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3					approval	of	the	EFP	application.
4 5 6	The motion	carried	on	page 177.					

1 2	CARIBBEAN FISHERY MANAGEMENT COUNCIL 161 ST REGULAR COUNCIL MEETING
3	Marriott Stellaris
4	Condado, Puerto Rico
5	·
6 7	DECEMBER 12-13, 2017
8	The Caribbean Fishery Management Council convened at the
9	Marriott Stellaris, Condado, Puerto Rico, Tuesday morning,
10	December 12, 2017, and was called to order at 9:00 o'clock a.m.
11	
	by Chairman Carlos Farchette.
12	
13	CALL TO ORDER
14	
15	CARLOS FARCHETTE: Good morning. We're going to settle down, so
16	we can get started. I want to welcome everyone to the 161st
17	Regular Council Meeting for the Caribbean Fishery Management
18	Council being held at the Marriott Stellaris Hotel in Condado,
19	Puerto Rico, December 12, 2017. I am going to do a roll call,
20	and I'm going to start with Graciela.
21	and I m going to beart with orderera.
22	GRACIELA GARCIA-MOLINER: Graciela Garcia-Moliner, council
23	
	staff.
24	
25	BILL ARNOLD: Bill Arnold, NOAA Fisheries.
26	
27	JEREMY MONTES: Jeremy Montes, U.S. Coast Guard.
28	
29	BONNIE PONWITH: Bonnie Ponwith, NOAA Fisheries.
30	
31	JOCELYN D'AMBROSIO: Jocelyn D'Ambrosio, NOAA Office of General
32	Counsel.
33	
34	ROY CRABTREE: Roy Crabtree, NOAA Fisheries.
35	
36	DIANA MARTINO: Diana Martino, council staff.
37	, and the second se
38	MIGUEL ROLON: Miguel Rolon, council staff.
39	ingues noton, council scars.
40	CARLOS FARCHETTE: Carlos Farchette, Council Chair.
41	CANDOD PARCHETTE. Carros ratemette, council chair.
42	MARCOS HANKE: Marcos Hanke, Puerto Rico.
43	THINCOS HANNE. MAICOS MAINE, FUELCO ALCO.
	DATAL HENDY. Davin Honor Commissioner DDND
44	DAWN HENRY: Dawn Henry, Commissioner, DPNR.
45	
46	TONY BLANCHARD: Tony Blanchard, St. Thomas/St. John, council.
47	
48	CARLOS VELAZOUEZ: Carlos Velazquez, council member, Puerto

1 Rico.

3 MARIA DE LOS A. IRIZARRY: María de los A. Irizarry, council 4 staff.

VIVIAN RUIZ: Vivian Ruiz, council staff.

8 EDWARD SCHUSTER: Edward Schuster, DAP Chair, St. Croix.

JULIAN MAGRAS: Julian Magras, DAP Chair, St. Thomas/St. John.

12 NELSON CRESPO: Nelson Crespo, DAP Chair, Puerto Rico.

14 RICHARD APPELDOORN: Rich Appeldoorn, SSC Chair.

16 CLAY PORCH: Clay Porch, Southeast Fisheries Science Center.

JEFF RADONSKI: Jeff Radonski, NOAA OLE.

JACK MCGOVERN: Jack McGovern, NOAA Fisheries.

ALIDA ORTIZ: Alida Ortiz, Outreach and Education Advisory Panel Chairperson.

ALEXIS SABINE: Alexis Sabine, Division of Fish and Wildlife, 26 Virgin Islands.

28 CINDI MEYER: Cindi Meyer, NOAA Fisheries.

30 YASMIN VELEZ-SANCHEZ: Yasmin Velez-Sanchez, the Pew Charitable 31 Trusts.

Daniel Matos-Caraballo, Puerto Rico Department of Natural and Environmental Resources.

HELENA ANTOUN: Helena Antoun, contractor.

38 TONY IAROCCI: Tony Iarocci, commercial fisherman.

VIVIAN RUIZ: The Go to Meeting attendees are Maria Lopez, Sarah Stephenson, and Skyler Sagarese.

CARLOS FARCHETTE: Thank you, Vivian. Before we move forward 44 with the Adoption of the Agenda, I want to hold a moment of 45 silence for a commercial fisherman from St. Thomas, David Berry, 46 who passed away just a little bit after Hurricane Maria.

48 (Whereupon, a moment of silence was held in memory of David

Berry.)

CARLOS FARCHETTE: Thank you.

 MIGUEL ROLON: David Berry, he always came to the council meetings and public hearings, and he was always worried about the impacts of our actions, and, for that, we are grateful to know him for all these years, and, although he was a little bit of a controversial fellow, I believe that he had his heart in the right place whenever he came to our meetings to provide input on the things that the council was interested in receiving information from the public, and so, David Berry, rest in peace.

ADOPTION OF AGENDA

CARLOS FARCHETTE: Thank you, Miguel. For all of the survivors of Hurricane Maria and Irma, keep pushing forward and onward. Adoption of the Agenda. Are there any corrections or additions? Miguel.

MIGUEL ROLON: Before the meeting, Bill and I were talking about the possibility of, since we are going to discuss issues related to Maria and Irma, and that will take some time, and also because we have a very important report by the Scientific and Statistical Committee, perhaps we could make final decisions on the development of the plans tomorrow, but it will be up to the council to decide, and so I wanted to offer that as an alternative for discussion, and it will be up to you to decide when we get to that part of the agenda.

CARLOS FARCHETTE: Any further additions or corrections to the agenda? All in favor of adopting the agenda as is, say aye; any nays; any abstentions. Hearing none, the motion carries. Miguel.

CONSIDERATION OF 160TH COUNCIL MEETING VERBATIM TRANSCRIPTIONS

MIGUEL ROLON: With the verbatim transcription and the problems we had with the hurricane, we were able to finally send the recordings to the contractor, and she was able to work Saturday and Sunday, and she finally did it, and so it's in --

 The transcription is in your jump drive, and, once you have the opportunity, you can send us your comments, so we can put it in the record, and then we will adopt it finally at the next council meeting, because it would be kind of unfair to push everybody to read something that you just received it.

SPECIAL RECOGNITIONS

Now we are going to stop for a second, and we want to recognize two people, actually. I didn't know that Jeff Radonski was leaving in January, but he has been instrumental in helping us with enforcement activities throughout all these years, and we are grateful that you did all of that, and we wish you the best after January. I think that you are going to go fishing or do something else besides enforcement.

JEFF RADONSKI: I do want to thank the council for always a warm welcome down here in the Caribbean, and I realize, with the past two hurricanes, there are major impacts on the communities and families and the islands. It impacted us as well, with Lynn Rios. He is still without power, and it's difficult to work without those type of things, but it has been a very good ride, thirty-two-years-plus, by the time I retire, and it was always an adventure and always something new.

It was always a joy to come down here and work in the Caribbean when I could, as an agent and as a supervisor, and so thank you, council, and good luck, and I hope, once everything settles down, we start moving forward on protecting the resources, like we're mandated. Thank you. (Applause)

MIGUEL ROLON: The other person that we want to recognize today is Dr. Bonnie Ponwith, and we need you to come over to the front, for a picture. Dr. Bonnie Ponwith has worked with the council through all these years, and I remember, when I met her, it was through a telephone call, because Eugenio Piñeiro and Clay Porch were conspiring to get somebody down here.

 Like I said, we were trying to get a person assigned to work with the Caribbean, and that person was just hired by Bonnie, and she was a little bit alarmed, and she talked to Victor Crespo. Victor said that Miguel is not a crazy guy, and so talk to him and see what you can -- She told me, Miguel, I cannot give you that person now, but I promise you that I will do my best to work with the Caribbean Council as much as possible and to coordinate with the Regional Office and, for anything that is my hands, I can assign people, but, at this time, we cannot do that, and she did it.

She promised to do that, personally and through her staff, the excellent scientists that have been working with us, and we have been able to achieve a lot of things that were almost impossible twenty years ago or fifteen years ago. We have people attending the SSC and contributing effectively to the discussions of the

nature of what we call scientific, and, for that, we are really, really grateful for your camaraderie and your friendship, and I would like you to come forward for the picture, please.

This is something that was built by a marine scientist who happens to be an artist, and it's a token of our appreciation, Bonnie, of everything that you have done through all these years, and we wish you the best in bird watching and resting and then deciding what you're going to do for the next two or three decades. Thank you for that.

BONNIE PONWITH: Thank you very much. It's beautiful. I am not Italian, but I'm pretty close, because I can't talk without my hands. I just want to thank the council. This has been a wonderful career, and it's been a wonderful decade interacting with each of you.

The fact that this meeting is being held is a tribute to the resilience and the determination of the people from Puerto Rico and the U.S. Virgin Islands, and that's one of the things that I have enjoyed the most about working here and being able to tackle problems collegially and really try and make things better.

I am also really excited to see how science plays into the important decisions that you're making on a day-to-day basis, and I will say that I am the person that you see when we get together as a council, but what it takes for me to be able to come and talk to you about science taps into the phenomenal determination of the people talent and wonderful at Southeast Fisheries Science Center, and I just want acknowledge them and all they do to help in this important work and make these decisions that affect your livelihoods and your lives, and so thank you for a wonderful decade. been great. (Applause)

CARLOS FARCHETTE: Thank you. For the record, Damaris just arrived, and so, for the record, can you --

DAMARIS DELGADO: Good morning. Damaris, and it's nice to see you all again, from Puerto Rico DNER.

EXECUTIVE DIRECTOR'S REPORT STATUS OF THE CARIBBEAN FISHERIES AFTER HURRICANES IRMA AND

MIGUEL ROLON: At this time, Mr. Chairman, is my report, but Bonnie actually gave us this idea of allocating some time to get

MARIA

testimony by the two local governments of the impacts of Irma and Maria on the U.S. Virgin Islands and Puerto Rico, especially how it affected the fishers personally and the businesses they have and their families and also the status of the statistics programs.

The idea is to receive this report, but also to talk about what can the local and the federal governments do to keep a system of the fishers and the fishing communities in the area, and, also, we wanted to hear an update on the declaration of the fisheries disaster area petition, and there's not much, but we will ask Roy about the status of this activity.

As you know, after Hurricanes Harvey, Irma, and Maria, the federal government has a provision for declaring disasters specifically addressing fisheries, and so that's something that we would like to hear, and I believe that Carlos Velazquez and the DAP Chairs will also want to add specifically what they have gone through, and we want to start with Puerto Rico and, Damaris, do you have a presentation? Are you ready, Daniel?

PUERTO RICO

DANIEL MATOS-CARABALLO: Good morning, everyone. Let's see little examples of how Hurricane Maria affected Puerto Rico fisheries. First of all, I want to say that the hurricane affected the Fisheries Research Laboratory area. The building is okay.

However, we do not have electricity yet, but the personnel are working with electric generators and are working with some fans to refresh the area, and I also want to say thanks a lot to the personnel of NOAA Fisheries. They sent hurricane relief stuff to us, and we received some electric generators and a water filter system and also a lot of first aid equipment, and thanks a lot to our friends from NOAA Fisheries in Miami and St. Petersburg. Thanks a lot.

A few weeks after the hurricane, personnel from the Commercial Fisheries Statistics Program and the Fisheries Research Laboratory started to travel around the commercial fishing centers, and we visited and took pictures to see what happened after the hurricane.

We interviewed the fish houses, administrators, and some fishers, and we will show you a general report of what happened after the hurricane. However, NOAA helped us with some funds, and the DNER and MER Consultants are working with a more

detailed evaluation, assessment, of what happened. Right now, they are able to interview approximately 600 commercial fishers, and so, probably for the next meeting, we will have a good report about that. Later today, Todd Gedamke, who is the project leader, he will show you a nice video.

Let's see some examples of how the fishing centers were after the hurricane. Villa Pesquera Ponce, a fishing center of Ponce, they have relatively little damage, but just part of the ceiling was affected, and they lost two motors of the commercial fishing vessels and a few gallons of diesel. They don't have fishing activity for the next three or four weeks, because they do not have electricity. This is a picture of Villa Pesquera Ponce, and it's very nice. The hurricane was friendly with these friends, and that's good.

However, the neighbors, at Villa Pesquera La Guancha in Ponce, it's a different story. They lost part of the building, and many boats were destroyed. The dock was destroyed, and seven vessels were destroyed. They had a lot of damage. Here, you can see the Villa Pesquera Ponce, and many boats are in the yard. This is the La Guancha boardwalk, and you see a lot of damage in this area.

In the south of Puerto Rico, there is another fishing center that we call Villa Pesquera El Boquete de Peñuelas. Part of the ceiling was lost, and 954 pounds were given free to the neighbors, because they did not have electricity after the hurricane, and so they shared approximately \$6,000 in fish and shellfish to the community, and they also lost some fish traps. After the hurricane, two or three commercial fishers were able to be active to catch some fish to the restaurants around, and so a good and great spirit.

This is Villa Pesquera --, and there was some damage there. They lost the ceiling and a small building, too. In Villa Pesquera Jarealito, they had the eye of the hurricane. However, twelve boats were flooded, but they were able to immediately save all of them, and they lost twelve freezers, and there was no fishing activity for the next ten weeks, because they did not have electricity.

In the northwest part of Puerto Rico, there is Villa Pesquera Aguadilla, and a place we call Crash Boat Beach. It's a beautiful area, and this is probably one of the worst villa pesqueras affected. It was very sad, and I was working with these fishers for the last twenty-nine years, and they are probably the most organized fishing association in the last

thirty years in Puerto Rico, but the building was destroyed, and they said \$2 million in damage, and there has been no fishing activity.

This was a very wide beach, and thousands of people have visited this beach during the whole year, and the hurricane eroded the beach, and we lost probably one mile of the beach. I will show you pictures right now.

This is the fish house and the restaurants. If you see, it looks more like an earthquake than a hurricane. The commercial fishers told me, after the first part of the hurricane, the building was intact.

Then came the hurricane eye, and it was blue sky and beautiful, and then the second part of the hurricane was horrible, and the strong winds and the ocean surge was incredible, and it eroded everything. You see this building, and, from this tree to the ocean, it's probably 250 feet, and now it's gone. All this beach is gone. This was the walk-in freezer and the offices, and it also looks like an earthquake.

Here, you can see it better. This street was 250 feet from the ocean, and all the sand was eroded by the hurricane surge. This is the building that that fishermen call the lockers, and every single door belongs to a different commercial fisher in this area, and they keep their motors and their fishing gear, and this building was probably 300 feet from the ocean, and now it's in the intertidal zone. It's very great, the damage there. Three weeks after the hurricane, five commercial fishers started to fish again, and so a great spirit.

Let's talk about the east coast. With Hurricane Maria, it came up as a Category 5, entering from Yabucoa, and Maria loved Puerto Rico, and so it took the whole island, through Arecibo and Guayanilla, and so the whole island was under the hurricane for almost twenty-four hours, but the east coast was the first one to receive most of the impact.

 This is the fishing center at --. There is two sailing boats in the parking lot and the backyard of this area. There was heavy damage there. This is Los Croabas, and you also have some boats in the backyard and in the parking lots, and the docks have disappeared. There are no more docks. Here is another boat at Villa Pesquera Los Croabas at Fajardo.

This is Ceiba, Villa Pesquera Los Machos. There is a lot of destruction, and this is the building where the commercial

fishers keep their fishing gear. There is no doors, and they told me that the water flooded four or five feet inside the building, and so there was big damage.

This is from Naguabo. Look at this. Carlos has more pictures of this damage, but it was terrible. Carlos told me they cleaned hundreds and hundreds of pounds of marine seagrasses, and they found two manatees that died and dogs and chickens inside the Villa Pesquera Naguabo. Inside, they have dogs and chickens that dies, and it was terrible.

This is Punta Santiago, Humacao, and there was big damage. The hurricane surge action flooded the villa pesquera, the fishing center, and probably 600 inland. There was a lot of houses and people that had to go outside swimming or using boats, because everything was flooded. There was very, very big damage in this area.

What has happened until today? What happened in the recovery of this damage? Well, the commercial fishing activity has limitations. For example, electricity. 50 percent of the fishing centers lack electricity today, and so it's difficult to continue to -- It's difficult to continue the fishing activity with no electricity.

Fishing facilities and equipment has been destroyed, and, the marketing, we estimate that 33 percent of the seafood restaurants are still closed after the hurricane because of damage and electricity problems and low tourist activity, and, right now, the traditional food of Puerto Ricans for the Christmas period is mostly pork and turkey, and so another limitation for the seafood, and also migration. We identified probably twenty to twenty-five commercial fishers who have also left the island, at least for a year.

On the other hand, in southwest Puerto Rico, Cabo Rojo, we estimate that 90 percent of commercial fishers in this area are active, but they also have the limitations of the marketing. For example, at Puerto Real fishing village, they have a quota. You just fish twenty pounds of lobster daily, and no more. The fish house does not accept more than twenty pounds of lobster every day, and so there is some limitations.

My final slide is we estimate that the fishing activity is probably 33 percent today compared to the commercial fishing activity previous to the Hurricane Maria, but we see the spirit of the commercial fishers continuing to fight and to keep fishing, and so hopefully everything will be normal in a year,

hopefully. Thank you. Any questions?

MIGUEL ROLON: Later, Tony Iarocci is going to talk about one idea about the marketing of lobster. If the fishers of Puerto Rico are willing to participate, it could be an avenue for them to be able to fish more and start to recuperate faster than probably will happen if we just leave them the way they are now.

Mr. Chairman, we also have with us two fishers from Catano, and we also have a video that Todd Gedamke put together, and I believe that Carlos Velazquez wanted to address the group regarding Puerto Rico. Once we finish Puerto Rico, we will move to the Virgin Islands. At this time, we will allow five minutes each to the fishers of Cataño to tell us about the status of their fishing village and how they see things coming toward Catano regarding fisheries.

CARLOS FARCHETTE: Thank you, Miguel. First, we have Ramon Santiago, president of the fishing village of Cataño.

RAMON SANTIAGO: Good morning, everybody. My name is Ramon Santiago, and I am the President of the Villa Pesquera of Cataño. I want to thank you for allowing us to come here and speak a little bit about what happened with both hurricanes that hit us.

First came Irma, and I told just about every vessel that we had in the villa, in the facility, to take their vessel and take them out and put them in a secure place, and thank god they did, and nothing happened to any of the vessels, but we did have substantial damage to all of our facilities. We had a couple of people that lose their freezers, and we had all of our docks, and they all were damaged.

We had a place where we used to put the boats. They would park their boats with their -- Not the boats, but the trailers, the cars, and that all got in the water, and, right now, we have a real big problem in putting the boats in the water, because of all the sediment. We walk, and it's about to our knees. You can walk all the way out there, and we have to wait until the tide gets real high, because it's so low, and we need to take out the sediment, so that we can keep on fishing.

We had water that came, but we didn't have electricity, and we have cameras in the villa, and, right now, we spent, in material, \$430, and this is just for material, to get the cameras back up, because the people that we had -- The damage of the cameras is -- There wasn't a guarantee, and so all of our

fishermen would put in a little bit of money, and we have a little bit of money stashed away to repair these cameras, and thank god. We have done a lot to put -- Every fisherman in our villa have done a little bit.

All the wood that we find, and we tried to get wood anywhere, and we have fixed the dock up a little bit, but we have to invest around -- I would say, to get the dock back up and put everything back up where it's supposed to be, it would cost a lot of money, and, right now, not even the government is helping us, nobody, and we're doing it all by ourselves.

We try to do our best, so we can continue fishing, and, as Daniel says, right now, I went fishing on the first day of December. I went fishing, and I caught around sixty pounds, and I still have fish in the freezer, because people don't want to buy it. Now it's the Christmas season, and the people are buying anything but fish. Plus, as they say, we don't have electricity. The people don't have freezers, and they don't have anywhere to keep that fish.

What is another thing is the contamination. People say the water is contaminated, because they are throwing black water out of the hotels or something like that, and that came out in the news the other day, and so people are very reluctant not to buy fish. They are going back the other things, but we're working on this, and we're trying to put our fishery back together. Thank you for allowing me to come here and express my feelings, and if you have any questions that I can answer about the villa.

MIGUEL ROLON: I believe that Juan Cortina wanted to say something.

RAMON SANTIAGO: Yes, Juan Cortina wants to say something.

MIGUEL ROLON: Thank you. Then, when he finishes, I have one question for you.

CARLOS FARCHETTE: Juan Cortina is the vice president of the same village in Cataño.

MIGUEL ROLON: All of you who want to hear the translation, we 43 have the little radios in the back.

JUAN CORTINA: (Mr. Cortina's presentation was in Spanish and 46 was not transcribed.)

CARLOS FARCHETTE: Thank you. Any questions for Juan?

1 2

MIGUEL ROLON: (Mr. Rolon's comment was in Spanish and was not transcribed.)

JUAN CORTINA: (Mr. Cortina's comment was in Spanish and was not transcribed.)

GRACIELA GARCIA-MOLINER: (Dr. Garcia-Moliner's comment was in Spanish and was not transcribed.)

JUAN CORTINA: (Mr. Cortina's comment was in Spanish and was not transcribed.)

MIGUEL ROLON: Thank you. Mr. Chairman, I suggest that, not to lose the momentum, to allow the Virgin Islands to address the council at this time. Then we will go back to Carlos Velazquez, and Todd Gedamke has this eight-minute video, which is interesting, and, also, Nelson Crespo would like to report about some activity that they have made, but we would like to hear from the Commissioner and Julian and Tony about the situation in the U.S. Virgin Islands.

U.S. VIRGIN ISLANDS

DAWN HENRY: Good morning again to the council. In the Virgin Islands, as everyone by now is aware, we were hit by two hurricanes, two Category 5 hurricanes, and I think it was maybe about ten days apart, something like that, and what is unprecedented for us with what is occurring in the Virgin Islands is that we have all -- We say now four, but all four islands are down.

Before, when we had Hurricane Marilyn and Hurricane Hugo, only one district was devastated, and so, the challenges for the Virgin Islands, they have been unreal, with all four islands being separated by water, and the coordination in trying to get things up and running have been challenging and very difficult.

When Irma first hit St. Thomas and St. John and Water Island, we immediately made St. Croix the hub of the recovery, and so the federal government had already started mobilizing in St. Croix, and resources were already sent to St. Croix, and we were deploying everything from St. Croix to the other three islands, and, as you can imagine, ten days later, St. Croix went down, and we had to start all over again.

We had to come up with new plans, and it really, really has been difficult, like here in Puerto Rico. Actually, I'm not quite

sure what the power percentages are right now here in Puerto Rico, in terms of how many persons have electricity, but I believe, in the Virgin Islands, we're still maybe around 50 percent. We are hoping that by Christmas that we will be in the 90 percent. That's the goal, and that's the objective, and so we're hoping for that.

When it comes to the fisheries, a lot of what we heard in the Puerto Rico presentation we also experienced those same incidences in the Virgin Islands, but I won't steal Alexis's thunder, because she has a presentation that she will be doing for the council, and I am sure that both Julian and Tony would be able to speak, as well as Ed, regarding the fishermen's perspective and how things are coming along with their businesses and how we're progressing, and so, not to take up any more time of the council, I would like to acknowledge, Mr. Chairman, Alexis Sabine. She is a DFW Fishery Biologist, and she will make the presentation on behalf of the Virgin Islands. Thank you.

CARLOS FARCHETTE: Thank you, Commissioner. Alexis.

DAWN HENRY: Mr. Chairman, one second. I just wanted to also -- I have to say this, but I have to say thank you to the government of Puerto Rico, and the reason for that is, initially, when Irma hit, we had an extensive show of support with Puerto Ricans that came over to the Virgin Islands to assist, and a lot of them -- They were actually caught in the Virgin Islands when Maria hit, in terms of trying to get home.

The federal government had to get them back over on the military flights, and so I want to publicly thank the government of Puerto Rico for assisting us initially, when you guys were up and running as well, and you really did come to our aid, and you provided us with support, and so thank you.

MIGUEL ROLON: Well, we are sort of brothers and sisters in the Caribbean, and so, whenever we can help each other, we will be there. Thanks.

ALEXIS SABINE: Thank you for the introduction, Commissioner Henry. I am Alexis Sabine, Fisheries Biologist with Fish and Wildlife, and I am based in the St. Thomas office, but, today, I'm going to be talking about the assessments that we did in the entire territory.

As I'm sure everyone is familiar with by now, we had Hurricane Irma come through on September 6, and it hit St. Thomas and St.

John. Then, exactly two weeks later, Hurricane Maria came through and hit everything else, including St. Croix. We had significant damage to all industries, but that includes the fishing industry as well.

The Division of Fish and Wildlife partnered with NOAA Fisheries to organize an assessment of the damage done to the fishing industry. We worked specifically with Matt McPherson from the Social Sciences Research Group as well as Rita Curtis, and so I would like to acknowledge them for their work.

We surveyed commercial and charter fishers and collected information about their damages that they sustained to their fishing gear, vessels, and other equipment. One of the reasons that we wanted to collect this information was to support the declaration of the fishery as a disaster following the storms.

We also understood that a request for federal disaster aid money was going to be made to Congress, which would hopefully be made available to the fishers, and so we wanted to quantify the damages to get an accurate number for the level of funding that would be needed.

The survey forms that we used, as I said, they were provided by NOAA Fisheries and Matt McPherson, and I believe that they are the same forms that were used in Florida following Hurricane Irma as well as in Texas following Hurricane Harvey, and so we tried to keep our methods consistent with those that were being used in other regions after similar disasters.

We conducted our surveys for about a month on all three islands, and we had our staff stationed at different locations around the territory, and so we invited the fishers to come to our locations to fill out the survey at a location that was most convenient for them.

We made up a flyer like the one you can see here to advertise what we were doing and to get the word out, and we also used a number of other strategies, such as radio announcements, social media announcements, but one of the main drawbacks was that we didn't have phone service, and we still don't have phone service in a lot of areas.

Normally, what we would do when we're trying to reach all the fishers is go down the list and call everybody, but we didn't have office phones, and nobody had house phones working, and so we did the best we could in getting the word out, but, with the limited communications, I'm sure that we weren't able to reach

everybody.

This is the form that we used for the fishing vessels, which includes charter as well as commercial harvesters. There is a lot going on here, but, basically, we asked about the cost of damages to vessels, fishing gear and other equipment, facilities that were owned by the fishers, and other damages.

 The other damages category was actually something that we added to the form. It wasn't previously there, but we knew that a lot of people had damages to things used in their fishing businesses that didn't necessarily fit into one of the other categories.

For all of these categories, we asked for either a dollar amount for the estimated cost of damages or a percentage, and so people who didn't necessarily know what their boat repairs would cost them could report that their boat was say 50 percent damaged or 100 percent damaged.

We also asked some questions about fishing activity, such as what fishery do you participate in, how long do you think it will be until you're able to resume fishing, and we asked everybody to estimate their lost revenue from the time of the storms to the time that they were filling out the survey.

This table shows the number of fishers that we surveyed across all three islands. We surveyed exactly 100 people, which includes sixty-six on St. Thomas, thirty-one on St. Croix, and three on St. John. Most of them were commercial fishers, which was 83 percent, and we also had seventeen charter fishers.

A note about St. John. You can see the numbers are pretty low here. St. John was evacuated after the storms, and so most people left, and so there are quite a few charter fishing companies based on St. John, and nobody was really there to take our survey.

We even sent staff over to St. John for a couple of days, so that those fishers wouldn't have to come to St. Thomas to find us, but there was a very low turnout, and so we're actually working right now to get an online version of the survey set up, so that people who had to leave the islands after the storms can still take the survey remotely, and we can still get their data.

I just want to point out the numbers here for the commercial fishers, and we had about fifty-three on St. Thomas and twenty-eight on St. Croix, and those numbers correspond to approximately 80 percent of commercial fishers in St. Thomas and

40 percent on St. John, and so it's not completely clear to us at this time if the rest of the commercial fishers either didn't know about the survey or they didn't have any damage and thought they didn't need to take the survey or if they just didn't want to take the survey. We're still working on collecting more information, and hopefully those numbers can go up.

I am going to go through some of these results, and, on every table, there are two sets of numbers presented. The numbers in black, the first set of numbers, are either the percentages or the dollar amounts that were reported directly from our surveys.

We entered all the data, and it went to NOAA Fisheries, and we also gave them the number of known commercial fishers and the numbers of known charter fishing businesses, and they used those numbers to scale up the values to serve as an estimation for the entire fishery.

We can see here that we have about 60 to 92 percent of fishers had vessel damage. The range of the dollar amount was zero, for those that didn't have any damage to their vessels, and it went up to a maximum of \$335,000 per fisher. As far as the cost of damages, this table shows what was reported, in the black numbers, again, and then the estimations, which were the values scaled up to represent the whole fishery.

We're looking at about \$2 million in vessel damages alone, and what was reported to us was \$1.3 million, but, again, estimation for the whole fishery is closer to \$2 million, and we do anticipate that this number is actually higher than what's here, because, as people initiate their boat repairs, they will probably find out that more things need to be replaced and that more repairs are needed, and so this is likely underestimation.

Here is some pictures of some damaged vessels. This is from St. Thomas as well as St. Croix. This picture, it might be hard to see, but what you're looking at is a boat that's been completely flipped upside down with its trailer on top of the vessel, and so this happened, unfortunately, quite a bit that we saw.

Moving on to gear damages, it's very similar percentages of people had damages or lost gear. The number for St. Croix charter fishers there, zero, is to be taken with a grain of salt, because, again there were only three charter fishers that were surveyed in St. Croix, and so we know that there probably were damages to charter gear, but it just wasn't reflected in the surveys that we've done so far.

This is the estimated cost of damages to the cost or damaged gear, and so, looking at the commercial fishery specifically, we had about \$900,000 in reported gear damages for St. Thomas and St. John, compared to about a quarter-of-a-million for St. Croix, but then, when that was scaled up to the whole fishery, the numbers were actually pretty similar across both districts, totally about \$1.8 million. Again, we do expect that this number will rise as people continue to find more of their gear damaged. The range for the damages per fisher was zero dollars, for those who had no damage, to \$158,000 that one fisher had.

This chart shows the types of gears that were reported as damaged. We have number one here is traps, which is fish traps and lobster traps combined. Traps were reported as damaged a total of fifty-two times. Other gear types, they represent pretty much every fishery that we have. We have line fishing gear, which included rod-and-reel as well as handlines and associated gear, like lures and weights and lines.

We also have nets, which included cast nets and seine nets, and spearfishing gear. Then we also had a few other things, like electronics, which a lot of people reported as damaged, and that included things like GPS, compasses, and depth finders. We have a category for coolers, freezers, and ice machines, which was also commonly damaged.

We have safety gear, which included life jackets, flares, and anything else required by the Coast Guard, and we have a category for boat gear, which included miscellaneous things like anchors, chain, and rope. Those last four categories that I mentioned, the boat gear, safety gear, coolers, and electronics, these things were actually reported as damaged a lot more, but it's just that sometimes it was reported as gear types and then other times it was reported as other damage, because the form only had spots for four types of gear to be reported, and so anything else got reported as other damage.

Because traps were reported as damaged so frequently, I just wanted to present some numbers about the quantity of damaged and lost traps. We had twenty-five fishers in St. Thomas and St. John that reported missing traps, compared to twelve on St. Croix. We also asked the fishers for the approximate cost to build their traps, which included materials as well as labor, and so that number was \$254 per trap for St. Thomas and St. John and an average of \$381 on St. Croix.

The average number of traps missing was 130 on St. Thomas and

St. John and thirty-three on St. Croix, and so, the total number of missing traps, we have 3,256 on St. Thomas and about 400 on St. Croix. Again, this is only for the people that we surveyed, and so there is probably a lot more missing traps.

I mentioned other damage, and fifty-six people reported having other damage in addition to their vessels and gear types. Things that were reported under other included coolers, freezers, ice machines, small tools, lost bait and fish, trucks that are used in the fishing businesses, safety equipment, and electronics. The total cost of reported other damages was about \$278,000.

For facility damage, this included things like piers or docks that were owned or leased by the fishers as well as storage units or sheds that are used in the fishing businesses, and twenty-two people reported damage to facilities, totally about \$115,000.

We also asked all the fishers, charter and commercial, about how much revenue do you think you have lost since the time of the storms to the time that they were taking this assessment, and so, right off the bat, we had some variations, because we conducted the surveys for about a month, and so people who came to take the survey on the first day had numbers that were for a different length of time than those who showed up on the last day, about a month later.

Again, it's all estimation, and so we accepted this information in profits per fishing trip or profits per week or per month, and then we scaled it up to represent the entire length of time, and so these numbers are quite high. Again, we have the numbers in black for the people that we surveyed, which is a total of about \$1 million lost, and, when scaled up to the whole fishery, it's closer to \$2 million. Most of that is from the commercial fishery.

One thing to note here is that, because the survey forms specified lost income to date, we know that these numbers are going to be actually a lot higher, because there is going to continue to be revenue lost. A lot of people still aren't back to fishing yet, and a lot of people sell to hotels and restaurants and tourists, and, until the tourism industry picks back up, there is a lot fewer customers, and so we expect that these numbers are actually a lot higher.

To recap, we had reported \$3.8 million in total economic loss, and that's, again, from the 100 people that we surveyed, but,

estimated for the whole fishery, the number is actually over \$6 million. Again, we expect that it's going to be much higher as time goes on.

This is the form that we used for fishing-related businesses. For this, we surveyed things like marinas, bait and tackle shops, or fishing supply stores, and it's a pretty similar form. We asked for damages to the facility or the structure itself, lost seafood and bait, lost equipment and merchandise, and any damage to piers and docks. We also asked for the length of time that the business was closed, if they were closed during or after the storms, and their estimated lost revenue because of the storms.

We actually didn't have any businesses voluntarily respond to our survey, and so we had to go chase them down, which, again, as I mentioned, no phones were working, especially for the businesses, and so we had to go visit them in-person.

We were able to visit ten businesses on St. Thomas, and we received responses from seven of them, and so three marinas declined to participate in the survey. One had to contact their corporate office for permission to participate in the survey, and the other two did not have managers or owners available that day, and the staff that were there were not at liberty to divulge the information.

We also surveyed two businesses on St. Croix, which were the two main fishing supply stores. However, they didn't get a chance to enter that data before I put this presentation together, and so that information is not represented here, but we do have some.

Of the seven businesses on St. Thomas, we had two bait and tackle shops, three marine supply stores, one marina, and one boat and engine sales and service shop. Because we only had one marina, for confidentiality reasons, we couldn't present that data here.

This is the total cost of estimated damages from those now six businesses on St. Thomas. They reported about \$336,000 in damages for all four categories, which was bait, facility damage, merchandise, and piers and docks, with a total estimated lost revenue of \$1 million, and so we know this number is way higher for all three islands, or all four islands, and the entire territory, but, because of the limited response we got, this is what we're working with right now, but we know it's going to go up, and we're going to continue working on

collecting responses from these businesses, so that we can get a more accurate figure.

Just some final notes. As I said, all of these numbers are probably a lot higher, but this is a good start, and we are working on getting the online survey posted, so that we can continue to collect responses from fishers, especially those who had to leave the islands during and after the storm.

I wanted to acknowledge Matt McPherson and Rita Curtis from NOAA Fisheries. They worked with us to develop these forms and modify them to our region, as well as Rita provided all of these scaled-up numbers to represent the entire fishery.

I would also like to thank all the Fish and Wildlife staff, listed there, who conducted the assessments, and I especially would like to thank the commercial and charter fishers of the Virgin Islands, in particular the commercial fishers, for participating in yet another survey and being so willing to volunteer their time and information for us. Thank you. (Applause)

CARLOS FARCHETTE: Thank you, Alexis. I am going to open for questions, but I would like to say that this is an excellent report.

ALEXIS SABINE: Thank you.

CARLOS FARCHETTE: It's a real in-depth report.

MIGUEL ROLON: Before we finish, I came to the office thinking that I was going to see a big hole in the glass there, and I was lucky to find that my office was working, no air conditioning or anything, but I would like to thank a couple of people, especially the staff, Angie and Diana and Vivian. They worked under harsh conditions, trying to keep the council working, especially the fiscal part.

Also, I would like to mention that, Friday after the hurricane, I was lucky enough to be there when Roy called me, and he was with Kim Amendola, and they were thinking about ideas of how to help, and I remember that he was thinking about sending some equipment, and I told him that I didn't need anything. When I asked him, well, does this come from FEMA, Roy, said, the hell with FEMA, this is from our pockets, and so they were trying to help us with that.

Also, Roy told me that there was an opportunity to have a

petition from Puerto Rico and the Virgin Islands to declare the U.S. Caribbean a fishery disaster area. He said that it's a long shot, because you know Congress and the situation it is now, but, since you mentioned that, and I join the group that this is the best report that I've ever seen in thirty years of working here or more about something like this happening, and so thank you for that.

At this time, before we go into questions, I know that there is not much to add, but I would like to ask Roy if you have anything regarding the petitions.

ROY CRABTREE: Well, I think both of these presentations and everything has been really helpful, and I know it's been very difficult for everyone down here and for a lot of folks in Florida as well. I was very fortunate in St. Petersburg, in that it looked for a while like we were really going to get it, and, at the end, all I had was we were without power for a while, but I did talk to Miguel, and I talked to Ruth several times.

I spoke to FEMA folks, to try and get -- At least get the fisheries parts on their radar screens, in terms of prioritizing, and I don't know how much, in the end, we really changed anything, but we were thinking about all of you.

We do now have fishery disaster requests from Puerto Rico and the U.S. Virgin Islands, and we have a letter from Florida. I'm not sure we have one from Texas yet. They actually had the first, Hurricane Harvey, and we are working with the Department of Commerce to have discussions with what their options are and trying to determine what action the Secretary is going to take.

I am hopeful that there will be some response fairly soon, but I don't have a specific data as to when the Secretary is going to make a determination. We normally go through a process of a lot of data analysis and try to determine lost revenues, or at least 30 percent, and all of these kinds of things that can take some time, but the Secretary could wave all of that and just go ahead and unilaterally declare a disaster, and, personally, that's my belief and what I hope happens.

Then, of course, it will be up to Congress to provide some funding to go with all of that, and so I am hopeful that things are going to happen pretty quickly, but I can't guarantee you that, but that's my hope, and I can answer any questions, if you have any.

