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TABLE OF MOTIONS

1  
2  
3 [PAGE 85](#): Motion to make Alternative 2 the preferred alternative  
4 in the AM Triggers Amendment document. Alternative 2 is the AM  
5 for a stock or stock complex would be triggered for either the  
6 recreational or commercial fishing sector if that sector's  
7 applicable ACL for a stock/complex is exceeded and the combined  
8 recreational and commercial, i.e. total, ACL for that  
9 stock/complex is exceeded. [The motion carried on page 86.](#)

10  
11 [PAGE 86](#): Motion to approve the AM Triggers Amendment document  
12 as presented by staff for public hearings. [The motion carried](#)  
13 [on page 86.](#)

14  
15 [PAGE 206](#): Motion to submit the Regulatory Amendment 6 to the  
16 Reef Fish Fishery Management Plan of Puerto Rico and the U.S.  
17 Virgin Islands: Triggering Accountability Measures in the Puerto  
18 Rico Exclusive Economic Zone for Secretarial review, Alternative  
19 2 is the preferred. [The motion carried on page 207.](#)

20  
21 [PAGE 208](#): Motion to deem the regulation presented by staff as  
22 necessary and appropriate for implementing the Regulatory  
23 Amendment 6 to the Reef Fish Fishery Management Plan of Puerto  
24 Rico and the U.S. Virgin Islands: Triggering Accountability  
25 Measures in the Puerto Rico Exclusive Economic Zone and give the  
26 council chair the authority to deem any modification made to the  
27 proposed rule. [The motion carried on page 209.](#)

28  
29 [PAGE 211](#): Motion to allow staff to make editorial, non-  
30 substantive changes to the Regulatory Amendment 6 to the Reef  
31 Fish Fishery Management Plan of Puerto Rico and the U.S. Virgin  
32 Islands: Triggering Accountability Measures in the Puerto Rico  
33 Exclusive Economic Zone. Any changes will be reviewed by the  
34 council chair. [The motion carried on page 211.](#)

35  
36 [PAGE 233](#): Motion to reappoint Churchill Grimes to the SSC. [The](#)  
37 [motion carried on page 233.](#)

38  
39 [PAGE 233](#): Motion to reappoint Vilmarie Roman and Elliette  
40 Hernandez to the O&E AP. [The motion carried on page 233.](#)

41  
42 [PAGE 233](#): Motion to appoint Raimundo Espinoza from Conservación  
43 ConCiencia to the DAP of Puerto Rico. [The motion carried on](#)  
44 [page 233.](#)

45  
46 [PAGE 233](#): Motion to appoint Raimundo Espinoza from Conservación  
47 ConCiencia to the Puerto Rico DAP. [The motion carried on page](#)  
48 [234.](#)

1  
2 [PAGE 234](#): Motion to remove Luis Viera and Larry Angus from the  
3 DAP of St. Croix and appoint Aaron Abel and Marcia Taylor to  
4 fill those two vacancies. [The motion carried on page 234.](#)

5  
6 - - -  
7

1                                   **CARIBBEAN FISHERY MANAGEMENT COUNCIL**  
2                                   **159<sup>TH</sup> REGULAR COUNCIL MEETING**  
3                                   **Renaissance St. Croix Carambola Beach Resort & Spa**  
4                                   **St. Croix, USVI**

5  
6                                   APRIL 18-19, 2017  
7

8   The Caribbean Fishery Management Council convened at the  
9   Renaissance St. Croix Carambola Beach Resort & Spa, St. Croix,  
10   USVI, Tuesday morning, April 18, 2017, and was called to order  
11   at 9:00 o'clock a.m. by Chairman Carlos Farchette.

12  
13                                   **CALL TO ORDER**  
14

15   **CARLOS FARCHETTE:**   Good morning.   We're going to get started  
16   here.   Good morning, everyone.   I want to welcome everyone to  
17   the 159<sup>th</sup> Caribbean Fishery Management Council Meeting held at  
18   the Renaissance Carambola Beach Resort on St. Croix, U.S. Virgin  
19   Islands.   It is April 18, 2017.   I will start with roll call on  
20   my right, with the U.S. Coast Guard.

21  
22   **JEREMY MATOS:**   Jeremy Matos.

23  
24   **CARLOS VELAZQUEZ:**   Carlos Velazquez, council member, commercial  
25   sector.

26  
27   **BONNIE PONWITH:**   Bonnie Ponwith, NOAA Fisheries.

28  
29   **IRIS LOWERY:**   Iris Lowery, NOAA Office of General Counsel,  
30   Southeast Section.

31  
32   **ROY CRABTREE:**   Roy Crabtree, NOAA Fisheries.

33  
34   **DIANA MARTINO:**   Diana Martino, council staff.

35  
36   **MIGUEL ROLON:**   Miguel Rolon, council staff.

37  
38   **CARLOS FARCHETTE:**   Carlos Farchette, council chair.

39  
40   **MARCOS HANKE:**   Marcos Hanke, council member, Puerto Rico.

41  
42   **DAMARIS DELGADO:**   Good morning.   Damaris Delgado, Puerto Rico  
43   DNER.

44  
45   **TONY BLANCHARD:**   Tony Blanchard, St. Thomas.

