

And so, what we're discussing today is the fact that climate is imperative to include with all management decisions. Fishermen want to help. It's not totally clear how cooperative research can be used. But the Agency and this group is committed to finding solutions.

But we're concerned with wind energy. And, but we are supportive of energy solutions if done right in consideration with fishermen to reduce emissions.

And so, I just don't want consumers to get the wrong idea that fishermen who harvest a low carbon seafood, and are committed to climate ready fishery science oppose energy solutions.

And I think we need to be thinking proactively about opportunities to work with each other, work with unlikely stakeholders, consumers, others in the seafood supply chain, to think about these opportunities, and behaviors, and demands from those who eat and buy our seafood. And also get ahead of potential pitfalls that we're maybe having blind spots to.

And finally, this is all based around budget. I'd love to think more about and parking lot the idea how to really like take a step back and look at some of these larger forces that are happening around us, with or without us.

And just try and utilize some other areas of support

that we may be able to tap into, and find some traditional allies, some non-traditional allies, so that we're accomplishing key components of the seafood strategy in finding ways to fund all the solutions that people are bringing today. Thank you.

Dr. Hare: That was an excellent summary. Thank you. I hope somebody wrote that down for us to follow-up on. Perfect. Thank you.

Chair Davis: Terrific discussion. And thank you for everybody's great comments and inputs. And, Jon, for your input, Sam, also for your inputs during this discussion.

I do think we should come up with a summary from this discussion. I think there were some very clear threads of information that would be great to come from MAFAC on our responses and help for John and the work. So, that's something that we can talk some more about.

So, we're going to break for lunch. We're actually only about 15 minutes over schedule. So, that's good. We're still going to give you an hour and a half for lunch, because I know you have to go out and about to find lunch.

So, let's be back here at 2:00 p.m. If you can be back here just a little bit before 2:00 p.m. that would be great. And we'll start back up again. So, have a good lunch.

(Whereupon, the above entitled matter went off the record at 12:37 p.m. and resumed at 2:05 p.m.)

Habitat and Conservation: America the Beautiful,  
and other updates

Chair Davis: Okay. So, welcome back after lunch. We have a great number of topics after lunch. We're going to start off with Habitat and Conservation with Sam.

And then we're going to move into our report out on



the recreational electronic reporting task force, along with a final -- Well, we'll have a public comment period, a small break, and then final action. And then Sam will also address environmental justice strategy. And then we'll talk about, just a wrap up at the end.

So, we've got a great afternoon agenda. Thank you so much for the discussions this morning. They were really robust, really lots of wonderful input, comments, questions.

And I'm thinking that as I mentioned at the end that, you know, we may want to do some kind of resolution around the discussion. Because it was really informative, and very robust. I think NOAA would appreciate that. So, we'll talk more about how we can do that, maybe even work on it as part of our working group tomorrow. All right.

So, Sam, we're happy to have you here. Sam is the Deputy Assistant Administrator of Regulatory Programs. And he's going to speak with us for about 30 minutes. So, Sam, if there's some time to allow in that 30 minutes some questions and answers that would be great as well. Thank you.

Mr. Rauch: All right. Thank you. I am Sam Rauch. For those of you who I have not met, I am in charge of the regional offices and the headquarters offices of Habitat Conservation, Protected Resources, and Sustainable Fisheries, within NOAA's Fisheries. I'm one of Janet's three deputies. And it's a pleasure to talk to you today.

This talk is on the various habitat initiatives. I'm going to focus on two of them, one the America the Beautiful initiative, and the other is the Infrastructure Act, IJA. And we'll talk about both of those. And I may talk about a few other things. But there should be time for questions on that.

On the American the Beautiful Initiative, we talked with MAFAC previously about this initiative. This initiative has come out of one of President Biden's

Executive Orders, which sets an ambitious goal for all of us of conserving at least 30 percent of our land and waters by 2030.

Not to be confused with the wind directive to develop 30 gigawatts of wind by 2030, or for the other ones. But this is the other 2030 directive, 30 by 30.

And we talked with MAFAC when this came out. For those of you who may be new to this Committee, there are a number of efforts. This effort is largely led by the Interior Department. But we are a key player. And are a co-chair of many of the working groups.

We have, and particularly because of the emphasis on water, we have a clear role. And it's not, when I say we it's not just NOAA Fisheries, but NOAA in general and the Commerce Department have a leadership role in all of this.

We have a long history of not just fishing management, but area based management through sanctuaries. We have a role in the monuments. We have a lot of data and science roles, and other things, not through just our programs, but for other programs like the Research Reserves, and other kinds of things.

So, this really is a NOAA wide initiative, bringing a lot of NOAA expertise to this problem, using a lot of NOAA stakeholder engagements, including for this one, into this process.

So, I wanted to update about this. When 20 by 30 came out in terms of the Executive Order it laid out a public participation process, and then a process for how we're actually going to get there, where we are now in terms of how much of the land and water is conserved right now, and those kinds of things.

But it was all very generic. And so, we have last December put out a, or even before that we put out the America the Beautiful report, which is what

they're calling the initiative, which lays out some broad principles that we're trying to focus on here.

And including the three main points, that you can conserve for a lot of reasons. The three areas that the President has asked us to particularly look at is the disappearance of nature and natural systems, climate change, and being reactive to climate change, and inequitable access to the outdoors.

So, these are the three overarching goals for why we're trying to conserve, and what we're trying to do. Thirty percent is just a number. The goal there is to make progress at addressing these larger, bigger problems.

But we need metrics. We need to be able to guide our process. And we need to have some targets. And that is really what the 30 percent is intended to do.

So, we've had a number of comment discussions both when it first came out, and in the development of that initial report, and subsequently.

We had a NOAA formal public comment period that ran through December 28th of 2021 to get input onto the, in this process. We received 370 comments, some with multiple signatures and letters.

There were eight writing campaigns, which totaled about 34,000 signatures from eight organizations. We did nine listing sessions in which there was 100 unique comments that we heard.

Some common themes that we heard back through that process was, or in general for the 30 by 30 effort, a split on whether or not fish management areas developed through the council process should count, or whether or not something that is more fully protective of, and deals with all potential use, ocean uses would count. You know, the fish management process can only really control fishing.

There was a lot of support for new monuments and/or new sanctuaries. And then there was support for better or stronger use of essential fish habitat, which is a tool we have under the Magnuson Act. It was a common comment.

In addition to those comments that were directed at us through our public comment process, the American the Beautiful document lays out that we are engaged on the federal side to create an atlas, which would indicate not only how conservation would be applied, but where we are, an atlas of managed areas that would go into this process.

So, we have not publicized what was in the atlas there. But we are engaged in this atlas creation effort that is led by the federal entities, but has a lot of input from other folks.

The CEQ, which is the Council for Environmental Quality, which is a White House level council, through the Department of Interior issued a Federal Register notice on the atlas itself, seeking ideas, comments about what should go into that atlas, what it should look like.

Comment period on that one closed on March 7th of 2022. They received more than 18,000 comments on their docket and 24 hours of verbal comments.

They also received comments, letters from a number of the Fishery Management Councils, the North Pacific, Pacific, New England, as well as the Council Coordinating Committee, which included input from the Western Pacific, Gulf Council, Caribbean Council, New England, and North Pacific.

Some of those came in through our Federal Register notice specifically. But some common themes we saw across the Council Coordinating Committee comments and the Fishery Management Council comments was, they proposed a working definition of conservation area.

There's not been, in all of the documents that the

Administration has put out, there's not been a singular definition of conserve. And that is the standard.

There have been some elements identified in the various reports as to what is important for conservation. And the Administration has recognized that conservation can mean a range of things, including voluntary conservation measures. A lot of land based examples of things that range from full protection to something less.

The Council's put forth a working definition. And I should mention that the Council's, the CCC, which if you don't know what that is, is the Council Coordinating Committee. It is a Committee of the Chairs and Executive Directors of the eight Fishery Management Councils.

And they on behalf of all the Councils created a work group to try to articulate how the Councils view area based management. It's not the same thing necessarily as a conservation area under 30 by 30. But it is obviously relevant.

And so they are preparing a report which they intend to give at the CCC meeting, which is next week in Annapolis, which lays out their effort to review 600 and some areas that they they've delineated as area based management areas that the Councils have done, closed areas, seasonal management areas, gear restricted areas, these kinds of things.

Identify why they did that, where it is, what the particular characteristics are, and compare that to what they think might be relevant conservation mandates, or conservation criteria that the Federal Government has yet to, but may soon develop.

So, this is a very useful tool, and expected to be publicly released at the CCC meeting. And so, that will also go into that. The Administration reports so far have recognized the important role of the Councils in Fish Management, and that this is

something explicitly they are looking forward to this input from them.

The Councils also though looked at the data sources that we've done. There's a lot of different people that take a GIS map of the ocean and make certain assessments about whether this area or that area is correct or not.

And while all that's valuable, some of it's more definitive than others. And so, the Council's requested that we explicitly, if we're going to use data and make determinations that have some meaning in the atlas, that we should base it on sources that are adopted or approved by the Councils for Fishing Management Areas, or through NMFS, or the federal agency with authority over living marine resources.

Also, the Council has recommended that states, territories, tribes, and local jurisdictions should provide information for the atlas from the conservation areas that are under their jurisdiction.

They wanted the CCC to use the atlas, the database that they're developing. And, I'm sorry, they wanted the atlas committee to use the database that the CCC was developing. I'm not sure I said it that way.

That is the intent. But whether or not, I don't, like anything I do not expect the federal atlas process to defer. What I expect the federal atlas process to do is to look at this and say, based on the criteria, which are yet to be developed, what of these count towards the 30 percent or the overarching goals?

And they also, the CCC looked at certain attributes that were not necessarily readily apparent in the previous document, such as the degree or research that could occur in these areas, degree of monitoring that occurs in these, enforcement of these areas.

So, the Administration has indicated it is still

working on the atlas. It is taking in all this input that it received through March, and through other sources. It expects to put out a beta version of the atlas in December.

And they wanted me to stress in all public forums it is truly a beta version. So, it is not a definitive statement. It is, this is something we've never done as a Federal Government.

It is something that they are, they're not intending for it to be the dispositive end answer. But it will provide some of their initial thoughts about how to do this.

So, that is the America the Beautiful part of that. The, within that from NOAA's perspective, and this is particularly relevant to the work of this Committee, you may be aware that NOAA used to have a second Advisory Committee.

We used to have an MPA FACA Committee as well. That FACA Committee was retired, or whatever the appropriate term was for a while. But we are restructuring the elements of that as an area based management Federal Advisory Committee.

And we expect to provide a notice of the establishment of such, of the, well, it's actually the Marine and Coastal Area Based Management Federal Advisory Committee. And we expect to provide a notice of that establishment really soon, and do a solicitation for nominations for membership.

This Committee, this other FACA Committee will advise the Undersecretary of Commerce on science based approaches to area based protection, conservation, restoration, and a management in coastal marine areas, including the Great Lakes.

It will include working on the America the Beautiful Initiative, but not be limited to that. And it will be co-led, unlike the other MPA FACA Committee, which was led by NOS, this will, which is the National Ocean Service. I should not use so many

acronyms.

This one will be co-led by the Fisheries Service and the Ocean Service, but still advise the Undersecretary. So, look for that soon. And once that is established then that will be a second Advisory Committee.

And much like this Committee historically worked with the MPA FACA, you might want to consider how you would interact with that FACA Committee.

Before I open up for questions I want to turn briefly to the other part of the discussion which I intended to cover, which is the Infrastructure Act.

We, Janet had mentioned the Infrastructure Act yesterday. We've talked about that throughout a number of the topics today. It is a huge major investment in habitat and infrastructure on a number of fronts.

But within that there is some dedicated funding that NOAA Fisheries has been allocated that I want to talk about. But just bear in mind that this is not the only thing in this Act.

There's a lot of funds that go towards habitat and infrastructure throughout the entire bill. And that is a great opportunity, a number of issues that we have to deal with across the board.

It does support, the way NOAA is approaching it is looking at it as support for our whole of Government effort to tackle the climate crisis, to boost resilience, and promote economic growth.

The three specific NOAA Fisheries lines is, and these are five year numbers. So, the way that the Infrastructure Act operates is that there's a, Commerce has appropriated money for the next five years. So, there's a lump sum total that is the five year lump sum total.

So, there is a line for habitat restoration and



resilience of \$491 million over five years, for restoring coastal and Great Lakes ecosystems.

There is \$400 million for fish passage over five years, for removing in stream barriers. And within this one specifically Congress has identified up to 15 percent to be set aside for federally recognized tribes and Alaska Native corporations through a separate competitive grant program.

And then there's an additional \$172 million that is added to our pre-existing Pacific Coast Salmon Recovery Fund. So, for those of you on the West Coast there's a fund that we've had for a number of years, well over, I think it's going on two decades now, that allows us through a competitive grant program working with the states to do beneficial things for salmon habitat on the West Coast.

There's a increase into that fund that works out to about \$30 million extra dollars a year.

All of these are competitive external grants. So, these are intended to go out through a grant process to our partners around the country to do good things.

So, these are not growing the NMFS staff. These working with other partners on the ground. So, we're working on putting out these funding opportunities so that people can apply for them.

And we're looking at it to try to look at, in the big picture not just doing business as usual, but to be transformative. And this is a level of funding in these programs that we have not seen.

But it really is an opportunity to be transformative on these things. So, we're very excited to work with our partners on high impact, large scale projects across our coastal states to make a significant contribution to that.

One other thing I should mention, and it relates to something that Russ did not quite get to in his

discussion. But there was also in, I think it was in IJJA, the sport fishing and boating partnership FACA Committee, which is a FACA Committee that some of you are familiar with. It advises the Secretary of Interior. It is the Sport Fishing and Boating Partnership Council.

This was added now as, instead of just advising Interior, going forward they will also be advising us. So, we were added to that Council as a advisee starting in January of 2023.

And so, we are working with them, with the Interior Department to mend the charter to reflect our new role as receiving advice from the Sport Fishing and Boating Partnership Council.

That, Interior has a long history of working with them. I think that they're a very good partner with them. We are now going to be also the recipient of that advice. And that was another thing that this Committee may wish to figure out how to interact with that Committee as well.

And with that, those were the things that I intended to discuss. But I'm open to questions on any of that, or any other habitat related issues.

Chair Davis: Okay. Thank you, Sam. That's a lot of information. That's really great. No, I mean, it's fantastic. I'm sure there's lots of questions, and we'd like to drill in. And you've also left some great questions about MAFAC can get involved. So, Jennifer's giving me my list of --

Because we don't have a lot of time for questions, how about if, questions and comments, how about if you've got multiple comments and multiple questions that you just put one out there so that everybody will have a chance? And then -- But that way everybody will have a chance. And then we can go around again, based on time. Okay. So, we've got first Brett, then Joe, then Pat, then Donna. Oh no, Brett? Okay. All right. Let's start with Joe. Thanks.

Mr. Schumacker: Thank you, Madame Chair. And thanks, Sam, for really good information. Thank you kindly. So, I've got some experience with that MPA FACA. It's about seven years actually. I think I was the longest running member of that FACA.

We did a lot of work there in defining conservation, protected areas, multi uses, et cetera. It sounds like we're re-defining all of that. And you, I'll get there in a second.

So, this new one, Area Based Management Federal Advisory Committee, speaks to me of management. And so, that's what we're talking about, protections, protected areas that are managed one way or another.

And I would expect hopefully that we are considering multi-use management. And that's what, You know, I know some folks would rather see no use, and I understand that.