 These presentations, particularly those that put some dollar values on the damages, like you have, and I know our folks are working with both of the territories on all of this, but those are really helpful to us, because they show the extent of the damage and how much people have been hurt from this.

CARLOS FARCHETTE: Blanchard.

 TONY BLANCHARD: I am sitting down here, and I don't know where to start, but I will start with thanking Roy for his efforts, regardless of if we get money or we don't get money. He didn't have to do it.

For the council, for their support after the first hurricane that they offered help, and for FEMA and the other agencies that stepped in, because, as bad as it is, it could have been a whole lot worse, and so I would like to start by mentioning that we've got a lot of the same issues that the Puerto Rican fishers have gone, and the Puerto Rican people have got. It's just more of a compact situation, because we're living on a rock. Let's face facts.

Some of us, like they said, still ain't got power. I don't have power, and I don't know when I will get power. I guess they will reach when they reach, but some of the big issues after the storm was the ice and the power. You've got no ice, even if you want to make the effort of going out and that your boat ain't damaged, but you need ice to -- If you find anything, any gear, you need to ice that fish, maybe for an extended period of time, and people ain't got no money. Everybody wants cash. If you go to the gas station, they want cash. If you go buy food, they want cash. Nobody wants to hear about no check and no card. It's cash you need.

How you will get cash? The bank has been destroyed, and so you tell me. I don't know, and so you had better had a stash at home someplace, or a stash someplace else, to come up with cash, or you ain't getting nothing.

Like I said, the efforts of the federal government, as well as the local government and everybody else, who I didn't touch base and thank, that stepped in -- Like I said, it could have been a whole lot worse, and I would like to thank them, not only for me, but I'm sure a lot of the guys in this room and on the islands feel the same way.

Losses here, I probably will take, just in gear, a third of my losses, but the balancing act is having to weigh one over the

other. You don't go out there and put in the time if you can't find your gear. The longer you leave the gear untended, the higher risk you've got of losing it.

I was fortunate to have minimum damage to my boat, but some of the guys took a lot more punishment, let's say, whether it be with boats or a house or you name it, but I got away, compared to them -- I wouldn't even say that I've got anything to talk about.

Right now, we're fighting with each other to be able to find somebody to work. I am working with another guy out of his boat, although my boat -- I had to bring it for repair, but I ain't running it, because, when you find the traps, you're pulling three or four or five traps coming up at one time, and you need space to work them traps in a boat, and you need power behind the engine to get each trap to the boat.

A lot of times, we just have to chop them off as they come and put them in the boat and untangle the rope, and so my boat can't handle that. This guy has a much bigger boat than I've got, and so I'm working with him, as well as he has got a diesel generator, which I think we all figured out that a generator is good, but you better have money to keep feeding that animal, because you will go broke real fast.

Mr. Magras is going to tell you the same thing. He's working with another guy that used to fish too that his boat went down, and it's a combination of my gear and his gear that we're trying to stay afloat and keep our head out of water, to make enough money so that everybody can make something at the end of the day. It's let's say, for lack of a better description, not an easy situation to be dealing with.

Then, with a lot of the businesses that have been destroyed, a lot of the bigger hotels, to move the product on the market is another problem. We've got, like Mr. Magras said, 15,000 children that have left the Virgin Islands. You think the children alone left, or do you think some of the parents went with them?

The mass exodus, which is local people, for the most part, the lack of business from destruction, or they just can't compete with the situation that we're sitting in right now, but we're bleeding, and we're bleeding fast. I am going to let Mr. Magras touch on whatever else he could touch on, but that's the situation we're sitting in right now.

 CARLOS FARCHETTE: We're going to take a quick break, but, before that, Alexis, I have a request to the Commissioner and your Director. If you can either provide us a copy or come to St. Croix and present this to the St. Croix Fisheries Advisory Committee, and I think that they would be very interested in seeing this, and, also, they can do outreach after you're done, for those fishers that haven't reported, because I think we have a lot of divers that may not have gear loss, because they're divers, but they just didn't report. We will take a quick, tenminute break.

(Whereupon, a brief recess was taken.)

CARLOS FARCHETTE: Continuing with our reporting for Irma and Maria, I have Todd Gedamke.

TODD GEDAMKE: Thank you, Carlos, and thanks, all, for having me again. I'm just going to give you a thirty-second introduction here and then show you a video that we're putting together. It's good to be back, and I'm not here because — I'm on my own, and I'm independent, and I'm not here because I love NOAA, and I'm not here because I love sitting in these meetings for weeks. They drive me a little insane at times, but I'm here because I've spent a lot of my life in the Caribbean, and I think that the fishermen are the heartbeat of these islands.

When I went around the world and looked at places to work, coming back here was a place that seemed that I could help make the most impact. Little did I know that these hurricanes would come through. For those of us that were here, we all have stories.

Daniel Matos mentioned that MER Consultants and my team have been assisting in the damage assessment. That's one way we can contribute, but we have a lot of people that are very passionate about helping the fishermen, and so we put a volunteer team of people together, and we also happen to have one person that produces film, Lourdes Lasta, and she has put together an eightminute video on the story of the fishermen, and so I think that this is our time not only to provide the numbers to the system, but it's also our time and our opportunity to tell the story of the fishermen as it went through. This is eight minutes, and this is a rough cut of what we're putting together, but I hope that you enjoy it.

(Whereupon, a video was presented.)

TODD GEDAMKE: If there's one community of people in the world that I have met -- Fishermen are strong, and fishermen are resilient, and fishermen will fight through this, we hope, through the federal process and through these other efforts that we're working through, volunteers, to give a little extra assistance in the process. Thank you. (Applause)

CARLOS FARCHETTE: Thank you, Todd.

MIGUEL ROLON: I believe that we have how many people more 11 before lunch?

13 CARLOS FARCHETTE: Carlos and Nelson.

MIGUEL ROLON: I believe that Julian also wanted to address the group and Tony Iarocci.

18 CARLOS FARCHETTE: We will go with Carlos Velazquez.

CARLOS VELAZQUEZ: (Mr. Velazquez's presentation was in Spanish and was not transcribed.)

THOMAS FORTE: (The presentation was in Spanish and was not transcribed.)

MIGUEL ROLON: We don't have that much time, and this is a good idea, and I would like to hear from Tony, so the other people around here can ask the questions to both of you of how this can be put together.

The other is we came here to also look for solutions and little bits that we can help here and there, and, just what you just mentioned, Alida can put together a booklet or a flyer of how a fishing community can prepare their lobster, or any other commodity, but the lobster in this case, for exports, who to go to and how to put it together, and that will be outside of this meeting, but Alida probably will contact you at some time to hear about this.

 TONY IAROCCI: Thank you, Miguel. Tommy, that was very enlightening to see, and I just want to give you a quick comparison. I have been working in Nicaragua doing this same project, but logistics in Nicaragua is totally different than Puerto Rico.

Tommy has got everything set up, the infrastructure from San Juan to Miami, which he's done already for years. He's done lobster, and he's also done swordfish and tuna fish, and so it's

set up. The timing is different. In Nicaragua, we go from the Atlantic coast, a little island that's off the coast fifty miles, from a small plane to Bluefields, and from Bluefields to Managua. Then we go from Managua to Miami and from Miami to China.

Here, it would be San Juan to Miami and Miami to China, the timing is perfect. The quality is there, and I've seen the infrastructure of this plant. The chillers need to be done, and in no way am I pushing exportation of product. The local market has to be considered first, but, at times when the local market is not there, fishermen need to sell their product, especially after a time of disaster.

These guys need to make money right now, and the market is there to sell this lobster now at a high premium price. Seasonally, the holidays, the Chinese New Year and at certain times of the year, the price of lobster is sky high, and that's when you go to that market. The rest of the time, when you have a local, you keep the local market, and you keep it going. You have to take care of your local infrastructure, your local market.

In no way am I saying export and not deal with the local market and the local people. That's your bread-and-butter, and that's what you have to do, but, at this time, we have talked about this for two years now. It's timing, and it's the timing right now, I think, to try this and do it right.

I've got a Chinese buyer, the guy that I work with in Nicaragua, and he's willing to come down here and set up the whole thing and put a pilot project together. We could do it right out of his place, and you can. He's already buying from other places. Carlos Velazquez has been selling to him, I know, for years, since I first came down here. He gets stuff out of the Virgin Islands.

If we can bring stuff by panga 150 miles to the north of Corn Island in crates and put them in the tanks, like Tommy is talking about, and chill them down and box them up and then pack them and send them, which takes way longer than going from San Juan to Miami, it can be done here 110 percent.

It's something that we have to consider, and there is other things that I want to talk about, different types of gear, and we don't have the timing right now, to help these guys build up and get going, but it's something -- He's ready to do it, and we've got somebody else. If people want to use this as a pilot project, we can put it together, and we can get this done.

1 2

CARLOS FARCHETTE: Blanchard.

TONY BLANCHARD: Let me say what I've got to say here, and it might sound a little crazy. I'm speaking from the Virgin Islands' point of view, at least my point of view. The idea of exportation at this point in time sounds really great, but, in the grand scheme of things, I think this is a dog getting ready to bite us in our ass.

Once we open the door to exportation in the Virgin Islands — The Virgin Islands have never exported before, and we're going to overrun these ACLs in the blink of an eye, and so now we're going to be suffering a massive shutdown, because everybody is going to be running out there to catch and sell, which we would have never done before.

It's not to say that the fishery can't sustain a bump and an increase in our catches, but now you're putting another factor into this grand scheme of things, and I am not speaking for Puerto Rico. I think, if Puerto Rico wants to jump on the bandwagon, it's good for them, but, for me, I ain't that desperate. I ain't that hungry. I've got to get real hungry to go that road, because this ain't just a problem that is -- This is a quick fix, but it's not a long-term solution. I find that, in the long run, to be a problem for the Virgin Islands, at least for the Virgin Islands.

Mr. Magras is behind there laughing, and Ed, because they know exactly what I'm saying, and I'm right on target, because, where we would have never run the ACLs over before, we're looking at a whole different problem to deal with now, and then we're going to hit that overfishing level, where we're going into a whole lot of grand scheme of things dealing with that. For me, the exportation deal is not on my agenda, and I don't know about anybody else's, but it ain't on mine.

I think we could explore other routes to possibly get business kicking in the Virgin Islands, and I don't know what it is. I will have to put some thought into it, but, for right now, like I said, I ain't that hungry. I will do with what I've got, and you would be surprised what I could put up with.

CARLOS FARCHETTE: Commissioner.

DAWN HENRY: Thank you, Mr. Chairman. Overall, the Virgin Islands launching into exportation is a huge move, and it's bold move, and such a decision would have to come from within the

Virgin Islands, and it would have to come after very careful and thoughtful discussions and deliberations, because I am a little bit familiar with the repercussions a lot of jurisdictions on the mainland face with the impact to local fishers when they deal with exportation, because big industry comes in, and they take over.

Because the Virgin Islands fishing community is so small, this will require, for us, if it is something that we decide to explore, to look at learning from what, in my view, are the mistakes from the on the mainland to ensure that the local fishers are protected if we decide to do such a thing, and so I do agree with Mr. Blanchard that, for the -- I am not, of course, speaking on behalf of Puerto Rico.

You guys might be much more advanced in this discussion and this deliberation locally, but, when it comes to the Virgin Islands, we are not at that place, and we are not willing to entertain this discussion now at this time.

CARLOS FARCHETTE: Miguel.

MIGUEL ROLON: We have some experience throughout the Caribbean even with the Chinese, because, in times like this, we have to consider everything. The fishermen are calling me, and we went to a meeting, as I said before, in Guanica, and they were thinking about controlling the price, which is illegal, by the way.

Some others say that, Miguel, I cannot sell anything here, and can you get me a buyer, and that's why we've had all the discussion, but, from the council point of view, and I believe Tony Blanchard touched on the ACL, if something like this happens, we have to implement a mechanism to make sure that the statistics will capture the exports, to make sure that we don't jeopardize the situation that we have with the fishers.

In other islands, specifically Barbados and others that we have worked with through the years, the same situation came in, and not after a hurricane, but they call the Chinese a hurricane of some sort, but they came, and the reason they had problems is, when they come, they raise the price of the species that they sell, and, when they do not have enough supply, they go somewhere else, and the fishermen are stuck with the price and everything.

To both extremes, there are some happy mediums in between, and the fishers -- This has to come from the fishers, and there has

to be something organized by the local and federal government in terms of eth statistics, which is where we can assist.

Number one, the idea is something -- It's something that has been discussed for the last two years, and it's not for everybody. It's not one-size-fits-all, but at least -- The other thing is this has to come from the fishers. I mean, it cannot be imposed anyplace, as you all know.

This can be presented, and the reason why I asked that Alida will be involved is because the fishermen ask us to assist in ways that they can open the opportunities they may have to substitute what they have lost, economically speaking, from the fishing activity.

They are talking about tourism, and they are talking about mixing fishing and taking people that have problems, mental problems or whatever, and taking them out to the sea, and not to drop them in the sea, but that they can have an opportunity to improve their capacity, and so all of this has been explored now by the Sea Grant program and the Agricultural Restoration Program, and the big part that they also asked us is to assist with the market, and that's what I wanted, because we are too close to breaking for lunch, and Julian and Nelson wanted to say something.

Mr. Chairman, maybe we can, afterward, we can talk to Tony and Tommy and see what we can put together that can assist, and, as I said, it's something that we can offer to whomever wishes to do so, and the caveat for the local governments and the federal government is that we have to be mindful of the statistics and how these behave regarding the ACL and what we have.

The experience that we have before is that some people were able to sell, because they don't have any avenues -- The restaurants were down and everything, but, when the restaurants came back, the restaurants didn't have enough from the fishermen, and that created another problem. It's like the people from Cataño were saying. Juan Cortina mentioned Cuaresma and we have a problem, because the timeline between here and Cuaresma is short, and we may be confronted with the issue that the fishers will not have enough offer to the demand that we have during those times.

I don't know, Mr. Chairman, what will be the next step, but I am sure that -- Alida, if you can meet with Tommy and Tony and see if we can put together information that can be distributed to the fishers, that will be great.

 CARLOS FARCHETTE: Okay. I have Marcos, but, while Marcos gets ready here, if you want to wake up that sleeping giant of export, you need the flexibility to adjust ACLs. Marcos.

MARCOS HANKE: To be very precise, I think we are not in the position now to close doors, and we have the opportunity to do a few things new in our area, and what they are presenting -- The other side of the coin is the price of stability, and that there is a request from the fishing community. Market stability is a request from the fishing community and under a controlled pilot project that will have all those nitty-gritty dangers addressed, and that's the careful part that you brought to the table that I agree, but it doesn't discard the effort.

Better and new quality of data sources, that's very important, and that's going to add up to the ACL revision in the future having a good source of data under a very controlled environment, and add to the professionalism of the fleet, or the fishing community.

That is very important, and, again, I want to stress that we are not in the position to close doors that are going to create a socioeconomic benefit to the fishing community, not now at this point for sure, and another thing that I want to mention is remember that, if in Cuaresma -- The price of the lobster is going to be paid more here, and the local benefit for the fishing selling in Cuaresma is going to be better under this controlled exportation that I think is the way to go, and that's my point. Thank you.

CARLOS FARCHETTE: Just in case, Cuaresma is Easter-time, Lent. That is what they are referring to. Tony.

TONY IAROCCI: To that point, I want to address the Commissioner's and Tony's points, and, like I stated at the beginning, in no way am I looking to take away from the local, domestic market and the local infrastructure, but this has happened everywhere now. It's happened here before, and the timing is right for this, only because, after the hurricane, and I would never even bring this up, but we've talked about it, but it hasn't been the time and with the right people.

This is being done now in Belize, and it's being done in Panama, and it's being done everywhere throughout the Caribbean, and I know the Virgin Islands and Puerto Rico are totally different places, but it's being done by local people setting up a local business, and the Chinese are not coming in. The only thing the Chinese are doing are buying the product.

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 If it needs to be done, and I agree, Miguel. After this, or any time after, in the next two days, people that are interested in putting, like Marcos said, a pilot project together out of his place, we can go ahead and do a sample shipment and look at logistics and pricing and timing, and I would love to be a part of it, if we can do it. If there is interest, let's do it. If not, we'll table it.

CARLOS FARCHETTE: Thank you.

UNIDENTIFIED: Most of all of our customers are hotels that we never had a problem selling them product. Right now, they're shut down, but what we're looking at is, when there is excess of product, we could ship them out, and we don't have to drop the price.

Even with the hurricane, I've been buying fish from the fishermen, and I haven't dropped the price, and I'm not going to do it. I am not going to drop. I have frozen a lot of product, and I bought them at the same price, and I'm going to keep it at the same price, but, if I could export, and not in a big quantity, but, if I could export a few pounds of lobster other places, it wouldn't hurt the market, but, like I said, I respect what the gentlemen are saying about the Virgin Islands.

 If they don't want to do it, or they're not interested in it, I respect their opinion, and I'm with them, and they could stay right there. I am not trying to export all the product out of here. That's not what we're looking, but we're looking at other alternatives that we could have when there is an abundance of product that we have to move it and we have a door open.

We have to be very specific that we're not going to ship all the product to them, but we're going to have some times that we're going to be exporting to them and some times that we're not, and that's another alternative that I'm looking for, but I respect the ideas of the people here, too.

CARLOS FARCHETTE: Thank you.

 TONY IAROCCI: Carlos, one last thing. To go along with the live lobster, a quality, fresh conch, and they're looking at sushi-grade conch, which would up the ante on the price of conch, but, like you said, we have to look at the data and how many pounds of conch are coming into the local market first, but, if you can do live lobster and fresh-packed conch, you have got two things going at the same time.

CARLOS FARCHETTE: Okay. Thanks.

UNIDENTIFIED: We could also do live conch, too.

CARLOS FARCHETTE: Fish is defined as everything, and so, if you're going to export one, you're opening the door for just about everything. That is something that you've got to look at. Thanks. Crespo.

NELSON CRESPO: Good morning, everyone. Regarding the lobster issue, it looks pretty good to me, but we have to be very careful that, at the end of the road, it's not going to end in the increase of the underreporting, and that is a serious issue that we have to take into consideration.

The only issue that I am concerned about with the lobster exportation is that it's not going to end up in the increase of the underreporting and the fishers are going to start to bring smaller sizes than are permitted by law.

MIGUEL ROLON: Let me say this, because we are getting -- We are past our lunch break, but, if we are going to establish something like this, remember that, number one, you cannot stop anybody from exporting from the U.S. to anyplace, especially with the President that we have now.

Second, the concern that the federal government and the local government should have is to make sure that we tally up whatever is caught that is legal and that it won't affect the fishery in the area. The exporting won't be that many, at the beginning, and so, similar to what Puerto Rico is trying to do to capture the taxes at the dock, where you have only 400 companies, but thousands of people selling and buying in Puerto Rico, the situation with the statistics will be the same.

We can develop a program, a project, whatever you want to call it, that Tommy, for example, if you have four more exporters, we have to fill out that form, and they will have the burden of making sure that what they sell out is legal and that we have complied with the 3.5 carapace length and all that and the species.

Again, the idea to bring this to the table at this time was just to give you another tool that is out there that the fishermen may want to use it or not, but, for the government, our responsibility is to make sure that we capture those statistics and that it will not jeopardize the efforts that we have here.

Can we move to Julian and Nelson?

CARLOS FARCHETTE: I don't know if Crespo is finished.

TONY BLANCHARD: I just want to make one quick statement, and I really don't want to speak for Puerto Rico in this back-and-forth here, but remember that Puerto Rico is suffering a closed season on the lobsters right now, and so, when you open that door, what do you think is going to happen to that ACL? You think that you're going to overrun it again? Probably.

NELSON CRESPO: Going back to Maria, I just want to read part of the report that I submitted to Mike Travis from NOAA. I would bring to the table another issue that we have to take into consideration.

After Hurricane Maria, I spent some weeks helping and talking with fishermen, restaurants, and hotel owners. The direct impact to the west coast fishers was devastating, and I can tell you that 100 percent, from one way to another, suffered losses of fishing equipment, facilities, fishing villages, like Crash Boat in Rincon.

 We are totally destroyed, and that's not to mention the personal losses, where some fishers lost all their belongings and their homes. The lack of electricity, drinking water, ice, and fuel caused that the market collapsed. Hundreds of pounds of fish, seafood, and bait, had to be discarded, and that means thousands of dollars. To aggravate the situation, a considerable number of restaurants were partially or totally destroyed, which means we will be more limited in being able to market our product in the near future.

Right now, around ninety days after Hurricane Maria, the future is not very encouraging. Only a few restaurants have partially opened and have to close early, because they operate with generators, causing that the few fishermen who can go fishing are forced to sell their products on the street for a small fraction of the price. An example of that is in one moment the lobster goes to \$2.50 a pound, and the snapper is going to \$5.00. and dorado and wahoo are around \$3.50 per pound.

We have fishermen that have left the island and are not going to come back. Most of the deepwater snapper fishermen do not want to go out for fishing for the fear of not finding a market and not being able to cover the high cost of the trip. The projections are very sad, and the economic is -- There is no fishing effort. This is going to be a long and painful recovery

process.

Right now, there is currently a massive exodus of the island to the United States, and the projections are that, for the first time since the 1970s, Puerto Rico is going to have less than three-million people in population. Adding to that is the big amount of flight cancellations to the Aguadilla airport and the thousands of hotel reservation cancellations are going to sum up a significant reduction of tourists for the west of Puerto Rico. Therefore, there will be a lower demand of fish in restaurants.

Another concern of the fishermen is about the catch and reports, because definitely there is not fishing effort, and that can cause the impression that the fisheries are in danger.

To end, the little attention and assistance from the government, local government, to the commercial fishing sector that has only been in the offer of bank loans and some incentives in the Agricultural Department of Puerto Rico, that the majority will not be able to reach, for the economic limitations, will be a huge obstacle for this industry to rise up guickly. Thank you.

CARLOS FARCHETTE: Thank you, Nelson. Julian. Then we've got Schuster, and then we've got to go.

 JULIAN MAGRAS: First off, I would like to start off by saying a special thank you to Dr. Roy Crabtree and his team and efforts for trying to help us to get the paperwork up to Congress to get the fishers of the entire Caribbean and the east coast, who all suffered damages through all the hurricanes here over these past few months, and so thank you very much for all the efforts and concerns that you and your staff have had and calling to see — Individual calls and calling to see how we're doing and if we need anything.

Also, a special thank you to the Caribbean Fishery Management Council, with them at least contacting us and also finding out, before they were struck with Maria, if we were in need of anything, council members and a lot of the staff, and I personally communicated with a lot of the staff that works with the council office until we lost signal, to ensure that -- They were checking to see if we were okay, and we were checking to see if they were okay, and so that was a great plus.

Bill Arnold and his team also, which falls under Dr. Crabtree, but Bill was always checking to make sure that we were okay, and we greatly appreciate that, and a special thank you now to our Department of Fish and Wildlife, which falls under Commissioner

Henry and her staff, who really, really paid special attention and came out and did assessments very soon after the storm and heard our concerns and tried in every way -- We had a big problem with getting our fish house power and everything, and we all worked with senators and the whole group until, finally, the pressure was turned on and we were able to get power back to one of the areas, so we can get some type of fishing activity going again.

It's been a great struggle. It's been a very, very great struggle, and I lost 90 percent of my business, and the guy I'm fishing with right now, he lost his entire boat, but he found 50 percent of his traps, and so I'm fishing with a seventy-year-old fisherman, and the both of has joined -- I found twenty-five traps out of 165 traps, and that's an example.

We are working together to try to make ends-meet for us to pay our bills, and that's pretty much what's been happening in our entire fishery, is commercial fishers has joined up with commercial fishers, because there is no young generation or no one that is interested in getting involved with that fishery right now, and we don't see anyone getting involved with that right now, and we have also had a lot of people who have dropped out and said they're not coming back.

Some of them lost everything, and they said they lost everything with Hurricane Marilyn twenty years ago, and they said they can't do this anymore and they said it's too much stress on them and they're too old for it, and so, right now, it's a struggle to get the product moved, the little bit that we are catching with the little bit of gear that we have left, but we are all working together as a team, the fishermen who are out there, and we are all sharing the little bit of customers and the little bit of people that are left on the island to come together and supply them and get money to pay our bills and start a small rebuilding process.

We are really hoping that Congress can act to get us some relief that would help us to build back to at least 50 percent by next year, by hurricane season, and so, by the time we pretty much get back up to 50 percent, we are faced again with another hurricane season upon us.

With that said also, a lot of our local restaurants have been severely damaged. Some of them were totally lost. Every hotel is closed on the island. The only people they are housing, the little bit of rooms that they have, is the first responders, and they are housing FEMA and the EPA and the Army Corps of

Engineers, all the people that came in to help us, and we greatly appreciate that they are there to help us, along with all the seven-hundred-plus linemen on all islands.

The sad part about it, after their job is done and they leave, there goes the little bit of money that we have pouring into the economy right now, and we don't know where we're going to end up and what's going to happen, but I thank God for life, because, with life, you have a chance to do anything. Without life, you can't do anything, and that's the motto that I have used to keep me moving forward.

Every time you have to take a break and think about a situation, it's very stressful, and it's very hurtful, and do you really want to keep going forward, and, like I said, we greatly appreciate it, and we all suffered so much, but I know there are a lot more people out there that have it worse than I do.

It's sad, but I know that we're going to recover from this, and we thank you, the council, for giving us the opportunity to present our cases, and we ask for the continued support as we move forward in the rebuilding process. Thank you.

CARLOS FARCHETTE: I've got Schuster for a quick minute, and then I've got to break for lunch.

EDWARD SCHUSTER: I am not going to repeat everything. Thanks for all the reports, Alexis and so forth, but I am just going to speak briefly on what was mentioned here about exportation.

For St. Croix, I think we're not in that position right now to go forward with exportation, the reason being that our industry is market driven, and we have enough questions on our minds right now when it comes to making that decision with our products and where it goes and the numbers and where it goes and if it's underreporting and what not, and so I don't think, at this time, for St. Croix, that exportation is a point.

Bearing in mind that there is devastation on St. Croix, and the whole bottom has changed. Where it was sandy bottom, it's now hard substrate, and, where it was hard substrate, it's sandy bottom, and flip-flopped from Hugo twenty-eight years ago, and I think that we should really think about the exportation part. Thanks.

CARLOS FARCHETTE: Miguel, and then we're breaking for lunch.

MIGUEL ROLON: Just a disclaimer. By no means -- The reason I

put this in my Executive Director's Report is because this is beyond what the council does, but we thought it was very important, and I thank Bonnie for the idea and the opportunity, but, by no means is the council or council staff pushing one way or the other any of the things that we have presented today.

It has to come from the fishers themselves, and it has to come from the local governments and the federal government. What we wanted to do is to offer different angles, different opportunities, for people to think about all of this.

I just received an email from a friend of mine, and he said, Miguel, remember to tell everybody that hurricane season starts in six months, and what he really means is that we have to prepare, and it's something that will keep happening, and so, the more prepared we are, the better, and so thank you all for this opportunity, Mr. Chairman, to allow the fishers and the presenters to offer their point of view. From our case, personally, anything that we can do to help, please let us know.

CARLOS FARCHETTE: Okay. We're going to break for lunch. We'll come back at 1:45.

(Whereupon, the meeting recessed for lunch on December 12, 2017.)

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December 12, 2017

31 TUESDAY AFTERNOON SESSION

The Caribbean Fishery Management Council reconvened at the Marriott Stellaris, Condado, Puerto Rico, Tuesday afternoon, December 12, 2017, and was called to order at 1:45 o'clock p.m. by Chairman Carlos Farchette.

MIGUEL ROLON: I have finished, Mr. Chairman, the Executive Director's Report, and we are going to go to the Scientific and Statistical Committee Meeting.

SCIENTIFIC AND STATISTICAL COMMITTEE REPORT

RICHARD APPELDOORN: Let me preface this by saying that we had a very challenging five days last week and an equally challenging late night last night putting this together to try to summarize

it, and I'm going to start off by kind of just reviewing some things that we've already gone through, just to kind of get you in the mood of where we're going, which was looking at the mechanism for dealing with scalars and buffers.

Just to confirm, we confirmed what our language was, in terms of indicator species, and we do have indicator species, and our indicator species is a species that we are going to evaluate and assume that its status is equal to that, or assume that the status of the other species in the group, in the stock complex, is equal to that species, and so we will only have to look at that one species, and our choice of indicator species was defined by six criteria and what percentage was it of the catch, was it particularly targeted, does it share habitat, life history, and vulnerability with the other species in the complex and is there data for it and is there something that is specifically in demand for the market.

Even though it might not be a really important species, in terms of total landings, it may be one that's important in terms of market demand, perhaps, at certain times of the year.

I am just going to go through what the indicator species are, and so I'm only going to show you the groups for which there are existing indicators. Others are either going to be single species or they're going to be treated as a stock complex without an indicator.

 In Puerto Rico, there is Snapper Unit 1, and silk snapper is the indicator species. For Snapper Unit 2, queen snapper is the indicator, and, for Snapper Unit 4, mutton snapper is the indicator. For Grouper Unit 3, coney is the indicator, and, for Grouper Unit 6, red hind is the indicator. For triggerfish, queen triggerfish is the indicator, and, for dolphinfishes, the dolphinfish is the indicator.

 For St. Thomas/St. John, the same kind of thing, and so we have blackfin for the first group and mutton for the second and red hind for the third and yellowfin grouper for the fourth one. White grunt is the indicator for that, and pluma is the indicator for the porgies. Both redtail and stoplight parrotfishes are indicators for the Parrotfish Unit 2, and surgeonfishes is the doctorfish, and angelfishes is the gray angel.

For St. Croix, basically it's the same types of species, again.
Here, we have two indicators for Snapper Unit 1, blackfin and
silk, and then lane, coney, red hind, yellowfin, and, again,

redtail and stoplight parrotfishes are the two indicators for Parrotfish Unit 2.

We get into our Tier 4 control rule, and there were modifications based on this coming out of the last meeting. Remember that the Tier 4 control rule is used when there is no accepted quantitative assessment providing status determination criteria. Status determination criteria would be something like MSY or some biomass at MSY or something like that, where we can actually say where the population is relative to what it should be able to produce.

We define "accepted" to mean that an assessment was approved by the SSC as being appropriate for management purposes, and so there may be an assessment done, but, if it's not approved, then we're still in a Tier 4 situation. There were changes in the text, and I will show you what those are, but, relative to the next point, which is the designation of 4a and 4b, within Tier 4, that is to say, they are now based on vulnerability to the fishery, and they are not based on any kind of assessment of the likelihood of overfishing based on landings, which was an issue before.

We also defined "consensus" for the Tier 4 control rule, and that is two-thirds of the participating members in a meeting must be in favor of putting something in Tier 4a. If not, it's going to go into Tier 4b.

 Please note that the scalars and buffers for Tiers 4a and 4b can be independently quantified, because there is different ways that you get to OFLs and ABCs on those pathways, and so we might use something like a 0.9 buffer for one type, let's say 4b, and we might use a 0.7 or something for 4a. Even though that 0.7 is lower, it's because the process you got to that point allows for that kind of differences in scaling between the 4a and 4b.

The last point I want to make is that the intent of the Tier 4 control rule is critical, and I have a separate slide on what that intent is. This is the control rule, and I'm not sure that I can read it from here, but the key part is that second sentence: No accepted assessment, but the stock has relatively low vulnerability to fishing pressure. Then you go into Tier 4a. A stock's vulnerability to fishing pressure is a combination of its productivity and its susceptibility to the fishery. Productivity refers to the capacity of the stock to produce MSY and to recover if the population is depleted. Susceptibility is the potential for the stock to be impacted by the fishery. That language is all out of National Standard 1,

or the National Standard Guidelines, and so we're not departing anywhere there.

Then Tier 4b is if you don't meet that, basically, you're going to go into Tier 4b. Under 4a, we have an OFL that's equal to a scalar times the 75th percentile of the reference landings period, and that scalar can be equal to or less than two, based on a number of factors, and you will see that we actually specifically talk about life history and ecological function. Then there is a buffer applied to that to get from your OFL to your ABC, and that buffer must be equal to or less than 0.9.

For 4b, it's the scalar times the mean of the reference landing period, and not the 75^{th} percentile, and the scalar must be less than one, because you're in 4b, and you're assuming that there is high susceptibility to overexploitation for that.

The difference between these two is simple. In the first one, first of all, our baseline is going to be the 75th percentile, and so we're already saying, if you're 4a, our baseline for doing our calculations is going to be ramped up, whereas, in 4b, the baseline is going to be the mean, which is a lower point, and we're going to ramp that down.

The scalars could allow you to move either way from those -- Well, the scalar in 4b always goes down. In 4a, you could move up or down, depending on these aspects of life history and ecological function that we've been talking about.

Here is the intent of particularly 4a. If you're in 4a, the implication is that you're not particularly susceptible to fishing pressure. Therefore, we could allow some expansion of the fishery.

If you have a low susceptibility, which means you have a high susceptibility score, because it's inverted, but, if you have a low susceptibility, this suggests that you could sustain a particularly higher rate of exploitation than under the current management system.

 However, if you have moderate susceptibility, and so your score would be two, you would approximately hold those species sort of near where we are now. That does not mean that they would not go up somewhat. They could, but the fact that they're moderate means that you don't have confidence in going and jacking up the exploitation on these species without additional information that would support that.

 A moderate score of two suggests that they would not sustain a much higher rate of exploitation, but that they're not overly vulnerable. If they were overly vulnerable, they would be already in a 4b situation.

This intent does two things. It links the scalar to the susceptibility scores, and I will present an example of those again, but this is something that was done in the previous meeting, and it grounds the baseline for the scalars such that a susceptibility score of two should lead to a harvest level that is similar, or marginally increased, from the present situation, but not one that would depress it, because that would be a 4b situation.

This provides the rationale for scoring the scalars and buffers and what is our intent, what are we trying to do, with this rule. When we can increase, when we think the situation is such that we can increase the catch, we want to do that. If we think that something is not particularly in trouble, but necessarily can't take a lot of extra fishing effort, then we want to keep it more or less where it is now. This intent comes back again and again when we're trying to deal with then deal with how we're going to define our scalars and buffers.

This is the decision tree, again, and now we're assessing vulnerability. Everything that is red with an asterisk means that we have to make a decision, and so we assess the vulnerability, and, as I said, this was something that was done not last week, but at the previous meeting, and it was reported at the previous council meeting.

We have year sequences, and these have been determined as well, and, in fact, they're the same year sequences for both the left and the right side, and then we have to -- Where we are, what -- Our major task for last week was dealing with the scalars and the buffers to get our OFLs and ABCs.

Just as a reminder, these are the reference periods for landings. They are different for Puerto Rico and the Virgin Islands, because the Virgin Islands went to species-specific data in 2012, and there is some nuances here, like not having 2005, because of a perceived overestimate of the expansion factor for the east coast of Puerto Rico that skews the data.

At the last meeting, I think I showed this, but these are the vulnerability scores for -- This is Puerto Rico, for example, for all the species, and so we are using indicators, and we have some species groups, and so we're not applying this to all these

species, but this is just an example of the exercise that was done.

All the things that ended up in 4b are down here, and you can see we have high scores here, which are reflecting both the fact that they are productive and they are not particularly susceptible to fishing pressure, and these were used, in part, in the assignment of things to either 4a or 4b, and this is actually used more as a check in that, but the check worked out really well, and so we're very confident in that.

It's easier just to show the 4b assignments, and, again, I showed these at the last meeting. For Puerto Rico, it's everything that's basically already under management with the addition of new species of the manta, the spotted eagle ray, and the stingray, cucumbers, and urchins, and so those are the new groups that are presented with the new species list, and these are in 4b for Puerto Rico.

There are fewer species for St. Thomas and St. John, and it's the same species, the groupers that are protected, the big parrotfishes that are already protected, and queen conch is already protected and Grouper Unit 4 in St. Thomas/St. John and, again, cucumbers and urchins.

For St. Croix, it's the same group of species, except now it's Grouper Unit 5, I think it's called, for St. Croix, but, again, the species that are basically already under management plus cucumbers and urchins.

Here are the susceptibility scores, and these are going to be what we're basing our scalars on. Remember that I said that scalar is going to be linked to susceptibility, and, again, this is just all the Puerto Rico species, and so this is much more than what we're talking about, in terms of management, because there will be indicator species for a number of these, and then some of them are going to be in a combined stock complex and not be treated as individual species, but you can see our scores. The way susceptibility was scored was on a scale of one to three, and so the minimum value was one, and that means you are highly susceptible, and three means you have low susceptibility, and then we have things in between, and, again, if you could read this, the 4b species are down here.

The question is we have lots of species up here that have higher scores and how are we going to do a scalar that's going to allow a greater degree of fishing pressure to be allotted to these as compared to the current ACLs.

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The first step is to get the OFLs, and one of our concerns that we actually discovered really late, like on -- It might have been Friday, or late Thursday, but the OFLs really need to be high enough not to trip an overfishing declaration due to a random reporting event, and this particularly happens when a species shows up rarely or there is a correction factor, and the classic example of this is the recreational data for Puerto Rico, where expansion factors tend to be large, and, for something that shows up infrequently -- In the extreme example, you get one fish, and it blows up something.

If you just happen to get another fish that year, just by random chance, you have doubled the estimated landings for that species, and that's really more of a random event than the sampling size of two fish is just large enough to dictate what the size of the population, the size of the catch, is.

We need to make sure that we're not randomly tripping and overfishing things, and so our overfishing limit has to be high enough to avoid that problem while still catching, if you had true sustained overfishing, we would pick that up.

You also need to have space between your OFL and your ABC, because we have to apply a buffer. If they're too tight, it gives no flexibility in where you want to be, and so that kind of says that you want to get your OFL up here, such that you can buffer down at a variety of levels, depending on the importance of the species in terms of its ecological function or in terms of its degree to support fishing, and so we would want to buffer down a susceptibility score of three species much less than a susceptibility of two species, because we think that susceptibility of three species can take more fishing pressure.

I apologize for the phrasing, but we need to scale the scalar relative to the intent of our Tier 4 criteria. Remember that, a moderately-susceptibility species, you would be multiplying by a susceptibility score of two, for example, and this is for example, by 0.5. That brings that OFL level back down to the 75th percentile, which, when we applied a buffer, would get it kind of close to where it wants to be.