46  
47   **BILL ARNOLD:**   Bill Arnold, NOAA Fisheries.  
48

1 **GRACIELA GARCIA-MOLINER:** Graciela Garcia-Moliner, council  
2 staff.  
3  
4 **VIVIAN RUIZ:** Vivian Ruiz, council staff.  
5  
6 **KATE QUIGLEY:** Kate Quigley, council staff.  
7  
8 **MARIA DE LOS A. IRIZARRY:** María de los A. Irizarry, council  
9 staff.  
10  
11 **ALIDA ORTIZ:** Alida Ortiz, Outreach and Education Advisory  
12 Panel.  
13  
14 **MARIA LOPEZ:** Maria Lopez, NOAA Fisheries.  
15  
16 **NELSON CRESPO:** Nelson Crespo, DAP Chair, Puerto Rico.  
17  
18 **JULIAN MAGRAS:** Julian Magras, DAP Chair, St. Thomas/St. John.  
19  
20 **EDWARD SCHUSTER:** Edward Schuster, DAP Chair, St. Croix.  
21  
22 **RICHARD APPELDOORN:** Rich Appeldoorn, SSC Chair.  
23  
24 **CLAY PORCH:** Clay Porch, NOAA Fisheries.  
25  
26 **LOREN REMSBERG:** Loren Remsberg, NOAA Office of General Counsel.  
27  
28 **HOWARD FORBES:** Howard Forbes, DPNR Enforcement.  
29  
30 **JOCELYN D'AMBROSIO:** Jocelyn D'Ambrosio, NOAA Office of General  
31 Counsel.  
32  
33 **YASMIN VELEZ:** Yasmin Velez, Pew Charitable Trusts.  
34  
35 **BRIAN MATIAS:** Brian Matias, commercial fisherman out of Puerto  
36 Rico.  
37  
38 **TONY IAROCCI:** Tony Iarocci, commercial fisherman.  
39  
40 **AMY HOCKENBERRY:** Amy Hockenberry, United States Coast Guard.  
41  
42 **ASHLEY RUFFO:** Ashley Ruffo, NOAA Fisheries.  
43  
44 **ORIANA VILLAR:** Oriana Villar, NOAA Fisheries, Office of  
45 International Affairs and Seafood Inspection.  
46  
47 **ORIAN TZADIK:** Orian Tzadik, Pew Charitable Trusts.  
48

1 **COLE COOK:** Cole Cook, MER Consulting and fisherman.

2  
3 **KELSEY CHAPMAN:** Kelsey Chapman.

4  
5 **HELENA ANTOUN:** Helena Antoun, contractor.

6  
7 **VIVIAN RUIZ:** The Go to Meeting attendees are Adam Bailey,  
8 Cynthia Meyer, Sarah Stephenson, and Skyler Sagarese.

9  
10 **ADOPTION OF AGENDA**

11  
12 **CARLOS FARCHETTE:** Thank you. First up on the agenda is  
13 Adoption of the Agenda. Does anyone have comments or additions?  
14 Hearing none --

15  
16 **MARCOS HANKE:** I move to adopt the agenda.

17  
18 **DIANA MARTINO:** Good morning. I have been giving out menus for  
19 today's lunch. I need everybody to fill them out and put their  
20 names and their room numbers. Then I will be picking them up,  
21 so that we can have an expedited lunch. Thank you. Lunch will  
22 be next door.

23  
24 **CARLOS FARCHETTE:** On the agenda, are there additions or changes  
25 to the agenda? We are going to move the Outreach and Education  
26 Report by Alida Ortiz for tomorrow morning at 8:30. That motion  
27 was by Hanke.

28  
29 **MARCOS HANKE:** Yes, my motion was to adopt the agenda.

30  
31 **TONY BLANCHARD:** Second.

32  
33 **CARLOS FARCHETTE:** All in favor say aye; any nays; any  
34 abstentions. Hearing none, the motion carries. Next is the  
35 Consideration of the 158<sup>th</sup> Council Meeting Verbatim  
36 Transcriptions. Are there any comments or changes or  
37 corrections? Then is there a motion to accept?

38  
39 **CONSIDERATION OF THE 158<sup>TH</sup> COUNCIL MEETING VERBATIM**  
40 **TRANSCRIPTIONS**

41  
42 **MARCOS HANKE:** So moved.

43  
44 **TONY BLANCHARD:** Second.

45  
46 **CARLOS FARCHETTE:** All in favor, say aye; any nays; any  
47 abstentions. Hearing none, the motion carries. Next is the  
48 Executive Director's Report with Miguel Rolon.

1  
2 **EXECUTIVE DIRECTOR'S REPORT**  
3

4 **MIGUEL ROLON:** Thank you, Mr. Chairman. Before we proceed, we  
5 have some introductions here, and I understand that Commissioner  
6 Henry will join us today at some time, but do you know when the  
7 Commissioner might be here? Ruth, you can sit here until the  
8 time that she comes, and you can vote yea or nay to anything  
9 that we say.

10  
11 Then we have Damaris Delgado is our new representative from the  
12 Department of Natural Resources. She replaces Dr. Miguel  
13 Garcia, who you all know, and we have with her Ricardo Lopez.  
14 Ricardo will be advisor to her whenever it's needed. Also,  
15 there are some changes, and I will ask Iris to give us an  
16 introduction of some of the new faces around the table or in the  
17 room.

18  
19 **IRIS LOWERY:** I just wanted to let everyone know that my  
20 coworker, Jocelyn D'Ambrosio, who is sitting in the back there,  
21 is here to observe for this meeting, and then she will be  
22 covering the August meeting, and so I wanted to make sure that  
23 everyone knows who she is and can say hello.

24  
25 **MIGUEL ROLON:** The Chairman is reminding me that we have two new  
26 faces from the Coast Guard, and can you introduce yourself  
27 again? I received the email from your Lieutenant before, and  
28 you will be two new faces also from the Coast Guard, and can you  
29 say something to that effect?