But in going forward with America the Beautiful I think that the protections we have currently on the MPA Marine Protected Areas inventory are just that, many types of protections that are out there right now within our nation that we have designated.

So, I'd just like to hear just a bit more about that. How, are we re-defining all of this? Are we going to build on the work that the MPA FACA's done? Thank you.

Mr. Rauch: I do not think that we are necessarily re-defining it. And this is, the term conservation is the term that is used in the Executive Order in America the Beautiful. So, not protection, term conservation.

NOS is also a very big partner with us in talking to the Administration about how we might use the term conservation. So, we are well aware of the work the MPA FACA has done on that.

We have not defined it. So, I cannot say. There are

other definitions that other entities use in terms of conserve, and those kinds of things that are also out there.

So, I do not think we're necessarily re-defining it. We are not necessarily saying that, the President did not say at the outset, this is the definition.

So, we're going through the process of looking at that, and looking at what elements of that definition are useful to meet those three overarching purposes, right.

So, as I indicated, you can be conserving for a lot of different things. When the President's talking about conserving those are the three areas that the President is trying to focus on for conservation.

And it is not just protection. It is area-based management. And the President and the various guidance documents is talking about a suite of conservation, a range that you can do.

You know, right now we have, on land you have things from the monuments, which may be some of the most protective, to these various other areas. On land you have wilderness areas, and then a whole range of things.

But the President explicitly calls out voluntary conservation efforts on private lands. So, there is a range of things. How much of that gets fed into a numerical value remains to be seen. Ultimately, as I indicated, the number's just a number.

And what the President's really interested in is trying to make significant contributions to solving those bigger overarching problems. And how that all works out still remains to be seen.

Chair Davis: That's very helpful. Thank you, Sam. And thank you, Joe. Pat.

Dr. Sullivan: Thank you, Madame Chair. Thanks, Sam, for, very much for the presentation. And I'm

with Joe on the multi-use idea. We need to be careful of that.

My, what I wish to voice is the idea of what these maps mean, and uncertainty. So, we just had a discussion in North Pacific Fisheries Management Council SSC on habitat areas, to delimit what will likely happen for determining fishery impacts. So, establishing what the habitat is, and then we'll overlay the fishery activity to get at that.

And a lot of really good work was done. There was a lot of maps created. But some were better than others. And the degree to which one had faith in it was sometimes really buried in the metadata. And so, and maps have this sort of quality of believability, regardless of the quality of the data that goes into them.

So, I would caution about including some level of uncertainty measuring that, whether it's in the metadata, or even mapping the uncertainties somehow, so that when people are using it they're not using, I mean, they can use it in a really valuable sense if it's really positive data. But if it's not, you know, clear that the data has a lot of support, maybe a little bit less risk associated with that.

Mr. Rauch: Yes. And I will say, when we talked about mapping in the atlas and American the Beautiful I think there's two different things that you map.

One is, there are defined management areas which apply on a specific. You can geo, you know, there are coordinates that you can put in. That is in some way the easiest thing to do.

The more difficult thing to do is, if you're looking at what are the criteria that are important in here? Like, what is the temperature here? What is, you know, what is the habitat characteristics? And that is more difficult.

You know, the ocean's a vast place. And no matter what we think we know there's a lot of areas that we don't know. And we make a lot of modeling assumptions.

And so, to the extent that you're going to try to either say that these existing areas are important because they have these features, or that there may be a gap that we may need to do because we are missing these features somehow, then that is I think a very good comment that we need to be mindful of the degree of precision that we can actually map these data with.

Dr. Sullivan: Thank you. Appreciate that. Thank you.

Chair Davis: Yes. Thank you, Pat. Donna and then Clay. And then we'll wrap up the discussion.

Ms. Kalez: Thank you, Madame Chair. Thank you, Sam. That was a really good report. And a fast report. It was a good report though. And Sarah is typing away like crazy over here. So, thank goodness. I just have --

Mr. Rauch: The Chair wants me to go fast.

Ms. Kalez: I know.

Mr. Rauch: Because you asked so many budget questions, right.

Ms. Kalez: I ask little questions, little fast questions. So, I think what I hear you saying is that if you add up all the closed areas we're probably going to get to 30 percent. Is that --

Okay. So, you know, there's just, a number is a number. And 30 percent is a big number. And so people really zero in on that number.

And so, what I'm just trying to say is that when you add up the closed areas and you get to 16 percent, is it 14 percent more, or is it 30 percent more on top of that?

That's what everyone really looks at. So, a number is a number. But I just want to bring that up. Because I never get like a final answer on that.

So, and then the other thing is, can you talk more about the Sport Fishing and Boating Partnership Council? So, that's an existing FACA? Is it active right now? Okay.

Mr. Rauch: Yes. On that one, that advises the Secretary of Interior. And it has been very active for years. So, we can get you more information on that one.

Ms. Kalez: Okay.

Mr. Rauch: But that is an existing very active FACA Committee for Interior. And on the first one, I did not say that equals -- I mean, I think, you know, there are a lot of people that can look at the various management areas, both on the ocean and land, and can do various calculations.

And you could calculate so that you are at different numbers. There are numbers that you can calculate above 30 percent and ones you could calculate it below 30 percent.

The Administration has not indicated how it's going to do that calculation. That is one of the things we expect is going to come out of the atlas. But we don't have that yet.

And so, in part it is going to be looking at all these various things and eventually coming up with that number to see how are we on the, you know, do we have more to go? Do we not have more to go?

It's 20 by 2030. So, it's not today. I'm sorry, 30 by 2030. Yes. So, it's not today. It is not today. But it is a pathway. So, if we're below that number maybe we will try to go further.

But it's also, it is, you know, is that the right, you know, will achieving that address the President's

three overarching goals? So, it's not just to achieve 30 percent just to achieve 30 percent. It's the belief that that will help you achieve the other overarching goals. Will it? Will it not?

So, I think that those are the issues that remain to be decided. And it's not just on the ocean. So, it's land and water. So, where are we as a nation on that objective? Do we have more to go? What are the tools?

I mean, the earlier report clearly indicated that if, that the President is not asking for a top down mandate to go out and do that, but to work with partners on how to actually achieve better conservation objectives.

If we believe we need to conserve more, how to engage partners to work through that process. Not to mandate it from the top. I think that's an important part of --

That, and we heard that repeatedly through the listening sessions, how important that was to our stakeholders, to the partners, and to everybody's voices.

Chair Davis: Thanks, Donna. Clay, if you wouldn't mind making it brief. Thank you.

Mr. Tam: Yes. Thank you, Madame Chair and Sam. For just a real quick comment on the totality of the 30 by 30 plan. You know, we faced different push and pulls out here in the Pacific.

We saw under the water. But yet, you know, we look, we're facing State Initiative 3030. We're facing Federal Initiative 3030. And we're facing International Water 3030.

So, holistically from a bigger point of view where we fish in all these jurisdictions I think there needs to be oversight and a holistic approach.

And, Sam, knowing that we have burdened the



brunt of conservation in terms of the monuments, Sam, we have lost 75 percent of our EEZ. We have all but a sliver of current EEZ to fish in.

And the other point is that, yes, it's interesting that you put that, these 3030s. But I encourage you from a scientific point of view, you need baseline data.

And you also need monitoring over time to see whether or not 3030 is actually working. And if so, how does that play into global warming, climate change, and movement of, especially in our case highly migratory species?

Because, you know, all in, there could be unintended consequences by not re-evaluating and looking at this 3030 by keeping fishing or conservation areas off limits. So, that's just my comment.

And through research here with the state, with their closed bottomfish areas, we eventually got those overturned because there was no baseline data after 20 years of full implementation, true science, and our tagging project with Deep 7, it was found that the fish move. And it wasn't just defined.

And we had already achieved what we needed to manage with other means independent fisher's research again that I mentioned earlier, and through a better assessment model. So, thank you. Just my comment.

Mr. Rauch: I would respond that at least the discussion about monitoring these areas and enforcement of these areas, that was very important to the Councils.

When we heard the comment from them that if you're looking at whether this is effective or not it's not just a line on the map. You actually have to be managing that, which is more than just designating it. And that's really important.

And, you know, for many of our closed areas, many of our management, at least from the fishery service, we do do a lot of that.

And in terms of the international issues, it is clear on the ocean side at least that there is a similar international movement out there to do 30 percent internationally or not.

In the various documents the President has indicated that while that might have been relevant, we are not adopting necessarily those international standards. This is a U.S. focused effort with U.S. focused standards. And it may or may not comport with whatever the international community believes is its goals or objectives.

But this is important to the President. And that's why we're engaging in this. And, you know, so I'm happy. I know we're about out of time. I'm happy if you guys want to talk to me. I'm here the rest of the day if you have further questions about this topic.

Chair Davis: Thanks, Clay for your comments and questions. Sam, this, we need to give you more time on the agenda next time. Because this is a really expanding activity that you're working on.

And you've also made it clear that there's room for this MAFAC to work on this, and also coordinate with other MAFACs. And so, we've noted that. And we'd like to continue the discussion with you. So, thank you very much for bringing this to us today. All right. Jennifer has changed.

Participant: Yes. I'm ready now. It's all right. Go ahead.

#### Report of the Recreational Electronic Reporting Task Force

Chair Davis: Yes. So, okay. So, we're going to go into now, have a report out from the Recreational Electronic Reporting Task Force. And this is, this has

been an ongoing effort. And there's been a lot of effort, and there's a lot of heavy lifting, and a lot of interaction with both the Subcommittee, and also with NOAA.

And so, I'm really excited to hear the update. I'm going to turn it over first to Donna, I believe. Because she is the Chair of the Recreational Sub Task, or Subcommittee. And then she's going to direct us from there. So, thanks, Donna.

Ms. Kalez: Sorry. Thank you, Madame Chair. So, hi, everyone. Today we're going to hear the report of the Recreational Electronic Reporting Task Force. This has been two years in the making. So many of you remember that we started this two years ago. And now we have a final report.

So, I am going to turn it over to Pat and Kellie. Pat's going to go over the presentation with all of you. And we just want to thank again the Task Force that is not here with us, but they worked very, very hard to do this. So, thank you.

Vice Chair Ralston: Thanks, Donna. I just wanted to say a few words before Pat goes through the presentation, since he's the brains behind the operation here. So, I really appreciate him as well as the Task Force's hard work.

Just as a reminder for this group, this Task Force came out of the last Recreational Fishing Summit back in 2018, based on feedback from anglers regarding angler engagement in the management process, as well as data collection concerns, and the Agency really needing some direction on how to be able to incorporate electronic reported data from anglers.

And so, I'm really appreciative and proud of the work that the Task Force has done, as well as the support from leadership. Russ and Tim have been there all the way. And Heidi, bless her heart, stood up with numerous online Task Force meetings. But leadership as well. We couldn't have done it without

your support. So, thank you very much for that.

So yes, I'll let Pat get into the details. But the main idea basically is that this is important data that the Agency should use.

And we provide some guidelines and parameters under which that can happen, and kind of some stopgap measures to let them do just that.

And hopefully achieve not only the goal of anglers doing a part of the management process, but being able to supplement and complement the data collection opportunities that the Agency already undergoes.

So, with that, Pat, thank you very much. And thank you for doing the presentation. Look forward to the conversation today.

Dr. Sullivan: Great. Thanks, Kellie, and Donna, Megan for having us here, and go through the slides. Hopefully you've had a chance to look at the report. It's kind of a lengthy report. So, hopefully I can keep my presentation short. There's about 14 slides here, and so forth.

Kellie, I appreciated the acknowledgment of our NOAA staff leads, as well as the Committee. The Committee was made up of, in my opinion some very good people.

Several folks who have created electronic reporting applications themselves, and have implemented them. A few academics who actually are doing analysis in this area, as well as state representatives and fishers. So, it was nice having this full representation here.

So, let's see if I can figure out how to do this. Oh, look at that. Okay. So, in terms of reference we have the initial action for a call for considerations of identifying prioritization of data gaps relative to NOAA Fisheries role.

And second, identify realistic and achievable goals for voluntary and mandatory electronic reporting. And then providing recommendations on how the goals could be best supported or achieved by NOAA Fisheries.

So, to achieve this the Task Force was asked to consider both catch and effort as, and non-catch and effort data, such as length, weight, distribution data, and so forth.

Provide some guidance that covers the full suite of factors it believes are relevant and necessary to address, be addressed by the Agency when implementing this roll back. And there's a whole list of things to take a look at.

And if you look at them they kind of drift away from the standard catch per unit effort, and more towards things that might see on a individual vessel. So, this is very appropriate for us to consider here. And then consider references for supporting all this stuff.

In terms of data gaps in Recreational Fishery, specific things that NOAA Fisheries is concerned, and would value additional information about include a release catch characterization. I won't go into the details. Species and frequently encountered, protected resources, trip related angler behavior on and off the water, private access sites.

And it's important to continue to collect general information about species, length, other kinds of things like that, specific gear used, and geographic distribution.

Now, the way we approached this was not to answer these particular data gaps specifically, but to talk in general about how to collect such kinds, certain, these kinds of data through angler participation.

So, we might view the role of angler as citizen

scientist. And I think I might have mentioned this earlier, at least publicly, I don't know if privately, that this idea of citizen scientist has developed like in the bird world and other areas over the last decade or so.

But I as a population dynamicist have viewed anglers as citizen scientists since the beginning because of all of the information that's provided along the way.

And so, if we think of the anglers as citizen science we recognize that there's value in enlisting the public, obviously. And we've heard that a lot this session so far.

And as technology advances there's, growing opportunity exists to make more and better use of that data, that information. And while barriers exist opportunities remain. And I'll talk about that a little bit more later.

Barriers exist at several levels, including the statistical level. So, as you know I am a statistician. So, I think about these things quite a bit. But opportunities remain.

And so, there are some barriers that are real, and some are perceived. And so, we need to navigate those.

So, the report covers a lot of things, common data standards, angler recruitment, retention and innovation, mandatory versus voluntary reporting, data verification. And I know a hot bed issue for all of you is probability versus non probability sampling, which I'll go into great detail on. And then solveability and ability to scale. So, we'll get a chance to look at that, et al. All right.

In terms of, yes, cheering in the back. That's great. In terms of common data standards and data integration we started with this as the sort of baseline by which we would look at.

And the way I'll approach these slides is I'll hit on the high points to begin with, and then focus on the recommendations.

So, there's always a great need if you're dealing with data to have common data standards. And we struggle with that even when we try to do everything very systematically.

Data integration is another issue, that is if we are going to have an electronic reporting system, a stream of data, how is that going to link with existing datasets and be integrated into management actions?

Also, considering the future, given how quickly things are changing, means that things have to be adaptive, and not set in stone.

So, the recommendations are that there must be a minimum set of data standards to work with for private recreational electronic data collection. So, the minimum is a good starting point.

We need to define, determine requirements, and ensure quality, be adaptive. That's an important word. Prioritize and recognize gaps. And there's all sorts of information out there to do that. And then finally, actually develop a data integration plan.

The next topic was really angler recruitment, retention, and innovation. We had to, it's really important for anglers to be involved with this from the beginning and throughout. And motivation is highly important. And so this gets back to the communication issue that we were discussing before.

We need to identify what angler motivations are, what's in it for me, as well as market segmentation, which is a term for knowing the folks that you're dealing with, right, who are participating, and what their needs are, as well as their possible contributions could be.

User experience. Of course we've talked about that a lot already in this session, and one yesterday, and the value of innovation. And innovation can come from anglers as well as the folks developing the apps. So, recognize that there's pathways for innovation to acknowledge.