For low-susceptibility species, we would be multiplying by three. If we had that same 0.5 scalar, and I'm just using this as an example, it returns your OFL back to 1.5 times the 75^{th} percentile, and so you're getting a substantial increase there even after you apply a buffer.

 So how do we do this? Here is an example of -- I will use the same dataset for the moderate and the low susceptibility, and so the moderate susceptibility would start at your 75th percentile, which is that blue line, and you would apply your scalar, starting with susceptibility, and so the susceptibility is two, and so you're multiplying by two. You would then add that 0.5, and, again, that 0.5 is just an example, which returns that green-dashed line basically back down to the 75th percentile, and that would be where your OFL would be.

In this case, it just bumps you up and then bumps you back down, because is not a species that we necessarily think will take a lot more fishing pressure. It can take a little bit more, which is why we have it at the 75th percentile, but there will be a buffer applied to that, and the buffer might bring it all the way back down the average value, which is where ACLs are set now, but it might not. It could allow for substantial, or at least a little bit, of increase.

If this was a low-susceptibility species, then we're multiplying -- Our susceptibility is three, and so we're bumping that 75th percentile way up. Then, if we kept that same 0.5 scalar, it would return it back down to a value that is 1.5 times the 75th percentile, and that would be our OFL. We would apply a buffer and get some substantial increase in what would be allowed under the ABC relative to what we have now, which is set at the average value.

For those species that are low susceptibility, we're looking to have a substantial increase. The question really is, okay, what is this value really going to be, but 0.5 is something that works in this scenario, but there is a catch.

We have to be higher to not trigger our overfishing due to random reporting, and we have to have that space in between. We need to scale the scalar relative to variability in the data, and that's the key thing here, is because -- This is real data for a species, and you can see that, in one year, the catch is just super above everything else, and this was a recreational correction factor that did that.

We wouldn't want this fishery to be tripped into an overfishing situation just because we had this one year of statistical artifact, and so we want to be able to account for that kind of variability when we're scaling our scalar, and we're going to use the coefficient of variation as our measure of relative variation.

 The coefficient of variation is the standard deviation divided by the mean, and so it's a relative estimate of how much variability you have that's independent of whether your landings are high or low.

Just to give you an idea of what we're dealing with, this is data that was on hand and provided by the Southeast Center, or Bill's group, I think, actually provided that, but it's not data from the reference periods.

It's just data from Puerto Rico over a time series of catches, but it gives you an idea of what's going on, and, for purposes here, I have put green on those that are either species that are going to be managed in Puerto Rico or are the indicator species that are going to be managed, the red are the 4b species, and the black is either something that is part of a species complex, that's being covered by an indicator, or is going to be lumped with other species as a multispecies complex without an indicator.

There is a couple of things to note here, and one is that our — This is the coefficients of variation, just running this direction, and it's not on any particular scale, but they're just in order, and you can see that when the coefficients of variation are low, and let's say they're on this side, they're also coupled with species that are particularly important to the catch in terms of the volume of landings.

When we get over here, we're down in the thousands of pounds, or even hundreds of pounds of landings, and, again, this is Puerto Rico, and so we're dealing with species that are more marginal in the catch, and that's one of the reasons that their coefficients of variation are so high, is because they're not showing up very often and so there's a lot of variability in that. You only see the one error bar, because the other error bar goes off the scale, and so it was only drawn once, and so there is sort of a dividing line at about a value of one, where you get kind of reasonable values.

Then, over here, where things start getting a little bit more variable, we quickly realized that we have two separate groups. We really have to treat this group, which is our main species, different than here, because, here, the variability is still at a point where the method we came up with is questionable, and I will get to what might be done with those, but we actually didn't get that far.

Keep in mind that we are talking basically -- When I talk about

scalars and buffers from now on, we're talking about the 4a species in here and not so much about the ones that are down here, but these are the ones that are of less importance, at least in terms of total landings, in the fishery.

CARLOS FARCHETTE: Richard, we have a question.

TONY BLANCHARD: I've just got a question for everybody here, because I am kind of totally lost here, and I am wondering if I am the only one.

RICHARD APPELDOORN: You can't be the only one, because I got lost about four times putting this presentation together, and I was at the meeting and had extensive notes.

TONY BLANCHARD: To be honest with you, I don't understand what's going on. For me to even have a question or make a statement, I don't know what to be asking or saying. I mean, I am looking at numbers, and I'm totally lost as to what is going on and how the scalar and buffer are going.

RICHARD APPELDOORN: Well, we'll get to --

TONY BLANCHARD: I just can't figure it out.

 RICHARD APPELDOORN: Right now, I'm just putting together an issue that we had to deal with, and it will come back down to numbers. I'm not sure that's going to make it any better for you, and probably not, but I think it's important to have on the record what we were doing in a quantitative sense, but it is difficult, and, as I said, I got lost myself, and so I can understand.

The variability is important. If we don't deal with that, we're going to have a situation where something gets triggered as being overfished, and we're in a rebuilding plan for something that was a statistical artifact, and that's what we're trying to avoid, and so it looks very complicated, but the goal is fairly simple.

CARLOS FARCHETTE: Miguel.

 MIGUEL ROLON: Most of all, that looks like a Christmas decoration, but the whole idea is to put it on the record. What we need to ask Richard when he finishes is what would be the next steps and what are the recommendations, specific recommendations, of the SSC regarding the species or species group that we have, because all of this, as he said, is

important to clear up some of the issue that they discussed at the SSC.

 They spent two weeks discussing this, and this last week is when they came up with this recommendation, and so I would encourage you to wait until he finishes his presentation and then come back with your questions about specifics that he needs to address and convey to the council.

TONY BLANCHARD: I understand what you're saying, Miguel, but, from the last council meeting, I had some kind of idea, or at least I think I had an idea, as to what was going on, but now I'm completely lost with this here, and I don't know what to say or what to do, to be honest with you. All I've seen is numbers and scalars and everything else, and I don't understand what is happening.

CARLOS FARCHETTE: I think he's going to bring it back, but Commissioner.

DAWN HENRY: Good afternoon to everyone. We apologize for arriving a little bit late, and we understand that the council had to start the meeting timely, but I wanted to put on the record, if you would allow me, Mr. Chairman, a statement from the Virgin Islands as we move forward with discussing this portion of the agenda.

Again, I am Dawn Henry, and, as the Commissioner for the Department of Planning and Natural Resources, the Division of Fish and Wildlife, I am the government of the Virgin Islands on this council. the representative As government representative, I state, for the record, should the Virgin Islands not be satisfied with the determinations made with respect to this portion of the agenda, the government will challenge those decisions that it disagrees with. The Virgin Islands will exhaust all available avenues, to include filing any necessary legal action.

Notwithstanding that statement, the Virgin Islands is here to fully participate in the discussions, in hopes of reaching a favorable decision to the fishers of the Virgin Islands and the wider economy. Mr. Chairman, I thank you for allowing me to make this statement.

CARLOS FARCHETTE: Thank you, Commissioner. Roy.

ROY CRABTREE: Well, I think, in the interest of trying to work this out, what I am getting is there is a lot of confusion as to

how this works and what it means, and I think one thing that would be helpful is if we could get a copy of Richard's presentation, because I don't think it's in the briefing book.

If we could get a copy of the presentation, so that people can look at it, and I don't know how much of the beginning of it you missed, but, Richard, could you kind of back up and walk us through again?

RICHARD APPELDOORN: All right. I think this kind of summarizes what we're trying to say in hopefully a simple graphical form. We have a series of data, and that's associated with an average. In our current ACLs, or current management regime, the ACLs are set to the average. What we are trying to do for these species is, because they're in 4a, is to allow an increase in how much can be taken and understanding that we don't have a lot of information about where that should be.

The first thing we did was we said, okay, we don't want to deal with the average and we want to deal with the 75th percentile, because that's going to be a higher value, and we want to use that as our baseline, and this will allow us to, where it is appropriate, allow a higher catch level for particular stocks.

Now, remember what we are doing is developing a process. We are not looking at, and have not looked at, what the actual ACLs and OFLs would be for any species. We are trying to develop a system that will work across all species that is defensible from a science point of view.

We have a scalar, and our scalar for a low-susceptibility species is three, and so we would multiply our 75th percentile by three to get some value up here. That is part of our scalar, and the second part of the scalar is some other value, which we haven't determined yet, but a value of 0.5, approximately, works relative to what our intent was for Tier 4a, and so, in this case, we multiply by three, and then we basically cut that value in half, and we end up here, and that's our overfishing level, and you can see it's higher than anywhere in historical catch.

Then there would be a buffer applied, and we haven't talked about buffers and what those would look like, but that buffer would bring the OFL down to some ABC, and I randomly drew a line here. It could be up here, or it could be down here, and that depends on a number of factors, and certainly not the least of which is how we calculate the buffer, but there is a buffer that goes from OFL to ABC.

 The only constraint on that is that the buffer has to be greater than -- It's going to be less than or equal to 0.9. If it was 0.9, it would be up here someplace, and so that's what we're trying to do.

We're using susceptibility to say how much can we raise our catch above initially this 75th percentile, and then we need to scale that relative to our intent, which was really based on a moderate-susceptibility species where the score is two, which basically brings it back down to that 75th percentile, because we're saying this species is not particularly good and it's not particularly bad and we can allow a little bit more exploitation on it, but it's not a 4b species, where we want to cut it back, and it's not a susceptibility of three species, where we know we can put it higher.

This figure shows what we're trying to do, and the rest is how do we come up with whatever this value is going to be, and that ends up being fairly complicated.

CARLOS FARCHETTE: Richard. Roy.

ROY CRABTREE: What we have on the books now, if I understand this right, is most of our ACLs and ABCs are based on the average, generally speaking, now, right? That's kind of the line that is averaged, is what we have now.

RICHARD APPELDOORN: I think the initial species, which were the ones needing attention, were based on the mean, and I think that the second round, the 2011 species, were based on the median.

ROY CRABTREE: Okay, but it would be somewhere in that neighborhood.

RICHARD APPELDOORN: Yes.

ROY CRABTREE: For the stocks that we think are not likely to be in trouble or have problems, this then gets scaled up three times and then, based on these buffers and things, it comes back down somewhere between that dotted green line at the top and what is the 75^{th} percentile?

RICHARD APPELDOORN: You could buffer it below that, but I don't know why you would want to. In this scenario, you wouldn't want to. If you were a moderate-susceptibility species, you might want to buffer it.

ROY CRABTREE: In this scenario, we end up with an ABC that's

higher than what our current ACLs are and an overfishing level that's higher again than that.

RICHARD APPELDOORN: In this particular situation, and, again, it's hypothetical and I just drew the lines, you can see our ABC is above everything except the highest recorded catch.

ROY CRABTREE: Yes, and so we what we have had happen in recent years is some closures in this recent part of the timeframe, because we went over the ACL, but, if we followed this process, we wouldn't have had any closures, it looks like. I guess what I would like to see, Richard, is you had a -- I think I heard you say that most of the species that have large landings fall into this low susceptibility.

RICHARD APPELDOORN: No, I said the ones that have large landings have low coefficients of variation. It includes both moderately-susceptibility and low-susceptibility species.

ROY CRABTREE: Do we have a list somewhere, where we can look at what species is what, because you did have a graph, but it was a lot, and I couldn't read any of it.

RICHARD APPELDOORN: We could blow that up and go --

ROY CRABTREE: I am assuming, for example, that spiny lobster falls into this group.

RICHARD APPELDOORN: Yes, it does.

ROY CRABTREE: Okay, and dolphin and things like that.

RICHARD APPELDOORN: Dolphin, and remember that this -- What we're trying to work right now is kind of a default value. If, for some reason, we think something really shouldn't get that default value, either because we think it can support even more, and you mentioned dolphinfish, and that is one of the examples, it can go even higher.

If it's something that has ecological value and we think that catch should be lowered to be able to maintain that ecological value, it can be lowered, but there has to be a justification to warrant those changes.

CARLOS FARCHETTE: I've got Miguel and then Bill.

MIGUEL ROLON: Can you give us an example with an animal -- Let's say that the average is 1,000 pounds, and can you walk us

through the end of this to decide what will happen to that 1,000 pounds, if averaged? It's very difficult to follow the numbers, and I believe that the fishermen are thinking of the lobsters, for example, or whatever species. Let's say I have 1,000 pounds of lobster, and that is the average at this time, and that's the level that you have now, and where would that go following the graphs that you have here?

RICHARD APPELDOORN: I can't tell you that specifically, because of what I haven't shown you yet, and it gets complicated. What I can tell you, if you want to look forward, is that 0.5 that is in red, that is kind of a target that we're looking at, because, for those susceptibility of two species, dividing by 0.5 gets you back down to that 75th percentile, which is kind of the intent of what we wanted for a moderate species. For those that are low susceptibility, we want to bump it up higher, and lobster is going to be one that's going to go higher.

MIGUEL ROLON: If I may, let's do it, and then you correct me.

RICHARD APPELDOORN: Let me just make one thing. That 0.5 is a value that we actually -- It works well, but it ran into problems with the question of variability, but we will come back to that, and we actually come up with something that's close to that, but not exactly, and you will see that when I get to that.

The 0.5 is actually a good guideline of what we're trying to do, and, therefore, this would be a good guideline as to what you might expect for a low-susceptibility species, except that I kind of randomly drew the buffer, but your OFL is going to be way high, and then there is going to be some buffer applied to that, but it's still going to end up with some catch that's well above, I would imagine, the $75^{\rm th}$ percentile.

MIGUEL ROLON: What I am trying to do is to translate that into something that people can understand. A 1,000-pound average, I will multiply that by three to get 3,000. Then you multiply that by 0.5 and you have 1,500. Is that the way to follow this?

RICHARD APPELDOORN: No, because you -- You mentioned average.

MIGUEL ROLON: I just want to make it simpler.

RICHARD APPELDOORN: Okay, and so, if your average is 1,000, your 75th percentile might be 1,300, and I will just make up a number. It's that 1,300 that gets multiplied by three, and so you're at almost a value of 4,000. Then you're going to divide that by two, and so you're just a little bit below 2,000 at this

point, and so that would be your OFL, is now double what your average is, and then there would be some buffering down from that.

MIGUEL ROLON: That's the point that I wanted to bring to the attention of you guys, because, when you see all of this and you're a scientist, you figure it out. When you're a fisherman, you don't care about the graphs. You care about the bottom line, if that will double my catch, the OFL, or not.

What Richard is telling is -- Remember that Richard cannot venture more numbers here, because all of that depends upon the number-crunching that they will do, but, with this example, what the scientists are trying to tell you is that, when you have a species like the spiny lobster that has low susceptibility, meaning that the chances of that fishery to be overfished are lower than the other species, or maybe nil, then what you have historically done is you take that average of landings.

With this methodology, you will be able to -- Remember that we have to demonstrate this in court, and so the scientists have to make it solid. Whatever they recommend to the council has to be solid, so that it will sustain water in court as to the science that backs it up.

What they are saying is that, if you have a species group like this one and you have this average at the end of the process, you may end up doubling the OFL that you have for that particular species, and that will benefit the fishers and that will benefit the fishermen, but, whatever you do, you have to demonstrate that the data sustains it and that the methodology that the scientists are going to use is sustainable in front of scientists and in front of court.

CARLOS FARCHETTE: Roy.

ROY CRABTREE: If you look at that ten-year period there from 2005, we were under the average for seven years and over for three years, and, if you were to take the running average over the whole time period, it would be the average, I guess, but we could end up with closures in three of those years because the catches were over the average, what would have been the ABC.

I think what they're trying to do here is, if it fits into this Tier 4a, is to find a way to allow the catches to go up, depending on how vulnerable they think the stock is and to find a way to avoid shutting the fishery down because, every now and then, we happen to have catches that go up.

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 Maybe it's market driven, like you guys have talked about, and so this is a seemingly -- It's complicated, because it's mathematical, but they're trying to find a way to ensure that, if we just have an occasional high year of catches, we then don't end up going over the ACL and having these closures. If it fits into this type of category, by and large, the allowable catch levels are higher than what we've had in the past.

CARLOS FARCHETTE: I have Bill and then the Commissioner.

 BILL ARNOLD: I just want to make sure that nobody draws any relationships between this process and the old ACLs and OFLs, because there is not necessarily any relationship between the two.

You may find that the old ACLs end up being higher than some of these new ones and the old ACLs may be lower than some of the new ones, because we're using completely different -- Especially in the Virgin Islands, completely different year sequences from which to draw that average, and that has a tremendous impact on the outcomes. While this may not be enthusiastically received by everybody, I think it's really important to get that on the table out front, so that nobody is surprised down the line.

CARLOS FARCHETTE: Commissioner and then Blanchard.

DAWN HENRY: Miguel was -- He walked through the scenario that I was trying to further understand what was being explained, and my added comment is, as we move through the explanation, are we going to get a better understanding of how we chose the susceptibility and to multiply that times three and as well as, on the other side, when you are trying to determine how you're going to bring the number back down, to then apply the buffer, because, for me at least, my understanding is there has been times, maybe in the past, where limits may have been set, if you will, arbitrarily in the Virgin Islands, and I just want to make sure that the science is taking into account what is actually happening in the fishery.

CARLOS FARCHETTE: Blanchard.

TONY BLANCHARD: Let me try recounting my statement here. I agree with what Roy is saying and what Miguel is saying, and I think they are trying to simplify it, but, then again, you need to understand that most of us don't understand this.

This ain't like -- You would say your forte, but this is not our

forte, and so it's a little complicated, especially when Richard is saying that he gets confused himself, and this is his report, and so I really don't think it's as simple and as clear-cut to some as to others.

Now, I am not saying that this is not the way to go, and I'm not saying it is the way to go, but what I'm saying is, before I could make an educated judgment on something, I need to know exactly what I'm looking at, number one. Number two, when the dolphin and the wahoo was mentioned, is this going to come into play with the same determining factors? In other words, are we going to use this -- If we go with this, this strategy, are we going to use that for the dolphin and the wahoo?

I am going to explain to you why now, because remember, about a year ago, or a year-and-a-half ago, when the dolphin and the wahoo came on the table, and I was saying that I would rather not see them being under the council's jurisdiction, for the mere fact that we don't have the information. This is a migratory species, and so they're in and out of here, and we don't have the information on the books, because we have never really collected it.

We don't have a recreational program, and the commercial sector is mostly charters. They do that on charter boats, or the commercial guys might catch one or two while they're out fishing, and so, if we're going this route with the dolphin and the wahoo, that's going to be a major problem, because you have no numbers to work from, and so you can't expect to get any numbers to begin with.

In other words, the numbers on the books are so low that, no matter what kind of expansion factor you want to give, at the end of the day, the numbers are going to still be low. I mean, let's face facts. We are shooting ourselves in the foot, at least for them couple of species there.

On the year sequence, I remember, at the last meeting, and maybe Bill could refresh my memory a little bit here, because you know I'm getting up in age, but I asked whether all the species had to use the same year sequences or they could be different year sequences for different species.

As far as I remember, it was said that you could use different timeframes, the year sequences, for different species and that there was nothing on the books saying that you had to stay with let's say year-one to year-two across the books, and so I just wanted to put that back out there, unless I am completely

confused with that, too.

 The thing is, like I said, some people may completely understand what's going on here, but I can't certainly sit here, in good judgment, and say that I do. I basically am grasping for straws and trying to figure out what Roy is saying and what you're saying and what Richard is saying, and I'm trying to put it together.

Like I said, it ain't simple for me, and I'm pretty sure that it ain't simple for Mr. Magras. Richard himself said that he got confused, and this is his presentation, and so, if he's getting confused, what do you think I'm getting? I mean, if I've got to question something, I will question it. I ain't going to sit down here in the chair like a moo-moo going along with the program. That ain't me.

I need to make sure where I'm stepping before I step. Do you understand what I am saying? It might be the way to go, and it might not be the way to go, but the thing is, at the end of the day, I've got to know what we're talking about.

CARLOS FARCHETTE: Roy.

ROY CRABTREE: I agree with Tony. You need to understand this, and it is complicated, and so we're not making any final decision on any of this today, but it is important, because, if we don't know what we're voting on and we make a decision, we've got to answer to people about it.

Now, I think, for species like dolphin, it would have a very low susceptibility to overfishing, because they grow really fast and all of that, and so my guess is, if you did this with dolphin, you would end up with a catch level that's a lot higher than your average catches and something you're not likely to get to, but I'm trying to think of -- Maybe what we need to do is come in -- One thing that I think we need to see is a list of the species, which ones are low susceptibility, and so would be in this kind of group, and which ones -- I mean, you showed us some of them, I think like Nassau grouper and manta rays, that are going to have high susceptibility, but what's in that middle ground.

Then maybe what we need to do is work through some specific examples, so we can see here's what we have now, and, if we went through this, here's what it would give us, and maybe a couple of examples kind of in low susceptibility, somewhere in the middle, and high susceptibility and really lay out how it works,

so you can see how the numbers change and where it goes, and that might be a way to better understand where it's going to take you. Does that seem --

Sometime, maybe when we meet again in the spring, or even in the summer, we're going to want to choose preferred alternatives on some of this, but that's months away, and so maybe we could think about how to work through some of these things, and maybe a webinar or something, where we could work through some examples or something, but we didn't have to meet, but we could do that between now and the next meeting, something like that, so that people could get more comfortable.

I hate to think of us -- You know how these meetings go, and we tend to worry a lot about it now, and then the meeting is over and we go worry about a lot of other things, especially with all the things you guys have got to deal with, and so we make sure that we don't come in at the spring meeting in April and everybody is rusty and has forgotten and then we're right back where we started, but that's just some thoughts.

MIGUEL ROLON: One of the things that I read is that I am responsible for the record, and I believe that, at this time, that we should allow the SSC Chair to finish, even if we don't understand what the hell he is talking about, because we need to put that in the record.

Then, in between -- Adopting the idea that Roy has, probably, in between, we can have a workshop, where the people don't have to make decisions, but it can be a one-day workshop, and we can invite the people around the table and the public and have a meeting where the only thing that we are going to discuss at that meeting is specific examples, and these are just examples, of how these behave in the real world of fisheries, but, at this time, I beg your indulgence that we allow Richard to finish, and so that will be in the record.

Remember that, when we talk and we have all these things on the board, we are talking about the federal zone. Then the local government will follow suit if they adopt whatever the federal strategy is. They can adopt it in the area of jurisdiction, and the other thing is that people are watching us all the time. If we don't do this right, meaning that we don't have the best science available, we can be challenged by everybody and his brother, and there are people that the only thing that they do is listen and take notes and sue the hell out of the Secretary of Commerce.

 That is not bad, but it's just that they want to make sure that we follow the dots of the MSA, and so, if we can allow Richard to finish, then we can come back to specific questions, and please write it down, but specific questions to Richard, because, some of the questions that we have, they already have discussed it, and they have the presentation, but it's just that, the way they present things, it may not make sense to you at this time, but, once we have this orientation meeting, probably we will be better prepared for the decisions on the documents that we are going to take to public hearing in 2018.

RICHARD APPELDOORN: I want to reiterate a point that Bill made, and is that we're using new year sequences, and so, when you're comparing an absolute value of an ACL from what exists now and what will come out of this process, they may not be comparable in the sense that you normally think about it, and that is the sense of absolute pounds was here and now absolute pounds is someplace else. I have a final slide to introduce that concept, and it's a really important concept, and so we'll spend time on that.

We had to account for the variability, and so we defined something which I am calling the variability adjustment factor, VAF, for lack of a better term, and it's the maximum scalar -- It's going to be the maximum scale of the indicator minus the CV divided by that, and what this does is it standardizes the magnitude of the scalar relative to the extent of variation across species, regardless of where that variation is, so we can treat everybody the same.

 As you will see, we are only applying this with species where the coefficient of variation was less than or equal to one, those things where we have good data at the moment, and then we were stuck.

Fortunately, we had Shannon, who was able to put together a simulation to show how things are varying, and this is a really complicated spreadsheet, and I hesitated to show it, but I decided that I would. What you're looking at here is potential buffers. What you're looking at down here are those susceptibility scores, from a low susceptibility, or a high score, to a moderate susceptibility, or a moderate score.

What is being reported here is the percent change in what the ABC would be above what the mean value was, and remember I was saying that that value of 0.5 seemed to work in terms of scaling the scalar, and that's why we're looking at this scalar here, because this is the value of 0.5, but now it's incorporated into

the buffer.

What it says is that, if you have a high-scoring species, that is to say low susceptibility, and you use a buffer of 0.5, and you use that variability correction factor that I mentioned, you are going to end up with an ABC that is about 60 percent above the current mean.

Now, I say about because these numbers change, but they change very slightly. This value here might vary between 55 and 60 percent, depending on what your coefficient of variation is. Down here at the moderate level, where we want to get kind of back to where we are toward the mean, you would get, in this particular case, a 6 percent increase above the mean for your ABC. This number might vary between 5 and 12 percent, but it's always getting you close to back to where you were in terms of the mean, and these numbers are always a lot higher.

As your buffer increases, you increase how much above the mean your ABC is going to be. We chose the 0.5 as our default value for this process because it fit exactly with what the intent was for the control rule, and remember I said it allows us to go up or down, and so there are species that we go up on, and so, if we go this direction, we're getting to the point, say at 0.65, if we got that far, and this should be 0.55, by the way, where you would actually be doubling the mean value for your ABC.

This is pure simulation, and it's just based on a random 10,00-pound mean, I believe, and then it's applying things, but, by doing this simulation, we could see what the behaviors of the buffers are relative to our intent after the application of the scalar, and the scalar, remember, is the susceptibility scores times that variability adjustment factor.

CARLOS FARCHETTE: Richard, we have a question from the Commissioner.

DAWN HENRY: Just one quick question. Do you anticipate, for some species, for example, that you would be able to choose let's say a lower number under the susceptibility, and so maybe the two, and then would you be able to increase the buffer? Do you have that flexibility?

RICHARD APPELDOORN: Flexibility exists under the system. We did not recommend that, but, if you were down at two, you're not increasing -- Even if you increase the buffer, you're not increasing things very much, because it's a moderately-susceptible species. It's only when you get the low-

susceptibility species, up here, that you really start getting substantial increases if you were to increase the buffer value.

DAWN HENRY: One final question. If you look, for example, at the 0.85 buffer with the two, and you have 80 percent, what does that 80 percent represent?

RICHARD APPELDOORN: If you applied a buffer of 0.85 to a species of moderate susceptibility, that value of two, your ABC would be 80 percent higher than the mean, the average.

As I said, these absolute numbers depend on what the coefficient of variation is, but they don't change more than a few percent, regardless of what that variation is, as long as it's staying below one, and so it's a fairly stable system to work with, but this is why you can't predict exactly what's going to happen, because you actually need to have what that coefficient of variation is for that stock, for that island, and we did not have that information, nor did we particularly want to look at that, because we're trying to develop a defensible system and not look at numbers and say we really wanted that catch level to be here, because that's presupposing that we know where the catch level should be, which we don't.

That's why they're in Tier 4. If we had some of what is called status determination criteria, we would be using a Tier 3 value and be able to predict more precisely where we should be.

 Trying to summarize this, we have this default scalar, which is the susceptibility score times our variability adjustment factor, and so, under a low susceptibility situation, where the susceptibility is three times that factor, our scalar ends up being approximately 1.5. It can be a few percent up and down, depending on what that variability is.

The moderate susceptibility gets you back to a scalar of about one, which is what we wanted. That gets you back down to the $75^{\rm th}$ percentile. Well, according to the table that I just showed, it's going to get you closer to the mean, but slightly above the mean, from the data that's available.

We also determined that, if we're using multispecies stock complexes, we're going to use the mean value of susceptibility scores. We had only one case where that showed up, where not every species in that complex had the same susceptibility, and so we just took the average, and that seemed to work fine.

The default value can be modified up or down, given additional

information, and so, for 4a stocks, the OFL is the 75th percentile times the scalar, and that 75th percentile will be interpolated if it falls between two values, and that's just there for the record.

Note that, for moderately-susceptible species, application of this buffer would return a value closer to the mean, and so application of the scalar and the buffer gets you a value closer to the mean, which is consistent with the intent of the 4a control rule. For 4b stocks, the OFL is the mean times the scalar, and so that's going to bring it down, just as before, but note that this is only applied to one group, and that's Grouper Unit 4 or 5. It's the same species, but the number changes depending on which island you are, and so that's the yellowfin grouper and red and tiger grouper and I forget what else, and so there is only one group where this 4b formula is actually applied.

There are exceptions, and so you can go up and down from the default, and there are exceptions. The first ones we're going to talk about are species of high ecological value. These are species that have important ecological function in addition to their function as fishery production.

We're using the same species that are currently considered, in terms of high ecological value, and we're using the same current reduction that is being used now, and so surgeonfishes and parrotfishes, which have important herbivore roles, surgeonfishes are reduced by 25 percent, and so we have a new scalar that brings in this 0.75 to bring it down.

For parrotfishes, recognizing particularly their importance in the catch of St. Croix, we don't scale it down as much, because we have to -- We have to be realistic about the impacts here, again, and so these are the same reductions that are currently in place that are now embedded in the scalar definition.

For most of the 4b species, we just chose to define ABCs equal to zero, because this is where they are now, and so Nassau grouper, goliath grouper, and three big parrotfishes are all set right now at ABC equal to zero, and we wanted to do that in Puerto Rico for the manta ray, spotted eagle ray, and stingray, because they are new species in the Puerto Rico list.

Also, for queen conch for Puerto Rico, St. Thomas and St. John, and, again, this is the federal area of those areas, of those jurisdictions, and, again, for sea cucumbers, urchins, and corals, which we haven't mentioned, but they also currently have

1 an ABC of zero, and we wanted to continue that, and so, 2 effectively, that's not any change, except for those new 3 species.

Now, you didn't see St. Croix conch on there, and St. Croix conch are, as always, a special case. On the one hand, conch do have a high vulnerability to fishing. There is issues of habitat loss, especially near-shore areas, that would make them also susceptible, and these would indicate that maybe they should be in a 4b designation.

However, we have additional information, and that comes in the form of the SEAMAP surveys that are done every five years for conch, and they look at the density and the age structure of conch along a fixed set of transects.

In St. Croix, there has been a consistent trend, over the last three surveys, of higher density, and so density is increasing, and that means it's responding to either some weird natural phenomenon or the management measures that are in place. Density is not only increasing, but they're actually pretty high, and so we did not think that it should be in a 4b situation, unlike the other jurisdictions.

Obviously, it is important to the economy, and we found no basis for trying to be estimating a new OFL for this species, and, therefore, we basically fell back on retaining the existing OFL, which is a very large 512,000 pounds.

We chose to keep the ABC at the present level, but, when I say present level, this accounts for changes in reporting behavior. The peak value in the reference period was 36,900 pounds, and we set the ABC to be essentially equal to that, but, easier to read, is 37,000 pounds, and I will get back to that point at the last slide. The guidance we have for ABC control rules says that we can step outside those if there is a rationale for doing that, and that's exactly what we're doing for queen conch in St. Croix.

For the buffers, as I said with the spreadsheet, our default buffer is equal to 0.5. This returns moderately-susceptible stocks to an ABC approximately, a little bit higher, than the mean, and it returns low-susceptibility stocks to an ABC that is going to be most likely above that - It should be above that $75^{\rm th}$ percentile.

I say "should be" because, again, we don't have the actual numbers to run something, but they were substantially above the

mean, to a degree that we would think it would take it above that 75^{th} percentile, and there is some exceptions to that.

Here are the exceptions, and this is for species where there is additional information that lowers our uncertainty and suggests that the susceptibility is even lower, and there are three examples. Two of them apply only to St. Thomas/St. John, and those are red hind and lobster.

For red hind, remember our default value was 0.5. For red hind, we chose to go to a buffer of 0.55, and so that's allowing an even larger increase above the mean of where that ABC would finally be set, and this was based on documented recovery in that population in terms of the abundance of fish, the size structure of that fish, the age structure of that fish, and the sex ratio of that fish, and this is new information that has not been published yet.

It comes out of a collaborative study between Rick Nemeth and Michelle Scharer comparing the MCD, St. Croix, and the Buoy 4 aggregation in Puerto Rico, which is not under the seasonal closures, and so it's going from extreme management, if you will, to moderate management, to less management.

There is a very distinct increase in the health of the stock as you go to the MCD situation, and so there is very good, solid evidence now coming out that that population has recovered substantially relative to the areas that don't have that kind of protection, and so we feel that it can take a higher degree of harvest.

For spiny lobster, the buffer is even higher now, at 0.6. The real -- While we recognize that the carapace length issue for spiny lobster is a good safety measure, that was accounted for in giving it a high susceptibility score. What sets St. Thomas/St. John apart from the other areas is that it has, as a percentage, much more of its shelf area protected by closed areas, like it or not.

I mean, you have the MCD, and you have the coral monument, and you have the park, and you have the East End park or reserve, and I can't remember which one is on St. Thomas, and a couple of other areas that provide substantial protection for this species beyond the protections that are already there, and so the buffer goes to 0.6.

Dolphinfish, for all islands, and its high productivity, as Tony mentioned, and only a small portion of its stock is -- Only a

small portion of the stock is going through the U.S. Caribbean to begin with, and, with it being migratory, the bulk of it is there for only a partial period of time, and so we think that can, obviously, withstand a lot more fishing pressure.

All of these three species, we would expect, in especially red hind and lobster, because we think that's much more of a local stock, if the species-specific reportings are coming in as they are now, in short order, we will be able to apply some more rigorous assessment models and get these things out of Tier 4 and get them into Tier 3, where we will have a much better probability of estimating just how much can be taken out of these populations, and so the potential to go even higher exists, but we would like to do that once we have those longer time series of data.

Right now, we have just about five years, which is really marginal to make a call on that, when all we have is landings, but, as this dataset improves, and the Virgin Islands has gone through a lot of effort to do that, we expect to be able to make that shift.

Dolphinfish is what it is. It may be able to take a lot more harvesting or maybe not. Yes, we're not hitting it that hard, but every other jurisdiction between here and the states and around is, and so we're not the only ones harvesting these things.

The reason they're on the list is because it is one of our most important species, and we should be taking account for it. Right now, no one is harvesting at the levels we're recommending, and so this is going to take us to higher potential yields for this species, and then we'll be able to see what happens and how it behaves in the future.

If, at those higher levels, we see no changes in mean sizes and catch rates and things like that, there is grounds for taking it even higher in the future, but we were uncomfortable saying just do whatever you want, because that didn't seem to be scientifically defensible.

For 4a, the buffer is 0.5, and it meets our intent in how it treats the moderately versus low-susceptibility stocks. For 4a stocks where the coefficient of variation is less than one, our buffer has not yet been defined.

We got to this point at about four o'clock on Friday, and we were able to explore or set several ways that we could deal with

that, but we had absolutely no data or simulation capacity at this time to actually run those scenarios to see what might be a best alternative in that, and so this is kind of where we are.

We think we are, perhaps, just a day away from doing that if we can get the information needed to set up a simulation to check the behaviors of these things, and what this requires, probably more than anything else, is an idea of what the actual coefficients of variation are for those species that are in the situation for the time sequence of our reference period, and we did not have that data.

If we know those magnitudes, we can incorporate those magnitudes in the simulation and see what works, again to make sure that we don't arbitrarily trip an overfishing designation when that really hasn't happened.

The 4b stocks, the buffer we chose is a 0.9, and that's a totally different buffer system than we did for 4a, and so don't compare the two, but that only applies to the Grouper Unit 4 or 5, depending on the island you're looking at. All the other 4b species were set at zero.

Reported levels and absolute OFL/ABC values, there is a difference. Our intent, in going through this, is to retain the current levels for 4a moderately-susceptible species. "Retain" means approximately and not the exact levels, and I put "current" there in parentheses because there is but. That is, if there has been changes in reporting, up or down, these have been rescaled into the current level of reported landings.

That is to say, and let me make up a hypothetical situation. Let's say we have a spiny grunt. If we had set an ACL previously at 10,000 pounds, and reporting behavior since that time has changed, and let me use the ominous situation of maybe fishermen are reporting half of their catch now, and they still may be getting that 10,000 pounds, but now, to avoid anything, they are reporting 5,000 pounds. The new ACL is set based on that 5,000, because that's what they're reporting, even though they might actually be catching the actual higher number.

The point is we don't know. We know there has been changes in reporting, but we don't know the levels, and we don't know other factors involved. There is a lot of uncertainty there, and so the important point is that, while we certainly encourage fishermen to report their data accurately, if we take this recommendation the way we have described it, it's extremely important that, if you're going to change, and that is better

report, that you clearly document that that's what you're doing.

If you don't, it's going to be viewed as the stock declining or that you're overfishing, depending on which way you're going, and we don't want fishermen to penalize themselves for reporting accurately. There is a mechanism to deal with this, but only if there is documentation that says, hey, we're now reporting better, and then things can be adjusted to account for that, but, if you start reporting better, and this happened in one of the Puerto Rico fisheries, and -- Well, it happened in almost all the Virgin Island fisheries.

Once they went into species-specific reporting, they were consistently over ACLs for a lot of them, and we said that was because they are reporting better now and ignore it. No problem, but we knew that, because the new forms were put in place. If you're using the same forms, but now you're just reporting more accurately, you need to document how that came to be. Otherwise, it's going to be treated as just overfishing, and we don't want that to happen. Please don't do that.

This is an extremely important point. Everything has been scaled to the current landing reference periods, depending on which island we're talking about, but it should retain the behavior that's going on now, and so don't change the behavior unless you've documented that's what you're doing, and so we can incorporate that, and everybody benefits, and nobody gets penalized.

CARLOS FARCHETTE: Richard. Blanchard.

TONY BLANCHARD: Let me ask this question. Every meeting we come to, we are asked to give the best possible data possible, and now, I being a fisherman, I know exactly how fishermen think, for the most part.

If they realize that they weren't reporting let's say as accurately -- Let's say maybe they made a mistake in how they were reporting to begin with and they made a change, they are not going to call the scientists up and tell them, well, you know what, I realized that I was making a mistake, and so I changed what I did. That ain't happening. I can tell you point blank that will not happen.