30  
31 **JEREMY MATOS:** Yes, sir. Good morning, everybody. I'm  
32 Lieutenant Commander Jeremy Matos. I just reported to District  
33 7 this past summer, and I'm just newly assigned as our Living  
34 Marine Resources Enforcement Officer. I've got about seven  
35 years of sea time, and I really enjoy the fisheries mission, and  
36 I'm looking forward to working with everybody.

37  
38 **MIGUEL ROLON:** Welcome. First, about the budget, we don't have  
39 any -- The latest news from the budget is that we don't know  
40 what we're going to get for the remainder of the year. What we  
41 have for the first two quarters is not enough to cover until  
42 June 30, but we were allowed to have some savings, and so we  
43 will be able to do our job between here and June 30, but it's  
44 anybody's guess how the final budget will pan out. We may end  
45 up having to do some savings during this year, but I want to let  
46 everybody know that what we have is enough to carry our work  
47 until December 31.



1 Then I have some news that I want to call on some of the people  
2 here about workshops and activities that are germane to the  
3 council work, and we want to give you a brief, brief update.  
4 First, I have Kate. She went to the socioeconomic workshop, and  
5 she can address what she did there, and you will see that there  
6 is a lot of players around working on issues that are important  
7 to the development of management plans. That will be followed  
8 by an update on the Marine Recreational Information Program by  
9 Bill Arnold. Kate.

10  
11 **KATE QUIGLEY:** I just wanted to update anyone on a group that we  
12 have going nationally. It's called SSRFM. It is Social  
13 Scientists in Regional Fisheries Management. From all of the  
14 Regional Offices, the councils, any of the Science Centers,  
15 folks that want to be involved, it brings together the  
16 anthropologists, the social scientists, and then economists who  
17 would like to be involved to talk about various issues they have  
18 going on in their fisheries, to get advice from each other and  
19 different ideas and sharing of information, so that we can do  
20 our jobs better.

21  
22 One of the topics that we will be discussing in a week-and-a-  
23 half, or maybe it's a week, but a week from now or a week-and-a-  
24 half from now, is the idea of market capacity. At the February  
25 SSC meeting, Julian Magras and Ed Schuster had touched on the  
26 idea that fishermen here are really limited by -- The commercial  
27 fishermen are really limited in the amount of fish that they can  
28 bring in, that they can land, based upon what will actually be  
29 purchased, and so purchased for events, purchased by the public,  
30 and then purchased by various restaurants.

31  
32 We are trying to figure out a way to put this, these types of  
33 discussions, into some sort of document, and so I have come up  
34 with a couple of different ideas, and I'm going to chat with the  
35 USVI folks later today and present some of those ideas that I  
36 can then bring to the SSRFM to get a little more guidance on the  
37 appropriate way to go about this, so that when we have a  
38 conversation with regards to stock assessments and with regards  
39 to how much is actually landed in Puerto Rico and the USVI, that  
40 it's acknowledged that it has limitations.

41  
42 It's limited by weather, of course, and it's limited by  
43 regulations, but it's also limited by how much can actually be  
44 sold. Fishermen are only going to go and catch and then land  
45 what can actually be sold, and so we want that acknowledged, and  
46 thinking about putting that into some sort of document, so that  
47 it becomes more official, more formalized, instead of fishermen,  
48 again and again and again, bringing up and reminding scientists

1 and reminding folks and decisions makers that what is actually  
2 landed is not necessarily a reflection of what is out there, but  
3 it's a reflection of a number of different things, and one of  
4 them being market capacity, what the market can actually absorb.

5  
6 I've got some ideas about how we can have this discussion and  
7 put it into some sort of document, so that it is more legitimate  
8 to some folks and it's in a more formalized manner, and so we'll  
9 have a discussion later on today and discuss this with the SSRFM  
10 and try to find the right way to go about this, so that we have  
11 some sort of document. I just wanted to update folks on that.

12  
13 **CARLOS FARCHETTE:** Any questions for Kate? Carlos.

14  
15 **CARLOS VELAZQUEZ:** One question for you. In the case of Puerto  
16 Rico, do you visit around the island or one sector of the  
17 island?

18  
19 **KATE QUIGLEY:** My focus has been primarily on the USVI, because  
20 this was brought up by Julian Magras at the February SSC  
21 meeting, and so we're starting to think about Puerto Rico, but  
22 Puerto Rico is going to be different, but, if we did it for  
23 Puerto Rico, where we started having conversations and tried to  
24 document the impact of market capacity on landings, it would be  
25 done for different regions of the island, because there is  
26 different fishing methods and different market capacity, I would  
27 assume, for different areas of the island, and so it would be  
28 that we would have multiple meetings, and it would be done on a  
29 regional basis.

30  
31 At this point, we're not thinking about some widespread survey  
32 or anything like that. We're just thinking about possibly  
33 having meetings of eight to ten people per island. For Puerto  
34 Rico, that would have to be expanded to do it on a more regional  
35 basis, but, anything that I did, I would, of course, first vet  
36 through council members and through the DAP representatives to  
37 make sure that this makes sense and that this is the right thing  
38 to do.

39  
40 I work for the council, and so this would be done through the  
41 council and with your advice and with your guidance, and so,  
42 yes, it would be under your guidance.

43  
44 Right now, it's focusing mostly on the USVI, because they  
45 brought up that, but we need to have a conversation as well  
46 about Puerto Rico and if this is something that's important for  
47 Puerto Rico and that we should explore. This is the very  
48 beginnings of exploring this topic and just trying to get

1 something on paper so that you guys don't have to continue to  
2 explain this issue.

3  
4 **CARLOS FARCHETTE:** Any more questions or comments for Kate?  
5 Hearing none, thank you, Kate. Miguel.