The recommendations that came out of this is set standards that are helpful for the fishermen too, to know what's expected. Angler motivation is important. Defining what mandatory versus voluntary is, and adaptive and evolving process. So, this idea of not having set in stone is really important.

Need for experienced designers. Now, my brother-in-law is a designer. And I think maybe I could get him in on this. But I think the idea is that we could really get --

(Off-microphone comment.)

Dr. Sullivan: This is the point, right. No, seriously, at Cornell we end up getting our freshmen in computer programmers to do this kind of stuff. And, you know, it's, they're really great bright kids. But we need some experience here. Anyway, and facilitate participation. I hope you took it as a joke. All right.

Next, mandatory versus voluntary reporting. There's a challenge here. Because it's easy for us as universities, as Governments, as other entities to identify what we need, make a law for it, set it in stone, and then forget about it. It's a challenge.

On the other hand, voluntary reporting, sometimes we're not sure of the quality or the bias associated with those who are willing to volunteer to report, versus those who are not. We're all aware of those kinds of things.

We examined the FAO approach and decided to take that approach in the advice here, which was really not to set in stone whether it should be mandatory



or voluntary, but talk about the pros and cons of each and how to look at it. And one of the things that comes out of this is that in many instances, I'm doing some work in New York State with New York State Department of Environmental Conservation on this.

And we find that if we start with voluntary, get some folks working with us, develop a protocol, pilot a study, we then begin to see other people want to get involved, especially when they see incentives, and so forth.

So, we can kind of see a step-wise approach could be useful that maybe starts with voluntary and then perhaps moves into mandatory. And once it becomes mandatory there's greater buy in of course. And it's easier to kind of make things work.

So the recommendations that come out of this are identify whether data collection is voluntary or mandatory in the way you're implementing it. Use a step-wise approach to develop this so that it's not one size fits all here and we're done with it and be adaptive. The adaptive part comes in in other ways in terms of like changing systems. As we all know, I hope you know, I mean I hope you recognize that your cell phone gets updated once a week at least, right? So these kinds of these we have to be aware of if we're going to electronic reporting.

Keep an eye on the design and management of the process to promote data validity. Market segmentation, there's that phrase again which is identifying the participant pool and then technology and data needs advance quickly so be prepared.

In terms of data verification, which is a really important subject, we are opening the door with technology and I'm taking a Duolingo Spanish course and, man, it corrects me constantly as to whether I'm right or wrong and then, of course, when I'm sending out texts, it corrects me wrongly as I go through so, this verification part is really important, but when we're opening the door for

electronic reporting, we have the opportunity to update and check as we go and so that's very valuable. The advantage to fisherman quite often on working with these VTR reports, vessel trip reports, in New York State, the fisherman fill them out. They have to fill the entire several pages out every year and then it goes, I think, where they store the Ark of the Covenant.

So, we're in the process now -- no, I was talking about New York State -- so, no pointing fingers anywhere, we're trying to enter all of that data now and so forth. But those are the kinds of things where you recognize when you get on a website to do something like buy something from Amazon, it knows everything about you. In fact, I think my phone knows more about me than I know about myself.

So these kinds of things can be used to save time and energy and keep things going. That's important, so I'm really getting on tangents with regard to data verification, but the recommendations are use technology to think outside the box. Verification can rely on common sense and by comparing with reference data sets including those that are in the electronic device themselves and that having clear protocols in place, should be really helpful to us to do this.

All right, what we've all been waiting for, probability versus non-probability sampling. We've already touched on that believe it or not, so probability sampling is just a fancy term for what we in statistics often call random sampling or achieving some kind of sampling scheme that ensures that all elements of the population are equally represented.

If we look at, in our particular system, if we look at the National Marine Fisheries Service surveys, where the surveys go out and do random sampling in strata to identify the density of the fish, these follow very clear statistical designs and a statistician coming in would look at that and say it's well

designed and so the results are likely to be unbiased and you're likely to get a good representation of what's happening in the sample.

We would contrast that with non-probability based sampling which is sometimes by chance and sometimes active, but may not necessarily represent the entire population in equal manner. Things like that exist and so, for example, trip tickets are typically something like that. Vessel trip reports as we were just talking about. Cell phone data collection systems. These are all sort of opportunity based collection. They're not really based on any kind of statistical design necessarily.

Now the analysis of these things and it gets really open to, I mean there's a lot of debate about this, even between the National Marine Fisheries Service scientists, but I can tell you it exists globally. It's important to recognize that we don't all agree on this kind of stuff. The analysis, for example, if we're collecting by opportunity, if we collect everything then that's a census, okay. But we even see challenges to censuses, right, here in the U.S. and elsewhere. But there are some ways that we can make some assumptions about how the data is collected so that we can infer what's going on when there's under represented elements to the population.

We're addressing this specifically because there's a lot of data challenges, so we heard about this before maybe, a state or a particular group or an NGO brings information into an SSC and I'm on the SSC for North Pacific and it gets shot down because it's not following some kind of statistical design, all right. That's probably going to continue for a while.

So how do we possibly get around that? Well, part of it is just seeing the wave that's coming. So you know that data is collected on you all the time in all of these other things that we do, using the web, using our phones, even traveling through areas that have cameras and so forth. Let me give you an

example of how we should be embracing this technology. At the Halibut Commission, so I was the population dynamicist at the Halibut Commission for 10 years. We don't have our boats there, so we conduct surveys by recruiting our commercial fisherman and we go out on their boat and we collect data through some kind of statistical design, in this case one that I set up, to collect the information on density of fish Washington, Oregon, Canada, Gulf of Alaska, Bering Sea, one boat. Okay? So we get about 200 data points on that. Contrast that with the Alaska Commercial Fishery, we have 10,000 boats out there and they're fishing all the time. So, how do you compare this to data sets? So one is a design based analysis with 200 data points and the other is a non-probability based approach with 10,000 maybe 20,000 data points. There's a wave coming, right? And that wave has information in it and we can't be ignoring it.

We have to deal with that. Our recommendations are acknowledging that probability based methods are the gold standard, but often are expensive and the sample size is a concern. Now, non-probability based methods must have representativeness addressed, but the advancing technologies both in data collection and analytical approaches, these technologies are innovative methods to deal with much of the stuff and it's on the horizon.

Now challenges still exist and I want to acknowledge and point out that these challenges are actual as well as perceived. So, we'll have to deal with both as we move forward and it's not going to be easy.

The NOAA participants on this are Rich Cody and Gordon Colvin and Russ, we're all anxious for this last one, how to solve all of this. We tried to deal with that. Basically, the bottom line is, in terms of solvability, if you read the bullet points that are there, they are basically the outline of this manuscript, this document here.

So, set up the data standards and integration plan,

engage anglers, clarify early on whether it's voluntary or mandatory, employ processes for data verification which include the electronic version, but also our standard intuitive as well as analytical approaches and then recognize that while probability based surveys are typically the gold standard, non-probability based gathering can be informative, especially when approaching a census with regard to trip-specific metrics, such as monitoring bycatch, discards, protected species interactions and timing of fishing activity. You notice those are the three gaps or five gaps that were there.

Also notice, that a lot of this is stuff that happens on board the boat, right? So if you have the electronic reporting mechanism onboard the boat and you have it on almost all the boats, you're effectively getting a census and we're dodging the non-probability based problem of catch per unit effort where the fisherman are fishing, where the fish are as opposed to randomly. So that's an important consideration and epiphany I felt as we worked through this.

In terms of scale, this is much harder. One has to sort of recognize that the data gathering will change over time. We have MRIP now. We had MRFs before and the problem happening between MRFs and MRIP was not just dated analytical methods, but a changing scale. Managers were wanting to use things at finer and finer scales after this was created. So being aware and trying to adapt to that, so you see it with MRIP now, it was just created and already we're using it for finer scales than it was created for. So, having to deal with that.

Recognize that managers will always want data at finer and finer scales. We can't achieve the finest scales possible until we get Star Trek's tricorder, right? So, we have to recognize that so there's uncertainty associated with these things. Sorry, the nerd is coming out.

When designing data collection app or database and, in fact, when designing the entire scientific and managerial process, clear identification of where change is anticipated to occur is a must. No doubt there will be surprises but good data management requires foresight. In terms of cost, we have a little bit of cost in there, we're not specifying what the costs will be or how to do that, but recognizing that software can become expensive and complex quickly, so to avoid going over budget, managers should consider this minimal viable product and shoot for that first rather than trying to do the entire ball of wax at the same time.

The work does not end at building a successful product. It's important to budget for angler support. This includes reporting or getting help with issues and ongoing maintenance and security updates, of course. Just touched on security there, but that's important, of course. Then software relies on many layers of programs and other software that will have to be regularly updated, security patches and so forth, so one needs to ensure that you have some technical support similar to upgrade your software like we do our computers and phones and everything else.

So our conclusions then are these. Basically that electronic reporting technology is advancing quickly and being employed to gather data and provide insight globally and I don't mean just in fisheries, just globally. It's happening. So we should be using it in our field as well. The opportunities for improving data collection, analysis and management of fisheries is enormous. Anglers must be engaged for this process to be successful. This is both for buy in, but in terms of like constructing it in a way that makes it useful.

Finally, the data standards, data collection, management and analytical systems must be developed in a step-wise manner and be allowed to adapt and evolve. So thanks for listening to my presentation. I'd appreciate some feedback.

Chair Davis: Thank you very much, Pat and Kellie, for being the liaisons and for putting together this comprehensive report and for reporting out. It's really an incredible product and now is the time to discuss it. After the break, we're actually going to take an action on it to accept the report and we'll have a little bit more time to discuss at that point as well.

So let's see, we'll just go down the row here. We have Donald, Sara, and then Meredith and then Joe. Go ahead, Donnie, thank you.

Mr. McMahon: It's an excellent report. I kind of Googled how many anglers are there in the United States and it said there's 60,000,000. So a database trying to handle 60,000,000 reports, a pretty big thing to manage. But I also thought that a lot of the states do this. Alabama has a snapper reporting bases and they take commercial advertisers on their website, I guess, they contribute a lot to the cost of that. So it may be something to add in there. You know, Bass Pro Shops and some of these big outfits would sponsor this type of conservation effort.

Dr. Sullivan: That's a great idea and with regard to the size, 60,000,000 on the one hand, as a statistician I want to say great, right? On the other hand, I've been getting a lot of comments with regard to storage and these kinds of things. You know, we're storing things like pictures of birds and stuff like that, that go into terabyte, land also, so it's interesting. We should anticipate that we will have the ability to manage those kinds of size data. I appreciate that comment.

Mr. Dunn: Just one quick note here, that 60,000,000 number includes freshwater angling and that's the majority of that number.

Chair Davis: Okay.

Dr. Sullivan: And these guys that we were working with were working with the freshwater folks.

Chair Davis: Okay, thank you, Donnie, and Sara?

Dr. McDonald: Thanks, Pat. I especially appreciated the probability and non-probability sampling discussion. Seriously, I did, because of our survey that we're going to be doing. So, all joking aside about your brother and the freshman, do you have any idea how much this might cost to create and implement or is that something that is just putting our cart before the horse and just too far down the road?

Dr. Sullivan: Yeah, I think that's way out there. What I appreciated was the sort of acknowledgment to think about it in two ways. One is get some professional people in here thinking about this, who have expertise in this area and then thinking about it in a dynamic way. There's some comment here that has already generated some feedback from folks as to sort of farming this stuff out. Russ, can you tell me in terms of setting up the statistics for MRIP, was that farmed out or was that done in house or was it done as a combination of both those things?

Mr. Dunn: For MRIP?

Dr. Sullivan: Yeah. R-I-P.

(Laughter.)

Mr. Dunn: Yes. No, so our team at headquarters with ST, within the MRIP program, has developed the statistics and the models behind all the estimates, etc. So that primarily had been an internal effort.

Dr. Sullivan: Great. Yeah, I was wanting to clarify that because there may be some value in looking outside for this, especially in the initial development, but once you have it, you still need to have the expertise there. So, this is going to become sort of an important thing and we were trying, you know, there were a number of folks who do this professionally on the committee. We were



trying not to sort of blow our own horns in terms of like hire us or whatever kind of thing. But it's important to think deeply about this, so that's the plan.

Mr. Dunn: I will add that they have a number of consultants, who I'm sure you know most of, who they work with regularly on it.

Dr. Sullivan: Thank you.

Vice Chair Ralston: Yeah and just to add, I mean the report is not advocating for the agency to develop an electronic reporting platform, but that certainly doesn't preclude it. I think it's really kind of considerations for whatever platform is developed either within the agency or outside of the agency and kind of what those criteria would mean so that there's no miscommunication or concern or confusion about how or if those data could be used.

Dr. Sullivan: Also on that point, one of the concerns that came up when we were discussing this, was are we promoting that the National Marine Fisheries Service set up an entire program nationally for something like this, no. The idea here is to say if you were going to set up something be it national or regional or local or state based, these things that we're discussing here would be helpful for that. So there's a lot of different ways to go with this.

Chair Davis: Very good. Thanks, Sara and Meredith, you have one comment or question?

Ms. Moore: Yikes. Then I'll just talk really fast. So I did want to commend on the subcommittee and the task force on the work and appreciate the framing of the programs and efforts are complementary to existing data sets. I think that's really important. You noted both that everyone is always trying get finer scale data, but if we only had fine scale data, we wouldn't be able to manage either because we need those larger data sets as well.

I wanted to flag in the integration section, again, I

have made this comment a couple of times about the need for the large scale time series to be preserved and to calibrate and integrate data wherever possible. The question I wanted to ask is in the verification section, I did clear this up with Dr. Sullivan earlier, that there's a bit of merge of those two terms in this report. I tend to think of them as different things, but noting that it talked about needing to in some ways one of the approaches for doing verification of data was to compare it against existing data streams and talked about the need to use things like MRIP to verify those data sets. I wanted to note since MRIP isn't collected in every state and the NAS survey isn't run everywhere that you'll have a data gap there for that comparison and so I wanted to suggest that one way to fill that, and I know this sounds heretical to a lot of people, is actually that a larger scale FES in more states would provide the grounding for that comparison and actually serve as a platform to allow more of these complementary surveys to add on in a way that was consistent in establishing that data. Thank you.

Dr. Sullivan: Thanks for that, Meredith. Yes, so we actually, as I mentioned to you earlier, we actually had a discussion of whether we should use both the terms validation and verification in this.

Validation is more like are you measuring the right things and verification is more like once you measure it, are you measuring it correctly. It became clear there was confusion by trying to have both of those terms in the documents, so we decided to lump them both together into verification.

In terms of what you're asking, which is actually the verification part of our verification, there are lots of different ways to do the verification. We allude to MRIP, but there's all sorts of tagging studies and capture/recapture methods and satellite and remote sensing and all sorts of other things that we can use to verify this. But it's important to mention because

especially for the work that's non-probability based and, in fact, the folks that are doing this in the freshwater arena, this is one of the defenses they have is they're doing theirs and then they're comparing it to the probability based methods and they're showing they're almost identical.

This is what we did in the Halibut Commission, too, to show that we were on the right track. So there's lots of different ways to do it. Also, with regard to MRIP, I think one of the reasons MRIP is not national is because when we were -- you may or may not know this, I was actually chair of one of the National Academies' reviews of this. We recognize that many of the states already had existing programs that were complementary to or in some cases, more detailed than the national program. So one still needs to balance that kind of trade off relative to having some kind of program that would be national. But there's been a lot of advances in the area, but there's still a long way to go.