 As for the changing of the forms, that would be something that would be noticeable, because that comes out of DFW. You know, sometimes we have a tendency of saying underreporting, and I think that's almost like the overfishing statement. We've got a

tendency to just throw things out there and not think of what we're saying, and I think, when we make a statement sometimes of underreporting, it becomes a bad taste in some people's mouths, because sometimes what you think is actually happening is not actually happening.

I had this conversation with the Commissioner earlier, as well as Carlos, as well as Ed and Mr. Magras, and I am going to give you a true account of what actually happened to me. This year, earlier this year, I went and I rolled up a string of my traps. It was in an area where divers used to dive, and it's a dive spot, but what happened was, with the tide, it pulled it too close, and there's a wreckage.

I went to the one end of the string and I started to pull, and my line got tight, but, seeing that there was a problem with other divers before and it was a common practice to tie your trap to the bottom so you don't get it when you are around an area that they're diving, I assumes that was what was happening.

I called up Howard on the phone and I said, listen, Howard, and this is the situation. I said that I'm ready to deal with this man, but the only problem is that he has divers in the water. I know, for me to confront him with my boat with divers in the water is against Coast Guard regulations, and so I would be finding myself in a bigger problem.

He tells me, listen, don't worry about it. He said that he's going to have the officers ashore just file a report. I pull into shore, and I file a report, and I know the boat. The officer turned to me and said that he's going to make contact with these guys, and so about two days passed, and my cousin called me up on the phone, and he fishes, too.

I explained to him the situation and he said, listen, Tony, these aren't these guys. These guys don't do that. He said to just go back and pull the trap and see if it doesn't come loose from the other end, which I was planning to do, because that's normally what you do when something like that happens. You try pulling from the other angle.

Anyway, I tell him, I said, well, I was going to do that, but when them guys was in the water, they had a buoy next to their boat that looked like my buoy, but I'm sitting 300 feet away, and it looked like my buoy, and it's right around their boat, and so I can't come and pick it up.

I tell him, I said, you know what, I am going to do that

tomorrow morning. I called up Howard on the phone, and this is how determined I was and how sure I was that these guys was messing with my gear. I told Howard, I said, listen. I said, you have your officers on hand, because, if I pull up to my gear and these men are on the site, and that's what is going on, I'm going to deal with them. He said, Tony, don't do that. He said, I'm going to have my officers on call.

I went up and pulled from the other end, and the traps come clear. When I realized it, I sat back and I thought what had actually happened was the buoy that I was seeing was a dive buoy that the divers had in the water to mark where they was around the dive boat, which I thought was my buoy, but it was too far away to recognize that it wasn't my buoy.

The trap was actually stuck, and, when I pulled it, it just came off, and everything came clear. I called up Howard on the phone, and I explained the situation. I said, listen, Howard. I said, don't let the officers make contact with these men if they ain't made contact yet, because that was my mistake. I made a big mistake here, and this is what actually happened, and I am sorry for going down that route, but it was my mistake.

He said, okay, I understand. Then I run into the officer, and I asked him, and he said, no, I didn't make contact with them, and so I told him, you know what, don't worry about it. Me and Howard have got it cleared up. If I've got a problem, I clear it up.

In the event of me doing this for over thirty-something years make a mistake like that, because I was seeing something that I thought was actually happening that wasn't happening, and I was willing to put my neck in a noose that these guys were messing with my gear, and just imagine sitting back and looking at numbers on paper and having to see that somebody is underreporting, but I was man enough to make it up and say, well, listen, it was mistake.

The point that I'm trying to bring here is sometimes something looks like it's happening, and you could swear that it's happening, but it's probably not actually happening, and so, for me to go down the route of saying that somebody is underreporting, it's going to take a little more than numbers to persuade me to go down that road.

CARLOS FARCHETTE: You can go ahead, Richard.

RICHARD APPELDOORN: That is basically the end of the

presentation, and I was trying to use the term "behavior", and we don't know what the behavior is, and we're just saying that the numbers come from some set of behavior and that's the standard that we're looking at and don't change the behavior unless you fully document that you're doing that, because that will screw everything up.

CARLOS FARCHETTE: Miquel.

MIGUEL ROLON: Richard, what would be the proper way of documenting the last line that you have there?

RICHARD APPELDOORN: That's a good question. One of the things that we did not get to, and this was a suggestion that was raised by Kate, who said that maybe we should be organizing a series of workshops and -- I don't know if it was training sessions or something like that, but I didn't actually get to the full language, because we never got to that point, of going to the various islands and talking about the need for this and what the impacts would be. Then maybe trying to work out, with fishermen, to do something that would have an obvious impact on reporting.

We could say, look, we went through these training sessions, and people understood the need for this and they're responding to it or whatever, but there was an effort made to do that, and so that might have been a recommendation coming out of the SSC, but we never got to it, although there was certainly, I think, general agreement that this was something worth doing, because obviously we do want to encourage the best data we can get.

If behavior changes and we don't know about it, then we're making assumptions that would in fact be wrong, and, depending on the methodologies being used here, we're talking about Tier 4 now, but, if we went into a Tier 3 situation, I can't tell you which way that would go, whether it would benefit fishermen or hurt fishermen, in terms of what they're doing now, but, generally speaking, the better the information, the better our results are going to be.

Maybe you don't like the results, but they're going to be more accurate. Since I don't know what the results are, that's why I can't say whether it's going to be better or worse. Hopefully, if anybody feels that a stock is significantly underfished, then any assessment that we could run, in a quantitative sense, should reflect that and give you a much higher yield, if the data are sufficient to run the assessments.

 CARLOS FARCHETTE: Blanchard.

TONY BLANCHARD: I would just like to make a couple of observations on some of the stuff that I just observed here, my observations. This might be the way to go. Like I said, for me to really come to an answer to that, I've got to really understand what I'm looking at, but, as far as I -- To my understanding, the best of my understanding, I don't think this is going to work for the dolphin or the wahoo or the tuna in the Virgin Islands, because, like I said, once again, the low numbers.

I think we're going to have to look outside of the box for at least these three species and come up with a different approach, because, like I said, I don't care how high we jog the buffer. If the number is low, the number of them ain't going to be high enough.

The other thing is for the conch, especially in St. Croix. You know, there was a number that was tossed out there by David Olsen, and this is how this all came into play with 50,000 pounds and a cap. Farchette could back me on this here.

The whole point behind this is this was a number that, in my opinion, was just grasped out of the air. This could have been 100,000 pounds, but he just pulled it out of the air and decided to put a cap on it at that number.

I think what needs to be done is, the conch in St. Croix, we need to revisit that, especially, like Richard said, that, per hectare right now, it's showing more conch. Really, this cap of 50,000 pounds, in my opinion, was not done correctly, and so I think we need to have kind of survey done on the conch, especially in St. Croix, seeing that the information showing that the conch has gone up per hectare, and this number just might be over 50,000 pounds.

Now, the thing is that we talk about commerce. If the information that comes out of that says, well, listen, these men could get jacked to 100,000 pounds of conch, I don't see why they shouldn't get it, but the thing is that I think how it was done originally to put a cap on it at 50,000 pounds was not the right way to go.

I think, up to today, they're still being penalized for it, because, now, they might take a reduction and a reduction, which was an unjustifiable way of doing things, and so we need to fix the problem, and, the way I see it here, either I'm going to be

part of the problem or part of the solution, and I would rather be part of the solution, because I ain't going to sit back here making the same mistake all the time and just overlooking it and business as usual, especially when we come into the island-based management plans, which we say we want to fix what ain't working.

Well, these are the things that ain't working for me, and, although this ain't St. Thomas and that's St. Croix, or whether it be Puerto Rico and it don't look like it's working for them, I am going to still speak up for them, just like the lobster situation with their closed season and the situation we're in. Me personally, I don't think it will work for me.

CARLOS FARCHETTE: Roy.

ROY CRABTREE: I wanted to ask a little about conch as well. Richard, I think the slide show had an OFL of 512,718 pounds, and then an ABC of 37,000 pounds. I guess what jumps out to me is how big of a difference there is. Do you know what the basis of that OFL is?

RICHARD APPELDOORN: I am not sure that I would agree with Tony's exact words on that, but I think there was a sense of the committee that this is something that came out of the assessment done by David Olsen back in the 1980s, I believe.

ROY CRABTREE: Well, just looking --

RICHARD APPELDOORN: And, when we were doing this process before, or subsequently, it had gone through the Center, and it was found to be somewhat wanting. Now, I haven't gone through that, and so I don't know the details of that, but this is what was expressed by people who were a little bit more knowledgeable about that process than myself. That was the level that was chosen that's high enough that it's -- No one is worrying about going over the OFL.

ROY CRABTREE: I can see that. The problem I have is how do you justify that low of a harvest?

RICHARD APPELDOORN: Then the 50,000 -- Well, the 50,000 also was kind of a magical number that David Olsen came up with based on the fact that catches were going -- Reported catches were skyrocketing.

ROY CRABTREE: All right, and the 37,000 pounds, that is --

 RICHARD APPELDOORN: That is basically the current levels scaled to current landings.

ROY CRABTREE: So they're not catching the 50,000 pounds?

RICHARD APPELDOORN: They are not reporting catching 50,000 pounds.

ROY CRABTREE: All right, and so -- Well, the problem I have with it is it seems to me, realistically, we don't know what the OFL is, which I think is correct, but, if you're going to accept that the OFL is over a half-a-million pounds, I have a very difficult time not making the case that we can harvest at a much higher level. I mean, why do we need that big of a buffer between the OFL and the ABC? I can't think of any species we have that much space.

RICHARD APPELDOORN: This is artifact. We said we have no basis for knowing what the OFL for conch in St. Croix might be.

ROY CRABTREE: So why don't we say the OFL is unknown and not have one?

RICHARD APPELDOORN: I believe that's allowable, under the regulations.

ROY CRABTREE: Well, I mean, if you don't know what it is, I wouldn't make one up or stick with one just because somewhere in the past it got put on the books. I think you set yourself up with a real disconnect here, where I don't see how you can justify the ABC if you believe that OFL has meaning. If you want to justify the ABC, it seems to me that you then have to say that that OFL doesn't have any meaning and we don't think it's real.

RICHARD APPELDOORN: We could do that, but we would -- Let's put it this way. I don't know how you would get something defensible. We could just not define it, and I think Jocelyn told us that that was legitimate.

 ROY CRABTREE: What I would say is, if you don't know what -- If you don't have a way to estimate an OFL and you don't know what it is, I would rather not have one than to use one that clearly we don't think has any relevancy to what is happening.

RICHARD APPELDOORN: But OFL is important for the overfishing determination.

 CARLOS FARCHETTE: Jocelyn.

JOCELYN D'AMBROSIO: Under the Guidelines, we have to make sure that the FMPs have a method for determining the overfishing status for the stock. I don't know if that specifically has to be an OFL or not, but there does have to be some way of assessing the stock status, and so that was the point that we were discussing at the SSC meeting last week.

I have some questions out to other folks to figure out what should we do in these data-limited situations, but, right now, we're looking at the Guidelines and saying that there has to be some way to determine the stock status and when overfishing is occurring.

RICHARD APPELDOORN: If we had the flexibility, and because we have these SEAMAP surveys that are going on, we could treat these limits somehow in terms of densities and size structures and not quotas, but the law says that we've got to set a quota, and this is one of those situations — In fact, most of our situations are such that we could manage a lot of these species better, and we are managing them better, with things like closed areas and closed seasons and we wouldn't have to worry about quotas.

ROY CRABTREE: I understand that, but that's not the law.

RICHARD APPELDOORN: That's not where we are. That's right.

ROY CRABTREE: I don't want to belabor this point, but we'll have some discussion about it, but that is a -- The disparity here between the OFL and the ABC is something that pops out at me, and I agree with you that I would like to see us get to some basis of management for conch that relies on the density estimates somehow, but we're not going to do that in this amendment, because we need to get this amendment done in the next year, and none of this is the final word, and so I'm quite sure that we will come back to queen conch and look at that again, because it certainly strikes me as one that needs to be looked at.

RICHARD APPELDOORN: It's certainly possible for the SSC, with the help of the Science Center, to look at densities and make some estimates about productivity and translate that into some kind of level, but that's something that takes some degree of analysis that's not going to be done in a committee setting.

ROY CRABTREE: Right. That would have to be done in a future

amendment.

RICHARD APPELDOORN: I don't know about a future amendment, but we could do it in our next meeting, but we would have to go in saying, okay, this is one of the goals, along with the rest of the 4a species that we haven't set buffers for that need to be done. If we go in knowing that and have the preparation done ahead of time, it's probably something we could tackle, but it was not something that we could do in the confines of our meeting last week, and that's kind of where it came out of.

CARLOS FARCHETTE: Miguel and then Blanchard.

MIGUEL ROLON: Just a question. You have to be very careful. First, you have to determine whether you have a problem with the queen conch or not. Can we leave it alone? The other thing about densities is don't think that density will solve your problem, because, when we worked -- Actually, Richard is our advisor for that in the Caribbean, but some of the countries want a density of 200 per hectare to be declared a healthy fishery, and some want to close the fishery when we are below that. Here, the density that we found before was seventy-one per hectare, and I believe that there are some other numbers.

This is not something to take lightly, and, one way or the other, we have to solve this discrepancy between half-a-million pounds and 37,000 with the queen conch, because we have to justify whatever we do with the science and the information we have.

Also, I don't think that an analysis like this can be done very quickly, because we have other things to do. As a matter of a fact, every time that you talk, I am trying to translate this into money and time, and you were talking about data workshops with the fishers. We have been talking about that for the last three years. Actually, the first idea was to go to St. Croix with that data workshop.

 The other thing that you want to have is a workshop for the council member and members of the DAP to discuss that presentation made by Richard with actual examples and numbers of the things that we can trace it from the beginning to the end of how the fishery behaves, and that probably -- You called that a top priority.

46 At that time, we can also discuss the queen conch, but we need 47 to tell Richard what would be the next step that you would like 48 to see with the queen conch or the other species that we have. Richard, are you finished?

CARLOS FARCHETTE: Yes, and I've got Blanchard and Clay.

TONY BLANCHARD: The whole point we're trying to make here is we're going to the new ACLs for the island-based management plan, and I didn't want us making the same mistake that we made before bringing it into that. The way I understand, Roy, with wanting things done in a timely basis, but my question is this needs to get addressed when they go into the new island-based management plan. We ain't going to keep grasping at the 50,000 pounds when we really don't know whether the fishery could sustain more or sustain less.

 Me personally, I believe that it could sustain more, and so, for the years that this 50,000 pounds has been implemented, the people of St. Croix have been penalized, because they're not being allowed to go over the 50,000 pounds, if it is a healthy stock.

Now, they could be getting away with it for the last few years, since it's been implemented, if it is jeopardy and it does fall below the 50,000 pounds, but, either way, we need to find out what exactly is happening before we decide to just keep this 50,000 pounds dangling in the air and say, well, this is a good idea for now.

ROY CRABTREE: There are a couple of things. One, if we try to fix every single problem with every single stock, we'll never get this done, because there are always problems, and remember, if we don't get this amendment done, we're not going to get these higher catch levels for things like spiny lobster and other species, and so I don't -- I suspect that it will be more difficult to come up with an assessment of some sort for queen conch than the timeline we have for this amendment, and so it may be that the best we can do is leave queen conch where it is for now.

Remember too that we're in court over queen conch. You remember, a year or so ago, we had a petition to list queen conch under the Endangered Species Act, and we came to a not warranted finding and did not list it, and we've been sued over that, and we're in briefings in court now, and so there's a lot of things going on with queen conch, because, if it did get listed, there wouldn't be any fishery anywhere, state or territorial waters or federal waters.

That is going to have to play itself out as well, but, I mean, I

would be fine with doing something with queen conch, but I just don't know how we would be able to get that done in the time we have to get this in. In my judgment, the benefits of getting some of these other issues, like spiny lobster and some of these things, fixed in the next year, I'm willing to hold off on queen conch for a little while.

CARLOS FARCHETTE: Clav.

CLAY PORCH: Thank you. Two points. One, with regard to queen conch, I agree with Roy that it's maybe not expedient to come up with a different metric now, but, somewhat longer term, it's absolutely acceptable to set the basis for your MSY proxy to a target density of conch, provided you can agree what that target density would be, and then manage so that that density always stays above whatever threshold you specify.

What that requires though is you would have to monitor the density of conch annually, but that certainly can be done. It's been done by the New England Fishery Management Council. Whether annually or regularly, I am not sure there how often that would have to be. You usually think of annual catch limits, and so I suspect it would have to be more frequent.

UNIDENTIFIED: That's kind of what they do with scallops.

 CLAY PORCH: Yes, and I'm not sure if they're still doing it with scallops, but I know they used that kind of approach before, basically hinging it on a density from some sort of survey, and so it's doable, but we just need to sit down and think about what that threshold would be and what's the target density.

The second point that I wanted to make is -- It's actually a question for Richard. When you showed the condition for use for the ABC control rule, it looked to me that you showed the ABC control rule as it stood at the beginning of the meeting, where it said the condition for use is no accepted assessment, but the stock has relatively low vulnerability.

I understood that, by the end of the meeting, the version that had been accepted had some additional words in it, which are subtle, but important, and it said no accepted quantitative assessment providing status determination criteria, but, in the expert opinion of the SSC, the stock has relatively low vulnerability, and so just some clarification of which one was ultimately -- Was the one that I just read the one that was actually accepted? Okay. Thank you.

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ROY CRABTREE: I guess, Bill Arnold and Graciela, we need to make sure, when this language goes into the amendment, that it reflects that change to the wording, right?

MIGUEL ROLON: Can you answer on the record Roy's question?

 GRACIELA GARCIA-MOLINER: The wording of the ABC control rule, as it was accepted by the SSC, it's already in the documents that I just sent to Miguel with the changes that have been made from Friday to today, and so it includes the new wording of the ABC control rule. I can send it to everyone.

MIGUEL ROLON: So where are we, Mr. Chairman?

CARLOS FARCHETTE: If Richard is done, the next thing on the agenda would be the Island-Based Fishery Management Plans, Review of Final Draft Environmental Impact.

MIGUEL ROLON: Before we touch on that, I will talk to Richard, and we have some money that we can use for density analysis, maybe, if it costs less than a certain amount, but, Richard, we would like to talk to you maybe afterwards, and I know you have to leave, but, in between here and the next meeting, see if we can put together a one-page work statement as to assess the density of the queen conch in the area of St. Croix. If that is something that we can prepare, then we can bring it over to the council meeting in April.

CARLOS FARCHETTE: Bonnie.

BONNIE PONWITH: I think I would have a keen interest in monitoring to take a look and see what densities are, but my sense, if I'm understanding what I am hearing correctly, is that, if you set an OFL proxy based on a measure of density, that it would require monitoring that on a routine basis to understand the influence, the relationship, between the fishing pressure that's being put on the stock and the stock response.

I guess I would ask Richard and Clay if I've got that right, because I would just want to be careful that we didn't stand something up that actually required perennial monitoring and only have one year's worth of resources to do that. Let me just ask -- If we're going to model off of the scallop fishery in New England, where it's density-oriented, they're going back and doing that on an either annual or periodic basis, right?

CARLOS FARCHETTE: Richard.

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 RICHARD APPELDOORN: I am not sure you're asking the right person, because your question is, is this allowable? I mean, it's certainly doable, but it's going to cost money, but whether it's allowable, that's either Bill or Jocelyn I would think could address that.

MIGUEL ROLON: Not to prolong the discussion, but that's my idea, to sit down with Richard and see if any of this is doable. Personally, I believe that, if the queen conch is not broken, don't fix it. Don't touch it, because, the more you mess with things, you end up finding out that what you did in the first place was wrong and now you are going to do the right thing under MSA and the fishermen will maybe have a 40,000-pound level rather than 50,000.

Sometimes you have to be careful what you ask for, because you might get it, and, in this case, remember that we have to develop the record using the best available science, and we don't say data anymore, but science, and I believe that Richard and Graciela and I can look at this and then bring something to the next meeting that will make sense.

The only reason we are doing an exception with the queen conch is because it is the only ongoing fishery of this species in the EEZ, because, as you recall, it's closed in Puerto Rico and the St. Thomas/St. John area.

Anyway, enough said about that. Also, we have an international meeting on the queen conch, to present a management plan that was put together by two experts, and one of them is Richard, and it has been adopted by the majority of the countries that have queen conch or queen conch interests. Mr. Chairman, for the next meeting, we will report back to you on whatever transpired in that meeting with Richard and other experts.

CARLOS FARCHETTE: Okay. Does anybody need a quick ten-minute break? That will work, ten minutes.

(Whereupon, a brief recess was taken.)

CARLOS FARCHETTE: We're going to get started again. The day is almost over. We are going to make a change to the agenda. We are going to leave the Island-Based Fishery Management Plans: Review of Final Draft EIS.

MIGUEL ROLON: That section on island-based fishery management plans, we are going to discuss it first thing in the morning, at

nine o'clock tomorrow. What we are going to receive is the status of each one of those sections, a presentation by Bill and Graciela, and we may need some guidance from you as to some of the language, some of the directions, that we want to take, and no final action is going to be taken tomorrow, and so this is for the council to examine where we are.

Then one important line is the Next Steps and the Timeline for Review, and that's when you decide that, for 2018, this is what we're going to do and when and how much time you will dedicate to meet with the SSC again and whomever is needed to be dedicated, and then Bill will give us a timeline that hopefully will implement this for the benefit of the fisheries.

The idea here is that, the more you postpone the implementation of this, the more difficult it will be to assess the proper levels for the ACLs, and that will not be good for anybody, and so, Mr. Chairman, for tomorrow, when we get into this discussion, Bill will address it, and we will stop whenever we need to get more questions and receive the guidance, but the idea is not to keep doing this every meeting that we have. The idea is to move forward and have a timeline for 2018.

CARLOS FARCHETTE: Okay. Bill.

ECOSYSTEM-BASED FISHERY MANAGEMENT ROADMAP IMPLEMENTATION PLAN STATUS REPORT

 BILL ARNOLD: I am going to talk about the Ecosystem-Based Fishery Management Policy that our NOAA Fisheries Headquarters has established and the roadmap that they are having us develop for implementing ecosystem-based fisheries management.

First, I would like to say one last thing about these island-based fishery management plans. I think I've come to at least the last four council meetings with a timeline for completing these plans, and every one of them has ended up like the HMS Hood. Does anybody know the HMS Hood?

That was a battleship that went to war against the Bismarck, and the Bismarck took one volley and sent it to the bottom with everybody onboard, and so that's how I feel sometimes, and so, tomorrow, you guys are going to give me a timeline. I'm not going to give you a timeline. Then, whatever timeline it is, you're going to stick with it, and we're going to get these things done. That's my sermon for the day. All right.

Ecosystem-based fishery management, again, this is a policy

coming down from on-high, and we are charged with implementing it, and so Headquarters has developed an implementation plan for ecosystem-based fishery management. This is a long-term plan, and all they're really looking at right now are some short-term goals to move the needle on getting these plans in place.

Now, I would say, upfront, that, really, ecosystem-based fisheries management is probably a better opportunity for the Caribbean region than it is for any other fishery management region in the nation and for just about any other location throughout the world, because, if there is anywhere where the ecosystem drives the entire system, and especially the fisheries, it's right here in the Caribbean, and you guys know well, if you don't have the coral reef ecosystem, you have basically got nothing.

The problem that has been occurring over the last ten, twenty, thirty years is that that coral reef ecosystem, that habitat, has been degrading. As it decreases from 100 percent to 80 percent, the available fish for you to harvest decreases from 100 percent to 80 percent, and, right now, it's probably more like 20 or 30 percent.

While the fishermen may continue to fish at the level they've been fishing, the resource is getting depleted more and more, simply due to lack of habitat and lack of homes for these fish to live in, and, without those homes to live in, as you guys know -- It's kind of like being hit by a hurricane. It's tough, and you move somewhere else, because you can't live there, and so I think that's a pretty darned good analogy and one that you guys can really sink your teeth into.

We've got an ecosystem, and it's getting hit hard, and we need to find out how to rebuild it, and there is no doubt that the health of the fish and the health of the ecosystem are tightly intertwined. Now, we have shown that with parrotfish. Parrotfish don't do anything for corals, but they do graze substrate and remove algae, and that allows corals to recruit, and so it's an indirect effect.

 There's a lot of indirect effects going on out there, and we need to make sure that these indirect effects are working to our favor and not to our detriment, and that's a lot of what ecosystem-based fisheries management is all about.

There is a lot of cool terms and complex theories, but the bottom line is take care of your homes and give the fish somewhere to live and you will have fish, more fish, than you

need to harvest, and ACLs and OFLs and all of that would fall back into the background if we had historically healthy coral reef ecosystems out there.

The bottom line is, as we talked about this morning, in a healthy, vibrant ecosystem, there is not enough fishermen in the U.S. Caribbean to overfish these stocks. What do you have, thirty people, on St. Croix? It's a matter of habitat loss more than anything else, and so that's what we're after with this, and so here is the policy that has been handed to us.

Basically, it talks -- I am not going to read the whole thing, but it will inform and enable better decisions regarding tradeoffs. We want to recognize the interconnectedness, and we want to maintain resilient and productive ecosystems, and so, when something does happen, like a hurricane, that bangs the coral reef down, or a coral bleaching event, that coral reef has the strength to come back and rebuild itself, and so that's the policy.

Here is the purpose, and there is five different points on this. The first step is to define what ecosystem-based fishery management is and then to describe the benefits of EBFM and how it relates to existing living marine resource management legal authorities and requirements, and that's a very tricky part of this.

How does doing ecosystem-based fisheries management relate to the Magnuson-Stevens Act and its requirements to set reference points such as MSY, OFL, ABC, and ACL, all of the things that we were talking about this afternoon. They are not directly linked, and we have to be able to make that connection between those two very important approaches to managing resources.

 Then we establish a framework of guiding principles, and that's been done by an ecosystem-based fishery management team and in cooperation with our partners, and the idea behind this is to improve fisheries decision-making, provide social and economic benefits, and provide desired ecological outcomes, all of those things, and so you want healthy reefs, you want healthy fishing communities, et cetera, et cetera.

We want to build on past progress and also, very importantly, clarify the agency's commitment to integrating management programs under all these changing variables, and another thing that I think is very important, and that certainly will fall within our fisheries ecosystem plan that Dr. Meyer is going to talk about, is we need to break down the barriers between NOAA

line offices, between state agencies, between our constituents, so that everybody is working together, because we always talk about how data-poor the Caribbean region is.

The Caribbean region is data poor relative -- You could even debate this, but, if it is, it's relative to fisheries commercial landings data and recreational landings data, but we spend a lot of money down here doing habitat mapping and larval fish tracking and all these other things, a lot of money, millions of dollars, and so there are a lot of areas where we have a lot of data, and these data could be brought into an ecosystem-based approach to help us have a much better understanding and a much stronger capability to manage these ecosystems and the resources that they support.

Here is the definition of EBFM. It's a systematic approach to fisheries management in a geographically-specified area. We have a very geographically-specified area. It contributes to resilience, and there is that word again, and sustainability of the ecosystem, and, of course, that ecosystem includes all those fish, including harvested species. This is not a methodology to reduce or eliminate fishing, but it's a methodology to support all of the components of a healthy ecosystem and the extractive activities that are associated with that ecosystem.

 It recognizes physical, biological, economic, and social interactions, and so those physical are current patterns, habitat structure, et cetera, et cetera, again among the affected fishery-related components of the ecosystem, and that's very important. That's including humans right in the definition, including humans, and it seeks to optimize benefits among a diverse set of societal goals, and so, from our point of view, we need to optimize fishing benefits, and we need to optimize tourism benefits, and we need to optimize shoreline protection benefits, and the list goes on and on.

It's a management progression, and, at the bottom of this graphic, you will see "SS", or single species. That's the way we've always done things in the past. You know, you monitor, and that's what we've been doing today. You say, well, we need a queen conch annual catch limit, and that's very single species. It has nothing to do with spiny lobster or mutton snapper. It's strictly queen conch.

Then we move up to an ecosystem approach to fisheries management, and that's where we are with parrotfish. We manage parrotfish not just for what the populations can sustain, but also with respect to their engineering components within the

ecosystem, and so, from a population point of view, it might be possible to harvest, sustainably, more parrotfish in St. Croix, but, from a habitat health point of view, you need to be more careful, and so that's an ecosystem approach to fisheries management.

What we're talking about is the next level, is ecosystem-based fisheries management, where you really pull all these things in and they all have equal relevance, and you're looking at multiple species, and so that's the first column, where, instead of one species, as you had in the two lower rows, now you have got all the species operating together. It's there versus here. It's single species, single species, and then multispecies, and that's where we are now.

Ultimately, down the road, you would want to get ecosystem-based management where everything is being considered and everybody is working together to maximize benefits, but, today, we're not talking about that. We're just talking about EBFM.

What are the benefits? It considers environmental and ecological factors and the tradeoffs amongst them. It better understands cumulative impacts, and so, if you keep doing things, all these disparate things that look like they don't have any connections, but ultimately they do, that's what cumulative impacts are all about.

 You better communicate risks and uncertainties and the implications of management decisions, so we can better understand that, well, if we pick a 37,000-pound ACL for queen conch versus a 50,000-pound ACL for queen conch, what are the implications of that, and we need to understand that, and that is why we don't know what an OFL should be, because we don't necessarily understand the implications of densities of queen conch.

Define interconnections and tradeoffs and reduce uncertainty, and there's that word again, by taking into consideration the interacting elements. Increase the likelihood, and I would like a better word than that, but increase the likelihood that ecosystem function is maintained, and that's absolutely essential to healthy fisheries, and forecast future conditions, and that's really important, so that we can, instead of responding to changes, we can anticipate changes and our management is proactive instead of reactive. Generally, at the present time, we're mostly reactive.

Here are the six guiding principles, and this is sort of step-

wise. First, you implement planning. Then you advance the prioritize understanding of the processes, and you vulnerabilities and risks. You then explore tradeoffs and ecosystem considerations incorporate these into management advice, and then that should help you to achieve resilient ecosystems and maintain those resilient ecosystems.

This is what that roadmap implementation plan looks like, and this is just a subset of the total, and I know that's hard to see, but the first column, the roadmap number, look on the far left, 1a2, 1a5, 1b1, and there are about thirty-five of those, but I just brought up a couple to show you what they look like.

Then the roadmap action is, well, what is that item and what are we going to do? Well, we're going to develop a U.S. Caribbean Regional EBFM Engagement Strategy, and that's what I will be talking about with Alida and Elena and the others is, well, how are we going to get everybody involved in this and what's going to be the structure for having the fishermen be able to make their contributions and for having the dealers make theirs and for having the divers make theirs, and everybody should have an opportunity to be engaged in developing these strategies.

What's the timing? Well, we have three different timing schemes in this right now. Short-term, those are basically things that are going on now. Medium-term, those are like up to five years out, and then long-term, which is farther, and, right now, we are focused, almost exclusively, on determining how we can ensure that our short-term goals, roadmap action items, are underway and being implemented.

There is always an associated milestone with each action item, and that's what we're trying to achieve, and then you've got a target date, and so, for this associated milestone of a draft strategy for engaging participants, the target date is June 30, 2018. That's not set in stone, but that's a reasonable target, and, again, there is about, and not exactly, but about thirty-five of these, and each of them has associated information, and so that is what the implementation plan is all about.

The council received a letter, of course pretty much during the hurricanes, from Chris Oliver asking for council involvement, and not demanding council involvement, but just putting it out there that, if the council would like to participate in this process, then we would like them to participate in this process, and please let us know how you would like to participate in this process.

 You might want to assign a staff member or have us provide regular reports or whatever it may be, however you would like to be engaged or not, because, again, it's not a requirement. It's an opportunity that you should not feel guilty either taking advantage of or not taking advantage of. It's totally up to the council.

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Like I said, Number 2 is it's the council choice if and how to participate, and this is for all the councils around the nation, and each council is taking a different approach. Some of them are not going to participate, and others are fully involved. As I said, Number 3, it's understood that the Caribbean Council is preoccupied, and we get that, and so there is no rush on doing this, although we are moving forward.

As I said, at a minimum, staff will keep the council informed, and we welcome council participation in this ongoing and constantly changing, i.e., dynamic, process. That's really all I wanted to let you know, but a first step in this process, as directed by the Headquarters and by the ecosystem-based fishery management plan, is to develop a fisheries-ecosystem plan, and that's what Cindi is going to talk about today, and so I think that's all I've got, and I think it's time for her to step up.

UPDATE ON FISHERY ECOSYSTEM PLAN DEVELOPMENT

CINDI MEYER: Hi. I'm Cindi Meyer, and thank you for the opportunity to speak with you guys today. I really look forward to moving forward with this ecosystem plan. The FEP is a guidance document and not a regulatory document, and what it's going to do is to help consider the ecosystem relationships between the species, their habitats, and everything from the top of the ridge to the bottom of the reef and out into the open water.

With this, we need a lot of data, and we especially need data from the land, from you guys that have the regional authorities, the water management districts, and we're still looking for a lot of that data, and so, if you can help us, we would greatly appreciate it.

The FEP is, as Bill said, part of the ecosystem-based fishery management and moving forward with that, and it gives you guys an opportunity to start looking at this as an ecosystem as a whole rather than at a single species or just a group of species.

Today, we're going to discuss the status update, the draft FEP

outline, the conceptual model, the draft model, and don't worry.
There are no equations. I promise you there is no equations in this. Then the stakeholder engagement, challenges, and the next steps.

What we've done is Graciela, Orian, and myself have worked a lot on this, to try to get it set up, and we've expanded the FEP outline, and I will show that to you. We've developed a draft conceptual ecosystem model, and we're still working on data compilation and organization and, also, we're starting some exploratory data analysis.

The draft FEP outline, in our introduction, Qualities of the U.S. Caribbean Coral Reef Ecosystem, and we are avoiding the term "healthy ecosystem", because we already believe that it is healthy, and we want to maintain it, and so we need to figure out what the most appropriate baseline is and how we're changing and what targets we need to set to maintain a good ecosystem here. Also, we'll need to have discussions with you, probably at the next meeting or so, to talk about the goals and objectives of the FEP and to get your support or comments and suggestions.

The next part would be the ecosystem description and characterization, and we're working on this by compiling the data. It's going to be physical, biological, and human environments involved in this. This is not just fish and habitats. We also want that socioeconomic component involved in it.

As far as ecosystem analysis, we're looking at historical change analyses, so we can make sure that we set an appropriate baseline, and also the relationships within the ecosystem and their connectivity. The issues influencing the ecosystem, these are both the human and the natural. We need to be able to bring all of this information in. The hurricane and the result of it are going to play a major part in the ecosystem, as we all know that it has caused some changes.

Then being able to determine those indicators and the vulnerability of the ecosystem, so that you can better manage to mitigate for these effects. Then we have the relationship between the FEP and the FMPs.

A conceptual model, the conceptual model is not necessarily a statistical model. It's just taking different concepts, different elements, and figuring out how they link together and how they relate to each other, and so we started developing

this, and we are taking all comments and suggestions. That's part of this, is the engagement of all the constituents, and we can also, through expert opinion, statistical approaches, and from stakeholder input, we can develop the strength of these relationships and be able to figure out what's really going on in our ecosystem.

This is just very basic. Notice there is no lines connecting anything. We have the habitat, and, under this, these are just some examples of things that would go under this main heading of the model. We have ecosystem influencers, and so we have natural and human. Notice these are not positive or negative. They are not marked as such. That is up to the constituent input to decide.

Then we have the species groups, and, right now, we have them as what functional role that they're playing within the ecosystem, but this can be adapted to whatever your needs are, and then we also have the socioeconomic, and some of the things that we found really important were making sure that we integrate the cultural aspects.

We have heard a lot today about making sure that the fisheries are back up and operating for the Easter season, because fish is in very high demand during that season, and that would be a cultural aspect that we would be able to look at and look at the connections for in this type of conceptual model.

Not to think that -- I promise this is the most complicated slide I have, and there are no numbers, but this is what it actually looks like, in just our initial brainstorming, of all the different elements that we would be adding into this conceptual model. Now, that's not to say that we have to draw all the connections at the same time. We can look down into just examples to get a better idea of what's happening for an isolated species.

 Our example for today is the St. Croix lobster, and Graciela can fill in the blanks if I miss anything. We looked at just the basic habitat, and so hard-bottom, coral and seagrasses. Natural influences, just some examples would be weather events and oceanographic conditions. We have human influences, and so physical disturbance may be one of them. For fishing, we have not only commercial, but we have recreational and different methods of commercial fishing.

For species groups, we're looking at what their different predators are, and we could also look at their prey

relationships. Then, for the socioeconomic, we have the state of the economy, the seasonality, and tourism. In this diagram here, this is the basic outline of the conceptual model, but what we really want to do is to be able to connect these and know how much each of these factors are influencing the overall status of the lobster in St. Croix.

I am anticipating that, at a future meeting, we'll be sitting here connecting lines and weighting lines, and it's actually sort of fun. We have a method where you may all get a little gadget to be able to vote, so that you can actually vote and weigh it, and so it's an interactive process.

What we can do is -- This is called Mental Modeler, and it's an online freeware that anybody can use, but what you can do is you can connect things. If we look at say our natural influences, how do natural influences, weather events, affect the St. Croix lobster? We can use this connection, and then, once we draw that connection, we can weight it. We can either say that it has a positive or a negative impact, and we can sort of weigh the severity of that.

Now, one of the great things about this is that you can all have a different opinion, and we can track those different weightings and then come up with a general consensus, and we can explore people's ideas. If they say it's very strong, or very negative, then we can look into that and look at the other factors.

Beyond the conceptual model, we're also looking at the habitat baseline, the baseline analysis, and Graciela has been working on compiling the benthic habitat maps. This is on ArcGIS online, and you can actually access it, and this is an example of St. Croix for the 1978 habitat mapping.

Then what we can do is we can take and look at change analysis, and we can analyze the change in the benthic habitat between that 1988 and the 1999, and we can look for changes is available habitat, maybe changes from soft bottom to hard bottom, or vice versa. This morning, there was mention of that there was some sand bottoms that are now hard bottoms, after Hurricane Maria went through, and that's going to be very important information to know.