6  
7 **MIGUEL ROLON:** Thank you, Mr. Chairman. You know the Marine  
8 Recreational Information Program has been running for some time  
9 now, and it has been reviewed by scientists and managers and so  
10 forth, and we have one section of the Marine Recreational  
11 Information Program that is run nationally for the U.S.  
12 Caribbean, and I asked Bill to give us a line or two about the  
13 progress that they have made. I understand that they finished  
14 the work that they put together in the plan, and so, Bill,  
15 please.

16  
17 **BILL ARNOLD:** Good morning, everybody. Yes, we have got a  
18 recreational data collection program throughout the United  
19 States, the Marine Recreational Information Program, and it's  
20 based upon intercepting recreational fishermen and determining  
21 what they've caught and then combining that with census surveys,  
22 where they do calls or mail surveys or something.

23  
24 That gives you a combination of what's being caught, on average,  
25 by a fisherman and how many fishermen are fishing. Then you do  
26 the math, and you get an estimate of what's being harvested by  
27 recreational fishermen. That program is operational in Puerto  
28 Rico, but there is no similar program in the USVI.

29  
30 There have been some desired upgrades to the Puerto Rico  
31 program, and so there are things that need to be addressed in  
32 the U.S. Caribbean regarding the collection of recreational  
33 information, and so the MRIP, the Office of Science and  
34 Technology's MRIP group, asked that we put together a regional  
35 implementation plan.

36  
37 This isn't just the U.S. Caribbean. This is throughout the  
38 nation. All regions are putting together a regional  
39 implementation plan, and so I was asked to chair that group, and  
40 we put a very representative list of people together to help  
41 out, because I sure couldn't do it by myself, and multiples of  
42 those people are in this room today, and I thank them all, and  
43 so we got a regional implementation plan together and submitted  
44 it.

45  
46 That plan basically had three major overriding components. The  
47 first was put together a steering committee of experts that can  
48 guide this process, and the second was to continue work on

1 developing a recreational information program for the USVI, and  
2 the third of the three components is to address the needs to  
3 further enhance the recreational information collection program  
4 in Puerto Rico.

5  
6 We submitted that report to MRIP, and they reviewed it and  
7 accepted it, and now they've submitted it to their steering  
8 committee, who will then review it, and, depending upon the  
9 input they have, comments and desired changes, et cetera, et  
10 cetera, we will respond to those requests, and then it will be  
11 finalized. Once it's finalized, we can then get back to the  
12 dirty work of getting these programs refined or in place, which  
13 I think is really, really important.

14  
15 We need to know what's going on with recreational fishing down  
16 here, and we need to do it quickly, because even if we got a  
17 viable recreational sampling program in the USVI today, and this  
18 is, of course, Bonnie's call, but it would take at least three  
19 years to have enough data to start making sense, and probably  
20 more like five years, and so it's still down the road.

21  
22 As with everything in the Caribbean, we need to make progress,  
23 so that we can get moving on this stuff and start getting where  
24 we want to be with fisheries management in the U.S. Caribbean.  
25 That's it, Miguel, unless you have questions.

26  
27 **MIGUEL ROLON:** Thank you very much.

28  
29 **CARLOS FARCHETTE:** Bonnie.

30  
31 **BONNIE PONWITH:** Thank you, Mr. Chairman, and thanks for the  
32 report on that, Bill. I am on the steering committee, and so I  
33 have reviewed that report, and I think it's a very good report  
34 that does a good job of highlighting what the highest level  
35 priorities in the region are.

36  
37 That report is really crucial, and it's because it doesn't  
38 automatically come with money, just write this report and you  
39 get money, but the opposite is true. If you don't have a set of  
40 priorities, then MRIP is concerned about requests coming in that  
41 can't be mapped to a plan that clearly articulates your  
42 priorities, because there is not enough money to spend on things  
43 that may not be the highest priority.

44  
45 This statement of articulating what the regional priorities are  
46 for recreational fishing and monitoring recreational fishing is  
47 absolutely crucial to be able to get the support needed, both  
48 statistical support and the financial support, to solve some of

1 the questions we have about the true level of recreational  
2 fishing in the Caribbean. My hat is off to the team on this,  
3 and I think it's a very important step forward.  
4

5 **MIGUEL ROLON:** I believe that I will stop here for a second and  
6 address and welcome Commissioner Henry. Would you like to say  
7 some words?  
8

9 **DAWN HENRY:** Good morning to everyone.  
10

11 **CARLOS FARCHETTE:** Good morning, Commissioner. I believe that I  
12 need Director Gomez to go on the record for roll call and also  
13 the Commissioner.  
14

15 **DAWN HENRY:** Commissioner Dawn Henry, the Department of Planning  
16 and Natural Resources.  
17

18 **RUTH GOMEZ:** Ruth Gomez, Department of Planning and Natural  
19 Resources, Fish and Wildlife.  
20

21 **CARLOS FARCHETTE:** Thank you.  
22

23 **DAWN HENRY:** Thank you.  
24

25 **MIGUEL ROLON:** Just to end my report on a good note, I  
26 understand that Ruth and the Commissioner have some news  
27 regarding the trap reduction program in the U.S. Virgin Islands,  
28 and so that will be my last part of the report, Mr. Chairman.  
29

30 **CARLOS FARCHETTE:** Thank you, Miguel.  
31

32 **DAWN HENRY:** The latest update with the fish trap program is  
33 that we got approval from the Attorney General's Office in terms  
34 of moving it forward with the promulgation process, and so the  
35 next step now is for the Governor and the Lieutenant Governor to  
36 do the approval, and so this is the final step in us making it  
37 law in the Virgin Islands.  
38

39 That's where we are with the fish traps, and we're working on  
40 some other updates to the code as well, based on some  
41 recommendations that we received from the fishers, and so just  
42 especially the St. Croix side. I have been receiving  
43 correspondence, and we've been paying attention. When we huddle  
44 later on, we'll be able to discuss those issues.  
45

46 **MIGUEL ROLON:** Mr. Chairman, this is a good example of the work  
47 that the fishers of the U.S. Virgin Islands have been doing for  
48 all these years. It is the culmination of all that work. Ruth

1 was involved at the beginning, when they started with the  
2 moratorium, and Julian and many of the fishermen who have been  
3 working very hard together, and we congratulate the U.S. Virgin  
4 Islands for this effort. It's an example to be followed in  
5 other areas.