Chair Davis: Great, thank you, Meredith. We have Joe, then Clay, then Janet, Jocelyn and Tom and we'll complete the comments from there and have more time after the break. Joe, thanks.

Mr. Schumacker: Thank you, Madam Chair. Kudos to the committee, what a great report. I mean honestly I went through this rather quickly, but I went through it and I mean you addressed just about everything I could possibly think of. And I've been dealing with this from my own tribal work, trying to initiate electronic reporting. I've already got that in place for commercial, but rec is our next step. So we've seen a lot of these issues that you call out in the reports, so thank you for that.

You stopped at who assumes the costs. The managers, I'm assuming, will assume the costs for storage review and analysis of this data, is that the take I'm getting from this?

Dr. Sullivan: That's literally above my pay grade. Even though I'm retired.

Mr. Schumacker: And I ask because that's a huge cost --

Dr. Sullivan: Yes, yes.

Mr. Schumacker: That we see internally for this, you know, obviously storage is one cost, but you know, somebody's got to review it and somebody's got to analyze it and somebody's got to report. So, I was just curious. You guys have developed the recommendations --

Dr. Sullivan: Teasing aside, it's just this is a critical question, especially with the budget and everything else that we were discussing here. We don't have the money to do the things we're already doing, where will get the money to do these kinds of things? Obviously, there probably will be, I'm just guessing, we didn't have really a chance to discuss this or not, but probably a certain level of input from the fishers themselves in terms of devices and these kinds of things like we're seeing in many other situations. You look at observers, we're talking about electronic observers here, paying for that.

On the other hand, yes, the amount of time and effort and money that will be involved in terms of storage, verification, analysis, implementation that all exists and that's actually an overwhelming thing, so I look to Sam to kind of figure that out for us.

Mr. Schumacker: I appreciate it, I just wanted to bring that up.

Dr. Sullivan: Yeah, no, I think it's an excellent point.

Mr. Schumacker: Thank you kindly. Thank you all again for all your work.

Dr. Sullivan: Thanks, Joe.

Chair Davis: Thanks, Joe. Clay?

Mr. Tam: Yeah, thank you, Madam Chair. I've had a little experience in the electronic data working with

Western Pacific Fisheries Council, who came up with a design and implemented in the territories, Guam, Saipan and American Samoa. Just from the experience of the last two years, just because of our region and remoteness, we have a couple of points that I think we stumbled upon was that part of our elder fishermen, our subsistence fishermen, are not as electronically savvy and so there's difficulty in collecting data from those guys. It's assumed that everybody carries a cell phone, but not here in the islands.

The other thing is even if they do, Wi-Fi coverage is very limited in the remote island areas, including some places within the main Hawaiian islands, so timeliness that you speak of and getting that uploaded is somewhat difficult and a challenge, but like we've discussed having dual coverage in terms of MRIP, MRFs or other products to enhance the data and move forward is a good way to go. That's all I have. Thank you.

Dr. Sullivan: Great, Clay, this is like really terrific input. I'm going to put Tom on the spot. Tom has mentioned this several times during our discussion that he has a flip phone and that this won't work for some of what we do. What I've been noticing in New York is the idea of getting grants to create iPads and so forth that you could have onboard a boat. Obviously there are lots of boats out there that have equipment that's much, much better than mine and my computer oriented desk at home, so I do believe that that is an issue and it's part of this evolving process that we're going to have to recognize and deal with as we go along.

In terms of the Wi-Fi coverage, that's important, I don't think we worked through that issue as to whether the apps themselves could be self-contained to be downloaded once one got back to port. There's issues with regard to if you want the location of where fishing is going, it'll all be kept confidential and so forth. There's a problem if that location happens to be the dock that you land at

after traveling 45 minutes from where you've been fishing. These are things that will need to be addressed as we go along. Thanks for raising those, Clay.

Chair Davis: Thank you, Clay. Janet?

Ms. Coit: Thank you, Pat and Kellie. First in Rhode Island, we use research set aside from summer flounder to do exactly what you mentioned, get iPads for charter boats. Just like sportsmen pride themselves on being conservationists, it actually was almost like a media attraction. People were excited to be participating in research so I think there's, just like we're saying about cooperative research, a benefit to having this engagement to build trust.

The other comment I wanted to make was just we also have that NAS study and I think this is so timely. Evan Howell, our head of science and technology, was at the recreational summit and was really eager to pursue this, so I think this is a great example for old and new MAFAC members of an extensive expert quality report that we can really benefit from. I know you haven't approved it yet, but I'm excited to have the staff review it and to follow up on it and really appreciate your work.

Dr. Sullivan: Thank you for that.

Chair Davis: Thank you very much, Janet. And we have Jocelyn and then Tom.

Dr. Runnebaum: Thank you. I guess following the New England Council, may I refer to as Dr. Chair? Anyways, sorry, but that's, everybody's saying Madam Chair and I feel like you deserve Dr. Chair.

(Off-microphone comment.)

(Laughter.)

Dr. Runnebaum: Anyway, sorry. I'm deviating from what I'm actually trying to say to Dr. Sullivan.

Pat, I really appreciate and Kellie, I really appreciate this document. I really appreciated raising, actually utilizing the data, that come from this and I think that that's a really important point that I would like to emphasize that came out of this. Just to Joe's point of the cost of storage and actually NOAA having the infrastructure to absorb these data and the cost of developing this type of program, and the potential for a third party outside of a state program or even the federal government, to develop a harvester app to collect these data, runs the risk of it not getting utilized sometimes, depending on how much the stock assessment author is comfortable with the data. So I think that the agency has a real role to play when interpreting and going through this document of how do we develop something that the scientists who are doing the stock assessments are going to be comfortable with actually utilizing those data. So I appreciate the probability and non-probability discussion that came up. Thank you.

Dr. Sullivan: Thanks for that. So let me talk to that a little bit since it's come up a couple of different times. It's challenging to think about. It's going to take a while to get this kind of thing off the ground. You can see how quickly technology is advancing, including the storage technology and so forth. I have done a lot of work with Dvora Hart and company on the scallop fishery and they're using HabCam there. They tow the camera along and they take a picture every 10 seconds or something like that, right? And so they have tens of thousands of observations of these scallops and, of course, whether they're dead or not and so on and habitat and everything else.

Right now we're using a fraction of that, but it's there and it'll be there in the future so that when things get ready, we'll be able to use it. My opinion is that we should acknowledge that that's coming down the line. We also see that storage is getting cheaper, but it gets funny in terms of like where you're storing it, Google and so forth. So it's not without problems, but I don't think that should

prevent us from moving forward with it because I think there's a lot of opportunities for us to use it. We can talk off side of like some of the -- I had a graduate student ask me, like how is it you're so old and you're still programming, right? But I'm doing some real advanced remote sensing analysis these days and I'm ready for more data on this. I'm just opening the door a little bit is all I'm saying. Thanks. I'm not that old.

(Laughter.)

Chair Davis: Thank you, Jocelyn and Kellie would like to make a comment.

Vice Chair Ralston: Yeah, I really hope that wasn't your grad student that said that.

Dr. Sullivan: Not anymore. (Laughter.)

Vice Chair Ralston: All relative. (Off-microphone comments.)

Vice Chair Ralston: Well, and I guess at that point, I mean, I think part of the takeaway from the study is the scalability part. So it's not envisioning a nationwide electronic reporting platform out of the door. It can address any of those data gaps that were identified on the report. It can be as small a scale as a local fishing tournament if that's the data that you need and it fits the data standards and is able to integrated or it could be as large scale as a national program. I certainly appreciate the comments and the concerns about costs and I will tell you that the task force deliberately stayed away from cost because there were so many variables to be considered there. Certainly appreciate the comments, though.

Chair Davis: Thank you. Tom and, if you could make it brief, because we're going to wrap up so we can have public comments and then take a short break. Thanks, Tom.

Mr. Fote: Yeah, when we talk about MRIPs and



MRFs, one of the big differences between the two is that we basically did a lot of the states in the Atlantic states, where the fisheries are doing the contract work that was done by independent contractors, which we had all kinds of problems with, the National Marine Fisheries Service did at that point. So you have the states, the data we're getting at port side or dock side is much better than the data we were getting from the contractors doing the job because you have trained individuals at the state agencies.

The other thing is that MRFs was done on a telephone survey and this is done by a mail survey, which has produced different results in a lot of the consternation that people are finding hard times comparing the two, especially in the recreational community. So I just wanted to point out those two facts. I just got a new phone, Pat, a new flip phone. Understand because as I rode up and down the elevator last night with five people and it was a family and nobody was talking to each other. They were sitting there looking at their phones. And as we all sit around the room today, as I look at people that's all they do is look at phones anymore. Walking through the street, they walk into you. I mean so I don't want to be one of those people looking at my phone all the time, so I don't touch it and my battery lasts three days.

Dr. Sullivan: Thank you, Tom. I really appreciate that. We'll take that, I'm taking notes now.

Chair Davis: Okay, thanks, Tom. So, Meredith and Clay, I have you noted for when we come back after the break, but I'm going to turn to Heidi for how do we manage the public comments?

#### Public Comment

Ms. Lovett: Hi. So, online, no one has requested to make public comment, but I don't know if there's anybody in the room that would like to make a public comment.

Chair Davis: Okay, thank you. Do we open the floor?

Ms. Lovett: They can come up to the microphone maybe where David is sitting or the one in the back. I guess there is one in the back.

Chair Davis: No public comments? We're open for five minutes for public comments.

Participant: Any subject?

Chair Davis: Oh yeah, any topic. It doesn't have to be necessarily on recreation. I see Rai's trying to hold his mouth shut.

(Laughter.)

Chair Davis: You can use this mic if you want, Rai.

Mr. Espinoza: Yes, I was going to explode. You kept looking at me and I was like don't look at me because then --

(Simultaneous speaking.)

Mr. Espinoza: Hi. Raimundo Espinoza, I'm the Director for Conservacion ConCiencia based in Puerto Rico. There's a couple of comments that I'd like to make specific to some of the subjects that were touched. One of them is really important to us specifically on the future work for America the Beautiful and the work that's going to involve, a lot of the diversity and equity.

Speaking from the U.S. territories, since a lot of this work is based or decided in the U.S. Congress, we don't have voting representation and so, from the start, we're not included and we're not able to be included unless others give us the voice, some of the other states give us the voice or do us the favor of mentioning us. One way that this does work directly is working directly with the agency because you guys do give us a voice and you do give us participation. When this continues moving down the line, we really continue to be appreciative of being

included because many times we tend to be represented through national groups with a local presence, which sometimes that gets lost into what the national voice says and our points of view from the U.S. territories, Pacific and Caribbean, sometimes don't make it through because there's such a larger population in the rest of the mainland U.S.

Additionally, most all of the U.S. territories are islands and so this is a very unique perspective that is not necessarily covered within a lot of what's being communicated. So, again, this is something that we are addressing at MAFAC. We also brought it up with the Interior as well and so this is something that we want to continue making sure that our voices are heard because, of course, one of the main things from America the Beautiful is for inclusion and for programs to be locally led so in order to do that, we need to really make sure that locals are really integrated in the process.

Additionally, you know, we've heard a lot about and we continue to hear a lot about some of the funding, the disaster funding, some of the Cares Act funding and more funding that's going to be coming down the line, infrastructure bills and this is something that's really critically important, specifically to NOAA and mainly because we are in Puerto Rico.

Even though it's not fisheries, this does affect NOAA as a whole because right now one of the NERRS, one of the National Estuary and Research Reserves in Southern Puerto Rico, in Jobos Bay, over the past decade, there's been environmental crimes of dredging, trilling and a lot of habitat destruction. This does include NOAA's jurisdiction. There is NOAA law enforcement and so there's a lot to do. Of course, again, this is not fisheries, but it does affect the agency as a whole because, in whole, it affects how communities trust their government and how they interact.

So, again, this doesn't take away from all the great work that you do and all the great work that you fund, it's just that we also want to continue saying that the work that needs to be done is still here and we really appreciate the work that's being lead and being done and planned for under America the Beautiful and with the new initiatives that you are doing. Thank you very much.

Chair Davis: Thank you, Raimundo for your public comment. We have about one more minute if anybody else would like to comment. Okay, thank you for the discussions this afternoon before our break. We will break now for 10 minutes and it is 3:36 p.m., so about 10 minutes to 4, 3:50. See you back here.

(Whereupon, the above-entitled matter went off the record at 3:36 p.m. and resumed at 3:54 p.m.)

#### Discussion & Final Action on the Recreational Electronic Reporting Task Force Report

Chair Davis: We're on our last couple of items for the afternoon and that was a great discussion. Thank you for the presentation, Pat and Kellie. Kellie's out there, and team task force for putting together such a great report. You got really great input that I'm sure might be useful for the final version.

This is now to the point that we can take a final action on the enormous work that you've all done over the last two years and I'm going to turn it over to Donna, because this will go through motion and vote.

Ms. Kalez: Thank you, Madam Chair. Okay, I would like to make a motion to approve the report that we just heard, titled Critical Considerations for Implementing Electronic Reporting Methods in Recreational Fisheries.

Dr. McDonald: Second.

Chair Davis: Thank you, Donna and Sara. Now we open up for discussion and I had promised both Clay and Meredith and anybody else that would like to continue. We have about 10 or 15 minutes for further discussion before we do the vote. Meredith, go ahead.

Ms. Moore: Great, again, I really appreciate the report. Just wanted to ask, one of the key recommendations is to develop in a step-wise manner these programs, at the same time another key recommendation is to develop the data in a way that it's usable and the fishermen can see the results of what they're doing. I just recognize the tension between those two things because there may be step-wise approaches that don't result in inclusion in a stock assessment or use of a data set for catch accounting or something like that. I just wanted to know if the task force or subcommittee had thought about those tensions when putting it together or whether that's like more in the purview of the agency in figuring out the different phases. I just note that what I've seen with rec reporting data in a lot of ways is that when it isn't immediately just able to be used in all forms of management, then you can lose a lot of that angler sentiment and looking for ways to avoid that in implementing these recommendations, I think, would be really crucial. Thank you.

Dr. Sullivan: Yeah, if I can respond to that. Thanks, Madam Chair. I think we did not see the tension and so maybe you'll need to expand on it a little bit more, but what we saw was a sort of integration so that if one was developing it in conjunction with the fishers, that they would see the immediate impact of it as well as what the value would be in the broader sense. The instances we see of that -- I was just talking to Joe about it, Sean Simmons, who developed this app for freshwater in Canada, Canadian Lakes, developed the app initially for fishermen to allow them to keep track of their own data about where they fish and when they fish and all of this kind of thing.

Then it turned out to be a very useful app for the bass tournaments and so they could use it in a competitive sense. So, again, the fishers were seeing the value associated with that relative to themselves and so forth, but then it became clear that there was a sort of larger value associated with it with regard to the data that was being gathered overall in terms of a management sense. I don't know that all systems could be developed in that way.

Again, reflecting back on my days at the Halibut Commission, we would go and by hand collect logbooks from the commercial fishermen, bring them back to the office, use that to get catch per unit effort data, which of course, for me, was really valuable, but then we would send a report back to the fishermen on what their own data set about themselves relative to what we said globally for the fishermen. So for me, and maybe this is why I didn't have the insight that you have, for me it looked like an integrated approach where everybody was benefitting sort of simultaneously as opposed to step-wise as you're putting it in the sense of one and then the other is sort of integrated.