The other part of this, and the big part of the fishery ecosystem plan, is our stakeholder engagement. This is going to be absolutely crucial to the success of this plan, because you are the ones that are out there on the water. You're the ones with the connection to the local fishermen, to the local

authorities, to everybody who is getting this data firsthand.

This information really needs to be integrated into the fishery ecosystem plan. As I said, it's a three-tier approach. We're going to use the statistical approach, the expert opinion, and stakeholder input. Then we're going to be also looking at identifying differences between the islands. Notice that when I put up that example that I didn't put "lobster" down. I put "St. Croix lobster", because there is different factors influencing St. Croix lobster than there would be in Puerto Rico, and this model is also, and the fishery ecosystem plan, is an opportunity for you guys to bring forth those differences, so that we can account for them.

Also, networking with the scientific community and integrating the data that's out there. When I started this project, I was told that the Caribbean was data-poor, and I wholeheartedly disagree. It's just slightly data-disorganized, but there is a lot of data out there, and it's really great, valid information. It's just bringing it together and synthesizing it in a meaningful way, so that it can be used in the fishery ecosystem plan.

Some of our challenges are we are still having difficulties acquiring data, and so, if there's any way that you can help us, help Graciela, get some of this data, especially from the local authorities, that would be absolutely wonderful. We are trying to build cooperation within the agency, within NOAA, to access this and also to build a geospatial platform, so that this information will be available not only within the agency and within the council, but also out to the public.

Some of the next steps are we need to focus on developing a strategy for stakeholder engagement and making sure that we can present this at public meetings, where it's an understandable format, where people feel comfortable bringing forth their information and their opinions and their expertise and making sure that we understand it and that we're accounting for it within the fishery ecosystem plan.

Exploratory data analysis, Orian is actually looking at some of the fish community data and looking at the differences between the fish communities amongst the islands. He is using several different databases for this, and hopefully you will be seeing that either at the April or the August meeting.

We're looking at prioritization for data gaps, and so one of the things is there is funding out there to start projects and

collect data, but sometimes the priorities are not exactly in line with what you as the council need to make your decisions and to have integrated into these ecosystem plans, and so hopefully this will give you another platform to set your priorities and get those funded.

We're going to continue developing a refined outline and also refine the conceptual model and start using examples so that we can build an understanding with the stakeholders and get their input.

If you have any further questions, you can contact Graciela or Bill. Also, Orian is a great resource, and I would say that you can contact me, but, unfortunately, I am taking a job in California in January, and so I won't be available past the end of the January for this, but you can always contact Bill. Thank you very much, and I will take any questions you have.

CARLOS FARCHETTE: Okay. Are there questions? I have one. The ecosystem plans are supposed to, and maybe I'm wrong, but aid us in the development of our fisheries plan, and is that part of it? Okay, but we are going to probably have our fisheries plans already in place before this is completed.

 BILL ARNOLD: Fishery management plans are never static, Carlos. They're always changing, and so we will use these fishery ecosystem plans to guide amendments that improve and adapt those fishery management plans to changes in habitat, to changes in fishing community characteristics, changes in gear type, shifts in habitat, the relative availability of habitat, and the list goes on and on. Instead of working in a dark room, we're hoping to put some light on things.

CARLOS FARCHETTE: On that same note, it could also restrict fishing in certain areas or change that, can't it?

BILL ARNOLD: No, and, as Cindi said, the FEP is not a regulatory document. It's an informational document. The fishery management plans and amendments to those plans are what will guide your fisheries and how they are pursued. The council has control over that and not the fishery ecosystem plan.

STACEY WILLIAMS: I just have a couple of questions about the conceptual model. Are you going to include larval connectivity? I'm Stacey Williams from Coastal Survey Solutions.

CINDI MEYER: We can. It's really data based, and so, if we have data, or if it's something that we can get to integrate it

and be able to do the connections and the relationships and we have expert opinion on it or something solid that we can use to be able to connect it, we can put anything in here, and that's one of the great things about the stakeholder engagement, is we can put anything up there and then we can prioritize and see which ones are the biggest influencers and maybe focus on those for our management strategies.

STACEY WILLIAMS: Also, a suggestion. You have coral reef habitat as a general, but there many different habitats, different type of coral reef habitats, and that influences fish communities and also benthic communities, and so maybe break that down even further, if you have that data.

CINDI MEYER: Yes, I think we discussed breaking it into even the different types of corals, but it was getting very complex for this small screen, but we can definitely expand this to whatever level of detail that you all feel is appropriate. Thank you.

GRACIELA GARCIA-MOLINER: Two things about the connectivity issues. We have had at least one work regarding the larval connectivity off the west coast of Puerto Rico, and so the main thing right now is gathering all that type of data and putting it in one place.

That would be available and basically to find out if the fish aggregations that we have been protecting over such a long period of time are really in the right place. I mean, if the larvae are moving off into the middle of the Atlantic, then they might not be in the right place.

In terms of the habitat information, people collect information using different names for different habitats, and one of the issues that we're having is trying to compile what is equal to what, and so we're trying to keep it, first, as simple as possible, without forgetting that we have something like twenty-six or thirty habitat categories.

This will be basically brought to the audiences to start seeing what's important where and how much weight it has in terms of what is known. For example, for the St. Croix lobster, one of the issues might be that, when you have storms, they run all over the place, and you can harvest more lobsters, and so that's an impact, but it's a positive impact for the fishery, in terms of the landings that they can take.

These kinds of connections, that's what we're after, but most of

the information will come from the people who are either users or who are studying the areas or who are fishing these areas, because they do have some information on what type of habitat and what type of bottom has been there, and, most importantly, how that has changed over time.

CARLOS FARCHETTE: Before I go to Marcos, and I'm still with this ecosystem plan versus the FMP, because I am kind of concerned with what would happen if you identify a habitat that may be critical. You may have to change -- Like restrict bottom-tending gear, for example, and could that happen?

CINDI MEYER: Not through the FEP itself, and so there is no regulation. Think of this more as a resource document, and so, if you have a situation or a challenge come up in one of your fisheries, then you can refer to the ecosystem plan and look at the connectivity between the different elements and then really try to get the whole ecosystem picture before you come up and develop your strategies, your management strategies.

We're just compiling everything so that you have a better synthesis of the ecosystem as a whole, and this is dynamic and changing, and so thing is, if there is something that comes up next year, maybe El Nino or La Nina that would have an effect, then we would be able to integrate some of that information into the FEP. This is not meant to be a static document. It's meant to be dynamic and that it can evolve with the evolving conditions.

 GRACIELA GARCIA-MOLINER: Let me give you an example. Off the south coast of Puerto Rico, there is a port called Las Mareas, which was dredged many years ago. We have information from where that was done in the 1990s. Fishermen from the area say that that used to be a very good conch habitat. I mean, you could find conch all the time, including juvenile conch.

Now, you cannot find juveniles or adult conch in that area, and the reason is that the habitat changed from being hard bottom, sand-covered areas and seagrasses to really mud-like bottom, and so a conch weighing five pounds is going to go under, and it's not going to be able to move or to use that habitat, and so the information that people can bring to the table is, for example, Las Mareas runs from Guyana to Salinas, and it's -- These are the coordinates, and we can calculate how much area was lost over that period of time as conch habitat.

That is what this is all about, and so, in changing that habitat, you have to also change the way the population behaves,

because you don't have that habitat anymore. That also will include all of the areas that are under management right now, and it includes the U.S. Coast Guard and the safety zones that are areas where people cannot fish, because they are entrances to ports and things like that.

When you start adding everything up, it ends up being quite a bit of area that has been protected over that period of time, and so that basically reduces the habitat that you have available for fishing, and so it's that interaction of things that we're after.

For example, something that might cause a lot of problem right now is Maria and the loss of seagrasses and the sedimentation that has come down to the areas, and so, most likely, the juvenile conch that need -- It's a requirement, and they need clean sand and seagrasses to go under the sand and stay the first year or two, and that's going to be a problem, and that's going to be reflected years from now, when you don't have areas for recruitment off of certain areas around Puerto Rico and St. Thomas and St. Croix.

That is the kind of dynamic work that we're looking after, what changes and how much it changes and what are the consequences of that. Most likely, what we're looking for is explanations of why we have such wide variability in some of the landings, and so this will hopefully show us changes in habitat and changes in the oceanographic conditions, et cetera, that we can then look at the landings and see what happened over that period of time.

MARCOS HANKE: Just addressing the engagement from the fishermen to the process, indirectly, you can get a lot of information from the fishermen -- For example, on any given coast, there is present a seasonality of baitfish that they use to perform their fishery. In some cases, this is exactly the same bait that the fish are eating or there is similar species to that that the fish eat that you can make a closer analysis about what is going on in terms of baitfish.

We don't have any information about that, and I think we should explore an engagement of the fishermen to give at least a list of species and the seasonality and engage them into providing you that kind of information, and I spoke to Graciela about that, and just think about.

CARLOS FARCHETTE: Miquel.

MIGUEL ROLON: Are you finished?

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CINDI MEYER: Yes, sir.

MIGUEL ROLON: What will be the next step for the council regarding this ecosystem-based management plan?

CINDY MEYER: I think the next step is either the -- I believe, in April, we're planning to bring back a conceptual model and have you guys start making some of the connections, giving us your expert opinion. Then, after that, also to look at the fish community analysis and start to get an understanding of that and some of the differences we're looking at. Those are really the next two steps. We've done a lot of groundwork trying to get the data together and compile it and organize it so that we can move forward with this.

MIGUEL ROLON: You also mentioned that the plan will be treated as a source document mostly, but, when fishermen hear the word "plan", they tie that to management measures that are going to screw my fishery. In this case -- I have been working with ecosystem management plans since the 1970s, when we started, and each one has a different opinion of what it should be and what it is.

We also have the essential fish habitat document that is for revision now, and we want to make clear as to where are the next steps that we are going, and then Alida Ortiz also has -- We had a chat with Helena, which are the people who serve as our liaison officers with the community and the education, and Diana also, as the committee, and so we are ready to spread the word on ecosystem-based management, and we want to be ready to spread the word at the right time.

What you're saying is probably in April we will have more information and you will be able to discuss, in detail, some of the issues regarding ecosystem-based management, and when do you think that this could be presented as a plan? Will be it be 2018 or 2019?

CINDI MEYER: I think I'm going to let Bill answer that question.

BILL ARNOLD: Not until after the fishery management plans are done, and so there.

MIGUEL ROLON: Okay. That's exactly my point, because we are like dogs chasing a car. When we cannot chase the red car, we jump after another one, and so I would rather finish what you

just said, rather than jumping up and down with ecosystem-based management plans here and there.

 The beauty about ecosystem-based management plans is we can blame somebody else besides the fishers for things happening. We can blame the coastal communities and upland issues that are happening, and so thank you for the presentation, and we will be looking forward for the next time we meet in April.

CINDI MEYER: You're welcome, and thank you.

BILL ARNOLD: Miguel, I'm here to take the blame, okay? That's my job.

MIGUEL ROLON: You will. Don't worry.

CARLOS FARCHETTE: Thank you. On the agenda, I have Other Business, and I owe Marcos time from earlier today.

OTHER BUSINESS

MARCOS HANKE: I will be very quick. I made a list, because I am worried in hearing all the efforts to help the fishing community, in terms of giving help to the fishermen and different other kinds of support, and my wishing list here is things that different groups that are addressing and permanent changes that make them much stronger after the new hurricane came by.

One of the things that some people are pursuing is to support them to have solar panel facilities, at least partial, on the fishing village, because, once you have the emergency, if you have at least some sort of energy to have one freezer or one something for them to keep working, even though slow-paced, it's good for the community, ice machines with the same capability and freezers with solar panels ready. Boat secure storage plans or areas for the fishing villages should be taken into consideration and gear and supplies at low cost, to help the fishermen to find those ways to acquire the gear with the low cost.

 Find a way to organize gas and oil supplies for the fishing villages to go back to business after a hurricane or storm, and something that came up in one of the meetings that was very interesting is that, right now, for example in Puerto Rico, people that are here working are people from FEMA and from the military that are in all the hotels and to organize some way for the fishermen to sell or to include on the menu of those guys

the catches after the hurricane, just creating a new market for them, so they have somebody to sell the catches. I think it was a very interesting approach.

Create a capacity or help the fishermen to be more expert or knowledgeable about new fisheries and not to depend on one single fishery, like the divers that just go for conch or go for lobster. If the bottom gets messed up, they cannot do anything, and just try to help them to be able to do other things.

The support of local boat manufacturers, due to the economic benefit on the economy, local benefit to the economy, and the standardization of the fleet that makes the fleet much more resilient. That's it. Thank you.

CARLOS FARCHETTE: Commissioner.

DAWN HENRY: Marcos, are you guys going to be putting those areas of concern in your request for funding from the federal government? How are you proposing to fund --

MARCOS HANKE: Actually, my intention on this is that people like you and Damaris and the Governor of Puerto Rico and people that have access to help the fishing villages, to guide them, because it's very easy to follow on the old way of doing things, just getting a boat and repairing the boat and keep doing business as usual. If there is better ways to create a scenario that they can be stronger as an industry, we should pursue that, and this is just some ideas that are very helpful.

CARLOS FARCHETTE: Okay. Are we going to do -- Tony.

TONY IAROCCI: Thank you, Mr. Chairman. At lunchtime today, we had formed a small ad hoc committee to discuss this alternative marketing that we were talking about today, primarily to deal with live lobster and live and fresh queen conch. We had industry and NGOs at the table and council members at the table.

The committee is formed with Thomas Forte, Helena Antoun, Alida Ortiz, Raimundo Espinoza, Carlos Velazquez, and myself, and Stacey, who is involved with the west coast, and we'll hear more from her later on.

Topics of discussion was basically to make sure that we inform the fishing communities and the people to know exactly what we were talking about and the marketability of the product we were talking about and what the next steps were going to be and putting together the first shipment and, like I talked about earlier, Tommy Forte would handle the product on the east coast, and Stacey would do the west coast.

We were looking at the permitting, partnerships, support, prioritizing our next steps, what funding options would be to do this and do it right, and making sure that the first shipment — I had four calls back from both the American partner and the Chinese partner from the states, and they're very interested in doing this and making sure that we do it right and make sure that we keep control exactly — If we start this in Puerto Rico, Puerto Rico, and the people doing it in Puerto Rico, whether it be Thomas Forte or Stacey, and the fishermen would be part of this whole process. It would be their setup. It wouldn't be the Chinese coming in and taking over anything. They would be buying the product.

Priorities, to make sure that we look at the options of Stacey's operation for future development on the west coast and expansion for that process. The setup for Tommy is to make sure that the chilling and the shipping was set up, so that Puerto Rico would start with the number-one -- A quality product would be shipped, to set the stage and the standard for a quality product. We want to make sure it's a quality product that would demand a high price.

The last thing we want to do is to send a low grade, and that means that, number one, that the top-quality stuff, the number-one lobster, would be shipped and exported. The number-two and the lower quality, which we call meager or sub-standard, which is not the number-ones that the Chinese want, would go into the domestic market. That would help make sure that everybody got their setup.

We would have to make sure, especially as -- I talked with Miguel earlier, and, dealing with the Chinese, you have to negotiate price and timing and all that stuff. That's where we have to be at the table and make sure they don't -- If they're paying so much somewhere else, they need to pay at least that or more down here.

Timing, we're looking at putting this together and getting it going and hopefully get something set up by after the holidays. I am going to meet with Tommy Forte tomorrow and check out what he's got for shipping boxes, gel packs, and see about getting the first shipment -- Get the first shipment off the floor and trying to get that done.

Now, I want to make sure, especially with the Virgin Islands,

that this is not a closed-door process. This is something that has potential for later on. I was a hard-head when anything new came to me, and I fished the same way for years.

When you look at marketability and you're looking at ACLs, when you're getting paid seven-dollars and you're selling to one market and you're working X amount of time to get that ACL filled, can you work less and work smarter and make more money? That's a consideration, but it takes time for people to make change, whether it's Puerto Rico or New England or anywhere. It takes time for people to look at that and to progress into different chains.

Let's see how this works out, and let's try a pilot program. Let's see what we can do and put it together. With that said, after she does, if there's any questions, but, Stacey, would you like to give a little on your side?

STACEY WILLIAMS: Right now, I have a wet-lab facility at the Department of Marine Science in la Parguera, Puerto Rico, on the southwest corner of Puerto Rico, and the objective of this wet-lab is I collect post-larval diadema antillarum, which is the black sea urchin, and I raise them to a larger size, and this is actually a restoration project.

I take these diadema, when they're a larger size, and I transfer them back to the reef, and I have had good success in last year's restocking efforts, and so I have a couple of pictures, but I don't know if it's necessary.

The tanks that I have set up are a semi-closed system, in case something happens to the university pump. The water is constantly recycled, and there is also possibilities to do a closed system, and so I think -- I mean, right now, I have the setup for diadema, and lobster eat diadema, and so I would have to expand the operation, but I don't think that would be difficult, and I think it would be a great opportunity, because it's at the Marine Science Department, and students can be involved. They could actually use this as -- Some students could use this research as their thesis research, and so it could be a one-to-one win.

How I collect the diadema is that I have mooring lines at the shelf edge, and, on these mooring lines, I have basically Astroturf plates that are hanging in the water column, and, during the summertime, I actually get a lot of lobster larval recruits, and so, when I bring these plates back and I put them in the tank, there are some lobster, and they do grow pretty

quickly.

They eat algae when they're small, and so that's another option. It's not necessarily the fishermen catching the lobster and keeping them fresh to then ship, but also doing something similar to what I am doing with the diadema, is catching the post-larval lobster larvae and bringing them back to the lab and growing them to a larger size and then maybe shipping them. Those are a couple of options that can be worked around.

TONY IAROCCI: One other thing to that point too is we had talked about, if that does get to that point, a percentage of the recruitment that would be thrown back into the resource, into the ecosystem, that would add to the sustainability of the fishery, because we want this to be a win-win not only for the marketability, but for the sustainability of the fishery, where we're adding back to the fishery. We don't want to just take. We want to be able to put back. With that said, is there any questions, or we can follow up with this later on.

CARLOS FARCHETTE: We can successfully farm lobsters?

TONY IAROCCI: It's being done in a lot of places. I personally did a project with Tom Matthews three years ago in Florida in the tanks, from pueruli to -- Julian, you don't have to comment on this, but to three-inch carapace, which is legal in the states. Within one year, we had a three-inch legal lobster, within one year, confined in a tank. In natural habitat, done in an open area where you had good tidal flow and good seagrass and good feed, who knows what could happen, and I don't know. I am not a scientist.

CARLOS FARCHETTE: I thought the larval stage for lobster was like a year.

TONY IAROCCI: That's what a lot of people thought up until this project.

STACEY WILLIAMS: You could collect the post-larval, and so you don't actually need to --

MIGUEL ROLON: You are talking about two different things. One is the larvae and one is the pueruli, the juvenile. What they are talking about is to bring the juvenile to 3.0 carapace length.

STACEY WILLIAMS: Yes, and so you don't even have to -- You could bypass that really difficult stage of raising the larvae

in the lab, and that's what I am doing with the diadema. You could actually collect the juveniles, or recruits, as you would call them, and then bring them back to the lab, and so all the hard work is really done, and that's what I am doing with diadema, because it's very difficult to raise diadema larvae in the lab. They have been trying for years, but I am able, actually, to collect really tiny sea urchins, less than a millimeter in size, and bring them back to the lab and grow them to about four centimeters, and so it can be done.

I collect all different types of larvae, like sea cucumber larvae, and I collect a lot of sea cucumber larvae, and I collect other different species of urchins, and so this is a possibility that I think could be expanded to other different species.

TONY IAROCCI: That right there, what she just said, is so important. When I told those guys that I called this afternoon, they said they didn't believe, and I said yes, and that's why we're going to document it and get pictures of that. That is the hard part. That is what takes the time, and that's where the loss is, but this is all done naturally, and it's pretty amazing. Yes, Julian.

MIGUEL ROLON: Before Julian, the other thing is that you should split the question or the project. One is the export of legal-sized lobster and the other one is raising the juveniles all the way to legal size, and you have to have a special permit. Otherwise, you are going to be penalized for having undersized lobster in captivity, and so there are a lot of technicalities and things that you should do, but I believe that your presentation is really to present a holding tank for the fishers who want to bring the lobster and treat them for export, the way that it had been discussed before, and that will take a little bit more.

TONY IAROCCI: Right, and that's why I said one of the things that we discussed, talking about that later, is traceability and being able to get the permitting to do this, because Raimundo had been dealing with that, and we talked about the time that it would take to take this to the next level, and that's why we're starting with the marketability of the legal-sized lobster. Julian.

JULIAN MAGRAS: Excellent point, Miguel, and thank you for that. My question was, to go along with what he was saying, was how will these farm-raised lobsters to legal size affect the ACL, due to the fact that they are coming out of the same fishery?

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MIGUEL ROLON: We do not have -- This has been done by France and other countries, and usually what they do -- That's why I said they have a special permit, the same that you do with the salmon. You have wild, live-caught salmon and then aquacultured, and you have to document that.

The problem that they have found, and it's too late today, but one thing that is interesting is let's say that you have a farm that can produce 6,000 lobster a month. All of a sudden, it's producing 20,000, and you know that those 20,000 minus 6,000 is 14,000 that is coming from the wild and through that channel, and so all that will come in the future, when we have all of this, and probably I will be retired or dead, but the thing is that there is an opportunity here to do something outside the box, something that will be different.

fishermen other part is that the can participate. The Unfortunately, there are fishermen, in at least one point in Puerto Rico, that they thought about bringing the lobster in and the lobster will grow to marketable size in a couple of months, and the same thing happened in France, in Martinique, and so now, with scientists like Stacey and others, you can organize something that will have the support of science and that will be put together in order legally and all of that, but, as I said, you have to divide the two projects, and I believe that the thrust of the presentation this morning and the summary today is to provide the fishers an avenue to export the lobster.

As Stacey graciously is offering her facilities for the fishermen, especially on the west coast that do not have these facilities, and, remember, when the fishermen are corralling or putting lobsters in the cages, there is always someone looking after those cages, and it happened to a fisherman, I told you, in la Parguera. He put together \$800 worth of lobster in one cage, and he was -- Probably by the next meeting we will be able to have some progress, or at least you can continue working on that, and, in 2018, we might be able to tell the fishing community that this works or it doesn't work or how to go.

EDWARD SCHUSTER: How expensive is it to put a project like this together if someone, like a fisher, like myself, wanted to get into it, to raise the larvae into a marketable size?

TONY IAROCCI: Eddie, I couldn't even begin to answer that, and I wouldn't want to answer that, because it's too time consuming, and, like Miguel had said, it's been done a lot of places. What intrigues me about this project is, and I have been involved

with this for quite a long time and researched this, and you guys know Tom Matthews, and it's been done in a lot of places.

What Stacey had said earlier is the hard part is getting the larvae, getting the pueruli, getting that to that certain stage. That is what is time consuming, and that is where the lobster is lost. She has got an avenue where she is collecting for the sea urchin, and the lobsters are there, and they are already doing the grow-out, where you can self-contain and do that. Whether you do market some of that stuff or you put a percentage of that back into the wild to restock an area for a nursery area or to grow to legal size, that in itself enhances recruitment and enhances sustainability.

That is a selling point in itself, being able to do that. Not all -- It takes, from what I've seen and what I've read, it takes a lot to get them out of pueruli.

I have put collectors out in Florida and throughout the Caribbean coast of Nicaragua. To keep them alive and to get them to grow out is the challenge. She has already dealt with that not even trying. It's there and being done, and, like I said, that's very exciting. It really is.

STACEY WILLIAMS: Just to answer your question, I think it's -- It's all about permitting. If you get the permits, and you can have a small operation and have a tank and have a water pump, and it's that expensive, and so, if you do collect lobster and you want to keep them fresh, I don't think that it would be an expensive operation.

I started with my budget very, very low. It was a pilot project, just to prove the concept. Now that I am expanding it and I'm putting out more mooring lines and more collectors, it's a little bit more expensive, but it's not that expensive if you have a couple of tanks and a water pump. I don't think it would be that big of a deal.

CARLOS FARCHETTE: Okay. Thank you.

TONY IAROCCI: Thank you.

PUBLIC COMMENT PERIOD

CARLOS FARCHETTE: All right. I have a public comment period for anyone. I don't see any hands. All right. Administrative Matters.

ADMINISTRATIVE MATTERS

MIGUEL ROLON: Very quickly, with the budget, for 2017, we have enough to finish until December 31. There will be some money that will be carried over to 2018, and, if you have heard, Congress avoided the closure of the government, even though, if they close the federal government, because we are grantees, we don't need to close the council. We have enough money to start 2018, and that is the good news.

We have money to start 2018. Last year, it was very difficult, because we didn't have any money until almost half of it, but, this time around, National Marine Fisheries Service provided the necessary funding for the council to start 2018 on time.

Regarding the closed session, we usually have a closed session when we are going to discuss matters related to candidates for the panels that we have. At this time, we don't have any vacancies, except for one, because, the SSC and the Outreach and Education Advisory Panel, their appointments last until 2018 and 2019, and the same with the DAPs.

We have one vacancy in the Outreach and Education Advisory Panel, and then Ruth was going to provide some names for the Outreach and Education Panel, and so will wait until next time for her to bring that to the attention of Alida Ortiz, and Diana is kicking me under the table, because she has something to say.

 DIANA MARTINO: Regarding the vacancy that we have, Israel Umpierre left in the DAP of Puerto Rico, and we had talked, and we were talking to Helena about Robert Long, which was the person that was --

MIGUEL ROLON: (The comment is not audible on the recording.)

DIANA MARTINO: Okay. I said nothing.

CARLOS FARCHETTE: Thank you very much. We are in recess until tomorrow morning, but, Commissioner, one quick --

DAWN HENRY: Mr. Chairman, speaking about budget, the USVI has a request. We have some unspent funding for the liaison fund for 2017, and we are asking for the council to consider carrying over those funds to 2018.

I don't know if the council is aware, but the federal OMB, they, for grants that were expiring between the period of September 30 through December 31, all of those grants were automatically extended until September 30, 2018. For the council to grant this consideration, it would fall in line with the decision the federal government has already made in terms of as a result of the hurricanes in the U.S. Virgin Islands, and so we're asking for that.

Secondly, it's my understanding that the DAP Chair -- They recently did some sort of a travel, and they were requesting payment, and are you familiar with that, Mr. Chair?

CARLOS FARCHETTE: DAP members did a travel and weren't compensated?

14 DAWN HENRY: For travel days.

16 CARLOS FARCHETTE: Right. I know what that's about.

18 MIGUEL ROLON: Well, tell us.

CARLOS FARCHETTE: They don't get compensated for the travel day, just the day of the meetings, but that was in the charters, and that was already approved in the charter and their bylaws that compensation was for meeting days only.

DAWN HENRY: Not travel days.

CARLOS FARCHETTE: Right.

DAWN HENRY: Okay.

31 CARLOS FARCHETTE: Unless -- I don't know if that can change.

DAWN HENRY: Okay.

MIGUEL ROLON: Regarding the carryover, do you have an opinion of whether we can carry over that or not yet?

 JOCELYN D'AMBROSIO: I forwarded your question to folks within the Department of Commerce Office of General Counsel, and I think they needed additional information to answer that, but I can forward you that email again and put you in touch with that person again to get that information.

MIGUEL ROLON: Because one thing that we do, and I can do it and the Chair, is that you won't get any carryover and that money will go back to the base funding of the council, but we can put it back in 2018, and, rather than give you the \$25,000 in 2018, we can give you \$30,000, if the Chair approves it. Do you

approve it, Mr. Chairman?

CARLOS FARCHETTE: Of course.

DAWN HENRY: Same difference.

MIGUEL ROLON: That way -- See, the liaison funds, the intent of the liaison funds, was to assist the local governments, and so you will not be penalized monetarily for sending people to attend council-related things, and so, at this time, it's

something that we can do.

In the meantime, we can wait until we get this final legal opinion, but this mechanism would allow us to close 2017. Then we will have the agreement that, in 2018, you will receive whatever amount you have plus \$5,000. The same goes for Puerto Rico, but Puerto Rico doesn't use it, and so I don't know what they're going to do.

DAWN HENRY: Is it also appropriate for the discussion with how -- With our flight being cancelled and how we ended up coming here?

CARLOS FARCHETTE: (The comment is not audible on the recording.)

DAWN HENRY: Thank you. Thank you, Mr. Chair.

CARLOS FARCHETTE: Anything else? Hearing none, we are in recess until tomorrow morning at nine o'clock.

(Whereupon, the meeting recessed on December 12, 2017.)

(whereupon, the meeting recessed on becember 12, 2017.)

December 13, 2017

WEDNESDAY MORNING SESSION

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The Caribbean Fishery Management Council reconvened at the Marriott Stellaris, Condado, Puerto Rico, Wednesday morning, December 13, 2017, and was called to order at 9:00 o'clock a.m. by Chairman Carlos Farchette.

CARLOS FARCHETTE: We are going to get started, and so if we could all take a seat. We are going to start with the roll

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1 call, and I'm going to start with Vivian.
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VIVIAN RUIZ: Vivian Ruiz, council staff.

5 MARIA DE LOS A. IRIZARRY: María de los A. Irizarry, council 6 staff.

8 CARLOS VELAZQUEZ: Carlos Velazquez, council member.

10 TONY BLANCHARD: Tony Blanchard, council member.

12 DAMARIS DELGADO: Damaris Delgado, Puerto Rico DNER.

14 MARCOS HANKE: Marcos Hanke, Puerto Rico.

16 CARLOS FARCHETTE: Carlos Farchette, Council Chair.

18 MIGUEL ROLON: Miguel Rolon, council staff.

DIANA MARTINO: Diana Martino, council staff.

JOCELYN D'AMBROSIO: Jocelyn D'Ambrosio, NOAA Office of General Counsel.

25 BONNIE PONWITH: Bonnie Ponwith, NOAA Fisheries.

JEREMY MONTES: Jeremy Montes, U.S. Coast Guard.

29 BILL ARNOLD: Bill Arnold, NOAA Fisheries.

GRACIELA GARCIA-MOLINER: Graciela Garcia-Moliner, council 32 staff.

NELSON CRESPO: Nelson Crespo, DAP Chair, Puerto Rico.

36 CLAY PORCH: Clay Porch, NOAA Fisheries.

JEFF RADONSKI: Jeff Radonski, NOAA Office of Law Enforcement.

ALIDA ORTIZ: Alida Ortiz, Outreach and Education Advisory Panel Chairperson.

JACK MCGOVERN: Jack McGovern, NOAA Fisheries.

45 ALEXIS SABINE: Alexis Sabine, Virgin Islands Fish and Wildlife.

47 TONY IAROCCI: Tony Iarocci, commercial fisherman.

JOSE RIVERA: Jose Rivera, NOAA/National Marine Fisheries Service Habitat Conservation Division.

JOSHUA MOREL: Joshua Morel, Clean Ocean Initiative.

DANIEL MATOS CARABALLO: Daniel Matos Caraballo, Puerto Rico Department of Natural and Environmental Resources.

YASMIN VELEZ-SANCHEZ: Yasmin Velez-Sanchez, Pew Charitable Trusts.

ROY CRABTREE: Roy Crabtree, NOAA Fisheries.

CARLOS FARCHETTE: Thank you, everyone. We're in the continuation of the 161st Regular Caribbean Fishery Management Council Meeting being held at the Marriott Stellaris Hotel in Condado, Puerto Rico, December 13, 2017.

Continuing with the agenda, what was left from yesterday was Island-Based Fishery Management Plans: Review of the Final Draft EIS Draft Actions and Alternatives for Each Island Group. That will be Bill, I believe. First, we have to get the roll call for the Go to Meeting.

VIVIAN RUIZ: The Go to Meeting attendees are Maria Lopez and Sarah Stephenson.

ISLAND-BASED FISHERY MANAGEMENT PLANS: REVIEW OF FINAL DRAFT ENVIRONMENTAL IMPACT STATEMENT DRAFT ACTIONS AND ALTERNATIVES FOR EACH ISLAND GROUP

 BILL ARNOLD: Good morning. I want to go over where we are and where we're headed with all of these things, and I think it's a very important time right now for fisheries management in the Caribbean region. I think we have a lot of opportunities ahead of us, and I really would like for us to take advantage of them.

 The first thing I would say is, if we're going to be successful, we have to work as a team. All these ideas that this person knows more than that person or this group doesn't allow that group to talk, et cetera, et cetera, is incredibly counterproductive to what we're trying to get done. Everybody involved in this process has something important to contribute, and everybody needs to be allowed to contribute.

I have suffered that too, being told that I shouldn't speak, et cetera, et cetera, and it's just the way that we're going to get things done, and so I really think that, starting from council

leadership down, everybody needs to accept that we are working as a team and we will achieve our goals only as a team.

What I wanted to go over today, just to make sure that everybody is clear on where we're going, because I think there was some concern expressed yesterday about our fishery ecosystem plan and that it may be a distraction to the fishery management plans that we're developing, but it's not a distraction. It's a key component of the package that we're developing for fisheries management in the region.

There is basically three components, or there's a lot of components, but there are three key components to developing an effective approach to fisheries management in the Caribbean region, and one of those is the fishery ecosystem plan that we talked about yesterday, and that fishery ecosystem plan is basically an encyclopedia, an electronic encyclopedia available to everybody, and it is a constantly-updated encyclopedia of all the information that we have available to us regarding fisheries and everything associated with the fisheries in the U.S. Caribbean region, but not just the U.S. Caribbean region, because this is a hierarchical document.

It starts basically at the lowest level, and we can start as low as we want, but the level I started at is the individual island. We are doing island-based fisheries management, and so the fishery ecosystem plan first addresses the unique attributes of each of the three islands, and there are many unique attributes.

There is a lot of things about St. Croix that are not the same on Puerto Rico and that are not the same in St. Thomas and St. John, and we all know that. That's why we're where we are, and kudos to Roy Crabtree for saying we need to move towards a more island-based management approach. I couldn't agree more, but the second level is the region itself.

There are things that operate at the U.S. Caribbean region that, relative to the larger scale, these three islands do have in common. For one thing, we're all in this room together. There is no St. Eustatius in here, and there is no Jamaica in here, and there is no France in here. It's just the U.S. Caribbean region, and so that is hierarchical level too, but, as pointed out when Stacey Williams asked her question yesterday of what about connectivity, when you're talking about lobsters and where their larvae come from, you can't just operate in the U.S. Caribbean region.

You have got to operate, at a minimum, Caribbean-wide, because

it may be that the Southern Windward are providing the larvae that drives this population. We may never know exactly how that relationship operates, and certainly we can't manage what goes on in the Southern Windward Islands, but we sure need to know about it, because, if we don't, if we operate in ignorance, we could make some really bad mistakes.

Then, really, at the highest level, there is global considerations. If we -- This is where the cumulative impacts come in, and so say you decide that you are going to harvest less protein from the ocean in the U.S. Caribbean region. Well, that doesn't mean the U.S. Caribbean region needs less protein, but it just means that you're going to be getting less of it locally. Well, that has implications, because it's going to have to come from somewhere else, and that somewhere else could be -- Just using an example, it could be the Midwest, because you're going to use corn to feed cows instead of eating fish.

Well, okay. Then you've got more nitrogen coming down the Mississippi River and expanding the anoxic zone down there and fewer tuna, and so now you have reduced your protein even more, and these are the kinds of global implications that decisions can have, and so you've got to work at all four of those hierarchical levels.

Obviously, right now, we're working at the lowest level, the individual islands, and then the second level, which is the U.S. Caribbean itself, but we're not going to be able to stay at that level.

Like I said, lobster is a good example. You have to understand their larval transport pathways and connectivity patterns, and you have to understand how currents operate and how they change, because the connectivity patterns change when the currents change, and this just isn't spiny lobster. It's also queen conch and a lot of other moderate to long-lived larval species.

I mean, heck, in two weeks, three weeks, the life span, a short life span, for larvae, you can easily get from the Southern Windward Islands to Key West or even up the east coast of the United States, and so there is tremendous implications of understanding how the basin operates.

Now you've got this fishery ecosystem plan, and that's your encyclopedia. You can use that information, as you see on the screen, to guide your decisions. We talked about a lot of things yesterday. We talked about lobster exports, and we talked a little bit about aquaculture, and we talked about

connectivity. Queen conch densities is a means of managing their reference points.

2 3 4

We talked about lobster carapace length, and we use that, or could use that, to manage lobster, all of these options. Deepwater snapper, should we use permits or should we use electronic reporting? How can we benefit? In-season landings data and habitat changes, all of these things are contained in and guided by and can be accessed by anyone within that fishery ecosystem plan.

You draw the information out of your fisheries ecosystem plan and you identify an issue that needs to be addressed, and you can use the information in that ecosystem encyclopedia to say, okay, well, here are some valid options that we can apply to address the issue that's on the table, and then all of that information from that FEP feeds your decision-making process, and that decision-making process is your environmental impact statement. It's not your fishery management plan. It's your environmental impact statement.

When we talk about actions and alternatives, we're talking about our environmental impact statement, and you go through all those actions and alternatives, as we're doing now, and should we use ad hoc SSC guidance to set an ABC for queen conch or should we use densities or should we use landings from 2012 to 2016? These are different options.

They are contained within the environmental impact statement. You set those decisions up, and you use your encyclopedia to guide them and provide information and then all of those people out there that live in these islands are going to be impacted by these decisions can access that encyclopedia so that they can learn about the issues.

Then, when we have public hearings to obtain input on what the best approach is, these people come in informed, instead of coming in totally ignorant, and not by any fault of their own, but totally ignorant of the issue.

We try to explain to them what's going on in the first thirty minutes of a meeting and then expect two hours of informed comment, and they can't possibly provide informed comment unless they've got some information behind them with which to make decisions. These aren't stupid people. They are very smart people, but anybody can be ignorant. I don't know how a locomotive works, but that doesn't make me stupid. It makes me ignorant of how a locomotive works. I get the wheels go around,

but I don't know all the details.