6  
7 **DAWN HENRY:** Yes, and it's without a doubt that, from when I  
8 took over, where the Division of Fish and Wildlife was, compared  
9 to the tremendous progress that has been made under Director  
10 Ruth Gomez, in my opinion, it's not comparable, and, in saying  
11 so, I really look forward to the work that we're going to do in  
12 the next two years that is left in my tenure as commissioner for  
13 the department.

14  
15 We have a lot of plans. One of the things that we definitely  
16 would like to be able to do is we want to upgrade the fish  
17 market in Frederiksted. That project, we hope to have that  
18 started, if not the end of April, sometime in May. We are  
19 continuing to work with the Department of Public Works with La  
20 Reine Fish Market. That is not totally under my control, but  
21 we're making progress. It's been slow, but we're making  
22 progress.

23  
24 Of course, on the St. Thomas side, what Director Gomez recently  
25 did was we're applying for some grants from CDBG, where we're  
26 hoping to be able to upgrade the dock facilities there, so that  
27 we could do educational programs for the children at the  
28 Frenchtown Fish Market in St. Thomas. We are really trying to  
29 not just work under the regulatory side, in terms of  
30 improvement, what we're working on today, but the department is  
31 also trying to improve the circumstances by which the fishers in  
32 the territory have to carry out their day-to-day livelihood.

33  
34 We are trying to enhance, so that, economically, they can  
35 prosper more, because that's very important to the territory.  
36 We don't want to see this industry fade away, and, in order for  
37 us to continue to have it to prosper, we need to be able to  
38 create and maintain an environment where the younger generations  
39 see that it's something that is profitable and it's an industry  
40 that you can make a good, honest living at, supporting your  
41 family.

42  
43 We are really looking at ways to encourage this industry to be  
44 able to flourish within the Virgin Islands, and it's really,  
45 honestly, it's all thanks to Director Ruth Gomez and to Director  
46 Howard Forbes. We will continue to work as hard as we can, and  
47 hopefully, by the end of the two years, as I've stated, we will  
48 have more to report on. Thank you.

1  
2 **CARLOS FARCHETTE:** Thank you, Commissioner. That's real good  
3 news. I strongly believe in education, especially of the young  
4 generation coming up.

5  
6 **DAWN HENRY:** There was one more. I know for sure that both  
7 directors have been working on boat access issues, because  
8 that's another issue here in the territory for the fishers, for  
9 them to have proper boat access, and so we're working on that as  
10 well. We have a lot of things on the plate.

11  
12 **MIGUEL ROLON:** Mr. Chairman, Kate and I were discussing that we  
13 forgot to mention that Kate prepared a socioeconomic reference  
14 list, and that has been distributed. I would like Kate to just  
15 present why she did it and what it contains.

16  
17 **KATE QUIGLEY:** At the April SSC meeting, Julian had requested a  
18 socioeconomic bibliography of socioeconomic work that had been  
19 done on the USVI and Puerto Rico for the last ten years. I went  
20 and expanded that to the last twenty years, just to be more  
21 complete, and that was emailed out to you by Miguel, I believe  
22 about a week ago, and so you all have a list of -- There is  
23 several socioeconomic studies and research and presentations  
24 that have been done, just to let you know what kind of  
25 socioeconomic efforts to look at the socioeconomic environment  
26 have been.

27  
28 Of course, this does not include the socioeconomic effects  
29 analyses and all of the work that is done and put into the  
30 amendments, and so it's just more gray literature presentations  
31 and peer-reviewed journal articles.

32  
33 **MIGUEL ROLON:** Thank you, Kate.

34  
35 **CARLOS FARCHETTE:** Thanks, Kate, and thank you, Miguel. Next on  
36 the agenda is the Scientific and Statistical Committee Report,  
37 and that will be Dr. Appeldoorn for a report on both meetings,  
38 the February 6<sup>th</sup> to 10<sup>th</sup> and the April 3<sup>rd</sup> to 7<sup>th</sup> meetings.

39  
40 **SCIENTIFIC AND STATISTICAL COMMITTEE REPORT**

41  
42 **RICHARD APPELDOORN:** Thank you, Mr. Chair. A couple of caveats  
43 about what I'm about to present. First of all, as you will be  
44 seeing, I am reporting on two meetings. The notes from the  
45 first of those meetings are in my office, which I can't access,  
46 because of a student strike at the university, and so I had to  
47 kind of put that together with the materials I had at hand, but  
48 I think it will go okay.

1  
2 Secondly, I am under severe sleep deprivation, having finished  
3 this early in the morning, and so I may be a little fuzzy in my  
4 thoughts here, but there are plenty of people here who will keep  
5 me on track. I am not sure about the slides at the end. They  
6 may be a little fuzzy, but we'll see how that goes. With those  
7 caveats, let me get into what we did.