Ms. Moore: Yeah, thanks that's helpful. If I could just respond briefly? As an example of sort of where I have seen the step-wise approach for implementation, like carefully thought out, but still run into issues with fishermen, my best example is in the fore-hire industry with the SEFHIER program putting electronic logbooks in the Gulf of Mexico, where there has been a thoughtful integrated approach and steady approach where first they're putting in the actual reporting and then they're adding on the location tracking later. That is a multi-year process that's going to eventually result in data that goes into the management system. At the same time, those for-hire captains are still having to answer the phone survey because they need to take both sets of data at the same time in order to calibrate them before they can be used in stock assessments or anything like that.

So I just wanted to note, there can be a tension that needs to be directly addressed with participants around what a step-wise approach means and then feeding into the management system.

Vice Chair Ralston: Madam Chair, can I?

Chair Davis: Yes, please Kellie.

Vice Chair Ralston: To that point, I think communication is key to make sure that you are communicating exactly what's happening, even if it's something iterative down the road, so that expectations are managed and people don't get frustrated because they think one thing is happening and then you turn around and do something else. I think we did address communication in the report, maybe not in the way that you're talking about, but that is definitely a key finding of the report. So, thank you for that.

Chair Davis: Thank you, Meredith, for the comments and Pat and Kellie. Clay, you have your hand up, so you've got the floor.

Mr. Tam: Yeah, thank you, Madam Chair. Just something that came up quickly after I signed off was that, I think in our area something to consider too and because of the territories where we've done survey work on the ground, intercept and in addition to now implementing electronic data collection is that one of the things because of the islands and the people there has been multi-ethnicity. Being able to communicate with certain sectors of the community has been difficult, but for us to help address that, we've made it a point to work with locals, hire local contractors that speak the language and that has greatly enhanced and helped promotion and utility of the app. I'm not sure if it's a national problem, but at least out here, there's a sensitivity to that.

Again, I mean the comment earlier, too about the older fishermen not having the skills or using older phones, the thing is that, and what never gets

measured is that a lot of these older guys have the skill and have fishing power when you look at in terms of experience. It's something that's hard for scientists to measure, but if you're looking at data and relying on the young guys with experience in electronics for some of the data, I believe then it's going to be biased because the new guys coming on really are getting into fishing and don't have the skill and experience. Being able to sample all sectors, like you said, will be important going forward. Thank you.

Dr. Sullivan: Can I comment, Madam Chair? Thank you. So, Clay, I really appreciate that. With regard to your second point, that's always the case in the case of the non-probability based sampling. One case that's very well known is heart disease, which has basically been done on old, white males and analyses and so trying to extend that to women or people of color then it doesn't seem to work, even if you use the most advanced AI kinds of approaches. So we need to be aware of that as we're going forward, these biases that may be hidden and so forth.

With regard to attracting folks to come in and actually do the data collection and being able to speak the language, was another thing that came up and was part of the reason why we included, even if there was some debate about it, about sort of farming out some of these things to local contractors. It also got raised in the sense with regard to state participation. Many of the state folks that we spoke with felt that they had the on the ground experience with their own fishers, and that they could be utilized more heavily from a federal side for collecting these kinds of information and so it's the same idea, getting someone who speaks the language in a broader sense, to communicate with the data gathering. I think this was actually raised a couple of times during today. Thank you.

Chair Davis: Yeah, thank you. Thank you, Clay. Brett?



Mr. Veerhusen: Thanks, Madam Chair. Just real quick and I think it's already been said, but kind of note on, and I'm sure this will be the approach of the report authors, but whatever is produced and the functionality of it and the service needs to be, and the product needs to be developed with the management goal or whatever the goal is in mind, but be developed by the anglers, the recreational fishermen, the users as well as the technology companies and service providers that will then develop whatever that service is. Just kind of basic functionality of where you have a goal, whether it's a management goal, but the actual development of it, needs to come from the end users and the people creating the tool and then, of course, gut check that and make sure that that is flowing into the systems so that data isn't collected for data's sake and it's actually being used. I also agree with the iterative approach that's been outlined. I don't have the answer, but the piece that I found really interesting and insightful was around motivations. Why is this going to be used? Who's going to do it? And, at what level? We've talked a little bit about the eVTR requirements and I'm familiar with the example in the GARFO region where you have an eVTR requirement that was, I think put in place in November of last year and there's different software that accomplish it for the commercial fishing sector and really the cheapest, which is the free versions, are the ones that are most widely used, but you're really not gathering all the possible data that would be helpful across the board. So making sure that there's a really thoughtful approach to what the end kind of goals are. Making sure that it's iterative, it's developed with large coordination with the recreational fishermen and thinking about, of course, costs. If there are products out there that accomplish the goal that are free, they are probably the ones that are going to be used most, but they might not be the best and they might not get to where you want to be in five to 10 years. So just some sort of overall high level things to think about. Thanks.

Dr. Sullivan: Just briefly, everything you said, Brett, is just really great and I wanted to comment on what we were calling the minimum viable data set and there has to be a lot of thought put into that. Just a tangent, when I conducted the surveys for the Halibut Commission, we set up what we want in the survey. Oh, you're going to be out on the water, it would be nice if you got this, too, oh and while you're there, maybe you could get that as well and if we collect the genetic stuff as well. Pretty soon we're not collecting the catch per unit data any longer. And so, this is something we talked about extensively.

Of course, the motivation part fits into that and the standards to, if we get the fishermen to recognize what it's for, get the scientists to recognize what it's for and the managers, and we have that core piece there, then everybody's on the same page and that really helps. But we probably need some help in thinking about that. Thank you.

Vice Chair Ralston: Yeah, and just to kind of add on to what Pat said, I mean to reiterate, this is not requiring anything to be developed, it's saying that if the agency is going to use electronic recording data, these are the things that they should think about. Other folks that may be developing those actual apps or applications, this is what's going to be required of you if you want us to be able to incorporate your data into some sort of management decision.

And it really is meant to be complementary, not to replace MRIP, which is the standard that we're using right now for recreational data collection. Russ, I don't know if you had anything to add to that.

Mr. Dunn: No, I think it was made clear very early on that the agency recognized that sort of app development is not something that we would probably excel at.

(Laughter.)

(Simultaneous speaking.)

Dr. Sullivan: You know, I can ask my brother-in-law.

(Laughter.)

Mr. Dunn: Yeah, right. So now you've got your own consulting gig and him. Okay, that's good. So, yes, Kellie hit it on the head. This isn't an agency developed app, this is a set of standards that we can use to develop a roadmap.

Mr. Veerhusen: If I could just respond. Just on the little that -- I know you all are the experts on this, but getting to Clay's point and to who is going to be using this? Having a policy is not a great motivator from what I know to use the best available actions and software, somebody is going to use the lowest common denominator because it's maybe free or easiest or is paper and pencil or whatnot, because that's just what's most familiar. Just kind of things, I guess a recommendation, which I'm sure you have been, is just trying to learn from all the best practices that are done across all the recreational, commercial and other and see really what's worked. Because I know a lot of those are happening in real time. And it would be really great to kind of understand how it could be developed so that it's used and useful and the information gathered is implemented in the way that it was intended.

Dr. Sullivan: If I may briefly. I was just talking to Joe and I didn't realize he had this thing set up for his system and so there's a lot of experience out there. My brother-in-law doesn't know how to program, by the way, so that was just a joke. I'm just telling you to be clear.

Ms. Lukens: Pat, you are not in trouble. It is formally acknowledged by the designated federal official that that was a joke.

Dr. Sullivan: Oh, thank you. Appreciate that, Jennifer.

Chair Davis: Thank you all. Jocelyn?

Dr. Runnebaum: Yeah, thanks. I think I have a process question and depending on the answer to that, then I might have a follow up question. So, assuming or if we vote to approve this document, are there any changes that would happen to it going forward before it gets sent to the agency based on the conversation that we've had today or is this the final version that is going to be sent over?

Ms. Lukens: Normally, what happens is that the group approves the document in its form that it's put before the committee and that if any changes do need to be made, that MAFAC identifies what those are, usually the staff is only given the ability to make minor editorial changes or formatting to that extent. So that's what we're talking about here today, unless there's an explicit add that you all say you want to add to the report and we will continue with that, if you can approve it based on the input you give us.

Dr. Runnebaum: May I ask a follow up? So maybe to the report authors, I guess my question is do you feel like the report adequately addresses the need for data storage in this document as NOAA and to reflect the needs that are associated not necessarily with the cost, but just being able to integrate that amount of information?

Dr. Sullivan: Madam Chair, if I may? I'll give you my opinion, but we're open to, and if we want to make a modification to the suggestion then we should articulate that and put it in today from what I understand. In my opinion only, I think it's not necessary to. The reason being that there are things that will change with the scope of how this gets implemented. So as Kellie indicated, if we decide to do a pilot study in Rhode Island, for example, or some place and decide to see how it works and so forth, the budgeting isn't so much a problem nor is the storage on that scale.

On the other hand, doing it at that scale in a pilot,

step-wise integrated manner would allow us to see what the costs would be associated with that and what the storage challenges would be in association with that. So, if we were to include something about storage, it would have to be probably as generic as the statement that we make about the costs and if we want to include something like that, that would be fine, but that's my opinion.

Vice Chair Ralston: I guess I would look to the agency. I just don't want to turn a blind eye to the need and the very real limitations that can exist with developing and integrating. So, Russ, I'll let you respond.

Mr. Dunn: Yeah, I would agree with Pat that I don't think it's something that needs to be explicitly included in there. In part because we have other monitoring observation systems, electronic, in place and so we're well aware of the need for storage, the issues associated with it, etc., so, it's sort of a given if you will. What we really need assistance with is how best to think about developing a successful roadmap to gain confidence of anglers to get the kind of data that can and will be used in assessments and management, etc., as opposed to the details such as storage, etc. There's also all sorts of privacy act issues and considerations, which they didn't really need to touch on in there because we deal with those in other systems and contexts.

Chair Davis: That's helpful. For the new members of MAFAC, this is a perfect example of how MAFAC, both Pat and Kellie, were the liaisons to work with NOAA Fisheries in this regard with Russ and other of his colleagues and then to have Heidi and Gabriela and Heather supporting MAFAC as well and then having outside task force members bringing in expertise. We've done that before with the aquaculture and it's really a nice complement of talents that come together. So this is something that does happen within the MAFAC work when a topic comes up like this. So then it becomes as Pat and Russ have been saying, it becomes a guideline

in terms of this roadmap because it's advice so that when NOAA says I'm really interested in furthering along this, they have this guideline of amazing efforts that have gone into it. I just wanted to also add some more clarification to that.

We only have maybe two minutes because we're cutting into our time down the road this afternoon. Tom, you had a comment?

Mr. Fote: Yeah. When I first came into MAFAC, Rich Yamada was working on a lot of this stuff and Bob Gill. I mean that's where it came from. We were all sitting on a task force then. Basically because of their expertise, Kellie and Pat, have managed to go forward with it, but it was a concerted effort by all of us and then we put into there and it was the people that came before us that really started this going to all the state agencies and asking what was out there in individuals. I just wanted to put that in a little context.

Chair Davis: Yes, that's great, Tom. Thanks for that. That's really important to have mentioned. Meredith, you said you had one quick comment?

Ms. Moore: Yeah, well it's a question and you can punt it if you don't think we have time. On the data gaps that were identified, my sense is that there was a previous MAFAC work that looked into the issues of like number of anglers or number of trips and that's why that's not necessarily considered one of the data gaps associated here, but I just wanted to confirm that that felt true. Because I did notice like number of people fishing was not one of the data gaps that was identified with this. I think that's probably within the scope of the task.

Dr. Sullivan: The data gaps were actually gotten from National Fishery Service based on an inquiry that they did within their own staff, but also among the different councils.

Ms. Moore: Okay.

Dr. Sullivan: So it came externally and then of course there were a number of other gaps that existed. These were kind of narrowed, five or six gaps that they thought would be relevant to what we were looking at.

Vice Chair Ralston: Yeah and if I can add real quickly. There actually was a previous report about identifying the universe of anglers and that should, Heidi, unless I'm mistaken, I think that's on the MAFAC website and we've been using that as well.

Ms. Moore: Thank you, yes. I took a look at that, thank you. And the last comment I just want to make is that in some cases, data gaps are actually like temporal data gaps as opposed to not having any of the data at all. Your example that you had about discards, I think is a key one where sometimes there is discard information gathered in a season, but not out of a season on those issues. So I just want to define that. Thank you. I swear I'm done.

Chair Davis: No, this is a great discussion and I hope that this has provided some more information. If there is going to be any minor changes, I really feel like they're going to be minor and you can certainly add that to the motion, that this is approved with minor input that occurred during MAFAC. I think that's okay, right, Jennifer and Heidi?

Ms. Lovett: Yes.

Chair Davis: Okay, so could you read the motion again, Donna? I know we already had a second, but we're going to go ahead and vote.

Ms. Kalez: Did you want me to add something to that?

Chair Davis: You can just say approved with minor modifications from the discussions.

Vice Chair Ralston: But there are no modifications,

it would just go back to, hold on, go ahead.

Chair Davis: Go ahead, Heidi.

Ms. Lovett: So just because of some interruptions by e-mail traffic we've had, I would prefer that the motion identifies specifically what the topics are to be modified or refined or no?

Ms. Lukens: We're not doing that. Nothing's going to be modified, it's just going to be editorial in formatting.

Ms. Lovett: So actually right now we have a professional editor this week looking at the report to just do grammar and like make sure tenses are right, that kind of modifying.

Ms. Lukens: So, Heidi, the question is do we add that to the motion because that's what we normally do.

Ms. Lovett: Okay.

Ms. Lukens: So the motion, I believe, would stand as Donna put it forward and that is normal behavior for us to format and edit.

(Off-microphone comments.)

Ms. Kalez: Do you need me to read it again or do you just need?

Chair Davis: Just go ahead and read it and then we'll have a vote.

Ms. Kalez: Today I make a motion to approve the report titled, Critical Considerations for Implementing Electronic Reporting Methods in Recreational Fisheries.

Chair Davis: Thank you, Donna. And so we start with the Yea's. Who's in agreement?

Ms. Moreland: Can we ask Clay?

Chair Davis: Clay, would you like to vote? To put



your hand up? Ah, there you go.

Ms. Lovett: Is there anybody else up there? I cannot see who is a member.

Chair Davis: Oh, Richard.

Ms. Lovett: Richard, do you want to vote?

Chair Davis: Want to put your hand up either electronically or?

Ms. Lovett: Richard, can you hear us and are you voting? There's a chance he stepped away from his computer, so.

Chair Davis: Okay, very good. Are there any nays? Are there any sustained? Is that what it's called? Abstain. Abstentions, thank you.

Okay, it passes. Congratulations. Okay, Sam, you're up next and Sam's going to be speaking about environmental justice strategy and we have time for his presentation and also a discussion after that.

### Environmental Justice Strategy

Mr. Rauch: Yes, so there's some slides. While we're doing that, I'll go ahead and introduce the topic. Oh boy. Big green button? Perfect. All right, so last week we released a draft, Equity in Environmental Justice Strategy, and I'm going to talk about that as it's a very exciting document. Still only draft. We are very interested in comments from you all and from other members of the public. We'll talk about that in a minute.

I want to go through a high level and you can see the draft document, I think it's in your materials for you to look at. This originated with the two recent executive orders which are listed up here. The Advancing Racial Equity executive order and the Tackling Climate Crisis at Home and Abroad, which both talk about equity and environmental justice in a number of different contexts and sets broad administrative wide goals and sets specific targets

for the department level, the Department of Commerce. It doesn't address specifically agencies at the level at which the National Fishery Service is in, but clearly it applies to us as part of the broader federal family.