 Everybody is like that. You can be a brilliant brain surgeon, but that doesn't mean that you can tune your carburetor, and so that's the environmental impact statement. You make a decision based upon all that informed comment and discussion and good input. You try to make the very best decision you can, and you select a preferred alternative. Here is the council's preferred approach to addressing this issue.

is passed through, amendment to a When that an fishery management plan is made, then it goes into the fishery management plan. The fishery management plan is nothing more than a description of how these fisheries actually operate. doesn't make decisions, and it doesn't have choices. you have a nine-inch minimum size for parrotfish in St. Croix, you have 200 queen conch per vessel for commercial harvest in the U.S. Virgin Islands, and that's all it says. There is no debate, and there is no discussion, but it's just here's how this fishery operates, and then you can go back.

That's what the big arrow is all about. You can go back and say, okay, now that the fishery is operating this way, is it operating the way we want it to? If it's not, you go back and you look at your encyclopedia and you say, well, based upon the information we have, what are we missing and what do we need to adjust?

Then you can use that to say, all right, and so we're missing some information in this encyclopedia, and then that comes up to NOAA Fisheries and a lot of other people and then they set priorities for funding, and we can use this guidance to determine what our priorities are.

We're in that process right now with our MARFIN grant program. Where should we spend the money? You don't just want to open it up to everything. You need to have proposals coming in that address gaps in our knowledge, and, of course, we have huge gaps in our knowledge, but which gaps do you need to fill now for specific purposes, and that encyclopedia helps to inform you of that.

As I have said on many occasions before, everything works together. It's all tied up really tightly, and that's the way you want this to operate. The system operates on an island-based scheme, and it has to be constituent informed, and it has to be constantly updated, and the encyclopedia itself has to be available to all and this is how it's going to operate, and

that's what Cindi mentioned yesterday. We need everybody to be aware, and we need everybody to give us information, because we need as much information as we can possibly attain.

Really, I just wanted to provide this context, so you understand where we would like to go with this, and, of course, until we get these new fishery management plans in place, we're really not going to be able to achieve these goals, and I think they're really important goals.

We know that the fishery management plans we have in place right now are operating based on an era of landings and information that is completely outdated, and that was stressed on multiple occasions in the SSC meeting last week, and so we've got a new landings regime, and we've got a new information regime, and we've got an old set of fishery management plans, and we can operate under those, but we don't want to operate under them any longer than we have to, and that's why I keep stressing that we need to get these new fishery management plans in place.

I get that you're sick of me saying that, but there is a reason for it. It's not just because I want to have some feather in my cap. I've got a whole, compete, totally successful, at least in my opinion, scientific career, and I don't need any more accomplishments in my career. I want to do this because I really think it's something important, and I think it can be exemplary for the nation and, even at a global scale, I think we can provide a way to manage in small-scale fisheries in tropical regions that depend on coral reefs that can be a model for a lot of other regions, and that's what I am working towards.

I would like for everybody else to work towards that. If you don't, I am going to continue to work towards it. If I fail, well, that's the way it goes. Everybody that sets out to climb Everest doesn't make the top, but they're certainly not going to make it if they don't start, and so we'll do the yellow brick road thing. You've got to take that first step, and we're way past the first step, but that's where I am on this.

I hope that the team will buy into it, and I'm not the leader here, but I'm just making some suggestions, but, those who do, I hope that they at least use this as a start point and build a context within all of which this operates that is where you think this should go.

That's what I'm thinking, and that's why the FEP was discussed yesterday, and, when we talk about these fishery management plans and their associated environmental impact statements

today, I want you to be keeping this in mind, and so that's where we are, and, unless you have questions, I think that's our start point, but I would really like for, as we move into the island-based fishery management plans and their EISs, I think it's probably best for Graciela and Maria to lead that discussion, although certainly I'm willing to participate, to the degree that they want me to, but they're really leading on this, and so that's what I've got to say. Thank you.

CARLOS FARCHETTE: Miquel.

MIGUEL ROLON: I agree with everything you said. The task today is for the council to hear the presentation and provide any guidance that the staff needs, but we have to keep in mind that the goal is to put together a schedule in 2018 that will allow us to finish this, because we have been talking about this for the last two or three years, and, every time that we meet, somebody has a little bit of this and a little bit of that, and, if we keep doing that, the fishery will suffer.

Our goal should be to have that schedule put together, and it won't be perfect, but at least it gives you a goal to have these FMPs submitted to the Secretary as soon as possible with the best available scientific information that you can get.

Also, Bill said something that is very important. He said it's teamwork, and, in order for any team to work, you have to read, and every council member has to prepare for this task. What will be the first presentation? Are we going to follow the agenda as written?

GRACIELA GARCIA-MOLINER: You should have received the updated version of the actions and alternatives, and this includes the information that came out of the SSC meeting that ended last Friday, and so, of course, there is more information that needs to come into the documents, but we are, as you saw from Richard's presentation yesterday, digesting the information, the direction, that they provided to the staff.

In addition to that, the SSC had requested additional help from the Southeast Fisheries Science Center regarding such things as the back-calculation of the recreational fishery data for Puerto Rico, which is the only one that has it, because the year sequence that we're talking about is 1988 to 2011 or 2015, depending on the species, and the recreational data only begins in 2000, and so that's a topic of discussion that the SSC has had and requested help with.

 MIGUEL ROLON: If I may, Mr. Chairman, that's probably one of the first things that we should discuss, this request, and to hear from the Center when that can be done in 2018, if possible, so that we can have our schedule designed to include that. We might probably need -- Graciela, probably we will need another meeting of the SSC sometime in the first quarter?

GRACIELA GARCIA-MOLINER: Hopefully at the beginning of February, and that's what we were thinking about, so that there would be enough time to put all that information into the documents and try to see if, by December of 2018, the document is ready for secretarial review.

That is the ideal schedule, and so, having an SSC meeting -- It won't be a week, but it would be one or two days, and, basically, the request to the Science Center regarding what Shannon had developed for us during this past week, the CVs and the information that the SSC has developed, we started working on the specific language for the data request, and it's not really a data request, but it's really to review and provide us with the information that is needed to complete the homework, if I may.

From our conversations with Shannon, it shouldn't take that much, because we're almost there, and so it would be up to the Science Center to determine if the beginning of February would be a good date to set the SSC meeting.

 MIGUEL ROLON: I don't expect the Center to give us an answer today, but soon, because, once we receive that information, then the SSC should schedule a meeting and go over it and then prepare the recommendation to the council.

Ideally, we would not meet the SSC again until we've finished this, because, if we do that, then we will be changing paragraph after paragraph, and we will never finish, and so we want to hear from Bonnie on this one.

 BONNIE PONWITH: Thank you. What would help is some informal consultations between council staff and the Center to get a grasp of exactly what needs to be done and then formalize that in writing, so that we make sure that we hit the bullseye of that target and don't lose any time because of missing parts of that.

Once we see it, I think the value of having the informal discussions in advance is it helps us to develop what we think is a credible timeline for what it would take to get those

materials to you, which gives you the lead time you need for getting the SSC meeting properly publicly noticed, and so I think that would be the most efficient way of proceeding on that.

MIGUEL ROLON: So Graciela will take the lead on that one, and, by the first question, January or February, we'll be ready for that informal discussion. In order to expedite this in a way that all the council members will be able to grasp what is it that we want to do, the alternatives, the draft actions and alternatives, we have discussed this for a long time. Is there any new alternatives that the council should address today?

GRACIELA GARCIA-MOLINER: The new language for the ABC control rule that the SSC has provided, that has already been included in the draft document that you received, and so that is already incorporated. Now, the SSC is developing what we call rules-of-thumb, so that the staff can actually plug into the numbers into the development of the OFL and the ABC, which is what the SSC would finally recommend to you after their February meeting.

That is part of the informal discussion that we will have with the Science Center, and, also, it's very valuable to have Jocelyn at the SSC meetings, because she guides us in terms of the legality of what we have to follow and what the SSC can and cannot do, and so it's all based on that.

The document is basically the same that you have seen before. It has this new language from the ABC control rule, and it actually also includes the determination of indicator species for those stocks that will have one, and it's separate and different for St. Thomas/St. John, for St. Croix, and for Puerto Rico.

MIGUEL ROLON: Just for the council, what the staff has done is to incorporate -- Remember that each island area provided a list of the species that were going to be managed, and so that's already there and you don't have to go over it again. However, here, we need to talk about yesterday's idea to have a one-day workshop to clarify this jargon and the graphs and everything, and I believe that that should be taking place sometime during probably the last part of February or the first half of March, so you will be able to grasp all of this and be prepared for the April meeting.

We should wait until the SSC meets, in case they have something else to add. Then you don't have to go back. You will have that information there, and so there will be a matter of having

a one-day workshop, and probably we can do it, as we have done before, with the joint meeting of the DAPs and the SSC and the council members, and so we can have a meeting like that, and it will be dedicated to only a description of this methodology, and then it will be questions and answers from the audience as to how we can clarify that for the public and for the members of the council. If we do that, then we can be prepared for making other decisions at the April meeting, but we need to know whether you agree or not with that schedule.

CARLOS FARCHETTE: Commissioner.

DAWN HENRY: I think the suggestion is a good suggestion. My follow-up thought would be, since you mentioned the public at that meeting, would it be possible for there to be a prior meeting just so that at least the GVI, as well as the Science Center, that at least we all have a better understanding, at least internally, that we're headed in the right direction before we do it publicly, to me temper having disagreements and too much confusion, and so that would be my suggestion.

MIGUEL ROLON: You can do that on your own, but all meetings of the council have to be public, and this meeting is just for orientation purposes, but that doesn't mean that we cannot go with your idea and let's say have one in St. Thomas/St. John and get as many people as possible of the players, the fishers, who are not here and fishers who are not members of the DAPs can attend.

That way, the more we explain to the public on the decision-making of what is it that we are doing and what is it that we intend to do, the better. Sometimes, when we have these meetings, somebody can come up from left field and say something that is better than anything that we have said about any particular issue, but my point is that, whatever we do here, we have to put it on the schedule and we have to monitor that.

 What we have done so far is that the staff will have a conference, an informal conference, with the Center to make sure that we, each other, understand what we want to do, and the Center will then work on these numbers and what Graciela mentioned, and then we will have the orientation meeting after the SSC, and I will coordinate with the Regional Office and the Center to make sure that we have the right people there.

If we have an orientation meeting with the same jargon and everything, we are going to be wasting our time. We have to digest that the way we do it with the Marine Recreational

Education Program, and Maria Delmar was able, with the staff, Bill's staff, they put together a good, good presentation of the whole system, from the get-go all the way up to adoption of the regulations, and that's the kind of thing that we need to do here, but focusing only on the presentation made by the SSC Chair yesterday. The next steps, Graciela?

> GRACIELA GARCIA-MOLINER: One more thing regarding the -- You also should have received a copy of the SSC presentation that Richard yesterday, and that one goes through gave alternative that deals with the indicator species, alternative that deals with the tier assignment, meaning the species that are okay to be in 4a, because we're only dealing There is no accepted assessment done for any of with Tier 4. the species, and so Tier 4a and Tier 4b.

The intent of the SSC, and it's in one of the slides, is to actually allow for more harvest for those species that actually, in their expert opinion, in the expert opinion of the DAPs, because this has a history of meetings between the SSC and the DAPs jointly, having had presentations from the Science Center and the Regional Office at these meetings, and so they have been following this. The information that comes in for the public is also taken into consideration and debated by the SSC to make a final statement.

 In the case that there is very little information for some species, then they have to make that determination if these species don't have enough for us to deal with them the way that we deal in 4a, and so we have to move them to 4b, and you saw, from the slides yesterday, that it's a very limited number of species, and those include mostly the ones that are really vulnerable to fishing pressure and to other issues that the SSC accounts for when looking at the information.

That presentation summarizes where the SSC is at this time, and it gives us, the staff, information to proceed with the calculations that need to be -- They are not actually looking at the end result, and so they don't see the poundage that will result from these ABCs at the end, but the intent is to make sure that the species that can tolerate additional harvest from what they have right now, based on the ACLs that were put in place in 2010 and 2011, is achieved, and the main examples would be things like the spiny lobster, the dolphin, the wahoo, et cetera.

In terms of the document and the SSC presentation, these are the two main documents that you have in your hands right now, and,

if you read them, they are set up in a way that they follow one step to the next to the next, and the idea is that, in the near future, you would be selecting a preferred alternative, and so that one would be the one that would be most developed and presented to the general public as what the council is thinking about at the time that they are taking these to public hearings. Then, at the end, you will finalize the document with a preferred alternative, and that will establish the new regime for each island.

MIGUEL ROLON: The other thing that we should do at the orientation meeting is forget about the acronyms. Instead of saying Tier 4a and -- Just tell me what kind of fish are there and what is it that we're talking about, because, every time that we do this -- I know it's in the document and you cannot explain that every time, and that's why you use acronyms and all of that, but what confuses a lot of people is that, three years ago, I knew what 4a was. Yesterday, I knew what it was. Ask me today, and I don't recall.

If you tell me that the lobsters are there, or the nine pounds of triggerfish are there, then I know what we're talking about, and that's what the orientation meeting should be. It should be based on the best science available, and we will try to make it as less jargon as possible, and so we will be better prepared for that.

The five actions that we have here, species managed, species grouping, Graciela more or less covered them, because they are in the document that you saw yesterday that Dr. Richard Appeldoorn showed us on the screen, the group of species, and he highlighted which one is the indicator species.

 We also have the reference points, and, Graciela or Bill, can you explain to us what a reference point is and how this should be explained, or not explained, but what are the reference points and how are they embedded in the plan?

GRACIELA GARCIA-MOLINER: This is where the information that is available regarding the fisheries comes really into play, and it comes into play via the commercial and recreational landings that are available via the information on the life history of the species that has been considered by the SSC and the general public, and, the process that you went through of establishing the annual catch limits, the ACLs, in 2010 and 2011, it's one of the alternatives that you have here.

There is going to be a selection of a sequence of years for

which the landings are considered to be stable, reliable, and can be used to establish either a mean, an average, for that period of time.

That period of time, in essence, is not the same for everyone, and the big difference between what was done then and what is being done now is that, specifically for the Virgin Islands, there was a change in the way that the forms that the commercial fishers providing information -- It changes from family, like parrotfish and snappers and groupers, to species-specific information.

However, there was an additional change in 2011. From 2011 to 2016, there is one form that was developed, and there is another change in 2016 for which we only have six months of data. So, that is the kind of information that is going into the development of the reference points and specifically into what the SSC is doing, which is the overfishing limit and the allowable biological catch, which is how much can the population of X fish take without being put in a position that it might not recover.

By recover, we mean that you have to have enough individuals in that population to grow to maturity and to reproduce so that you can continue fishing. That is the kind of information that goes into determining the OFL, or the overfishing limit, and the ABC, the allowable biological catch.

Finally, once the ABC is provided to the council by the SSC, which, by law, that's what they have to do, the council members have to decide if that needs to be buffered down from what the SSC is providing you or kept at the same level that they are providing to you depending on the management risk that you want to take.

During the ACLs, you decided on a buffer of 10 percent for certain species, and you decided on a buffer of 15 percent for some others, such as the groupers, and that would be the same -- That part of the process would be the same that you will be deciding on once this is presented to you.

Because we don't have assessments -- Well, actually, we do have assessments that determine that there is no evidence of overfishing or problems with the fisheries that we have looked at as of today, but there is no actual quantitative assessment done that would tell you that a species is overfished or undergoing overfishing.

 We have to rely on the expert opinion, the expert opinion not only of the scientific community, but also of the general public. Because we don't have a way of establishing the maximum sustainable yield, we have to us a proxy, and what we have used to date is basically average catch.

DAWN HENRY: What is considered expert opinion of the general public?

GRACIELA GARCIA-MOLINER: We have hosted a number of meetings when we've been developing these island-based FMPs, both official and informal meetings with the public, and we invite everyone who wants to come, and we usually get more information from the commercial fishers or the recreational fishers now that we are including in the island-based FMPs such things as dolphin, which tend to be more recreational than they are commercial. Because they have such a long history of being involved in the fisheries, they bring information to the table that might not otherwise be available.

MIGUEL ROLON: The information from the public that we talk about, there are two or three categories. The first one are the fishers that belong to the District Advisory Panels, commercial and recreational, but also you include even the consumers, because the consumers also have a responsibility, and they may tell you, well, I wish we had this fish available.

You go all the way to different tiers, and you ask a guy in Minnesota whether he would like to see a bluefish in National Geographic next time, and they have an intrinsic value for that. What we have done in the record that has been presented to you several times is that we go to the scientists and we go to the council members and we go to the District Advisory Panels, and we have meetings in the context of public hearings or education programs, and there are people that are allowed from the public to bring to the discussion any item that they think should be addressed by them.

 There are some members of the public that may not be fishermen at this time, but they have been fishers before, and they bring that experience into the discussion. The whole idea under the Magnuson Act is that we do this in the open and everybody who has something to contribute can have the opportunity to do so, and that's what we say to the public.

That also includes the local agencies. Your department and Damaris's department, you interact with other agencies that may have, for example, the people that work with the coastal zone,

and they may have something to say regarding habitat and habitat protection. You have the environmental quality board, and they may have something to say about the quality of the water. All of that will be included in that encyclopedia that we call now the ecosystem-based management plan. This is important that everybody understands this and we put it on the record.

Graciela, are there any of these reference points that could be affected by Irma and Maria and the statistics program, or that's something that we can just go on and work in the management plan that we have and that could be addressed some other time?

GRACIELA GARCIA-MOLINER: Well, the information that comes to the Science Center from the DPNR and the DNER is up to 2017 for the Virgin Islands, the first six months of 2017, and so that is probably what we have on the database right now, but we are thinking that it's only up to December of 2016.

That information, for 2017, really should be coming online this month or next month, and it probably won't be available to --Well, it might be available to the SSC in February, but what they're looking for, specifically for the Virgin Islands, is the period of time between 2012 and 2016, when the forms have changed to provide information on the species-specific fishery, for example red hind instead of groupers, and that's what it used to be, and so that's the information and the reference period that the SSC is looking at in terms of developing their overfishing limits and the allowable biological catch.

MIGUEL ROLON: How about Puerto Rico?

GRACIELA GARCIA-MOLINER: These considerations of the socioeconomics of the fisheries are taken into consideration when there is deliberation by the SSC, and one of the earlier ways that the SSC looked at it was that, to determine if you have an indicator species, one of the criteria that was used is the marketability of that species and the variability in that market when it's available.

At the SSC meetings, the DAP chairs from St. Thomas/St. John, St. Croix, and Puerto Rico are present at the meeting and provide input and information to the SSC. In fact, at the July meeting of the SSC, or the April meeting, they were in contact with the fishers when there was information needed directly from the fishers into the specific fisheries that they were discussing. That input is on a continuous basis.

One of the things that you look at when you look at the time

series of everything that's been landed is you look at things like Hugo in St. Croix, and you look at the -- We had availability of the USVI economic -- The government provided a document that had all the information on the economy up to 2015, I think it was, and so Walter Keithly, who is an economist, was at the meeting and provided that information to the SSC. It was looking at the number of tourists that come to the island and therefore thinking in terms of the market that is available for the species.

Because specifically the USVI has been so -- At every meeting, they have talked about the market-driven fisheries, that, if you don't have the demand, you won't go out fishing and you won't put it in the freezer, and that's also taken into consideration, and so all this debate at the SSC meetings goes on.

What indicators and what information do you have to actually plug into the equation, that is where the expert opinion of the SSC then puts a yes or a no, basically presence and absence of data, and then it makes a judgment call to make a determination.

CARLOS FARCHETTE: Blanchard.

TONY BLANCHARD: The year sequence from you said 2012 to 2016, when the forms was changed, but what jumps out at me is I understand where we want to go with the latest data that is on the books, and, because of the separation of the different species, and what pops out at me is that the changes that are made -- The big problem came in with the hind being tied in with the grouper species.

Now, let's say the red grouper is separated from the hind and the yellowfin and everything else. Now, the problem that I see that is going to arise from that situation is the economy for the Virgin Islands, and I ain't speaking for anybody else, is on a spiral downhill.

It's been slowly, let's say falling apart, for whatever reason, whether it's because of the lack of people wanting to buy the local fish, or, because of the economy, they can't afford it, whatever the reason is, but the taste for local fish, let's say, has declined.

Now, because -- I understand we're going to factor that in, but the problem is that I don't want us to be tied into a year sequence that shows low numbers, and what is going to happen is that we have to come up with an ACL and an OFL, and that's going to probably drop them lower on the scale that we could actually catch them.

Let's say, in the event that something happens that people start to buy into the market more, we would actually be locked into an ACL that does not really reflect the fishery's health, but what it does reflect is the numbers that we are bringing in because it's market driven.

Now, my thing is, when I asked legal counsel the last meeting, there was no problem in taking two different sequences of years to use to go by for the SSC. There was nothing legally stopping them to do that. My thing is I could understand if we're going from the 2012 to the 2016, and what I would look at is percentages, because what it will tell me is that, if we're cutting back on the market, if the hind, compared to the rest of the grouper stock, was 90 percent of that stock, we would know that really the numbers that is being reflected back to the previous ACL may change, but they ain't going to change that drastically.

In other words, if 90 percent of the grouper stock in the previous ACL was hind, and we look at 2012, they would basically be the same, because people change, but they have a tendency to stay with what they know, and so what I'm saying is I think, before we lock ourselves into one sequence of years, we need to look at the previous ACLs, because that really reflects what the stock was. We look at the changes that were made from 2012 to previous, and I know where the problem came in with the angelfish and the squirrelfish, and I think it was another species that was there that was not on the previous catch report.

 The numbers would -- I could say that we would probably work off of those numbers from 2012, because it was not identified on the form, and that is the latest information we have on them, or at least percentage-wise, but, to go and to say that we're going to lock ourselves into the last years of information because it's the latest information that we have on the books, seeing that the economy is in a spiral going downhill, and with this hurricane situation, it ain't making it no better for us, because I could just imagine what this year, and probably next year, and maybe the year after is going to look like.

We are being penalized because of not of the damage that is being done to the stocks or the health of the stocks, but we are being penalized because we are not using the stocks, and that's where I have an issue with it.

 GRACIELA GARCIA-MOLINER: I am glad that you mentioned the groupers and red hind specifically for St. Thomas, because, as you said, you are correct in evaluating the percentage that the council had requested to look at the percentage of red hind within the grouper complex.

It turned out that it was between 80 and 88 percent, and that increased to about 90 percent or so, and so, now that you have the form, what has been shown is that the amount of red hind that is being landed is accounted for as red hind, and, specifically for red hind, that's one of the species groups, because it's landed alongside rock hind, but not alongside the coney and the graysby, and so those are a separate complex.

The SSC is recommending that they will deal with red hind as being one of the groups that should be allowed more harvest on, and the reason for that is not only that it's being reported as a species in the forms, but also that fishery-independent data that comes out of the MCD and no-take zones since 1999 has protected the spawning aggregations of red hind.

The number and size of the fish that are being recorded and reported are much larger than they were before, and the sex ratio has also improved, and so St. Thomas red hind has shown quite an increase in both numbers and sizes, and so the SSC has taken that into consideration and is recommending that the rules that they have developed actually be altered to include these exceptions to the rule, so that it could be allowed more harvest.

 The ABC that they will be recommending to the council is going to be higher, and, therefore, it's the council's prerogative to decide if the management uncertainty on the red hind is high or low.

If you think that, with the no-take with the Grammanik Bank closure, with the seasonal closures that are in place, with the market changes that have taken place, red hind will not need a buffer from the ABC to the ACL, then you can have an ACL that is very close to the ABC. If, on the contrary, management uncertainty for other species that will be presented to you, if you think that management is not doing what it's supposed to be doing, then the risk is higher. Therefore, your buffer then between one and that other has to be higher.

Specifically, they are looking at each one of these species or species complexes separately, and they have done that in order to develop the rule and the exceptions of the rule that will apply to each one of the species complexes that have been proposed for management in the federal waters of the U.S. Virgin Islands and Puerto Rico.

CARLOS FARCHETTE: I have a question. Let me see how I want to phrase this here.

GRACIELA GARCIA-MOLINER: I forgot the other question. Year sequences, in the document, you have a number of alternatives that include looking at the longest year sequence that you have available, and so, in this case, it would be looking at groupers from 1998/1999 for the Virgin Islands up until 2011. The problem is that, in 2011, once you change the form, it's only species-specific, and you don't have a grouper category.

MIGUEL ROLON: Graciela, we already -- We don't have to rehash the whole discussion again.

GRACIELA GARCIA-MOLINER: Everything that has been discussed, all the year sequences that were used in the ACLs before in 2010 and 2011, the 2012 to 2016, and the longest year sequences, are already addressed.

MIGUEL ROLON: Exactly, and so we don't have to go over that again, and that's my point. The only thing that I had my question is because, yesterday, some of the folks in the audience were asking me what will happen with the statistics after Maria. You already answered that question, and you went from whatever starting year to 2016, and the council already went through that.

We also have another chance, and this is the kind of thing that probably we will include in the orientation meeting, at the April meeting to go over all of this, but we don't want to rehash, every time that we meet, the same discussion again, because we already did it. The only thing that we need to address is whatever happens now that is different, and, actually, somebody asked me about the intent, about the council and the intent of the SSC.

Remember that a fellow chairman from St. Thomas told me, Miguel, how much can we get away with, from the scientific point of view and legal point of view, and that's what we're really after. We want to maximize the return to investment of the fishers, provided that, number one, we comply with the Magnuson Act, in terms of the provisions that we have and the responsibility to protect the resources, taking into consideration the biology and the socioeconomics and also the legal aspects of it.

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That is what they are trying to do, but we don't have a -- We don't have to rehash, every time we meet, the same discussion over and over again, and I believe that Tony is right in that that discussion already took place, and we take note, because that will happen, and that's why these things are flexible. They are not in concrete, because we will be able to visit them at that time, but I believe that, until we have the management plans in place, we will keep spinning our wheels in the same place.

Unless we have those management plans in place addressing the difference between St. Thomas/St. John and St. Croix and Puerto Rico, we won't move anywhere, and the other thing is that we have to keep in mind that, the longer that we stay developing these management plans, the longer the closures will also stay there, the closures that we have now that we want to address. We will have these closures with the best available science now, and that doesn't necessarily have to be the best way to go, but we will do it.

A positive thing that happened is that we have been able, and this is something that was started when David Olsen was around, but we were able to get the red hind out of the group and treat the red hind in the best way possible, because the fishers and the scientists are telling us that the red hind behave differently and that we have red hind everywhere. Actually, the chairman wanted to export red hind somewhere else.

That is the kind of things that we will have in the document, and we also have to go over 4 and 5 and then the schedule, but we don't want to depart any of these points without answering any of the questions that you may have.

CARLOS FARCHETTE: I've got a question. I know nobody wants to rehash, but sometimes -- Some things are kind of bothering me here. When we started these new island-based plans, I thought that we were going to start over from the beginning with not using the old ACLs and that those were out and all that stuff, but we're still working based on the 240,000 pounds of parrotfish, when, before, for the old ACLs that we worked at, we were using data that was 404,000 pounds.

Then the SSC recommended 300,000, but, because of their ecological importance as grazers, we reduced it to 240,000 pounds with that 5.882 percent reduction for grazing, but they're still using that, and so I don't know why we're not going based on what the 404,000 pounds was to come up with an

ACL that we're going to be coming up with now, instead of using the same 240,000.

I am kind of confused on where we are with that, and then, when you look at the time series, and here we go rehashing, but the time series for the whole period, you have over a million pounds of parrotfish that is being discarded and not being considered for anything. I need a little bit of clarification on what --

The SSC looked at what they had done GRACIELA GARCIA-MOLINER: before, because they had taken an approach to look at the parrotfish prior to 2010 and 2011. Now, after the ACLs were set, there was also, specifically for St. Croix, the development of a minimum size for parrotfish, and so the discussion centered around the regulations that are in place and the protected areas in this it's St. are in place, and, case, specifically, because it's the parrotfish unit that has the most landings and the most -- The fishery is prosecuted the highest of all the islands.

They looked at the two species that are landed the most, but then the recent landings of those two species, or actually one, is only 2012 to 2016, and so everything prior to that is parrotfish. Their ecological significance, but the additional protection that they have received over that period of time, is also something that the SSC discussed and took very seriously, and so part of the discussion, and this is what you saw earlier, were the exemptions that they were developing to the default rules that they are providing for the staff to follow through.

In that case, parrotfish most likely end up with an additional reduction, most likely, because this is not finished yet and they haven't finalized that recommendation to you, and so the reduction of the parrotfish actually went even further, because of the lawsuit that we had at that time, and that's where that 5.8822 came into being and reduced from 300,000 pounds to 240,000 pounds of parrotfish in the Virgin Islands.

In addition to that, the ban on nets and the way that it used to be fished has also been considered, but parrotfish are very high on the list of ecologically-important species, and the main reason for that being that they are grazers, and so they are not as good as the diadema, the black urchin, but they are good grazers, and, in the amount that you can keep them on the reef, the health of the reef will be better. Therefore, it's expected that the fisheries, the coral-reef-based fisheries, should be better.

 MIGUEL ROLON: Carlos presented a key question that was from the beginning. The fact that we will establish these area FMPs doesn't mean that we will keep what we had, and, actually, it doesn't have anything to do with the management plan. The process that you have in place now calls for a reduction for any of the species, for all the reasons that Graciela just mentioned, and so you have to be mindful of all of this, because sometimes we think that, by changing the way that you operate, that it will have X results, but they are not guaranteeing that that will happen.

In the case of the parrotfish, it is important for St. Croix -- Actually, it's a first class and second class, and not as much in Puerto Rico and maybe St. Thomas/St. John, but the parrotfish is one of those species that has been hammered by environmentalists and other scientists as an important, key part of the reef.

Not all the species of parrotfish are that important, and three of them are already threatened species, almost, and so that is what has changed, Carlos, during this year, and that's why also, for us, we have to keep in mind those explanations when we have the orientation meetings and also we go to the public, and so the explanation of why we went from 400,000 all the way to what we have now is part of the record.

GRACIELA GARCIA-MOLINER: The things that the SSC looked at, one of them had to do with susceptibility and productivity, how much will the -- Is the stock able to produce and how vulnerable it is to fishing and to variable oceanographic conditions and to how fast it reproduces and that kind of thing, and so parrotfish are one of those that reproduce very fast, but then they are also hammered by the fishery.

When they looked at the susceptibility scores, the parrotfish, because of all the protection that they have in place, et cetera, were not in the low end of the susceptibility score. They are smack in the middle, and so those are some of the issues that Richard was raising yesterday, what do we do with these species that are right in the middle of the between one and three scale.

I was just looking, again, at the graph, to make sure that it was in the middle, and you have three other parrotfish that are on the lower end, and so those that have an ABC of -- The SSC will be proposing that no harvest will be on those, and so, again, give the opportunity to the SSC to finalize the rules that they are applying and, as I said, they are looking at every

single group and every single species with all the information that's available.

We actually had other participants at the SSC meeting who were actively providing information also the SSC, from the published literature and the SEDAR that we had on specifically redtail parrotfish, and so we've already gone through the process of looking at all the information that's available for these species.

CARLOS FARCHETTE: I am not looking for an increase in what we had before of 240,000. I think the fishermen have grown accustomed to that number, but they sure are not going to get accustomed to now come up with a 2012 to 2016 year sequence that shows 180,000 pounds, and then you're going to take a reduction on that one again. That is my concern.

MIGUEL ROLON: Graciela, probably that will be a good example to present at the orientation meeting, a real example. We can talk about the lobster and the queen conch, but this one is very important for the Virgin Islands, and I believe that we should address that the orientation meeting so everybody will be clear as to what is happening.

GRACIELA GARCIA-MOLINER: Miguel, perhaps an idea would be that we have one example of each island of what could be very contentious. Like, for example, I would defer to the St. Thomas/St. John to let us know what species they would like to discuss, and the parrotfish for St. Croix, and then for Puerto Rico to let us know what would be the group to bring as an example.

MIGUEL ROLON: Let's go to Number 4.

GRACIELA GARCIA-MOLINER: The Action Number 4 has to do with essential fish habitat, and you have alternatives in the document that include, but is not limited to, what you had done before regarding essential fish habitat. In that case, it would be the functionality of that habitat as it refers to the species.

For example, you would have the -- Of the new species that you have added to the group, then we have the description of habitat for everything else. For the new species that you have added, include some of the reef fish, like cubera snapper, yellowmouth grouper, and gray triggerfish. In that case, they are part of the reef fish complex, and they actually were part -- Some of them were part of the original reef fish list way back when, in

the 1980s.

The manta, the spotted eagle ray, and the stingray are for Puerto Rico only, and so the description of that habitat would have to be developed, but they are circumglobal tropical species, and so they occur throughout the Atlantic and the Pacific.

For the coastal pelagics, the ones that are not under the HMS management, like little tunny, blackfin tuna, the king mackerel, cero, and wahoo, the council had been a participant of the 2002, I believe, it was, dolphin wahoo fishery management plan for the Gulf of Mexico, the South Atlantic, and the U.S. Caribbean, and so there was that bit of information regarding the habitat of these species, but, again, dolphin and wahoo extend from Brazil all the way to New England now, with the expansion of the warmer waters and being found so far north.

Then one of the options is to do the same thing that we did before, and so the information from the description of the habitat will be brought, and we have gone a little bit further, because there is now the GIS information and the maps that are available from the original benthic habitat for those species that are directly related to one of these habitats.

There are other options, and that would be to use, for example - You can go as far as using the densities of the populations to describe that specific habitat. One of the things that we've done is, in the EFH five-year reviews that we have had to date, we have included the potential areas where that habitat might be available, and so, for coral, we have maps where coral could be potentially found, even if we don't have an actual map of where these are.

MIGUEL ROLON: Graciela, can you briefly tell us the status of the revision of the five-year plan for essential fish habitat?

GRACIELA GARCIA-MOLINER: We have received funding for the five-year review, and one of the discussions was to whether we should do all the species here or have the five-year review deal with that. We have the funding, and we have to publish the requirements for the person or the company who is going to do this, and so that's on the -- That's waiting to happen.

The EFH this year includes not only doing the literature review to update the information, but also to convert the information that is found to a GIS so that the layers of this information would be available, instead of on paper, actually online, so

that you can go and see the new maps or whatever new definitions there are.

MIGUEL ROLON: Damaris, what is the status of the digitizing of the information in Puerto Rico, digitizing all the information in Puerto Rico regarding the fishery statistics that was started some years back?

DAMARIS DELGADO: We have Daniel Matos from the Lab that maybe could answer that information, that question.

DANIEL MATOS CARABALLO: Will you repeat the question, please?

 MIGUEL ROLON: Daniel, do you remember the project that was started by Puerto Rico and an NGO to digitize the fisheries statistics program in Puerto Rico? Then it was going to be adopted by the Virgin Islands, and what is the status of that project? Is it still alive or --

DANIEL MATOS CARABALLO: The project is still alive, and it's in progress for the last -- I think, from April until June or July, we made great progress, and the company name is Shellcatch, and they were contracted by the Nature Conservancy, and we already have twelve or fifteen commercial fishers following a pilot project to finally have a final product.

However, because of Hurricane Maria, we are now on pause, and so hopefully, after January or February, when everything will be normal again, we will continue. The Nature Conservancy will continue the contract with Shellcatch, and that's the last time that I talked with them about that, but this is in progress.

MIGUEL ROLON: Thank you, and the reason that I brought this to your attention is because, when Graciela talked about the revision of the essential fish habitat, we are going to move from paper to a way that you can use the internet to access this information.

The fishers requested this five years ago, and I remember Tony said that, at one meeting, that one of the things that -- He didn't want to have a phone that was smarter than him, but, at the same time, he wanted to have that information at hand, so the fishermen can know what are the different fishing grounds and the habitat in those fishing grounds, and that was important for the fishers and also for the science and supporting all of this that we're doing.

They might use that for density studies and characterization of

the substrate, so we can assign some value in terms of the yield per hectare or whatever unit to those areas, and that why it's important to have this information here, the way it's going to happen. Graciela, if we do all of this, by the end of 2018, we will have the revision of the essential fish habitat?

GRACIELA GARCIA-MOLINER: Yes.

MIGUEL ROLON: Okay.

GRACIELA GARCIA-MOLINER: One more thing, now that we're on the essential fish habitat issues, is we've been in conversations with the DNER, because they are submitting proposals to the Coral Reef Conservation Program, and one of them, we are hoping, includes the thirty-plus years of monitoring information from some of the reefs around Puerto Rico. Specifically, I think they have something like fifty-two reefs that have been surveyed over thirty years, but that information is only in paper reports or electronically-available PDFs.

The idea is to do the same thing that we've been doing with the historical landings and the mesophotic reefs, is to bring it into the GIS format so that you will be able to look at the changes in habitat and fish communities over that period of time.

I know that, with the hurricanes, there have been some exceptions made to the submission dates of most of these proposals, and so I don't know exactly what the status was, but the idea was to move forward with that specific proposal.

MIGUEL ROLON: Now we can move to Number 5, Framework Measures. Is there anything else that we need to add or that you need from the council?

GRACIELA GARCIA-MOLINER: In terms of the essential fish habitat, once you read the alternatives that are available in the document, I mean it goes from what we've done before, which is probably one of the things that we will be doing, but there is also additional information for which we might not have what we need to do, and so densities, for example, we talked yesterday a little bit about queen conch densities in St. Croix, for example, and how they have been increasing, but that is over -- It's three or four years' worth of information, and it's for very specific sites.

It's the kind of data that might not be available to us, and so the levels from one, presence and absence, all the way to having specific population information as related to the habitat, and the alternatives are there, but we might not have the data.

MIGUEL ROLON: I am trying to move forward with this document, and so the question to the council was whether there is anything new that the staff needs from the council at this time. If not, then we can move to Number 5.

GRACIELA GARCIA-MOLINER: The alternatives that you have considered under the framework procedures go from very extensive and open -- Everything that we can think of that can be done via framework to change the management measures to condensed versions of these frameworks.

I believe that, the ones we've had, we've responded to what the council had requested the last time, and so it's also included here, and then it will be your prerogative which approach you want us to take and what would be your preferred alternative at the end of the process.

MIGUEL ROLON: To refresh your memory, the framework approach is, rather than amending the plan every time that something happens, you list the things that the Secretary can do if the conditions merit the Secretary to do so.