8  
9 As I said, there were two meetings, and both of these meetings  
10 were five-day meetings, and so I'm going to try to distill ten  
11 days of information down into some kind of reasonable timeframe,  
12 and, of course, in doing so, I'm going to be cutting out a lot  
13 of kind of what went on behind the scenes and giving you kind of  
14 what was happening.

15  
16 In February, we met and we had two objectives that we were  
17 dealing with. One was the SEDAR 46, which is looking at the  
18 data-limited toolbox and its application to our species here,  
19 and then we were reviewing Actions 1 and 2.

20  
21 Then, just a few weeks ago, in April, we did some final looking  
22 at Action 1 and a more detailed look at Action 2 and then  
23 started really getting into Action 3, and so Action 3 is getting  
24 us toward our reference points.

25  
26 For the SSC, this is our ABCs, or OFLs actually first, the  
27 overfishing limits, and then allowable biological catch derived  
28 from that. In doing so, we wanted to show an application of our  
29 ABC control rule, looking at Tier 4, which is the only thing we  
30 have to work with at the moment.

31  
32 The way I am going to present this is, even though we had two  
33 different meetings, I am not going to present it as Meeting 1  
34 and Meeting 2. I am going to basically present it as the SEDAR  
35 46, and then I will talk about Actions 1, 2, and 3.

36  
37 Just to review on this, SEDAR 46 is looking at the data-limited  
38 model toolbox, or the DLM toolbox, and what we were doing at  
39 that meeting was really kind of refocusing on the whole DLM  
40 approach.

41  
42 The Southeast Center gave us an extensive presentation on their  
43 experiences, having had some time to work with this, and we have  
44 come to the conclusion that, when we first started this, nobody  
45 really had the experience with the models and how the toolbox  
46 works, to the extent that we were ready to just throw data into  
47 it, and that makes it sound simple, but it's not what you do,  
48 and actually apply it.



1  
2 There was kind of a retrenchment on everybody's part to really  
3 explore these methods and what their biases are and what their  
4 vulnerabilities are, or susceptibilities are, in terms of  
5 variability, what they're sensitive to, in that sense, and then  
6 sort of really get into the weeds and be able to come back to  
7 the SSC and say, okay, now we have an understanding of how these  
8 work and how we can move forward with these things.

9  
10 The purpose was really to fully explore and explain the data-  
11 limited models, and this comes in two parts, how they're used  
12 for management strategy evaluations and then, secondly, how we  
13 then can use that to provide management advice, and particularly  
14 we're looking towards if we can get information on our  
15 overfishing limit.

16  
17 In doing this, instead of trying to do all the six stocks and  
18 whatnot, to really understand what was going on, the decision  
19 was made to go with -- I will characterize it as our best  
20 example, simply because of the volume of information available,  
21 and that was the Puerto Rico yellowtail snapper stock.

22  
23 The way this works is, first, there is an assessment of the  
24 available data for each stock. Then the Southeast Center comes  
25 up with an evaluation system, or a scoring system, to look at  
26 that data and say, okay, based on that, what species or stocks  
27 could we even begin to start looking at and what models then  
28 meet those criteria that could be entered first into the  
29 management strategy evaluation, or MSE. This is going to be  
30 very much an alphabetical soup presentation.

31  
32 Management strategy evaluations are based on simulated  
33 populations. This is really, really critical to understand.  
34 Management strategy evaluations are not made on real data. They  
35 are made on simulated populations that are based on the biology  
36 of real species, but, in this case, the simulation actually  
37 dictates all the information needed, and so all the biology in  
38 these things is known, and that's in quotes because it's a  
39 simulation.

40  
41 That known part, as I said, is based on what we do know about,  
42 in this case, yellowtail snapper, but, what we don't know, we  
43 had to fill things in, and then you run the simulations based on  
44 your, at that point, perfect population, but please keep in mind  
45 always that the management strategy evaluations are not the  
46 analysis of the data. They're an analysis of the models that  
47 are going to be used to analyze the data.

48

1 **CARLOS FARCHETTE:** Rich, are you taking questions throughout?  
2  
3 **RICHARD APPELDOORN:** Sure.  
4  
5 **CARLOS FARCHETTE:** Okay. Blanchard.  
6  
7 **TONY BLANCHARD:** Go back to the previous page, because you just  
8 threw me for a loop there. The strategy that we're using here  
9 is not actually based on data is what you're telling me?  
10  
11 **RICHARD APPELDOORN:** No, that's not -- I think let me try to  
12 explain this. There are two parts. Strategy is being used two  
13 different ways here, and I think that's the confusion. We have  
14 a management strategy evaluation, which is an assessment of how  
15 the models might work in their subsequent application to our  
16 data.  
17  
18 The strategy part of that is the assessment of just the models  
19 and whether they can handle the nature of the data that we have.  
20 If they can't, we don't want to use them. In the larger sense,  
21 strategy is, yes, we want to use the toolkit to be able to  
22 assess our data, using appropriate models, to then provide  
23 management advice. That part does use the real data and the  
24 real populations, and so there is the two-step part here, and,  
25 right now, it's really important to make sure that everyone  
26 understands that those are two different things.  
27  
28 First, we need to know are we using the appropriate models? Can  
29 they handle the data that we're having? Can they give us  
30 advice? We have criteria by which we're going to assess how  
31 they work. If they work, we'll take a look at them. If they  
32 don't work, they're off the board.  
33  
34 The toolkit, and I know I don't have the right answer for this,  
35 and maybe someone else does, but, from what I understand, almost  
36 weekly, there is a new tool being thrown in the toolkit, but  
37 there is like eighty tools in the toolkit, and so we're going to  
38 be talking somewhere on the order of maybe five that end up  
39 maybe having an application to the nature of the data we have  
40 down here.  
41  
42 Those five may change, depending on the nature of the data we're  
43 bringing in and can use, and so species will have, perhaps, good  
44 catch and effort data. Some species might have good length  
45 composition data, and those are different models that go into  
46 those. Some species might have both, and so we want to know  
47 which models we can use, how they perform, and then we'll go do  
48 the analysis. I want to make sure that's clear. If you're okay