It is all built on -- it talks about environmental justice, but the environmental justice executive order actually dates back to 1994. And so we have been doing environmental justice since 1994. The new aspect is these orders put a new lens on which we're supposed to do them and also adds the concept of equity, and we'll talk about that in just a minute.

So what is equity? So this is in the executive orders, the term equity, I'm not going to read it out for you, but you can read it here, it's in the report. It does talk about government benefits, and other kinds of things talk about equity in the treatment of individuals.

It goes along with a different concept that is often talked about, which is the Justice40 Initiative, 40% of the federal benefits should be shifted towards underserved communities. That's possible for some areas.

In other areas there are congressional limitations on what you can do, but that's an objective that the President's laid out for us. And that underlies a lot of what we're trying to do across the board in a lot of things.

Next is the term environmental justice. Now, in our strategy we use -- we adopt this term. This term is actually from the Environmental Protection Agency that they've been using for a long time. This doesn't necessarily mean that this is the only term. This is not in the executive order, this is EPA's definition, which we thought was a good one to look at that.

When you look at the EPA's definition, they look at three main concepts. I mean, often when we think about environmental justice, we think about

negative harm, you know. It is an EPA concept, is pollution being dumped on an underserved community, is that justice. So that's equitable protection from harm.

The federal government does a lot of things, allows a lot of things that occur. Many times that occurs in underserved communities just because they are not able to represent themselves well.

But there's another aspect that's always been in there, which is talking about access to decision-making processes, with the idea that if these communities had equitable access, they could speak for themselves and better represent themselves. But there's a lot of institutional barriers to that. You can't just -- that's not a simple concept.

And then there is equitable opportunity. This is -- the origins from back in 1994 are the Justice40 Initiative, not just protection from harms, but looking at all the benefits that the government manages and is -- are those equitably distributed.

And I want to talk a little bit more in a minute about specifically from the NOAA fisheries perspective, but this is the broad definition that EPA's been using for years and we adopted in our strategy.

Underserved communities. Now, this term, which we've talked a lot about throughout this meeting, this term is defined in one of those executive orders, and the definition is up there. And there's a long list of communities that the Administration has put out as likely underserved communities. So these are the kinds of things but at the catch-all, at the very bottom, is persons otherwise adversely affected by persistent poverty or inequality, a very broad catchall here to underserved communities.

I will say that if you were listening closely to Paul's presentation this morning, he talked about the Social Indicators Working Group that we already have that is looking at trying to characterize coastal communities under -- using many of these same

characteristics. That, you know, what is it about these coastal communities that are -- indicate economic, disadvantaged economic status or other kinds of things.

We've been trying to do this for our fishery management regulations and other kinds of things. Part of the budget initiative is to actually -- is not to create that but to invest more in that so we can do it better to deal with this issue.

But this issue of underserved communities, I think we are ahead of many of fellow agencies because of that working group in actually being able, at least for fisheries aspects, to identify what is about these communities, what kind of communities are -- are really underserved and why. Next one.

So in general, when you think about barriers to equity and environmental justice, what are some of these? And so we've got a list here. That doesn't mean that they all exist in every circumstance.

But sometimes we just are unaware that these are, you know, that these communities exist, which is in part what I just talked about, investing in that Social Indicators Working Group so we can have a better sense. You know, we are all very science-oriented data.

What data drives the idea that these are underserved communities and can we then use that data, that every decision we make is going to be based on the best-available science to influence the decision-making such that we can make sure that we can bring them to the table and deal with them equitably.

When you're looking at structural barriers, this is -- this is broad and pervasive, often unintentionally so. This can range from regulatory policies which like close an area, which may be great, but you may be cutting off access, subsistence access, to somebody who couldn't come into the table.

And so you know, we use that area, but nobody knew they were using that area. It could be, you know, this is something we've talked with the science, when we look at our science enterprise, we have historically allocated our science resources to fisheries that contribute to the economy the most. Or that are important for some, you know, other reason.

You know, even when we talk about recreational fisheries, those are a huge input into the economy. And that's not unwarranted when you're talking about the federal government.

But it also can miss some important things which are important, and in particular when you talk about things like here in Puerto Rico, or our other territories, which it's, fishing is really important to the communities here, but they do not factor in when you're looking at a gross domestic product kind of analysis.

So that's a structural barrier, right, we are not necessarily providing the scientific services that could underlay better access opportunities for that reason alone.

There are other kinds of ways to look at that in terms of the way things are organized and those kinds of things. So are there structural barriers. Most of them are unintentional, but they are still there, that you can look at to equity and environmental justice.

Are there barriers to accessing the service? We see a lot of language barriers. You know, we have some limited ability to invest in translation services, those kind of things.

Are there other things? You know, we see this in, when we're talking about the Alaska coastal communities, which they can't always go to Council meetings and they don't always have access to internet services, so it's hard to get the Council meetings to them.

How do we go about talking to all these different coastal communities, which are, you know, fishing is an important way of life to them, and make sure that they can be a part of the process. It's a difficult issue, something that we're trying to work on.

System complexity. You know, we all know that fisheries management is complex. The discussion you just had is an example of complexity. That is a barrier to a lot of people in terms of actually making sure that they can understand and engage, but also, you know, in things like permit applications.

You know, how difficult is it. We just, you know, my earlier presentation, I talked about hundreds of millions of dollars that we're putting out for, you know, really large habitat areas.

And one of the things we are trying to do as a federal government is to take into account the President's directive on equity and environmental justice when we do that to make sure that there is a portion of this that goes not just to the tribes, which are spelled out, but also to underserved communities.

Are they really able to apply for those funds just like other communities? Is there things that you can do to do that? So you know, how complex is that rulemaking, is that opportunity out there? Is it, you know, how can you work with that.

So other things is gaps in expertise. You know, we've been dealing with environmental justice, but that said, if you look, we've never had a strategy before and the environmental justice mandate's been in there since 1994. So we do have some expertise in environmental justice in places in the organization, but it is hard to say that it has been the kind of priority that we're trying to place on it now.

And so there are gaps in our expertise, in our ability to engage constructively in this, just like other partners organizations. And we've had a number of

good discussions with the states, who have similar.

They have a similar desire to advance equity and environmental justice, but also all these things that we're talking about for the federal government exist in the states as well in trying to deal with some of these issues.

And then, finally, representation. When you look at representation, we know that when you look at things like the councils, not particularly diverse. When you look at the federal government workforce, in some places it's diverse, but other places it's not. When you look at number of stakeholder groups that we're dealing with, not necessarily particularly diverse, in all the manners of the words.

And in here we're talking about with underserved communities, which has that long list of folks. It is hard to -- it's hard to actually achieve our objectives without representation, without -- and I think it's safe to say that a lot of the ways, a lot of our decision-making bodies are not well-structured to do that. And can we work on that? So that's both an internal and external issue.

So these are a lot of the things that we're thinking about going into the strategy. So we should discuss strategy.

We had a large internal working group, and one of the rewarding things about it is how much we were actually doing already, even without the strategic overlay to it. So we have been investing a lot of time and effort in things that complement the new administrative direction, even though they weren't necessarily designed to do so. But there's still a lot of work that we need to do.

I think there is a uniform understanding within the National Fishery Service that we've got a long way to go. We have come a long way, but there is still a lot of work to do. And so if you look at the strategy, it is a framework to incorporate environmental --

equity and environmental justice into all of our activities.

It is a mix of things that we are currently doing, but also things that we want to do. Some of those things that we want to do will require additional funds or we won't be able to do them, which gets back to Paul's presentation where the President is asking for additional funds to do those things.

So we recognize that there is -- there's a limited ability to do things now and within our current resources, we can and will do things better. But there's also a great opportunity to make significant strides working with Congress with additional resources and working with our partners to try to get that done.

This is a national strategy, so by definition, it is going to be somewhat vague on the regional details. It does not purport to set the implementation plans for every specific region in detail. There is an understanding that this will have to be developed by the regions, including the science centers when I say regions, with their partners as to where they're going to -- where they can and shall go.

It's a commitment for us to try to remove these barriers, intentional or not, and to promote equity in all the kinds of things that we do. And when I talk about equity, there is -- there is both the idea that in allocating benefits into the future, we should try to do the more equitably than we have in the past.

The President is also asking us to look retroactively at what we have done in the past and to see whether that was equitable or not and are there things that you could do to correct that. There's obviously some limitations on what you can do there, but we are supposed to engage in that and see what we can do. All right, only a few more slides, promise.

All right, so the strategy asked us to, you know, we looked at some questions that helped our team --



our team was asking these questions as we were developing the measures that are in the strategy. And we're going to continue to ask these questions as we finalize the strategy and as we go forward.

Some of these questions don't have ready answers, but they are good questions that we should constantly be asking ourselves. I'm not going to go through the full list, but a lot of these things are what we talked about, you know, who are the communities, do we know who they are. Are they carrying the weight of the regulatory burdens or not.

You can't answer these things uniformly. It varies widely. There are answers where in some places the answer is certainly not, and others where it's certainly so. And what can we do about those things. It's going to vary depending on the specifics. But the simple fact of asking these questions helps us solve these problems.

All right, and I'm not going to go through all the details. It's a 40-page document, you have it, happy to talk about the details. There's a lot of good work in there. It is only draft, so if you have other ideas, please tell us about those.

Here is the timeline. So we've been working up this since we got the executive orders. We developed this draft strategy. We had last fall a series of communities inputs, broad, to try to help formulate what generally are we going to do, and you know, one of the things we heard back is a lot of good ideas but they wanted to see something in writing. They want to see something to react to.

And we didn't have it at that time, but we have it now. So we're going to be engaging in public feedback over the summer. This is only one aspect of it. Our hope is to finalize the strategy by November.

And while we would finalize the strategy, there's a lot of stuff that still needs to be done. This is a long-

term commitment to try to work under the strategy to actually achieve objectives. We do not -- the strategy itself, you know, even if it's perfect in November, still outlines a long path forward to actually achieving the objectives.

And then as I said, followed up this national strategy with more regionally specific implementation plans where we really get down into what specifically is going to happen in that area in the spring.

And then, finally, so we're seeking input. We just released this draft last week. It's on our website. It's, I think it's available to you. We are inviting public comment on it.

We are having a series of listening sessions, input sessions, four of them on those dates and times there. We're happy to work with MAFAC though if MAFAC wants additional -- is interested in additional kinds of things.

So we're really trying to develop and to get as broad an input as possible. One of the challenges has been dealing with underserved communities in the pandemic. We cannot physically go to every underserved community and go ask them. And their ability to participate in, say, a national conference call, is limited.

So that's a difficult thing. How can we actually achieve one of the initial objectives, which is participation of underserved communities in this very strategy when it is almost impossible for us to go to every one of these and do that. And that's been difficult.

So we've got some plans, we've got some thoughts, but any ideas and suggestions would be helpful. So Chair, that is -- that is the presentation. Happy to take questions on this.

Oh, I'm sorry, and I already had scripted this. I know this is very important to Janet, and I was

going to turn to Janet before opening up for questions, see if you wanted to say anything.

Ms. Coit: Thank you, yes. I wanted to just make a few comments before we opened it up.

First I wanted to thank Sam. He's worked on this in a way that's been admirable. He's put other people in charge of it and supported them and let them run with it and really fostered a team. And so I think the way he did that was meaningful and made for a better strategy.

Secondly, those of us that were -- went yesterday afternoon on the bus, you know, I think that was a very -- a very good example. We heard directly from people, often speaking in a language that I don't understand, that they felt marginalized, that they weren't represented, or they didn't feel that they had a voice that was being listened to in the process that was led by the state agencies.

That they had concerns that they weren't being treated fairly. Some of the points Rai made earlier, that they felt because they were within a territory that didn't have the same public input processes and such that states might have, that they felt they were being bamboozled.

So anyway, just wanted to point out that to me, that was a great example of the -- a cooperative that we would like to see at the table with a voice being treated fairly.

Also the point that Sam just made. You know, I've worked on this type of issue, I'm very interested, I'm very eager to make headway. You know, environmental justice includes acknowledging past harms, not, you know, equitable treatment isn't going to get you to addressing things that have happened in the past. I think being really open about that.

Also the point that was made by Pat earlier about communications. We do have a disaggregated

organization. We have a lot of field offices. I think we want to approach the outreach with humility and respect and use the fact that we have regional offices to get input. Often, again, Sam just said this, but you know, often just the way we do public input is a huge barrier to people participating meaningfully.

And then lastly this is a point that Sam and I and Danika (phonetic) and Abby (phonetic) have shared quite a bit. We are committed to this work. We want it to be durable and sustainable and not just, you know, part of one administration's priorities. And also realize it's hard work.

It's going to take place over a long period of time. It's going to involve a lot of listening, maybe a lot of expressing of pain. And that we're not the smartest people in the room, that doing this strategy means that we want to be -- we want to express our intentions, but we really need to hear from other people, you know, what they feel and experience in order to make it a strategy that's meaningful.

And lastly, we have hopes of budget for -- to fill data gaps or to do discrete, specific things that we think would be helpful, and indeed, I'm sure they will. But if we don't get extra funding from Congress, you know, we're still committed to this work and we still have lots of ways that we can approach it.

So I just wanted to make those comments and express my enthusiasm for this work. And really interested in your feedback.

Chair Davis: Thank you so much, Sam and Janet. It's such an important topic. It's part of the fabric of really what makes an organization an organization. So we really appreciate the great effort that you're putting towards this.

And we have a number of members that are ready to comment, and I've been watching the cards go up, so we'll start with Natasha, followed by Brett,

and then Tom.

Ms. Hayden: Thanks, Dr. Madam Chair. I, first I just want to make a comment about the timing of this afternoon's presentation. I think we had scheduled an hour for the presentation and discussion, and we didn't start until just, I mean, we significantly cut into the time allotted for -- for us to have discussion today.

So I'm just wondering if we're going to have more time tomorrow to discuss, or?

Chair Davis: No, we have time now. Yup.

Ms. Hayden: We can go beyond five? Because it's quarter to five now, and I got about at least, you know, a couple of weeks' worth of thoughts on this one.

Chair Davis: Well.

Ms. Hayden: So I mean --

Ms. Lukens: We don't have till the end of the week, but we do have beyond five.

Ms. Hayden: I hope you guys brought snacks. So thank you for the presentation, Sam. I read -- I read the report. I think it's really good, a starting point. This is a topic that I feel like this is pretty much the main reason why I'm here. And would really like to engage in deep discussions about this.

And because I'm from Alaska and this is my frame of reference, you know, I apologize if I am leaving other regions out, but I believe some of the thoughts that I have about this are common to most of the fisheries-dependent regions around the nation.

I -- a couple of recommendations. One would be to develop a tribal atlas for all of the regional fishing council areas and fund it. There needs to be some resources behind these recommendations. To be able to engage in deep qualitative collaboration with

indigenous people, you have to know who's where and what they're -- what they've been dependent on.

And then how they've been impacted by -- I mean, I appreciate your comments, Janet, about, you know, not -- not being able to start right now and just create equity without taking a look back. Because if we were to try to do that, I fear that it would not -- we would not be able to make the kind of progress that's needed.

So just for an example, Kodiak Island in the Gulf of Alaska, the Port of Kodiak, I believe it kind of goes back and forth between being number three or number four, number two, number three, number four port for landings in the nation. There's ten federally recognized tribes on Kodiak Island.