For example, let's say that you have a group of species that are fished with traps, and then, all of a sudden, people abandon traps and they use gillnets now. The framework would allow you to do that if you have a change in gear. Then you have to decide, okay, if that happens in the future, this is what we would like to see.

Each one of those framework approaches need to go to a public hearing and all of that, but you don't have to amend the whole plan again, and that's why it's important you read these documents. You already considered all of this, but, if you read them and you find something that we have missed, please let us know, and, between here and April, that's the time that you have to do so.

The framework is nothing but a list of measures that you can take, or the Secretary can take, if conditions arise that merit that action to happen. Damaris.

DAMARIS DELGADO: I have a question for Graciela. Since there are gaps in information regarding the density of the species, of populations of species, is there space where you could -- Where some people could train some of our staff in DNER so we could

try to help fill out those gaps? Maybe not in the short term, and maybe not for our milestones right now, but maybe for later, where we could try to -- Even maybe the Rangers could help us out, depending on the procedures and the methods, but we could try to build up a little bit more information about the status of the populations of the species.

GRACIELA GARCIA-MOLINER: I can bring that, for example, to the SEAMAP meeting on Friday, this Friday, and let them know, because one of the ideas is that fishery-independent surveys contribute to the information that we need.

The other thing is to put you in contact with the rapid assessment group that comes, and it's done every two or three years, and so they do go around Puerto Rico and the Virgin Islands and do a rapid assessment of habitat and fish communities on a twenty-five-meter-by-two-meter transect, and that would require diving, but, then again, it might be of interest to that group to include the staff from the DNER.

MIGUEL ROLON: Damaris, sometimes you go data mining to see if there are any published papers regarding the densities, but, most of the time, you have to really jump in the water and assess what is happening there, and certainly Natural Resources can help with what Graciela just said, and there is also Sea Grant, and they interact with divers, and they have a protocol that they can follow to study densities of the different species.

DAMARIS DELGADO: Thank you.

GRACIELA GARCIA-MOLINER: Specifically, if you do submit a proposal to look at the thirty years' worth of information for fifty-something reefs around the island, that would probably give us some specific information on density and density changes over those thirty years.

 MIGUEL ROLON: Okay. Graciela and Bill, next steps and the timeline review, and this is a call to the council members. This is something that, when Bill was talking about the team, we are the team, and so, if we commit to this timeline, we should be mindful of that timeline for the next several meetings that we are going to have in 2018. Remember that the goal is to finish this product to be submitted to the Secretary by the end of 2018. Bill and Graciela, what about the timeline?

BILL ARNOLD: What we had hoped for was that the SSC would finish up their process, defining their process, for assigning

ABCs, and that is the one undeniable job that your Scientific and Statistical Committee has, and it's written right into the Magnuson-Stevens Act. The SSC will assign ABCs, and the council cannot exceed those ABCs. That's very important to keep in mind.

The council could determine that they need to have a lower ABC, but they can't have a higher ABC, and so we essentially, and certainly I would look for Jocelyn's input on any legal aspects of this, but my understanding is we need to get those ABCs out of the SSC, and so they did get most of them, as Richard reported, but they didn't get them all, and, before they can get all of them, the process for every stock or stock complex established, they apparently need some additional input from the Southeast Fisheries Science Center.

The timing is fundamentally dependent upon this sequence of events, and the sequence of events is the Science Center understands what the SSC needs, and I don't think they have a clear understanding of exactly what the SSC needs, and so the first thing that we have to do is get a clear statement from the council to the Science Center saying this is exactly what we need out of you, and we don't need anything less, and we don't need anything more, but we need this. That's a critical memo that has to be produced as quickly as possible.

MIGUEL ROLON: Can you help us with the language and Carlos can sign us before he retires in August?

BILL ARNOLD: I can't assist with that. That's really what the SSC -- They need to state, through the council, what they need from the Science Center.

MIGUEL ROLON: Graciela.

GRACIELA GARCIA-MOLINER: Richard and Shannon and myself have been already working on these things and issues, and so, as Dr. Ponwith said earlier, we will have an informal discussion of that. We need to know, from all the other memos that we have requested input from the Science Center, if they are running lists or if we need to do an actual memo.

We might have to, because of these last changes to what the SSC was seeing, but we will work on the language in the coming weeks. I know that the Science Center is finishing the red snapper assessment, and so that is --

MIGUEL ROLON: Excuse me, Graciela, but, for some of the

species, you already have an ABC, if I understand correctly what Bill just said. Others are missing, and probably we should concentrate on those that we need to have the ABC. Roy asked a question yesterday, and he mentioned the word "unknown".

Are we forced, Jocelyn, to have an ABC for everything that we have there, or can we just say I don't know and move that species somewhere else, some category of unknown, or, once we have that species in a management, we shall have an ABC for each one of them?

JOCELYN D'AMBROSIO: The Act is clear about the different required components of a fishery management plan, and one of those is ACLs, and the ACLs are derived from the ABC. If you determine that species require conservation and management, then you need to develop the management measures, which include the ABCs and the ACLs for those species.

I think one of the things that others had talked about is whether there are species that don't require conservation and management and that might be included as ecosystem component species, and so I think one of the things that folks were maybe thinking about coming out of understanding what the SSC is able to develop is, if there are species that are better included as part of the ecosystem, rather than ones that the council has decided require conservation and management, but that would, again, require going back to the first action and looking at how those species were included and looking at the rationale and seeing, okay, for ones that require conservation and management, we need to develop the management measures.

Others that we think are important to manage as part of the ecosystem, perhaps those could be dealt with in a different way, and there are criteria to consider whether something requires conservation and management, and we could discuss that as those issues arise.

MIGUEL ROLON: Can we postpone the determination of an ABC for any particular species in a management plan, or, once you have it in the management plan, you shall have the ABC?

JOCELYN D'AMBROSIO: Right. Once it's in the management plan as a species that you determine requires conservation and management, then it has to have those management measures, including ABC.

CARLOS FARCHETTE: I've got a question. Who determines -- Go ahead.

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 GRACIELA GARCIA-MOLINER: Before you ask that question, the SSC -- This is something that Jocelyn brought to the attention of the SSC. One of the groups that is causing exceptions to the rule is the Grouper Unit 4 or 5, depending on whether it's Puerto Rico and St. Thomas or St. Croix, and that includes things like the red grouper and the yellowfin grouper, et cetera.

One issue for Puerto Rico is recreational landings, and that is why we have to deal with the recreational landings through the Science Center. For St. Thomas, on the other hand, it was the fact that they have a Grammanik Bank and a seasonal closure for yellowfin and that group.

For St. Croix, the fact that there is very little information and landings from that group, and so, taking all this information into consideration, that was part of the questions that the SSC had, and, because they already are under management, because they are part of the way-back-when FMUs and the fact that they have a seasonal closure in place, and so they, de facto, are part of the island-based management plan.

They are vulnerable, and they aggregate for spawning, and they have all the conditions of late in reproduction, et cetera, and so that is one of the issues that the SSC needs to finalize, but that is one that they discussed whether it's an ecosystem component or not, and, because they are already under management, they are not an ecosystem component species.

MIGUEL ROLON: What I am really after is how can we move forward with the process without getting stuck with one ABC that the SSC cannot provide to us. That's what I wanted to hear, is if there is any roadblocks that you see that will not allow the SSC to develop an ABC for us for any other species.

 GRACIELA GARCIA-MOLINER: The SSC is about to finish with the rules, and they just need like a two-day meeting, and, in fact, we were thinking whether it would be a webinar or an in-person meeting, and so they are in the process of doing that.

 There was another alternative, and one of the issues had to do with actually developing an OFL before they got to the ABC, and we had council information that you cannot determine OFL and go directly to an ABC, and so that's something that the SSC was already working on. The minimum species that they have to deal with --

 MIGUEL ROLON: You discussed all that in the presence of legal advice?

GRACIELA GARCIA-MOLINER: Yes.

MIGUEL ROLON: So that is something that -- Because, in the past, OFL and ABC was -- You're locked in, but, if we can do that, that will speed up the process.

JOCELYN D'AMBROSIO: We do need to have objective and measurable criteria for determining when the fishery is overfished and overfishing, and sometimes that is set through the OFL, but there are proxies and other status determination criteria that the NS 1 Guidelines allow the SSC to consider and the council to consider.

That is one of the options that we discussed, and, in terms of looking at the contents of the fishery management plan again, it is clear that we have to have annual catch limits, and, obviously, those are usually set through ABCs, but I will think about whether there is flexibility not to set an ABC, but, of course, we still do need the annual catch limits for those species that require conservation and management.

CARLOS FARCHETTE: Roy and then Bonnie.

 ROY CRABTREE: I mean, the best situation is to get the SSC back together, and hopefully they give us ABCs for everything and we move ahead, but, if we end up that they can't or just don't, for whatever reason, give us an ABC for a species, I don't believe that means that we can't move forward and we can't put it in the fishery management plan.

We would have to set an annual catch limit for that species, but all the statute really says is the annual catch limit may not exceed the fishing level recommendation of the Scientific and Statistical Committee. Well, if they don't give us one, then we're not exceeding it, and so that starts getting messy when we start working without a catch level recommendation or an ABC, but I don't think it stops us dead in the water, and, if the SSC just concludes, well, we just don't know and we can't give you an ABC for this species, that doesn't mean that we can't manage that species, and so that's my take on it, but I think the best thing to do is to get them back together and try to get all of this taken care of.

MIGUEL ROLON: Are you going to be sitting next to me in court when they --

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ROY CRABTREE: Do what?

MIGUEL ROLON: Are you going to be sitting next to me in court when they tell us that --

ROY CRABTREE: No, that will be the lawyers, and they can worry about it. I can tell you that we have put in place annual catch limits in other management plans without ABCs on a few occasions. It's the exception, but we've done it. The statute has a lot of things. We're supposed to manage species if we believe there is a need to manage it, and we have to have an annual catch limit.

If an SSC doesn't give us an ABC, that doesn't excuse us from our responsibility to manage the species, and so we could be sued for failing to manage a species and someone could say you can't use the SSC not giving you an ABC as an excuse to avoid management, and so it's not that clear, a lot of times, how all of these things get put together, and we're getting pressures from all different sides of things, and so, again, best case, is let's get the SSC back together.

We do need to figure out what it is that they want to see from the Science Center and then find out if the Science Center can deliver on that, but, if the SSC is asking for something from the Center that's going to take a long period of time to produce, then, in my judgment, we can't wait on that. We need to work on something short-term and get this done.

 If there are long-term things, like we talked about conch, we'll come back in and amend the plan after that work is done, but this has been going on -- We need to get this done, and I think it's important to a lot of our fisheries to get this done.

MIGUEL ROLON: If I may, the reason I brought up this is because, at the CCC, with the other councils, the same issues have come up, and the Executive Directors will have sidebars discussing this all the time, actually with the Regional Administrators and the people who attend these meetings.

The same question was presented on the west coast three or four years ago, and, actually, Don McIsaac was the one involved, and they told us the same thing that Roy just mentioned, that, for the record, the council shall -- They are charged with the responsibility of the ACLs, even though you may not have, at the time, an ABC from the SSC.

 The whole idea is that we don't stop the process and we move forward with as much as we can, so we can have the document submitted, and remember, when the document gets to be submitted to the Secretary, it will go to public hearings and all of that, and it might be disapproved or partially approved or whatever, but at least we will have something to submit.

Again, to recapitulate, in these next steps, the staff will meet with the staff and form the meeting that Bonnie mentioned, and we will have, as soon as possible in the first quarter of 2018, a meeting of the SSC, and hopefully we will have as many ABCs as possible, and then the ABC will identify why you don't have an ABC for that, and then the council will have an orientation meeting to go over all of this with specific examples from each one of the areas.

Then, at the April meeting, we will continue with this discussion, and, hopefully, by that time, we will have a more complete document that can be discussed at the meeting and move forward from there.

CARLOS FARCHETTE: Bonnie and then Bill.

BONNIE PONWITH: Thank you, Mr. Chairman. I understand the push to get this done. This has been a long, arduous process, and we've put a lot of labor into this. The thing that I wouldn't want to do is, as we get close to what we're setting as our finish line, take shortcuts on the science, and so Dr. Crabtree said the best-case scenario is we get those ABCs out of the SSC, and it is my ardent hope that we get those ABCs out of the SSC.

I think that's a really, really important step, and so we will work closely, informally, to help build the language of the data request from the Science Center, so that we get it right the first time. I like that approach to those communications, to do it informally and make sure we understand exactly what we need and what's going to be deliverable out of that and then send it formally, so it's carefully documented and we don't have any missteps.

Then make sure that that timing of getting those data is well enough understood that we know exactly when to set up that council meeting, so that it can be publicly noticed and so that the timing and the spacing between the SSC meeting and the council meeting is far enough apart that the council can study what the SSC has done, because I just really think this process, the way it's going to work the best, is for the SSC to be able to succeed in their charge of delivering the council with an ABC

that can be used for setting an ACL. It is just my parting hope for this council, is that's the way that we're able to carry that through.

CARLOS FARCHETTE: Bill.

BILL ARNOLD: As has been pointed out, it is a bit of a balancing act. What I would like to see, ideally, and I'm not saying that we can accomplish this, but, ideally, the Science Center would deliver their product by the end of January. The SSC would meet sometime in February, and those aren't set in stone, but I do think that the part about the SSC getting their ABCs set before the end of February would be really ideal for the people who are going to write these very large and involved documents, because there is six documents that have to be prepared, a fishery management plan for each of the three island groups and an environmental impact statement for each of the three island groups.

That writing is what is going to require the greatest amount of time, and what they are going to be preparing are public hearing drafts, and so, to prepare those public hearing drafts, they need guidance from the council as to what they feel, without finalizing their preferred alternatives, to at least provide some guidance as to what they anticipate their preferred alternatives will be, and this is not unprecedented. You have already done the very same thing both with Action 1 and with Action 3, Alternative 3. You have said Alternative 3, which is the ABC control rule, is your preliminary preferred alternative.

 What we need, in the spring, is for all of the preliminary preferred alternatives to be identified, and those preliminary alternatives can be very stock-specific and very island-specific. It's not one single alternative that applies to everybody.

For example, you could -- These are just examples, but you could say, for queen conch in St. Croix, our preliminary preferred alternative is to use the 50,000-pound previously established by the Science Center ABC. Like I said, maybe or maybe not. Your preferred alternative, preliminary preferred alternative, for spiny lobster may be that we want to use Alternative 3, the ABC control rule, and the SSC process, et cetera, et cetera. This applies to -- There is a lot of combinations and a lot of moving parts here.

I would, ideally, like to have that council meeting that responds to the SSC's meeting, and I would like to have that

council meeting in March, rather than April, and then have the next council meeting, instead of in August, probably in September, potentially even in October, and that gives the writers months and months that they're going to need to prepare these documents.

Then, in that fall meeting, we bring these public hearing drafts to the council, and they identify -- They formally identify their preferred alternatives, and they direct staff to go out to public hearings and receive comments. We would also publish these public hearing drafts for comment by the general public, and then we would come back in December, and it doesn't have to be December. We need a forty-five-day comment period, minimum, and so it could even be in late November.

We would come back and present the final commented versions and the comments to the council, and they respond to those comments, and, if they are happy with where things are, they vote to submit these fishery management plans and their associated environmental impact statements to the Secretary of Commerce for approval.

If that's the case, it's still going to take several months to get everything done and get the final approval from the Secretary and get these things stamped as finalized. That would take us into 2019.

Now, I feel it's very important that we have these new fishery management plans in place in 2019. 2017, okay, it's a bit of a wash, because of the hurricanes, and the same thing is going to be the case in 2018, because it's going to take a while, as you guys know, for these fisheries to recover. That's what we went over yesterday, and that's why it was so important to go over all of that yesterday.

The recovery will not happen until, at best, well into 2018, and that means that landing levels are going to be very, very low, and, while we will have to assess those landings and we will have to determine whether ACLs are exceeded, et cetera, et cetera, it's possible that we could determine that no closures are needed for 2018 based on the situation, but that's not probably going to be the case in 2019. In 2019, we all hope, very, very much, that we can return to normal operating.

When we do return to normal operations, we want these normal operations to reflect the new era of data reporting and the new era of fishery management and not the old era, and the old era has involved closing spiny lobster in Puerto Rico, even though

nobody thinks that spiny lobster should be closed in Puerto Rico, and shortening the season, similarly, for deepwater snapper, even though that appears to be a very healthy fishery.

Basically, the fishery management plans that we presently have in place were very functional during their time, but it's time now, as everybody recognizes, to move to a new regime, and I would really like to see that new regime in place in 2019.

 To get it in place in 2019, we need to be submitting following that winter of 2018 council meeting, and that's why I'm so adamant about this time schedule, and I realize that it creates some pressure, but, just because it creates pressure, it doesn't mean that it needs to create rush. It just needs to create some focus and dedication on the part of everybody to meet these timelines and get these things done.

I can't say when the Science Center can respond to the data request, and I can't say when the SSC members are going to be ready, willing, and able to convene a meeting, and I can't say when the council is going to be able to convene a meeting and prepare their preliminary preferred alternatives. What I can say is this is the ideal step-wise process and timing for us to meet our goals.

CARLOS FARCHETTE: We are going to take a quick ten-minute break, and I've got a question about ecosystem-based species when we get back.

(Whereupon, a brief recess was taken.)

CARLOS FARCHETTE: We are going to get back together here. Okay. We are going to continue with this meeting. I did have a question about ecosystem-based fish. I just wanted to know, really, who decides the species that will be put in the ecosystem-based thing? Is it the SSC or the council?

GRACIELA GARCIA-MOLINER: Are you talking about the ecosystem component species, like, for example, if you were going to move one species to that group?

CARLOS FARCHETTE: I am specifically talking about red grouper and black grouper and tiger that is not really found on St. Croix, but it is in St. Thomas/St. John, but, on St. Croix, if there are any, there are very few, and I don't see why management -- Maybe, if they start catching them more often, maybe we can revisit it and put it back.

 GRACIELA GARCIA-MOLINER: There are a few questions. Number one, are they historically at low levels? The answer is probably no. Probably yellowfin was more common than it is now in St. Croix than -- More common before than now.

MIGUEL ROLON: (Mr. Rolon's comment was in Spanish and was not transcribed.)

GRACIELA GARCIA-MOLINER: The SSC requested, from General Counsel, the information on the ecosystem component species to specifically deal with this Grouper Unit 4, but the answer is that you already have under management -- You already have a rebuilding plan that went through, and so it was not an option.

MIGUEL ROLON: Your question is who determines that, the SSC, the Center, the Commerce Department, or the council?

CARLOS FARCHETTE: Right.

MIGUEL ROLON: The answer is the whole team, because the SSC is supposed to provide the information as to why, and you already approved a protocol to do that, how the species trickle down into the different categories.

 You have those species, for example, forage species and other species that are important to the ecosystem, and you set aside those species for the ecosystem. Some of them you don't fish for, and you put it there, but the answer to your question is you have a mechanism with the SSC, and the SSC is the starting point to discuss this, from the scientific point of view, and then it comes to the council, and then you have to justify it as to why you are taking that species in that particular category.

CARLOS FARCHETTE: Roy.

ROY CRABTREE: I mean, everybody has a hand in all of this. The SSC is advisory to you, and, ultimately, the council votes on those things, and so the ultimate decision on what is in the fishery management plan is the council's.

CARLOS FARCHETTE: That will work.

MIGUEL ROLON: Bill, you mentioned March, but, in March, we have other meetings already. The quickest that we can do that, according to the schedule that I received from your office, so we can have the participation of Roy, is -- Roy will be at a meeting in the Gulf on April 16 to 19, and then can we do the meeting the first week of April?

BILL ARNOLD: Yes, we can do it when you guys can do it.

MIGUEL ROLON: The whole thing is that Bill -- Personally, I believe that the sooner the better, and so he was thinking, rather than have the meeting in April, to have it in March.

BILL ARNOLD: Easter is April 1.

10 MIGUEL ROLON: Excuse me?

BILL ARNOLD: Easter is April 1. I know you have tried to schedule after that, because that's basically the end of season.

MIGUEL ROLON: I am talking about the first week of April, the $3^{\rm rd}$. It could be the $5^{\rm th}$ and the $6^{\rm th}$ of April. I am just thinking out loud here, and we have the $3^{\rm rd}$ and $4^{\rm th}$ of April are Tuesday and Wednesday. Is that acceptable to council members around the table?

TONY BLANCHARD: Yes.

MIGUEL ROLON: Okay, and so the next -- We can talk about it later, but we are trying to see whether we can do it in St. Croix or Puerto Rico, because of the price, and the only hotel available at this time is the Buccaneer, and so Diana will look at it, and we can then get together with the Chair too for the final destination, but April $3^{\rm rd}$ and $4^{\rm th}$ will be the council meeting.

CARLOS VELAZQUEZ: Let me clarify that. The Holy Week starts on March 25, yes?

CARLOS FARCHETTE: I don't know. I don't pay much attention to Easter, and so I don't know what the dates are.

MIGUEL ROLON: The meeting will be in Puerto Rico, because FEMA has taken over the Buccaneer for the rest of the year, and so it probably will be this hotel or the Vanderbilt or whatever is suitable for the per diem rate and all that, April $3^{\rm rd}$ and $4^{\rm th}$.

CARLOS FARCHETTE: Blanchard, you had a question?

TONY BLANCHARD: Yes, I've just a question to throw out there about the groupers, just for sake of what Farchette was asking, because of the low numbers that are caught. I was wondering if there is any way to eliminate some of the species if we catch them at a low rate. In other words, let's say we catch ten

pounds of a species. Do we really need to manage that? That's the question.

CARLOS FARCHETTE: Roy.

 ROY CRABTREE: My view is, if you only catch ten pounds or so, the answer is most likely no. Now, if it's a protected species that's closed, like Nassau grouper and that's why you don't catch it, then that's a different story, but, if it's a species that is open and available to fishermen and they don't catch it, that would indicate to me that it's not a significant part of the fishery and we probably don't need to manage it.

TONY BLANCHARD: Okay, and so let me ask you a question. Let's say, just for instance, what would be the cutoff point as to a species that we would not need to manage because it would be caught in low poundages, a fish that we catch no more than a hundred pounds, let's say, or 200 or 300?

MIGUEL ROLON: I know you're going to say the same thing, but we have one of those species, because, when you lock a species into the management unit, you have to have an ABC and an ACL and all that, and one of them is --

CARLOS FARCHETTE: The wrasse.

MIGUEL ROLON: The ACL is seven pounds. In one of these meetings, we were thinking about what are we going to do and how many days are we going to close for recuperating two pounds, because the ACL was seven pounds, and we went over by two pounds. Personally, I believe this is ridiculous.

ROY CRABTREE: It is ridiculous, and the reason that happened is because we had a catch level, and then we decided to split it up among the three islands, and I think it was hogfish in St. Croix, and apparently they don't really catch them there, and so it came out this ridiculously low number.

Just off the top of my head, I would think the cutoff would be higher than a hundred pounds, but I don't think there is any magic number there. I don't know, Bill, if we have thought about that enough to come up with one, but a hundred pounds or so certainly isn't much of anything, in terms of landings.

MIGUEL ROLON: If I may, I was in a meeting with other councils, and it was kind of funny, because the whole Caribbean catches less than three-million pounds. The Mid-Atlantic Council, in the good old days, they had a cutoff of five-million pounds.

Any fishery five-million pounds or less would not be worthy of a management plan.

Then the law was amended, and, if you have a management unit, you have to have an ACL and all that, and, on the west coast, the example was the salmon fishery. They developed this quota with blood, sweat, and tears, and, all of a sudden, they amended the law, and now they have to revisit all of these salmon quotas and everything to establish ACLs for each one of the areas that they have the salmon.

The law forced the issue, and, by the way, as we speak, they are now trying to provide more flexibility with a couple of bills, but the law forced the issue, and that's why it's so important that each council member understands the protocol. Once you have a species in the management unit, what you can do, and then look at ways that you can -- I say escape that.

CARLOS FARCHETTE: Jocelyn.

JOCELYN D'AMBROSIO: Under the guidelines, there are stocks that require conservation and management, and that is stocks that are subject to overfishing or likely to overfished or to overfished subject overfishing, and SO those or are considered to require conservation and management and included.

Beyond that, the guidelines have a list of factors that the council can consider when deciding whether stocks would be included as requiring conservation and management, and so you could consider those factors and decide whether you wanted to include something, and those include whether it's an important component of the marine environment, whether it's caught by the fishery, whether the FMP can improve or maintain the condition of the stock, whether the stock is a target of the fishery, whether it's important to the commercial, recreational, or subsistence users.

 Then there's a number of other factors, and so it's more than just the amount of catch, but you might be able to look at that amount of catch and consider these factors and decide whether you wanted to include it.

CARLOS FARCHETTE: Roy.

ROY CRABTREE: Councils have made very different decisions on this. Miguel brought up the Mid-Atlantic Council, and I think they manage twelve species, and so, if it's not a major fishery,

they don't manage it. The South Atlantic probably has sixty species in the Snapper Grouper plan, roughly.

We probably manage more species down here than just about anyone that I can think of, and so councils have made very different decisions over the years, but, when the statute was reauthorized and we shifted to annual catch limits and things, it made it problematic to manage species that have very low landings, because it's hard to track them, and it's hard to know where to set the catch limits.

In response to that, the Gulf and the South Atlantic Council have both removed some species from the fishery management plans. Then you also have the ability to make species ecosystem species, which means you can collect data on them and things, but you're not going to directly manage them, but you have a lot of discretion in deciding what you want to manage, but, if you decide to manage something that only has fifty pounds a year caught, understand that's going to be a problem unless you put it into one of these species groups with an indicator species, and then you're going to manage it as an aggregate, based on an indicator species, and that might work.

CARLOS FARCHETTE: Bill.

BILL ARNOLD: All right, and so let's review how we got here, because we've been working on this for a very long time. It took probably two years to get through Action 1, which was choosing species for management.

We had DAP meetings and we had SSC meetings and we had council meetings. We had a very specific and step-wise process to determine which species should be managed. If you're going to start plucking them out, every species you pluck out of there has to have a rationale as to why, in spite of all that input and all that effort, this species should not be managed, and I'm not saying that's not the case, and I'm not saying we shouldn't drag this out for another two or three years, but that's what is going to be involved, because you're going to have to go back and you're going to have to revisit everything, and, when you're talking about species to be managed, I really think that you should be reconvening your DAPs and putting it in front of them. They had a tremendous input into the species to be managed.

Second, and Roy pointed this out, Action 2 assigns indicators, and those indicators are generally the species within any complex that have the highest landings and are most representative, and so I don't think that you're going to end up

with a lot of low-landings species, and the reason you are going to get low-landings species, and this is something that I mentioned yesterday that you have to stay aware of, is landings, for whatever reason, have dropped way, way down in the Virgin Islands, down to 20 or 10 percent of what they used to be, and so this is the new era of reporting.

Whether that's due to economics or whether that's due to underreporting or whatever it may be due to, and I'm not passing any judgments, but the fact is the landings are way down, and so your ABCs, if they use an average landings sequence to determine what the ABC should be, those ABCs are going to be far less.

Now, one way you could avoid this, to some degree, and I don't know what degree, is you don't use indicators. You get all the data you have for all the species in a complex and you add it up, and then, instead of having an indicator that might only have 600 pounds, you have the whole suite, and that has 1,100 pounds or something like that, but, fundamentally, it doesn't change a thing.

You have still got a complex with low landings, and, instead of comparing one species with 600 pounds of landings to its average catch, you are comparing five species that have 1,100 pounds of landings against their average catch, but the outcome is the same, regardless.

It might look prettier with higher landings, but it really, fundamentally, doesn't change anything, and so that's your Action 2 and the indicators. The other thing is, the most important thing is, I wouldn't get too wrapped up in this until we get these ABCs out of the SSC and get them finalized and bring them back and then the council can look, with full authority, at how these things are laying out, and they might identify a stock, or a stock complex, and you say, you know, that really isn't, at the present time, in need of full conservation and management, and here is our rationale as to why.

We are not going to take it out of management, and we're going to drop it over into the ecosystem component species, and we're going to keep an eye on it, and, during that time, if more data are needed, if more analyses are needed, we will do that, and, if they need to be brought back into management, we can do that via an amendment to the new FMPs, but, and I keep stressing this, I wouldn't get too far ahead of yourselves.

What we need to do now is basically three steps. The Science

Center needs to understand what data are needed, and then they need to provide those data to the SSC. The SSC needs to use those data to finish off their process and get the ABC establishment process in place for every stock and stock complex, and then the council needs to meet the first week of April, as we just discussed, and go over all of this in a very in-depth consideration, with plenty of time between that SSC meeting and that council meeting, so the council members have a chance to look things over and prepare themselves for that meeting, and then make those final decisions and identify those preliminary preferred alternatives.

If some of those preliminary preferred alternatives result in species being placed in the ecosystem component category, then okay. Those species don't get assigned ABCs and ACLs, and then they are no longer under the purview of the SSC with regard to establishing an ABC, and we move forward from there, but what you're talking about now is just premature to be too concerned about it.

I mean, you can talk about it all you want, but you're not going to really understand if and what stocks or stock complexes may require such considerations until we get those SSC outcomes.

CARLOS FARCHETTE: All right. Thanks. I understand what you said that all these things were -- I don't want to belabor this or take years again, like you said, to justify why we want to put these things out, but, in every DAP and every SSC meeting, I've said the same thing over and over, that red, black, tiger, yellowfin, yellowmouth, and yellowedge are not found on St. Croix as abundant as people think they are by data. I think they said 4,000 pounds in twenty years, but I will let that go. Bill.

BILL ARNOLD: Okay, and so that's good, Carlos, and what we would do -- My vision of this would be that we come back at that April meeting and we determine what the outcomes are. If we find that that's the case, then the council may determine that, for St. Croix, these species should be moved over to the ecosystem component, and here is why, and that is your preliminary preferred alternative for that group of species and that's how we prepare the document. That's fine. That's doable.

MIGUEL ROLON: Mr. Chairman, also, we are going to have that orientation meeting, and probably what we could use, something that has worked before, is, at the Verdanza, they have that big room, and you can have all the council members and all of the

DAP members will receive a first day of orientation and everything that we have discussed that we are going to address at the orientation meeting.

The following day, the three DAPs can meet separately, and you can go over the list of species after the SSC meeting, and so you can write down all the comments that you may have for the council meeting and recommendations that you may have for the council meeting.

You already did the list of species, and you went all separate groups by area, and you have that, and so, this way, you will be better informed and better prepared for the April meeting on the $3^{\rm rd}$ and the $4^{\rm th}$ to make -- To assess what we have and then put on the record your objection for whatever species in St. Croix or St. Thomas or Puerto Rico. At this time, Mr. Chairman, we all agree, and do we have any questions regarding the timeline?

CARLOS FARCHETTE: Bill.

BILL ARNOLD: I am just not clear. This orientation meeting, that will take place between the SSC meeting and the council meeting? Is that the idea?

MIGUEL ROLON: Yes.

BILL ARNOLD: So, we have to make sure that we have -- That is some important time gaps between these meetings, because there is no sense in having it after the SSC meeting if you have it so quickly after the SSC meeting that the information can't be matriculated and prepared and everybody get it.

MIGUEL ROLON: Remember, in the case of the orientation meeting, it's that -- Especially the Commissioner mentioned that council meetings like this, with all this jargon that we have been discussing and all these little graphs, is very difficult to follow.

 What we will have to have in that orientation meeting is specific examples that you can follow through the intricacies of the model that we have here, and that doesn't have anything to do with the schedule that we have, but it's just for the council members and members of the DAP to be better prepared for the April meeting. That's all.

We don't want to use that meeting for juggling these species that we have, but the DAP meeting -- The DAP members have requested before that, before we meet with the council, to have

a chance for them to revisit some of the things that they already reviewed, and mostly that includes the species in the management list.

It probably could be a one-day meeting that they will say, okay, go ahead with the list, and we will see what happens after the April meeting, but they would like to have a chance to look at this before we have the CFMC meeting.

CARLOS FARCHETTE: Bill.

BILL ARNOLD: Okay, and, needless to say, this process is super important to fisheries management in the Caribbean region, and this is going to set you guys up for years to come, possibly decades to come. These FMPs we have in place now were -- The first one was put in place in 1985, and so I'm all for getting plenty of input.

Another thing you might want to think about, and I am just putting this out there, is, following that first week of April council meeting, the next council meeting certainly won't be until August, or maybe until September, and I would prefer that, and it's hurricane season, and I get it, but so is August. Maybe, during that time, you have some -- We have discussed this before, but we have some other public workshops.

Now we know where the council intends to go with this, and you have established your preliminary preferred alternatives, and we take those out there and have meetings during the summer, possibly during the early summer. You could even consider, sometime after the April meeting, you have some informational meetings, and then you have like another council meeting, and you have four council meetings this year.

You can come back and respond to the public input as a first round of this and then adjust, and give the writers time to adjust, to any changes you might make based upon those informational meetings.

Then we come back at the September meeting to finally establish these preferred alternatives and move this thing forward, because I am in full agreement that, as important as this is, you definitely want to have as much input and as much clarity as you can possibly achieve so that everybody -- Nobody is going to be happy, but everybody is going to be as happy as possible with the final product.

CARLOS FARCHETTE: So, like Miguel was mentioning about the

timeline, if we're -- I am all for any amount of meetings that would get it done, and so I don't know how everybody else is with this, especially if we do it before August. My term is up.

MIGUEL ROLON: If we all agree with that, we will then -- The Chair and I will put it together, in conference, and we will coordinate with the Regional Office, Graciela and Bill, and then we also will be coordinating with the Southeast Fisheries Science Center to -- Bill.

CARLOS FARCHETTE: Bill.

BILL ARNOLD: One thing regarding timing, and Roy and Jocelyn may have some input on this, is that there is an ending of terms, as Carlos pointed out, council member terms, and new council members are elected, and there is a time component associated with that, and I don't know how that will influence this timeline.

Do you have to have an August meeting to do that? Could it be in July or could it be in September when you deal with that? I don't know, but that may influence it, particularly if you decide to have an additional council meeting. How does that fit with this requirement to address term changes?

MIGUEL ROLON: Actually, Roy himself eliminated that from the SOPPs. August 10 is the last day of this fellow here, and August 11 is the first day of whomever comes to replace him from St. Croix, but we have the flexibility to accommodate the timeline that we have, and so we don't have to meet on that particular week to address that, and so we have that flexibility.

 We did that because we wanted to make sure that we can accommodate the Regional Office participation in the meeting, and so we have that flexibility. Of course, we are working on the old SOPPs, because the new SOPPs were submitted years ago, and I haven't seen any reply from Washington, and so we all agreed to have that flexibility, and so we did away with that worry. I hope that the new guy doesn't have to reinvent the wheel and ask stupid questions that will go all the way to 2019 and just come up with the same things.

CARLOS FARCHETTE: Okay. Are we good? Are we good with the timeline? Tony Iarocci.

MIGUEL ROLON: For the group, Tony asked us -- He forgot about something yesterday, and so this is something good for the

fishermen and some possibility of acquiring a cheaper material for your traps, and it will be five minutes.

TONY IAROCCI: Thank you. A quick update on the project for the exportation of the lobster. It looks like we're going to try our first 500-pound shipment next week, and I'm going to meet with Tommy Forte this afternoon, and so hopefully things are going to move forward.

We did talk about -- Bill, could you put those pictures up, please? We have developed a different type of trap, because right now, after the hurricanes in the states, wood is hard to come by, and most of the stuff we're using is wood. We have made a transition to wire, which you guys do use here, and we did try some of these traps, and it's similar to the plastic trap that the guys in St. Thomas use and some of the guys in Puerto Rico, and they have used it in other places.

What we're looking at is building a trap here, but trying to get the guys back fishing. There is a company -- I have given the catalogs out to the DAP members. This company does recycled trap rope, which is -- It's the trap rope that you guys use down here, the black poly, the same sizes, but it's recycled, and it's like two years old that the guys transfer over from the states.

It's fifty-cents a pound compared to \$2.50 a pound, what you buy that stuff at new, and so it's a real -- It's a lot less cost and investment purposes. Gloves, standard cotton gloves and the rubber gloves, they're a dollar a pair. The standard drone spoons that everybody uses to catch kingfish, snapper, and trolling, they're a dollar to \$1.50 apiece.

It's stuff that's going to get guys back on the water without getting a bunch of money of investment setup. They can buy this stuff a little cheaper, and I've got access to that stuff, and I just want to make sure that fishermen have access to the material they're going to need and be able to get stuff at a reasonable cost.

Hopefully there will be funding opportunity for these guys to get stuff and we can get the right equipment for these guys. I am not telling anybody to try anything or do anything, but, if you can buy stuff at a less expensive price and get back on the water, it's a lot easier to do it that way. Thank you.

CARLOS FARCHETTE: I thought you were going to take half-an-hour. What happened there?

TONY IAROCCI: No, I said five minutes.

CARLOS FARCHETTE: You can leave the gloves with me. Okay. We're going to break for lunch. We will be back at 1:30.

(Whereupon, the meeting recessed for lunch on December 13, 2017.)

December 13, 2017

WEDNESDAY AFTERNOON SESSION

The Caribbean Fishery Management Council reconvened at the

Marriott Stellaris, Condado, Puerto Rico, Wednesday afternoon, December 13, 2017, and was called to order at 1:35 o'clock p.m.

by Chairman Carlos Farchette.

CARLOS FARCHETTE: We are on the conclusion of the agenda, the Outreach and Education Report, and then we have just a couple more things after that. That is Alida Ortiz.

OUTREACH AND EDUCATION REPORT

ALIDA ORTIZ: Good afternoon. I am really very, very happy that we are all here, and my solidarity with all for what happened in our houses and everywhere, but I'm happy that we are here, and we will be here for a long time.

For the Outreach and Education Advisory Panel, we don't have very much to inform at this time. First, our meeting that was supposed to take place in November had to be canceled, and so we haven't had much contact. We know that people are working, and we still have some work at the office at the council.

The lack of communications and the lack of internet and the very different landscape that we have in transportation -- For example, when I go from Humacao to San Juan, it may take me forty-five minutes, but, at this time, I don't know if it will take two or three hours or four or more, and so there is very, very little that we can do, either in communication or getting anywhere, but, anyhow, we have been working when we had an assignment at outreach and education.