1 with that, then we can go on.  
2  
3 **TONY BLANCHARD:** One is you're assessing whether the strategy  
4 that you are using is going to be able to handle the information  
5 that this there and the other one is actual data?  
6  
7 **RICHARD APPELDOORN:** Right.  
8  
9 **CARLOS FARCHETTE:** Hanke.  
10  
11 **MARCOS HANKE:** Just by curiosity, on this analysis that you guys  
12 did, those tools that you're going to use, in any case, is there  
13 going to be more than one model applied to a specific species,  
14 or are you guys going to decide one model to be applied?  
15  
16 **RICHARD APPELDOORN:** That's kind of getting ahead, but the  
17 bottom line is like to be determined, because we -- There are  
18 multiple models that can fit certain datasets, and we'll see  
19 that here. Since this was an exploratory approach, we actually  
20 don't really get to what would be considered a true analysis,  
21 because the examples that we've worked up made some assumptions  
22 that we realized, from the beginning -- They're default  
23 assumptions that come in the toolbox, and, for purposes of  
24 showing examples, were not modified.  
25  
26 When we actually want to run these for real, we would have to  
27 change those assumptions, and so I will show you an example at  
28 the end of multiple outputs, but don't treat those that that's  
29 really what it's going to look like.  
30  
31 Secondly, the Center has been working on guidance on what to do  
32 when you have models that might give different interpretations,  
33 and certainly one of those is going to be, okay, let's go back  
34 to the data and is one of these actually more sensitive to the  
35 nature of the data and we shouldn't use it or are there ways of  
36 saying, okay, here's how we might combine those results, and so  
37 I will show you an example and we can talk about that, but the  
38 answer to your question is that hasn't been worked out yet.  
39  
40 When doing the management strategy evaluations, how well do the  
41 models perform, given the nature of the data in a simulated  
42 environment, we wanted to look at what their performance was  
43 relative to management objectives, and so these are the criteria  
44 that we're going to use to say maybe this will work or, no, this  
45 is really a poor model and we're not going to use it.  
46  
47 On the top are the ones that are most important, in the sense  
48 that they are mandated, and so the first one is the probability

1 of not overfishing, since we are mandated to prevent  
2 overfishing. The second one is the probability of the biomass  
3 being above 50 percent of the biomass at maximum sustainable  
4 yield, and that's also what we want to achieve, because that's  
5 related to whether a fish stock would become overfished or not.

6  
7 Then there is a number of things that the council, with the  
8 recommendation of the Southeast Center and the SSC, has said  
9 that they're interested in, and so one is that we want to try to  
10 minimize the annual variability in yield, so we don't have  
11 catches that are widely swinging up and down, so people have  
12 some confidence about what they will be able to extract over the  
13 long term.

14  
15 Then there is how does this react, in terms of long-term yield  
16 versus short-term yield, and there is a tradeoff, typically,  
17 with those two goals. Sometimes you can get a better long-term  
18 yield, but it might be painful in the beginning to get there,  
19 and so you might want to trade that off with less pain, assuming  
20 that we have to do a reduction, in the short term, but then  
21 there's a tradeoff that you might have to go much longer to get  
22 that full long-term tradeoff.

23  
24 Like I said, this is under the assumption that there might be  
25 reductions needed, but, as you will see when I get into how  
26 we're treating the data now, that might not be the situation we  
27 are most normally going to be in, but it was the scenarios that  
28 were worked with these examples, and so please keep that in  
29 mind.

30  
31 The last one is probability of the biomass being below 20  
32 percent biomass at maximum sustainable yield, and, again, that's  
33 getting at avoiding a situation where we are overfishing or are  
34 overfished, rather.

35  
36 This is just example that I have lifted liberally from the  
37 presentation that was presented by the Southeast Center, just to  
38 give you an example. This is yellowtail snapper, and there are  
39 several models that were looked at. In other words, right from  
40 the very beginning, you look at your data, and I said there's a  
41 scoring system that says maybe these models can work, and so  
42 that eliminates most of the issues right there, and we were left  
43 with a number of models with the Islope, the Itarget, the  
44 LstepCC, and the Ltarget.

45  
46 All of these require some inputs, and you can see they are  
47 listed there, and I will actually tell you what those are in a  
48 minute, and so here are six feasible methods, and five met the

1 performance criteria, and so the CCl model you can see performed  
2 poorly in its ability to keep annual catches from varying more  
3 than 15 percent.

4  
5 This kind of thing is done for all of the criteria that we  
6 looked at, and what you're seeing is the numbers are the  
7 percentages of runs, and so these models are run many times.  
8 It's a simulation, and so we've incorporated uncertainties in  
9 our estimates of what natural mortality might be or growth rates  
10 might be, et cetera, to try to mimic, as much as we can, the  
11 uncertainty we might have even if we had a perfect population.

12  
13 The higher the numbers, the more runs are performing well for  
14 these models, and we used a 50 percent criteria there. If you  
15 were above 50 percent, you stayed in the game. If you fell  
16 below 50 percent, you would be dropped out.

17  
18 You can see here is looking at all of those criteria now, and so  
19 the first three are the ones that I just had on the slide  
20 before, and now you're seeing that what looked like a suite of  
21 good models, for the most part, for those first three start  
22 getting into iffy situations when we look at long-term and  
23 short-term yield issues, whereas I should say the B below is the  
24 other way around, and so low numbers are good.