There's some discussion about tribal consultation, formal tribal consultation. And the way that that is conducted is the tribal consultation on fisheries management plans and actions is done after fisheries management plans or fisheries managements actions go through the regional council process.

By that the time, the cake is baked. So if you want to make any sort of impact onto fisheries management program through tribal consultation, it's done formally after it goes through this several year-long process typically to, you know, get to the point where it's a fully developed plan, which, you know, I wish I'd been doing this for 30 years. I was busy goofing off for like 20.

So I but from, you know, the limited time that I've been involved in fisheries management in the policy development, you know, by the time that it gets through a fisheries management council, the cake is just baked and there really is no opportunity to have an effective -- to be an effective participant in developing that program.

And often indigenous people primarily suffer the

result of what is developed without being part of that process. So again, just going to reiterate, I don't know it looks like, this is just a conceptual idea, is a tribal atlas to be developed. You know, it's going to take time, it's going to take resources, and it's going to take indigenous participation in developing that.

It's going to take, you know, bringing the people, the experts in. On my day job, I'm not that expert, this is not my day job. You know, but I would be happy to be, you know, to contribute to that in any way possible.

I'm wondering about the work groups, the EJ work groups and the EJ advisory council and you know, this -- I'm super honored to be here, it's my first meeting, how those were organized. If there's an opportunity to participate in that work, I would really love to be able to do that. And I know a lot of very talented, smart people in the great state of Alaska who would also probably like to do that as well.

I think another recommendation that I would like to see is the census be done of the Regional Fisheries Management Councils for indigenous and minority participation on the Councils. I think that it could be done relatively easy. I don't know how many people have been -- have -- like I'm going to continue to use North Pacific as my example.

I don't know how many have served in total, but I would think it'd probably be less than a thousand since the inceptions of the councils. And to my knowledge, I think there's been less than five indigenous people that have served on that council since it was created.

And so that is an example of something that could be incorporated into this work plan is to do that census of the indigenous minority participation on all of the regional councils so that we can get a baseline information of, you know, how those -- who it was that was, you know, that was the

primary participants in orchestrating the fisheries management plans.

In addition to that, I would like -- I would like for something similar to be done, at least a snapshot in time for NOAA, NOAA Fisheries and National Marine Fishery Service. You know, I know it is -- it wouldn't really be practical or possible to go back into time to see what that looks like, but I believe that it could be done now to have an understanding of just how much indigenous minority participation we have in management.

In particular to look at mid-level management in how -- those are the, you know, the work horses within the agencies. You know, there's the -- there's the desire and the will coming from the President's Administration right now to do some of this work.

But what we see in federal -- federal agencies across Alaska is that the mid-level career people that are the ones that are doing the work may not be as nimble, to be able -- to use the word that we were using yesterday, to be able to be responsive to those directives and have that translate into action.

Is my time up? You can just call me Meredith 2.

Chair Davis: Natasha, Natasha, that's incredible input, thank you. How about if we go around. And then if you have some more comments, we can call on you.

Ms. Hayden: Okay, I'm going to have one more comment if you -- thanks, there's -- there isn't -- there is existing avenues of opportunity to engage with Alaskan native people, and I'm sure that there probably are similarly in other regions around the country. There's Alaska Federation of Natives, they have an annual convention every year. There's the First Alaskans Institute.

These are organizations that have been longstanding for decades within the state of Alaska who, you know, it's a one-stop shop. You really



have an opportunity to interface with some of the best and the brightest and the hardest working people who are, you know, wanting to contribute to making these systems better. Thank you.

Mr. Rauch: Yeah, thank you for those comments. And I will say that we are committed to working to improve the relationship between the NOAA Fisheries offices in Alaska and the Alaska indigenous groups in coastal communities.

Our new Alaska Regional Administrator, Jon Kurland, this is a focus of him, of his going forward. Or his new -- yeah, he just started, and this is one of the things he's committed to working with.

We're working on getting a liaison position up there that will help us better. But in general also working with the council to deal with that question that you just talked about. I mean, how can we engage with tribes and coastal communities at an earlier stage in the process, before it's baked, before it's all done.

There has to be a better way to do that. We need to work through the council system to do that. But we also need to show some leadership on that from the NOAA Fisheries perspective, and we're trying to do that. So I think that a lot of that resonates, and we're working with you on that.

In terms of the census idea, with the exception of the Caribbean and the Western Pacific Council, you don't need a census to tell you that there is not -- they are not a very -- the councils are not a very diverse body. And the same is true of the National Fishery Service themselves, ourselves. This is what I indicated before in terms of gaps in representation both from us and on the councils.

Now, we, the National Fishery Services, and all of NOAA have been engaged in an extensive effort to improve diversity and inclusion within the ranks of the fishery service from top to bottom. That's a long-term process, we know we got places to go.

But we agree with you that it is, I mean, it is hard for us to sit here and to indicate that we know what equity looks like in these coastal communities if we're not -- this not very representative organization.

So I can tell you that right now. But we're working to improve those things and we're working with the councils to improve these things. These are things that we're trying -- we had a discussion with the governors about getting us a better suite of nominees that are more diverse. We had a -- not with the governors, with the state fisheries representatives representing the governors.

We know this is important to the Secretary. These are things that we're going to be working on over time. And I believe Janet has already testified in front of the Congress that she believes that there needs to be more tribal representation in the North Pacific Council. And we're working on ways to do that.

So a lot of good things to work with. Thank you for your comments, and we'll continue to work with you on those things.

Chair Davis: Thank you, Natasha and Sam. Next we'll hear from Brett, and then Tom and Pat.

Mr. Veerhusen: Thank you, Madam Chair.

Sam, I really appreciate the presentation and the outline. And the first bullet was around our own unawareness, I think you had. And I think that Janet's point about just humility and respect. You know, I'm a white male, right?

And so you just need to understand our own unawareness of the way I grew up and could care about this. And I think it's important for people and allies to care and try and then understand their own blind spots. I can't answer that for myself.

And I just appreciate having that bullet first in the

Agency's presentation. So I think therefore who is doing this work and making sure that we're educated by others so that they can help us educate ourselves of what we're unaware of, as you were just saying, is going to be really important.

Coastal America, some just like a -- this is high level research. Coastal America is less than 50% white. But the councils, just a quick overview, of the eight councils, 75% of the voting members are male, 87% are white, 100% of council chairs and vice chairs are male, and 72% are white.

So these are just some high level statistics that we're, you know, trying to figure out. And I hope to work with members of MAFAC and the Agency to help come up with some ways in which we can accomplish some goals. And I think to that point like I'm a little concerned that the strategy is focused too much on the who and the how and not the what.

I like and appreciate the approach of looking backwards on historical context, but I -- I'm not quite sure if we know exactly what we're measuring and whom. And looking back at what a management decision did to whom and how was that done. And I think we should really, maybe it's not as like shiny, but take a step back and slow down on defining equity.

Or this is also some overall comments across the meetings, is just taking step back and making some baseline definitions of what it is and what the words are that we're talking about and what the dimensions of them are.

I've mentioned to you before, you know, the kind of high level academic research defines equity actually under three principles. Recognitional equity, so it's the acknowledgment and respect for identities, histories, values, and knowledge systems. Distributional equity, who wins. And procedural equity, who's involved.

So I think that if we could maybe instead of being so aggressive always in making sure that change is done super quickly, establish how change could be done over a long-term period. And establish that strong foundation and base so that we are better educating ourselves and that we, you know, have a better understanding of our own unawarenesses and go into that conversation with the humility and respect. I think it would be -- I think it would just serve us more in the long term.

I think a demographic and economic census of US marine fisheries participants could be helpful. Again, it's establishing baseline data on the distribution of US marine resources. Without that, it's difficult to examine concrete patterns of distributional inequity.

A census of the historic and current demographic makeup, councils and other decision-making bodies, again, the what. Using baseline information and definitions. There's really not a lot of academic research applying principles of equity to US fisheries. There's really like not a lot.

You could look at it -- there's a little bit more on global. And so I'm concerned with an aggressive strategy that doesn't have the fundamental principles attached to it. Considering that we don't have a lot of even academic research to pull from, we're not going into the conversation with humility and an awareness of what our blind spots are. Thank you.

Mr. Rauch: Well, I certainly appreciate those comments and the spirit in which they are given, which I think very constructively. And I think we do recognize a lot of those same weaknesses.

And it is with some trepidation that I started this with definitions. Those definitions come from the executive order, so I'm just -- and you know, I do appreciate your ability to identify equity in terms of three things.

I've seen other ones that have defined equity in sort

of like eight or nine different buckets. There's a lot of different ways to do it. And it has been a struggle with us for how to organize something like this. And not only me but the co-chairs who -- of our effort here, who did a wonderful job, struggled with this as well.

You know, how could we as a not a completely diverse organization, you know, set out the guidance for how we're going to get there. We know that's an issue, though. But that doesn't -- that's not an excuse not to try. Right, we have to -- we have to start somewhere.

So I completely understand your points, I think they're all good points. And you know, we need to work through all those things.

Mr. Veerhusen: Just a quick response. I think you, you know, you have other resources within the communities and other people to help. And you know, it's an open conversation there.

I also really appreciate that we're having this conversation because I think the two Councils with the most diversity are the Western Pacific and the Caribbean Councils. So I think we have a lot to be educated on while we're here too, so thank you.

Chair Davis: Thank you, Brett. We have Tom next, then Pat and Joe.

Mr. Fote: One of the other boards I sit on is Clean Water Action, the New Jersey chapter of Clean Water Action. And one of the reasons I joined it because I was involved with a lot of environmental issues, especially Agent Orange and what was happening in Newark Bay affecting the communities up there with the harvesting of crabs.

There we had to stop them from harvesting crabs from Newark Bay because they were -- we made Agent Orange in Newark, and that's what we dumped into the water. So we -- as an Agent Orange vet, I understand that.

But we also this year, last year, we got for first time and environmental justice bill through the New Jersey legislature. When we look at where we put power plants, where we put incinerators, where we put the bad things that we always put in poor communities. But we also don't serve those communities.

And like Sasha was saying, I've been going to council meetings since '86, and I don't remember at the Mid-Atlantic Council seeing one person of color, and this is going back many years. And one Asian, just looking at it.

As Sam knows and Russ knows, I've been yelling about this for 20 years because we put regulations that basically turn immigrants -- and now I'll talk about the other group that comes in here from other countries that don't understand our regulations.

And they look at us and they're throwing back fish they want to take home for their families. And the only way we allow them to take fish is by poaching, and we need to address that problem, and we have not. And I've been yelling at it, at the Atlantic states for 20 years.

I'm a voice in the wilderness a lot of times because, again, I'm sitting around the table with a bunch of, as I used to say when I walked in there, a good ol' boys network. I might be white, but I was brought up on a fishing pier fishing in Canarsie, and Linda and I talked about it, in the Steeplechase Pier at Coney Island.

I didn't care whether you were Black or white or no, all the fisherman out there, if you were six foot or you were two foot, or you had clothes with holes in your -- if you knew how to bait and cast a Penn Squidder and throw it out two hundred yards, you were my hero. And I'd look at you, and I wanted you to teach me how to do that.

And that's where you build up those relationships

over here. I always said it, I've said this before, some of you have heard me. It is the great equalizer on being on a pier and fishing with all kinds of nationalities and colors and everything else and realizing it's how you know how to fish and these people can teach you something. And we shared in information.

So I think that's where my background started with this, fishing on those docks and piers and seeing how people took that home for their families. So anything I can do, Sam.

And I've been trying to get the governor and I've been talking to legislators for the last ten years to try to -- I was looking at actually find somebody to replace me from the minority community. I can't find anybody from any community that wants to do what we do, what I do at the commission -- for no pay.

So it's harder to find that, but I'm still looking for individuals.

Chair Davis: Thank you, Tom. We have another 15 minutes to discuss, and Jennifer and I were just talking about that maybe we would like to form a working group on this, you know, for the comments and to continue the discussion and to be able to have a virtual meeting to approve them before the August 19 deadline.

Is that correct, Sam, the 19th? So we can also come together as MAFAC and provide comments as well. Thank you, Jennifer.

Pat, you're up next, thanks.

Dr. Sullivan: Yes, thank you, Madam Chair.

Sam, this was like, this was great. So I would like to provide some comments from an administrative point of view. So being chair of my department at Cornell when we were implementing measures to address diversity, equity, inclusion, obviously

reached out to my community to try to get some help with that. And I wish I had your list of barriers in front of me, because that would have been really, really helpful.

Brett commented on the first bullet being unawareness, and I read it as unawareness of underserved communities. And what I would like to comment on is the global unawareness that exists. And part of that of course is rectified and recognized through past harms in looking backwards.

But one of the things that I recognize and I'm just wanting to bring it up, I'm sure you're thinking about it but I just want to bring it up for the sake of our discussion, is legacy expectations.

So you know, being a white male in a position of authority in the system that I'm in, I have certain expectations that I'm not even aware of in terms of putting this through. And I know you've commented on this several times already, just bringing it up.

And it's difficult to understand exactly what those are and ferret those out. And I'll give one example. So in the academic system we often are addressing like who is qualified. And we think we know who is qualified.

But a good example of this is like an SAT or a GRE exam for getting into the system. And if you've been keeping track of the newspapers, you've been noticing that most of the major universities are abandoning that process now because they see it as biased, especially in terms of diversity, equity, inclusion.

So I'm just trying to point that out, to be aware of the things that we expect to be true when in fact they may not, in terms of quality, who's deserving or not deserving, the complexities, and all these kinds of things, just mentioning that.

Mr. Rauch: An excellent point, and I will share with you a discussion that Natasha and I actually had



earlier today, which is how one of the entries into the fishery service, into the fishing, is our Observer Program, which we have educational requirements and certain very -- that could be a structural barrier to entry into this entire realm.

As one of the things that we should look at, we have tried in the past to work on efforts, unsuccessfully, to broaden that approach. But I think that one of the things that we intend to do is keep looking at that. You know, are there things we can do with our Observer Program, you know, as you say, you know, are the -- are the requirements arbitrarily too difficult, or are they not.

And you have to look at what you want to get out of that and all those kinds of things. But that's a question that we need to be asking ourselves, is that exact kind of question. And there are others. That's not the only one, that's just an example. Yeah.

Chair Davis: Thank you, Pat. We have Joe, Meredith, Sarah, and Jocelyn, and Linda, and we have ten minutes. So if you could keep your comments brief, that would allow everybody to have a chance to say something.

Mr. Schumacker: Thank you, Madam Chair. Keep it brief. Thank you, Pat, Brett, and Natasha, thank you so much for your words. They were wonderful, appreciate everything you said. Thank you, Tom, for bringing in your expertise and your history of underserved communities out here.

You know, I come from the tribal standpoint as well. Again, I'm not a tribal member, but I work for tribes, I've done it for years. The tribes that I work for a treaty tribes in the Pacific Northwest, and they have a hammer, they have treaty with the US Government. The US Government has a trust responsibility to support the resources of those tribes and to support those tribes in their access to them.

So we fought for long ago and got a seat on that Pacific Fisheries Management Council. So we have a voting tribal seat on that council. Many times the MSFM -- FSCMA, the Magnuson-Stevens Act, Fisheries Conservation Management Act, has been reauthorized a few times over the years.

During that reauthorization process, it has been proposed, I know in the past, to have tribal seats and other representative seats on these councils. And this should be addressed.

So the concerns that Natasha brought forward, the - - the remarks that Janet made to Congress, elsewhere, should be brought into that reauthorization process. And we should get tribal peoples to the -- to the table. Especially those folks that depend upon those fisheries resources for their culture and subsistence.