First of all, we had two meetings with the fishers, and one was in the Cataño villa pesquera, where the fishers had requested some orientation on the regulations of the council and on the regulations also of DNER for the work, and so Helena and Miguel and Diana and myself went there and spent quite a few hours with them working and talking about what were the questions and how things could be improved.

This is the villa pesquera that Cortina presented yesterday that the damage is quite large, and so many of the things that we discussed at that moment had to be considered all over again, and the other one was in Playa Santa, with few fishers, but this is very interesting, because this was after the hurricane, and the villa pesquera didn't suffer a lot, but the fishers and the places where they had their equipment or where they had the way to get out to the water were damaged.

In spite of that, they wanted to go out, and some of the fishers were going in the water already, and they said that, for some reason, they felt that fishers were invisible in this situation, because a lot of importance is put here in Puerto Rico for the plantains and for the agriculture and for plants, and, for the fishers, they didn't have that same attention, and they wanted to see ways, alternatives, where they could get some type of work related to the fisheries but in conditions like they are and they are asking about the possibility initiatives in their villa pesquera, new information to the consumers, telling them that, yes, we are fishing, and it might not be the same grouper and snapper that we used to fish, but this is the fish, and it can be eaten and it's edible and it's very good.

They also wanted to see where they can develop some kind of tourism activity around the area with whatever they had, and so the interest and the intention of not quitting, of not leaving the place, is there, and it was a very positive action.

The other thing that we are working with is you remember the last meeting, and some people were interviewed for a video on the positive actions of the fishers in Puerto Rico and the contributions that they make to conservation, and so we have been working with GeoAmbiente and with the production people, and, now, they are going back to the field. They are going back to the villa pesqueras to see what changes have happened there.

They are not going to change the idea of the video that fishers are positive people and they make good contributions to conservation and they are working, and so we were expecting to

have at least a minor presentation today, but, due to the hurricane, due to all the things on transportation, that cannot be done. We hope that, probably by February, we will have a meeting with Miguel and with the administrative staff of the council to see what has been done.

Then, at the April meeting, we will have the entire production, but they are still working, and they are visiting, and some of the materials that -- They have photographs from airplanes and from visiting on the ground, and I think that it will be very important to the literature that we'll be using later in the council, and so it will be in April that we will make that presentation.

The other thing that we have been working on is also kind of held because of, again, the hurricane, is the calendar for 2018. The theme that we selected for the calendar is essential fish habitats, because this is a concept that we have to understand not only when we are making the fishery management plan, but just as local knowledge, citizen knowledge, and so we have been working with that. It should be finished very, very soon, probably by this week, because it is just the arrangement of some of the photographs, and it should be in your hands early in 2018.

We have all these habitats that are the same ones that we have been finding in the fishery management plans, and then, each month, we'll have one of those habitats and what are the characteristics, and then, in the same month, we will have conservation measures or conservation conduct that people have to have around this habitat so that we can have healthy habitats for a healthy fishery. That is the calendar.

The other thing that we began working with are the fact sheets on consumer responsible for sustainable fisheries, and we were supposed to have an activity in November, and, again, it was erased by the hurricane, but the information on the consumer responsibility for sustainable fisheries is still working, and we are going to continue with the rest of the fact sheets that are going to be distributed in the fishing villages.

For the Virgin Islands, we haven't done much in this moment. We have, today, received a note that Ruth Gomez is going to be part of our O&E AP, and we will have Sarah Mitchell as the representative substituting at some times, Gomez or Makisha that is out of the Virgin Islands at this moment, and so hope that, by March, we will have our next meeting, and then we will put all of this together, and so this is the report that I have for

the council.

CARLOS FARCHETTE: Thank you, Alida. Any questions for Alida?

ALIDA ORTIZ: Okay.

MIGUEL ROLON: Alida, are you going to include the education regarding the exports of lobster? Have you met with the group?

ALIDA ORTIZ: We should do that, but this is something that I just found out yesterday, and so we will get very much in touch with Tommy Forte and Helena and Tony Iarocci and see if we can make note that -- This is something that needs, I think, probably, and that's not my field, but it needs some marketing approach, so that people know, outside of the fishing village, that these things are done, and so, yes, we will put that as part of our outreach and education, definitely.

YASMIN VELEZ-SANCHEZ: Are you working with TNC on the seafood consumption, the responsible campaign?

ALIDA ORTIZ: Yes, and, in the last meeting, we presented what TNC gave us, and there is a bit of a different approach, but it still, in essence, is the same. We are counting on the consumer and not in the restaurant only, but the people who go buy in the fishing village, and they usually ask for something that is in closure or that it is not there, and, if they don't get it, they go buy salmon, or they go buy tilapia, and that's not what we want to do. We want the consumer to know what they eat and what is eatable and how can they cook it differently, so that it is a good plate, and it will be for the fishing village, and it will be for the supermarkets and things like that.

CARLOS FARCHETTE: I have a little suggestion, because, over on St. Croix, the enforcement office, where they come to register and get their fishing permits and all that stuff, and register the boats, there is a monitor on the front desk that has boating safety information being put out while the customer waits, and so I would like to maybe find or develop a short video that they can download into that and give fishing regulations to the boaters or customers that come in there, while they wait and they're looking at --

ALIDA ORTIZ: Okay, and do you mean in terms of consumers on the regulations?

CARLOS FARCHETTE: No, in terms of fishing regulations.

ALIDA ORTIZ: Okay. Great. Helena, you can help me with that. If you have any kind of video already that we could use, but, yes, that's a good idea, and probably we might get it also from the people who are doing the other video.

CARLOS FARCHETTE: We don't have a video, but we'll have to work on making one somehow.

ALIDA ORTIZ: Great. We'll take care of it.

11 CARLOS FARCHETTE: Even just the information.

ALIDA ORTIZ: It could be a slide show.

15 CARLOS FARCHETTE: A slide show, right.

ALIDA ORTIZ: A slide show that changes every so many minutes.

19 CARLOS FARCHETTE: Exactly. Okay.

21 ALIDA ORTIZ: I will take note. Any other --

CARLOS FARCHETTE: I think outreach and education is number one on the priority list, and so I believe that we need to all push for outreach. Thank you, Alida. Next, I have the Enforcement Reports and Puerto Rico DNER.

ENFORCEMENT REPORTS PUERTO RICO DNER

DAMARIS DELGADO: We have Sergeant Eileen Runda, and she's going to speak in regard to the enforcement in Puerto Rico.

(The presentation was in Spanish and was not transcribed.)

CARLOS FARCHETTE: Any questions for DNER Enforcement? Then we'll move on to the U.S. Virgin Islands and the Commissioner.

USVI DPNR

DAWN HENRY: Good afternoon again to the council. DPNR Division of Environmental Enforcement, on September 6, after the passage of Hurricane Irma, the Governor, Governor Kenneth Mapp, he instituted a state of emergency, and, as part of that state of emergency, all law enforcement officers, including DPNR Enforcement officers, they were directed to be under the Virgin Islands police department, and, as of today's date, they remain under the Virgin Islands police department.

We did, in terms of responding to both hurricanes, enforcement, one of their biggest tasks, is they have been working alongside the U.S. Coast Guard in dealing with vessel recovery in the territory. We estimate that we have over 400 sunken derelict vessels in the territory that we need to remove from territorial waters, and so that is part of the responsibilities for the Division of Environmental Enforcement, and they have been working really hard to accomplish that task.

 The Governor recently renewed the state of emergency, and so now it's in effect until January 4, 2018, and so we need to wait to see what happens then. Just a note is, while we're under the state of emergency, the enforcement officers are still allowed to, if we get any complaints regarding the fisheries, they will respond, and they will report, but, as of today's date, under the hurricane recovery, we have not had any such complaints for the department to respond to, and that ends the report for DPNR.

CARLOS FARCHETTE: Thank you, Commissioner. Any questions for Enforcement? Miguel.

MIGUEL ROLON: Thank you, Commissioner. Just a curious question, because I -- Anyway, we have the same problem in Puerto Rico. Can the U.S. Virgin Islands government remove those vessels without the consent of the owner?

DAWN HENRY: Yes, once I as the Commissioner I deem the vessels to be derelict, and I have the power and the authority to remove the vessels, and that's what we are doing.

CARLOS FARCHETTE: Coast Guard.

 JEREMY MONTES: Just a small side note on that. Most of the vessels were marked with a sticker or a notice that said they had up until December 1 to claim the vessel, and I believe, in the Virgin Islands, about 200 of the 400 vessels were claimed. That doesn't mean that it's the owner's responsibility to clean it up.

They can still get the federal assistance for it, but, as of December 1, we've just started moving on with the removal of all vessels, both Puerto Rico and the Virgin Islands. For what it's worth, back in Florida as well. We're pulling all those boats and cleaning up everything after the storms.

CARLOS FARCHETTE: Any more questions for DPNR? Miguel.

 MIGUEL ROLON: Not a question, but a suggestion by one of the fishers. He asked me whether the council was willing to support using those vessels for artificial reefs, and I said to him, well, you can create a bigger problem, because there are many of them that probably you end up jeopardizing the fishing grounds, because that will be detrimental in some areas, and, also, you will be entangling and everything, but that's something that some of the fishermen wanted.

They also asked me whether any association can request the Coast Guard or the local government of Puerto Rico to use any of these vessels that have been abandoned by the owners, and I said, well, you have to contact DNER, and I don't know if they contact Damaris or whatever, but there is some interest about some people who want to do that.

Others would like to use or donate them as artificial reef, because they don't have to pay for the removal, and they just claimed the insurance and left the island or left it there, and that's creating a problem for the disposition of those vessels.

CARLOS FARCHETTE: Blanchard.

TONY BLANCHARD: Well, the artificial reef might not be a bad idea. The problem is, before you could use it as an artificial reef, and the Coast Guard could verify that, you've got to make sure that you've got it well cleaned up and that you don't cause an oil spill or some kind of other damage with hazardous material onboard, and so, actually, the idea of artificial reef probably ain't that far-fetched, and I think it might actually be a good idea, but it's just that you need to put them at a strategic place, and probably strip the masts off of the yachts, so that you wouldn't get stuck up on them that easy.

CARLOS FARCHETTE: Sorry, but not going to happen. Bonnie.

 BONNIE PONWITH: Artificial reefs are an interesting concept for that, and I agree that it's something that you would want to really sit down and consider really, really carefully and plan very carefully, because artificial reef one day can become just a bunch of junk on the beach really quickly if you don't, and there are just the physics of it, to make sure you put it somewhere where you know it's going to stay and it's out of an energy area enough that it's not going to get swept up and scour some good natural habitat.

Also, it doesn't end up detracting from good natural habitat and that those relationships are understood. There is some very

successful artificial reef programs in other places, where fishermen are -- They are very popular with people that fish, but part of that success, I think, is a really good, careful plan.

CARLOS FARCHETTE: That is precisely why it won't happen. Fiberglass will not be allowed as artificial reef material. It doesn't stay on the bottom, and I know, for St. Croix, there is only one permitted site, and I think it's already full, but I believe that Fish and Wildlife has already applied for a new site years ago, but we don't know the status of that, as yet. Any more questions for DPNR?

DAMARIS DELGADO: I just wanted to say that I agree with what has been said about the very careful planning of artificial reefs and that we already had sunken vessels in Puerto Rico before this hurricane, and so we already had kind of spontaneous artificial reefs in Puerto Rico, and, besides that -- We have really good ones, and we have characterized some sailboats in the east coast of Puerto Rico, where those sunken sailboats are really precious areas for fisheries.

As part of other initiatives that we have had in the past with coral reefs, with the coral reef program in Puerto Rico, we have identified those areas as really nursery areas for our fisheries, and so the benefits of those types of artificial reefs are there, but I also agree that we have to be careful.

Besides, the process in Puerto Rico, as I understand it, is that we have to consult with the owners of the vessels. We don't have that full capacity that the Virgin Islands has, and so we need to consult them, and, if they don't want the vessel to be removed, or they don't allow the Coast Guard and EPA to remove it, then we have to leave the vessel there, and so we will have some --

Since we have hundreds of those vessels right now sunken due to these hurricanes, we probably will have some spontaneous sunken vessels that are artificial reefs there anyway in Puerto Rico, unfortunately.

 CARLOS FARCHETTE: Artificial reef sites are real good. I mean, it promotes -- It's good for tourism, and it's good for dives, and it's good for fishing and fishermen. If it's done right, it can develop into a real good -- It grows a lot of coral and stuff on it, and I think they're needed. I think it will enhance places that are dying. Anything further for DPNR? Hearing none, U.S. Coast Guard.

U.S. COAST GUARD

JEREMY MONTES: Good afternoon, everybody. Just to echo some of the same sentiment that we've all been hearing over the last day-and-a-half, the Coast Guard was very busy in the aftermath of Hurricanes Harvey, Irma, Maria, a little bit of Jose, and Nate, for what it was worth, even though Nate ended up being a little bit less than what they were anticipating, but, to focus on some of the efforts that we had down here, over 400 vessels sunk or were damaged in the Virgin Islands, and the number is about 350 for Puerto Rico, of just what we're able to find in the vicinity of federally-regulated channels.

 Luckily, we were able to, in very, very quick time, open up some of the major ports in Puerto Rico and the Virgin Islands, and the way we were able to do that was we deployed ten additional aircraft, thirteen cutters, and 1,200 people days after the storm, to the point to where, on the $21^{\rm st}$ of September, we had cutters operating off of the south coast of Puerto Rico and off of St. Croix.

We intentionally did that, because we anticipated our communications network going down. Those towers are located in the mountains and on each of the islands in the Virgin Islands, and all towers were either destroyed or disabled from the hurricane, and so we used that network of vessels to ensure the safety of navigation at sea for everybody that was arriving to provide assistance, and we also used our buoy tenders to open up the ports within days.

I think the longest one was one of the smaller privately-owned ports on the south coast of Puerto Rico. That was one of the ones that I think it took almost two weeks to open up, but that allowed us to start flowing in our relief supplies. We delivered thousands of gallons of water and diesel, and I apologize to anybody who got an MRE, a meal ready to eat, from the Coast Guard or from the federal government at all.

They're not the greatest thing in the world, but, when you've got nothing else available, it's an absolutely blessing, and it's been nice to see that we were also able to start cooking and delivering fresh food for people that was not an MRE quickly after the storm as well, and we are still very much engaged in the relief efforts for the islands down here.

However, we've been able to shift our focus back to our traditional law enforcement operations as well, and so the only

major damage we had was one of our small piers here was significantly damaged, and we actually took out one of our boats, and then our facility over in St. Thomas, where we normally keep a couple of small boats over there, was very, very damaged, and so we're operating at, I would say, about 85 to 90 percent capacity at this point, and we do have vessels out actively patrolling in support of all of our eleven statutory missions, with the exception of ice-breaking, and we do that on the beach.

Other than that, the only other fun venture we have going on right now is there is a prototype system that was sent up on a satellite a couple of years ago, and we've been selected down here, particularly in the Mona Pass, to use that technology to monitor for illegal, unreported, and unregulated fishing between kind of that disputed zone between where the Dominican Republic and our EEZs combine.

We are getting daily reports on it. It's nothing that I'm able to use to pass off to any of my operational units or any of our partners down here, because I get the report the next day, or even later than that, but we are using that to establish a pattern, to see if there is any creep of foreign-flagged fishing vessels coming over and trying to exploit our EEZ, under the assumption that we're no longer patrolling those waters because we're in the recovery phase.

If anybody knows of any other areas off of St. Croix or off of St. Thomas, any places that are subjected to potential illegal fishing from foreign-flagged fishing vessels, please let me know about it. I can easily get them to kind of relocate where they send that satellite and use that technology, just so we can establish that new pattern that we may be having now, post-Maria, so we can fully understand what's going on in our EEZ and make sure that we're keeping our EEZ ours. That ends my report, and I will answer any questions.

CARLOS FARCHETTE: Any questions for the Coast Guard? Damaris.

DAMARIS DELGADO: I just want to say thanks for the work that you did and keep doing in Puerto Rico with the recovery after Hurricane Maria, and so thank you very much. I know that it has been very hard work.

Some of the people that have been working with you in the project are people under my supervision, and so I know the long hours that it has taken, and it's a big project, and so thank you very much, and the same with all the people from NOAA that

have helped us in the process with the disaster, fishery disaster, declaration and the donations and everything, and so I just wanted to take a minute to say that. Thank you very much.

CARLOS FARCHETTE: Ditto. Any more questions for the Coast Guard? I know I ate a lot of MREs in Hurricane Hugo, and, ever since then, I promised myself never to do it again. I will go fishing before I eat an MRE. Thanks. Okay. Next is National Marine Fisheries Service.

NATIONAL MARINE FISHERIES SERVICE

JEFF RADONSKI: Good afternoon. Priorities is what we're working on right now. We should be bringing out our next five-year priority document soon. I think it's going through the clearing stages right now, and we've had councils and partners and everybody that have made comments toward the priority documents. I don't think you're going to see a lot of changes from our previous document. I think it will just be cleaned up a little bit in how it looks.

Like everybody else, the hurricanes had a major impact, especially on our Southeast Division, because had the Houston area, the Keys, and then the Caribbean that was impacted. Of course, the Caribbean, we've been impacted the most. Lynn Rios is still without power, and it's very difficult for him to communicate, and there's no internet.

I don't know if you guys know, but Lynn is slated to retire in March, and so there will be another vacancy that we'll need to fill. Raul Pena is an enforcement officer, and I was hoping that he would show up to the meeting this week, but he is here, and I think he's completed his training, and so now we're working on what is going to be his mission down here, and he'll probably be doing a lot of work in the ports and traveling to other locations to help out, but we haven't forgotten about the Caribbean.

It's something that's always on our minds, but the work that can be done right now is probably not the highest priority of trying to go out there and try and take care of minor violations. In cases that we do have down here that are in the federal court, they are stymied because of the hurricane themselves, and so it's going to be interesting, and it's going to be rebuilding.

We're going to be rebuilding down here with new personnel, and hopefully we will be hiring an agent soon and we will get Raul going and get back to normal ops. I know everybody down here

wants to be back to normal ops, and so time will tell.

If you go to the NOAA OLE site, we do have our priority documents there, and I think our annual report is up there as well for NOAA OLE as a whole, which will include the Southeast Division and Northeast Division, et cetera, and so that's all I have for this report. Any questions?

CARLOS FARCHETTE: Questions for NMFS? Thank you. Coast Guard, you were talking about the satellite pinging for IUU, and is that for the U.S. Caribbean only that that satellite is working?

JEREMY MONTES: No, they're also using it over on the Texas/Mexico border, and I believe the California/Mexico border as well. They're just trying to monitor those close borders on our EEZ.

CARLOS FARCHETTE: Under Other Business, I have Marcos Hanke.

OTHER BUSINESS

MARCOS HANKE: I was speaking to Nelson Crespo and to Carlos Velazquez and to Daniel, and we want to make sure that the report made by Daniel -- We make sure that it is the case that -- It was a very informative job that he did, but there is another information coming up that will be the official numbers, and those were very partial numbers, and I just want to highlight this.

In the Naguabo Villa Pesquera, where there was the cleaning station and the shoreline, when the Department of Agriculture went there, they estimated a lot of money, close to \$2 million, in the rebuilding of that shoreline plus the dock that was affected. I mean, this is going to add up to a lot of money to the damage for Hurricane Maria in Puerto Rico.

I want the record to be clear that the numbers that Daniel presented was very partial, and it was a good effort from his part to start the discussion, but, the fishermen that represent here on the council, we all agree that that damage is much more than what was presented.

CARLOS FARCHETTE: Damaris.

DAMARIS DELGADO: You're right. That was a preliminary report, and we are doing a more extensive analysis, similar to what the Virgin Islands did, and we're almost done with that study, and so hopefully we're going to be able to use it in order to get

additional funds for recovery after the hurricane, with the help from NOAA of the disaster declaration in fisheries, and so, yes, we're going to have more detailed information.

CARLOS FARCHETTE: Bill.

EXEMPTED FISHING PERMIT DISCUSSION

BILL ARNOLD: I have other business. We have received an exempted fishing permit request from the Clean Ocean Initiative, and we want to make the council aware of this. It's strictly informational. If you have any concerns or objections —Because this was not, due to timing issues, not noticed in the agenda, it's not available for voting, and so, unless you do have issues, we just want to let you know that we are processing this permit for exempted fishing, and I wanted to go through it real quickly with you.

I believe there are Clean Ocean representatives here, and so I am not the expert on this. My staff member, Sarah Stephenson, is, and she's not available. The connection is not good enough, and so I will do the best that I can. If there are any concerns, I would ask you guys to back me up a little bit. Like I said, it's just informational, and I really think it's probably a proactive and positive project, but let's go through it.

The idea here is an exempted fishing permit actually allows somebody to harvest species that otherwise would be covered by the Magnuson-Stevens Act and would fall under our ACLs and all of our other regulations.

Clean Ocean Initiative is requesting an EFP to collect deepwater corals, obviously managed under our Corals and Reef-Associated Plants and Invertebrates Management Plan, in the EEZ off of Puerto Rico. Now, what they intend to do is collect deepwater corals, sponges, and other invertebrates that have settled on decommissioned submarine telecommunication cables.

 Those telecommunication cables are being retrieved from the deepwater environments in the U.S. Caribbean EEZ, and I believe this is not just to get them out of there, but there's a lot of value in the metals that are included in those cables, and they're going to recover those metals, I believe for profit.

The project aims to provide an opportunity, in addition, and this is kind of a value-added component, but it will provide an opportunity for scientists and students to study the taxonomy,

growth, behavior, and genetics of these deepwater organisms.

These are some of the telecommunication cables coming out of Puerto Rico, and I believe the green ones are going to be retrieved in the first phase of the project and then the red ones in the second, but I do believe the idea is eventually to recover all of these deepwater cables, and obviously they don't get from shore to deepwater without going through shallow water, and so you've got to keep that in mind as well.

The research methods, there will be two vessels. One vessel is a benthic survey vessel that will operate a remotely-operated vehicle, and that vehicle will conduct video benthic viewings, transects, along the cable corridor, and they will transplant specimens from the cable to surrounding habitat, to get them out of the way, and, if necessary, the ROV will locate -- Obviously it's a very capable ROV, but it will locate, cut, and prepare the cables for retrieval, and, if necessary -- Like, if there's a big organism that they can't retrieve, they will cut the cable around that organism to leave the cable and the organism in place, so it suffers no harm.

Then the sectioned cable will be retrieved aboard a separate vessel, a barge, and this barge will have on it a specialized funnel that will remove any remaining attached specimens from the cable. There will be a marine biologist onboard that will identify and document all species.

Selected species will be transferred to the research vessel's controlled aquatic storage facility and then to a research facility. There, scientists and grad students will study the taxonomy, growth, behavior, genetics, and anything else of scientific interest of these deepwater organisms.

These are the vessels. The one in the bottom-right is the survey vessel that will operate the ROV, and the ROV is shown on the bottom-left. Then the barge is top-center, and so these vessels will be operating off the northwest and west coast of Puerto Rico, and you may see them out there.

These are cable recovery stats, and you get an idea, in particular, of how long these cables are in nautical miles, and that's the far-right column. They range from forty-one to 172 nautical miles. That's a lot of cable, and a lot of metal. Right here, they've got nine of them, I think, and I don't know if this is all nine or ten, and there's something like that, but this is certainly most of them.

 Note the start and end depths. They are very deep, in general, and that's in feet, and so it's a little shallower than you might think, relative to the continental shelf, but these are pretty much deepwater cables.

The timeline on this, and the reason that we are certainly being supportive of getting this EFP issued, is they propose to start the benthic surveys in December of 2017, now, or January of 2018, somewhere in there. Obviously, they need this permit to go forward.

They will actually conduct cable retrieval and specimen collection operations starting in January or February of 2018, and they estimate their total retrieval time for all nine cables is 429 days, and so NOAA is currently evaluating this application, and we will publish it in the Federal Register requesting comments, and, if granted, this EFP would be valid from the date of issuance through April of 2019, which hopefully will be adequate time to get all of these cables recovered.

Unless you have questions or concerns, this is the exempted fishing permit that has been proposed, and keep in mind that all exempted fishing permits need to be brought before the council.

CARLOS FARCHETTE: Thanks, Bill. Miguel.

MIGUEL ROLON: You don't have to vote on anything, but just take note that that happened.

ROY CRABTREE: You can make a recommendation to approve or disapprove it, if you want to.

MIGUEL ROLON: Based on your presentation -- I personally don't have to read the whole thing. You have it there, and it's a good thing for the environment, and so the council can take note and move to approve it or support the approval of the permit.

TONY BLANCHARD: So moved.

MARCOS HANKE: Second.

42 CARLOS FARCHETTE: Any further discussion? Damaris.

DAMARIS DELGADO: Could we have the detailed request from them to analyze it?

BILL ARNOLD: Yes, you may.

 GRACIELA GARCIA-MOLINER: You do have a presentation here from - Joshua Morel is here, and we do have four or five slides, if
you want to see them and ask specific questions of them. This
has been also -- Jose Rivera from the NOAA Habitat Conservation
group and Daniel Wagner, from the deep coral group in
Headquarters, have all been part of the development of the
project, in terms of the information that is going to be
gathered through this project, and it's going to be
unbelievable.

I mean, it gives the opportunity of identifying new species and, I mean, we know when the cables were put down, and so, assuming that the coral has grown on that since the beginning, then you will know something about age, but there will be age determinations. The history of the water at that depth and what has happened will also be recorded there, and so they do have a couple of slides available.

MIGUEL ROLON: Graciela, will this be shared with local universities, or they will go somewhere else?

GRACIELA GARCIA-MOLINER: I would defer to Joshua, if he can come up and -- I don't know the specific details, but I know that we were actually talking about maybe having something like a live presence while they are running the ROV and that kind of thing, and so --

JOSHUA MOREL: Good afternoon, everybody. My name is Josh Morel, and I am the marine biologist in Clean Ocean Initiative. Basically -- Actually, Bill Arnold said most of the things that I am also going to say, but, just to go a little bit further and let you know those things that were in the presentation, we -- Since 2015, we did a proposal towards the Southeast Deepwater Coral Initiative for a grant proposal, and it was with Daniel Wagner.

We have been talking to him recently also, and he also has told us that there is funding for 2018, and we're just waiting right now on what that funding can actually go to, and that's part of the concerns too, that we wanted to also inform you that we're working together with them, because one of the things that also Graciela mentioned is one thing that we had discussed with them, and it's to upgrade some of our equipment to better --

We have high-definition videography on the ROV itself, so we can collect a lot of really good data, but even upgrading to newer versions, 4K and others, like the NOAA ships have, or even, as we were discussing, some other ships that have come here in

Puerto Rico. Then we can get better quality images of these specimens as we're doing the transects of the corals, of the cables itself.

Basically, these are the two main vessels that I'm going to be working with, and these are the ones that are going to do the surveys, and you can see the Eli, which should be arriving here in Puerto Rico, and the ROV, which is the Super Mohawk 19, if you want to search for it.

It would have grappling capabilities, and, of course, it will need to hold the cable and cut it in certain points, including also if we need to do any type of -- If we need to move corals out of the cable and transplant them. Then we can also do that. It won't have, at the moment, any other capabilities for let's say if you want to collect one and take it to the surface in the ROV, and we don't have that capability right now on our ROV, but it's something that can also be considered maybe in the future with these grant monies that we can receive.

The Eli will also have, attached to this, side-scan sonar, and so not only will we be doing videography, but we'll also be doing mapping of the surrounding waters and close to where the proximity of the cable corridor, and so we'll also be doing mappings in the areas where we don't have really good data yet of how the flooring is and including -- The version that's going to be connected, because we're going to have two tethers, one for deeper waters and one for shallower waters.

That's when we're doing the surveys, and we'll be able to reach, if I'm not mistaken, up to 8,000 feet of water, but I think the maximum of twelve nautical miles, which is the survey area mostly, is up to 6,000 feet, but, still, it's a lot of really good data down there that a lot of people don't know about, especially us in the science community.

 Other things that we've been talking about a lot is what information we can actually bring to the scientists, including not only ourselves and local scientists, but NOAA and the Department of Natural Resources and other agencies, academia, that can actually benefit from all this information, including the one that also Graciela had mentioned.

We know when these cables were laid, and a lot of the information on deepwater corals is you don't know how long does it take them for the growth, and this is the perfect opportunity to also learn how long does it take for a lot of them to grow. You can find a lot of information within themselves, from the

timeline, to see different changes in them as they gather their own data and taxonomy and a whole bunch of stuff that you can actually learn from them.

Basically, what we only would need is this permit, because we already have, for the nine nautical miles in Puerto Rico, we already have the permit from the Department of Natural Resources, but we don't have further than that.

CARLOS FARCHETTE: Miquel.

MIGUEL ROLON: The local universities, will they have a chance to -- For example, if somebody wants to work to collect for a master's degree, or even a PhD degree, and you have 419 days around, and can they have a chance to apply and incorporate into their master's degrees the --

JOSHUA MOREL: We are totally pro with that. We actually want to share this information with local academia, too. It doesn't have to be local. It could also be from outside sources too, but we mainly -- We were first in Mayaguez, and the first thing we saw was the University of Mayaguez that has PhD studies and different professors that are already interested.

We have moved out of Ponce, but that doesn't mean that we can't use other universities. Mayaguez is still interested, and Humacao is certainly interested too, and even the University of Aquadilla is also interested, UPR Aquadilla.

MIGUEL ROLON: I believe, even in the USVI, the University of Virgin Islands -- In the University of Virgin Islands, there might be maybe a student or two who also would like to participate, and so we should spread the word.

JOSHUA MOREL: Yes, it will be for open academia, including that, if we do get to do even -- If we have a lot of samples that we can work with, we have also the funding to create like a small center to start doing the studies, and they can do them right there, so we don't have to take them far away, and they will be in a protected area.

We even have funding to purchase some kind of tanks that we already talked to a company called Aqua Logic, which is based off of California, which also did all of their systems for the Monterrey Bay Aquarium, and so they've got all the experience to do deepwater tanks. We already have a whole bunch of sets of different types of tanks that we can actually use, and we already have quotes for them.

Also, if we are able to do this, we're talking to a couple of -Including Wagner, and he told us that it will also help out with
NOAA deep-sea coral research and it will help accomplish some of
his missions for this same year, with all the information that
we can be able to gather there, including if some of that
funding actually goes towards some equipment that could help out
even further, for example devices that can actually be attached
to that ROV. Any questions?

CARLOS FARCHETTE: Any more questions?

 MIGUEL ROLON: Not a question, but a comment. Personally, I believe this is a win-win situation. They are going to remove the darned things anyway, and this is an excellent opportunity for this area's students and professors to take the opportunity here to study organisms that the council needs to be studied. The marine science department here and the university and Florida and the people from California can all benefit from this, and so it will be nice if the council can endorse it.

JOSHUA MOREL: I have been in contact with -- Basically, the first time that I tried to look for information, and the one who really started to communicate with me and was able also to gather and give a lot of information was Monterrey Bay Aquarium, with their expertise with deepwater systems.

I have also actually contacted and have been able to talk to Stephen Cairns from the Smithsonian, and he has great knowledge too and a lot of information of these animals, and he's also really interested in this program if it gets to go ahead.

GRACIELA GARCIA-MOLINER: One last comment. We also talked about the fact that they have been helped by a number of fishers from the area who remember when the cables were set down, and that historical information has also been documented.

 The other matching win-win situation would be that these are probably also areas that the fishers know, for some specific reason, and it would be interesting to match what they know about the species that could be around a seamount or something like that and what they see in the video that is going to be recorded, and so it's just really exciting to have a project like this going on.

CARLOS FARCHETTE: Thank you. Damaris.

DAMARIS DELGADO: The cables would be substituted by satellite

information and communication or new cables would be installed?

JOSHUA MOREL: Can you repeat that?

DAMARIS DELGADO: You are removing cables.

JOSHUA MOREL: Yes.

DAMARIS DELGADO: Old cables.

JOSHUA MOREL: These are old coaxial, basically the old telephone lines, and not the new fiber optic cables. These cables basically have already served their purpose, and, after that, they were abandoned on the bottom of the ocean. Right now, they fall under the U.S. Army Corps of Engineers, and they have been abandoned there for many years. A lot of them, the older ones, for example the telegraph cables, usually will start to actually disintegrate. We have been able to identify cables even from the 1860s.

DAMARIS DELGADO: Okay, and so they were already substituted a long time ago?

JOSHUA MOREL: Yes, but we're basically just working with newer cables. Older cables like that, we won't touch. That would also fall under cultural status too, which --

CARLOS FARCHETTE: Okay. Any more? Roy.

ROY CRABTREE: Basically, from this, you recycle this cable, and that's how you make money, and is that right?

JOSHUA MOREL: That's correct, yes.

ROY CRABTREE: All of the corals are just sort of being donated to a research program?

JOSHUA MOREL: In effect, yes.

ROY CRABTREE: Okay.

CARLOS FARCHETTE: Anything further? Okay. Thank you. Before we are done, I want to put something on the record here. I know that Dr. Appeldoorn isn't here, but I do want to commend the SSC for all the hard work that they did.

MIGUEL ROLON: You have a motion on the table. You have to vote on it first.

CARLOS FARCHETTE: Which motion?

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MIGUEL ROLON: The one that he made.

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CARLOS FARCHETTE: That's right. Okay. There was a first and and so, all in favor, say aye; any nays; abstentions. Roy Crabtree abstains.

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ROY CRABTREE: It's just, otherwise, I would be voting to make a recommendation to me as to what I should do, and so I abstain.

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CARLOS FARCHETTE: That would be six yes and one abstain, and the motion carries.

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24 25 Now, in continuation about the SSC members, I want to commend all those guys for their hard work, and I know it was very difficult, and they worked real hard. I was there for all three meetings, five days each, and, sitting in a room with all those PhDs was mindboggling, to say the least, and I think I told everybody that my PhD is a public high diploma, and so most of those equations and formulas and modeling was way over my head, above my paygrade, but it was very interesting, and I think we got to this point, and I think it was a lot of lessons learned there, but I want to commend those guys for all their hard work. Miquel.

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MIGUEL ROLON: The last bit of business is that one idea that Bonnie added to the discussion that we started yesterday morning is to ask the local governments what is the status of your fisheries statistics program and if you have any -- If you are in need of any assistance to continue the program.

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They collect fisheries statistics, and we pay \$5,000 somebody to enter the data in Puerto Rico, and so far, he hasn't received anything, and so we are going to pull that money out unless you have some other needs for assistance to continue the statistics program, and that's okay, but, right now, one of the issues they are having is we want to validate the information that the Center receives.

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There is some problems floating around, and there was also -something that we discussed with Ruth, possibility of hiring somebody in the Virgin Islands that is familiar with the fishers and the way that the fishers operate in the Virgin Islands to collect this type of information.

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We had some money available, and the other thing is whether you

have the capacity or not to collect the information of exports of the spiny lobster. If that becomes a successful pilot project, we need to capture that information, and we want to make sure that the lobster exported from this area are legal, and so probably it's something just to take note and discuss it between here and next time, but those monies are available, and we have to rethink, Damaris, the money that you receive for the spiny lobster project with the fishers, because, even before Maria and Irma, they were not sending the information that they promised to send. That's it.

CARLOS FARCHETTE: Jocelyn.

UPDATE ON QUEEN CONCH LITIGATION

JOCELYN D'AMBROSIO: Thank you. I just wanted to give you a brief update on the queen conch litigation. As you know, in the summer of 2016, two environmental groups filed an action challenging the agency's, the National Marine Fisheries Service's, decision that listing of queen conch as either threatened or endangered wasn't warranted.

Since that time, now the plaintiffs have filed their initial motion for summary judgment, and the case is to be fully briefed by the end of January of 2018, and so, after that, the judge will have the briefs and be able to decide the action on the merits.

MIGUEL ROLON: So there is still a possibility that it will be listed?

ROY CRABTREE: If we lose, then the judge would remand the decision back to the agency, and we would have to redo it.

MIGUEL ROLON: So it's not an automatic acceptance, but it's just that you have to rework it, redo it?

ROY CRABTREE: Jocelyn, go ahead, but I think it would depend on the specifics of why we lost.

JOCELYN D'AMBROSIO: That's right. It would depend on the judge's ruling on what grounds, and so, if they said that you needed additional reasoning, the agency could provide additional reasoning and come up with the same decision. If they said the reasoning was flawed, they would have to address that and reevaluate the decision, and so it really depends on what grounds the judge rules in the case. Of course, if the judge affirms the decision, then it would stand.

ROY CRABTREE: So it's not over until it's over, I guess.

MIGUEL ROLON: The reason I ask you is because we are going to have an international queen conch meeting with WECAFC and about twenty countries, and one of the questions that they keep asking me, thinking that I am the czar of the queen conch in the U.S., is whether the U.S. is going to approve this or not.

They are really worried, because, as you know, we are the number-one market for the queen conch, although the Chinese are coming to buy anything that moves in the water, but they asked me whether we would have something to say at the meeting, and my answer to them will be no, until we have this process finished.

ROY CRABTREE: When is the meeting?

MIGUEL ROLON: It will be probably in April of 2018. It will be difficult to have anything.

ROY CRABTREE: My guess is it won't be resolved by then, and so I think you can tell them that the government has made a final action on it, which is not warranted, but it is subject and being reviewed by the courts, and no one can really say when that will be resolved.

MIGUEL ROLON: We will have a U.S. delegation, and so probably we will -- If we put it on the agenda, which it's difficult not to put it, because we are going to talk about the queen conch, I'm sure that whomever attends from the U.S. side will be able to provide that.

ROY CRABTREE: This isn't unusual. We get litigation over listing decisions quite often.

JOCELYN D'AMBROSIO: The case will be fully briefed by January, and, thereafter, the court would likely have a hearing on it. Then, after that point in time, it would provide its decision, and so it could be a number of months after the January briefing is done.

CARLOS FARCHETTE: Anything further? Hearing none, the 161st Caribbean Fishery Management Council Meeting is hereby adjourned. I want you all to enjoy your holidays, and I hope Santa brings you all the gifts you wanted.

(Whereupon, the meeting adjourned on December 13, 2017.)