So, appreciate that discussion, and I just want to make that point that I -- that that's how you do it. Diversity means representation and inclusion. We've said it, you've heard my comments earlier, not just here yesterday, Sam, you were here, but about underserved communities in rural areas. And I made some comments that were outside of MAFAC about that as well.

Appreciate that. You know, that's a tough job and I know that the IIJA infrastructure act is really going to work on broadband, but that's not going to be the complete answer. But hopefully, NOAA and NMFS can really help suggest where broadband really needs to go to get that representation, help in that -- in that aiming where those monies for that.

At least then maybe you have some communications in some of these remote areas that we haven't been previous. But virtual does not take the place of personal.

And I just want to stress that NMFS, NOAA, use your, NOAA Fisheries, use your boots on the ground that you have out there. You've already mentioned

your regional offices, but also your Sea Grants and Sea Grant extension offices. These people know everybody out there, at least in some areas, as best they can. And they can really start suggesting who you should have been talking to or should -- hasn't been -- has been underserved. Thank you all.

Chair Davis: Okay, thanks, Joe. Sam says let's keep going. Meredith, one comment?

Ms. Moore: No, can I defer my time to Natasha?

Chair Davis: Okay, very good, thank you. And then we have Sarah next, and then Jocelyn and Linda.

Ms. Schumann: Thank you. So without detracting attention from the first four pieces of the EPA definition, which are race, gender, color, and national origin, I wanted to focus my comments on the fifth type of equity referenced by the EPA, which is income, a factor that connects to other concepts, like generational equity, geographical equity, and equity of operational scale.

I think we all know that fisheries management decisions have numerous impacts on social and economical -- economic wellbeing, and they're not always distributed equitably.

And I think we all know in the last ten or twenty years that fisheries management entities have in some cases with support from NMFS implemented management actions that have led to the concentration of wealth in fewer hands, marginalization of small scale fisherman, syphoning of fisheries access away from some small scale coastal communities, and intergenerational inequity in which younger people don't have the same opportunities as those who came before, a trend that is in no small part responsible for the graying of the fleet phenomenon, which we're now trying to course correct.

So I wanted to ask you a question, and I don't know if we have time for it now, but my question is to

what extent does the Environmental Justice Initiative open to putting fisheries management under the microscope and looking at its impacts on -- or the supports that it can offer for equities of scale, community access, and generational opportunity in fisheries livelihoods.

Mr. Rauch: Well, I think there's an excellent opportunity to do that. I've had a lot of discussions with my Sustainable Fisheries Chief, Kelly Denit, about looking at those limited access privilege programs, which are the kind of programs that you talk about, which have a really good job about achieving sustainability, but have had a number of social effects like that, that you know, concentrating ownership, making it difficult, creating barriers to entry.

You know, what -- we've talked, when we originally designed these programs, a lot of our guidance documents stressed the importance of identifying and removing barriers to entry, making sure that there was a way into the system. And that has not been -- as we've implemented these programs, we've not carried that idea out.

And there are barriers to entry now. One of the things we need to look at, particularly and this where we're talking about the benefits, that's a benefit of this program, is participating in those limited access privilege programs. I mean, there's -- that's opportunity, that's economic opportunity, and we've created a barrier to that. How can we address that?

We need to figure out a way, but it's -- it's not simple. I mean, if you -- dealing with all this, but it's one thing to say that that's an issue, it's going to take a lot of work to try to figure out how to undo some of that and to reopen the system.

That is something that we really do want to try to do and work with the councils to try to do that and to take more of a leadership role than we have in the past at trying to do that.

Chair Davis: Thank you, Sarah, and Sam for your follow-up. Jocelyn, and then Linda. Thanks.

Dr. Runnebaum: Yeah, thank you. I don't need a response. I would like to echo Natasha's point about a tribal atlas and a census of Council members of indigenous and minority status and the importance that that is going to be in presenting data to ourselves of the inequity and injustice that exist.

Second, I want to echo what the Caribbean Council members mentioned this morning, representation on MAFAC for the regions. Natasha can have all the rest of my time.

Chair Davis: Thank you, Jocelyn. Linda.

Ms. Odierno: Thank you. In the interest of generating interest in seafood, I very often try to pitch stories about minorities. And one of things I was thinking about was in the late 1900s/early 20th century, the oyster industry was dominated by African Americans. And now I don't know any African Americans who were involved in that industry.

So in trying to get some answers to what happened, I found a group called Minorities in Aquaculture. And they are young, dynamic, and they are interested in careers in aquaculture. And I think they might be an interesting group to reach out to.

Mr. Rauch: I don't want to spend a long time, but just one of the things in the budget initiative that we're talking about is, if it is funded, is investing in trying to work with some of these industries to increase the diversity in the workforce. A lot of our workforce is diverse at a certain level and not at other levels. But there's other elements that just not diverse at all.

And so it's not a lot of money, but we're, if Congress funds us, we're going to try to create some pilot programs to see what we can do. You know, what really is our capability. Because it's not

an area that we have invested in a lot, but we think that there's some potential there.

Chair Davis: Thank you so much, again, Sam and Janet, and for all the comments and input. This has been a very important discussion, and we'll make sure that it's noted and we can also have, as I mentioned earlier, follow-up about a working group on this well, so provide more comments before the deadline.

I am going to turn this over -- oh, Natasha, did you have another comment? I am so sorry, that's what they kept on saying that in terms of I'm giving my time to Natasha. I apologize. I thought it was the earlier time that you had given her. Okay, Natasha, we'll wrap up with your comments, thank you.

Ms. Hayden: Thanks, Madam Chair, thank you to my generous colleagues. Mostly I was talking about equity earlier, and I'll try to keep this short.

One of the things I would ask about in the document is that there be a listening session for Alaska. I saw that there was for four other regions, but I didn't see that there was one for Alaska.

But I want to talk about environmental justice some as well, that the -- and I talked to some of my colleagues about this in the last couple of days, that for me, there's a disconnect between rural coastal communities, indigenous participation, minority participation, and dependence on fisheries, and large scale volume, high volume production of fisheries and whether -- where those -- where those two intersect.

And that the impact of the large scale, high volume fisheries on the environment, on the habitat, on you know, secondary species, on people who are dependent on them upriver. You just mention, you know, wanting to bring in some personal -- making things relatable. I was invited on a -- to a phone call from the Yukon River Fisheries Drainage Association earlier this -- last fall.

And I'm sure you have all heard, but the Yukon River salmon returns failed last year. And there was people on the phone call from 2,000 miles of river, and it took an hour and a half just to get through the introductions. I don't know if you've ever been in an Alaska native meeting, but it takes a while for people to introduce themselves.

And every single individual on the call had been impacted severely. And so there's a matter of how we assign value to the -- what is the input is into determining whether or not a management program is successful.

And I have been really concerned over the last couple of years when I hear about environmental justice in its relation to its potential impact on large scale, high volume fisheries that could have an economic impact to the participants in those fisheries. And the reluctance to make any sort of qualitative changes because of -- they're such a huge economic engine that is benefitting and participating in and driving that fishery that the people that live along the 2,000 miles of the Yukon River are voiceless, relatively.

And so when we talk about environmental justice, I really -- I'm deeply appreciative of your comments and the spirit behind them. But I am still concerned about when the rubber meets the road when we're going to talk about true environmental justice, that if there's the potential for it to have a negative impact on fishing income or revenue that is generated by these large scale fisheries, that it is going to get washed away.

And I've seen that happen over and over and over again, and administrations come and administrations go, and this, the industry has an -- has the ability to out-wait administration and to be able to do some work that will withstand turnovers in administration, turnovers in staff.

I did tell some of my colleagues last night at dinner that I'm looking at the 500-year -- 500-year long

term, the 1000-year long term. I'm hopeful that my participation in this process will have an impact in the nearer future than that. But I really -- I'm really sort of hanging my, all of my hopes on that it will have an impact on the 500-year long-term sustainability of the people who have thrived in the environments for thousands of years.

That we're talking, you know, in less than 150 years that we're not even, well, zero percent, we have zero percent participation in federal fisheries and very low participation in state fisheries now. And you know, but there are still people fishing and there are still people that are being able to make very good incomes and livelihoods on those fisheries.

And so I'm going to close with that. Thank you very much for giving me another opportunity to speak to that as well.

Chair Davis: Absolutely, Natasha, thank you so much. Do you have any closing remarks, Sam?

Mr. Rauch: Well, thank you all for your great participation and comments on this, and we do look forward to hearing more from you and engaging with you in it. If there's more, if you do end up setting up this working group, let us know how we can -- we can help with that.

And Natasha, on that last issue of, and this an issue that is important to the Administration. We are committed to working through this process about particularly salmon in general.

I mean, this is a terrible situation that's going on with salmon recently. And with looking at those offshore fisheries and how much salmon can escape from those fisheries to be available upstream for the communities that depend on them.

Nothing's easy. We know that it's difficult for the Alaska communities right now. We are committed to working with -- with all of you all to try to find



better solutions to that. And that may mean that there are restrictions on those high value offshore fisheries.

We just did something like that with the halibut, and I expect the council's going to do something like that with salmon too, but we have to work through that process.

But we're, you know, one of the things that we're looking for here is to take more of traditional leadership for some of these underserved communities as the federal representative than we maybe have historically in the past.

Chair Davis: Thank you, Sam. Janet, any closing?

Ms. Coit: Of course, it's up to you, but the idea of you all delving into this more, I would welcome that very much. And thank you for participating in this discussion. Definitely just scratching the surface here of everything that people want to say.

And so I realize that we have to cut it off, but I would love to continue the discussion and hear more from you.

Chair Davis: Okay. I am going to turn over the mic to Jennifer, who's going to talk -- just wrap up the day and talk about, just a little bit about tomorrow. And I don't know if Heidi has any closing remarks. So we'll go ahead and hear from Jennifer.

Ms. Lukens: I wasn't prepared for wrapping up the day, but the entire day. But I was just going to go through, run through a few things before we gather tonight for dinner, some logistical things.

Number one, for those of you who are in the room here who are not attending the dinner, I need you to raise your hand. We need an exact count, so please take a moment, raise your hand if you were invited to the dinner -- or Heidi, phrase this the way you want it.

Ms. Lovett: I'm getting chats here. So it is an expensive dinner, and we just want people to be aware of that too. It's a tasting menu by one of the premier restaurateurs in Puerto Rico or in San Juan. It's about \$60 or \$70, and but you all are, most of you are getting per diem, so hopefully that won't be a barrier.

But if you do not wish to attend, it would be good to know, because we want to get a pretty accurate head count to the restaurant. And the plan is is that we have ordered some taxis, like van taxis, to meet at six o'clock in the lobby.

The dinner reservation is for 6:30, that's plenty of time to get to the restaurant, which is in the Condado area, if I got that word, name correct. The lobby at six or a few minutes before six. And so if you do not plan to attend, raise your hand. Okay.

Ms. Lukens: Thank you, Heidi. Okay, just to remind -- just say it again, six o'clock down in the lobby this evening.

We will be starting tomorrow at nine a.m. We are starting out with subcommittee work, and we will move into the full committee meeting for some of the actions that we talked about on workforce development.

I sent out, while we were sitting here, the offshore wind report to everyone that MAFAC prepared in 2020. And I believe Roger and Joe might want to speak to that tomorrow during our full session. And tomorrow we can talk more about establishing an EEJ working group.

And also, just another reminder for new folks or any existing folks who want to join a new subcommittee, so think about what you want to join. So and we'll be wrapping all of that up tomorrow.

And I think I'm going to turn it back over to you, Megan, if you want to say any pre things about the field trip tomorrow to get people thinking about it

and come ready for tomorrow. But I do believe we will have time to break and go change before we go on our field trip tomorrow.

Chair Davis: Thank you, Jennifer. Just one additional thing. Even though we're -- we start at nine tomorrow and we have two working groups, I do encourage you to come to both of them.

I think it's very valuable, especially, you know, to hear the updates on both sides and new members may want to join in as well, and you'll know better. So that's why we separated them out instead of having them as overlapping.

So tomorrow's field trip. It's Raimundo and I are so excited to have you come along with the Naguabo Fishing Association. This is a partnership project, and our staff there have been busily preparing and very excited about the field trip tomorrow.

So it will be -- it will be hot. I think it's going to be hotter in Naguabo than it has actually been in San Juan, so dress very comfortably with comfortable shoes. And as Heidi said, you know, bring a water bottle, we have water down there. Bring your hat, maybe some sunscreen and bug spray.

In terms of bug spray, we are a hatchery, so we prefer if you don't it on your hands and your arms. Because if you're touching our tanks and things like that, it can be potentially harmful for the animals.

Let's see, what else can I tell you? Heidi sent out an article that just recently came out in Haike (phonetic) Magazine, so that tells you a little bit about the work that we do with the community. This is truly a community event -- I mean a community project from the ground up.

And so we'll share more of that when we get there. We're going to be able to split you in two groups when we're there. We'll all meet together in the conference room.

Raimundo and I have sorted that out how we'll split up and then -- but you'll get to see everything. We'll come back together, we'll get a chance to talk to the fishers, and then we'll end by having dinner on the Malecon, in one of the restaurants there that's right on the bay.

So I don't know if you have any specific questions, but we're certainly going to go into a lot more details when we get down to Naguabo tomorrow. Any questions on that? Anything I missed, Rai?

Well, I believe the bus is leaving like around 12:30. It's about an hour trip, an hour and a bit, maybe an hour and 20 minutes down there. So you'll get there around 2:00. So we plan on having plenty of time, like to 2:00 to 3:00 -- excuse me, 2:00 to 5:00 at least while we're down there.

But we'll go over some more of those logistics tomorrow about where to meet and the box lunch and things like that as well.

Rai, is there anything else we should add? Stephanie, you have a question? Okay.

(Off-microphone comment.)

Chair Davis: Great, well, I will officially close the end of the day. And -- oh, Stefanie, you have -- gosh, I'm -- sorry.

Ms. Moreland: Well, on that, I apologize for not bringing this up early and I'll look to you as Chair if you want to talk about this very briefly. At the break we talked a little bit about process, and some new MAFAC members in particular were asking what's appropriate.

Would you like me just for transparency to communicate what we talked about regarding a work product to discuss further tomorrow?

Chair Davis: Right, I think that's why I really encourage you all to come like for the full sessions

tomorrow. Because if one of the sessions is a little shorter, we can also introduce some new ideas, some new working topics tomorrow. So that's what Stefanie is alluding to, is some more of the working group type work.

I mean, if you want to briefly talk about it. I just don't want to cut into too much of everybody's time to have a little break before six.

Ms. Moreland: Well, I just encouraged some talking and thinking and thinking tonight on it. And so very briefly, because so much has been covered, there was some discussion about taking a look at the 2030 vision and seeing if we can connect the MAFAC work plan with the 2030 vision document and take some time to do that, rather than try to do that on the fly tonight or tomorrow.

So in concept, that's what was discussed and hope to get some more energy around that.

Chair Davis: Yeah, thanks so much, Stefanie. Because you remember that we have the 2030 vision and we have the MAFAC working outline, and we said let's look at the priorities. So we'll have a good working session tomorrow. And then we can continue that work. It won't have to all be done tomorrow, but at least it establishes it and so thanks for that, Stefanie.

Thank you all so much for a great day today, and see you around six, or at nine o'clock tomorrow morning.

Adjourn

(Whereupon, the above-entitled matter went off the record at 5:34 p.m.)