25  
26 Again, an example of just saying we're looking at how these  
27 models perform with simulated data, but with built-in  
28 uncertainty. Again, these are using, and you can see the  
29 asterisk there, default scalars, and, as I said, I will talk  
30 about that, but that is something that is why this is just an  
31 example of how things work and it is not the application of how  
32 we would do this with our data, because we would have to look at  
33 those scalars and maybe modify those when we actually do the  
34 analysis for real.

35  
36 In summary, the management strategy evaluations can help  
37 eliminate methods that have pathological behavior. In other  
38 words, they don't perform well with the kinds of data that we  
39 have in a simulated environment. If they can't perform well  
40 with artificial data that's well structured, they are certainly  
41 not going to perform well with our real data.

42  
43 The method performance is dependent upon the operating models  
44 and the assumptions that go into those, and so those things have  
45 to be specified. Very important is that the target methods are  
46 currently configured for severely-depleted stocks. As I said,  
47 this was run as an example, and that was kind of -- Maybe the  
48 bias people were looking at it when we were going into it, but,

1 as you will see when we get to some of the examples that we  
2 worked on for Action 3, that severely-depleted stock assumption  
3 is probably not where we want to be when we actually run these  
4 for real.

5  
6 Sensitivity analysis addresses whether the methods will vary  
7 with different stock conditions and assumptions, and so that's  
8 good, because we can address those issues and see whether the  
9 model can hold up on that, and the methods remain viable under  
10 different depletion scenarios, and so that's also good. There  
11 is some robustness built into some of these methods.

12  
13 The next step then is, after you have decided what models might  
14 be appropriate for your data, then you want to say, okay, what  
15 happens when we run them on real data, and so the methods  
16 considered all aim to achieve some historic target, and this is  
17 not necessarily to achieve the biomass at MSY in the long term.  
18 What these models are going to do is -- Well, let me finish and  
19 then I will summarize that.

20  
21 They're alternatives that represent a small step toward data-  
22 limited management that's better than the status quo. That is  
23 to say it's certainly better than what we have now, and it's  
24 certainly better than what I am going to present to you in terms  
25 of our new ABC control rule.

26  
27 They will allow catch advice to exceed landings, if data allows  
28 that, and can set up an interim policy to avoid future stock  
29 declines in the absence of an ability to move the stock towards  
30 BMSY. Once you have everything set up, you can actually revisit  
31 this almost on an annual basis automatically, as long as your  
32 assumptions are holding up.

33  
34 Therefore, we can have a higher degree of monitoring of what's  
35 going on, so, if we made a mistake one way or the other, we can  
36 correct it. If the catch can go higher than what we initially  
37 thought, that kind of monitoring would show that much more  
38 quickly than what we have now.

39  
40 What you get out of this, as I said, is we're going to try and  
41 target an OFL, an overfishing limit. This is moving toward a  
42 proxy to MSY, but what the real output says is that, with some  
43 confidence, this is a level of exploitation that we think is  
44 sustainable. It does not necessarily mean this is the maximum  
45 sustainable yield, because we are still dealing with a very  
46 data-limited situation.

47  
48 Once you start looking at this for real, you have to make some

1 hard decisions, and there is some scalars that are species-  
2 specific, and these have to be based on the best information,  
3 when that's available, and those decisions have to be  
4 defensible, and so there's a lot of thought going into what  
5 scalars do we want to do, and I will get to that example of what  
6 we mean by that.

7  
8 The condition of the stock during the reference period is  
9 critical, and so, as I said, the assumptions in these examples  
10 were the assumption that the stock was overfished, and that's  
11 not necessarily the case, and, again, as I will reiterate, I  
12 will show you some examples where we clearly think that's not  
13 the case. That decision has to be incorporated into the model,  
14 and the model adjusted accordingly to this is the situation that  
15 we are running this assessment under.

16  
17 If we think things are near actual maximum sustainable yield, the  
18 target levels could be set equal to that for a reference, and,  
19 if no information is available to inform such decisions, we  
20 suggest to err on the side of caution. If we don't know where  
21 we are, we will most likely say, well, maybe we're here, but, if  
22 we don't know, we're going to say maybe we're a little lower  
23 than that, and so that is, again, accounting for uncertainty.

24  
25 Here is an example, and it's just for one of the methods, the  
26 Islope, and what it says is that the catch recommendation is  
27 equal to the catch during our reference period, and so reference  
28 period is the first thing you have to make a decision on, and  
29 that's equal to one plus lambda plus SY.

30  
31 SY is the slope of the catch per unit effort for the most recent  
32 five years, and lambda is the scalar, and so this is something  
33 that one really has to make a decision on, and you're making the  
34 decisions on recent catch history, which may not be indicative  
35 of stock size, if reduced catches are due to economics or  
36 regulation, et cetera, and so you have to make an assessment of  
37 where you are with what you have, and it's just not catch. You  
38 have to know, to the degree possible, what's going on behind  
39 that. This is kind of the same kind of thing we're going to use  
40 in our Tier 4 scenario later on.

41  
42 We could use average catch over the last ten years. These  
43 things need to be worked out, but that scalar value is a  
44 straight multiplier, and so whatever we choose on that is going  
45 to actually have a large impact on what the result is going to  
46 be.

47  
48 This is how that Islope method responds to different choices of

1 the reference period that we choose, and so the gray bars is an  
2 slope scalar of 0.4, and looking at a five-year period, and the  
3 yellow is looking the same, but with a ten-year period, and you  
4 can see that some of those criteria we look at perform fairly  
5 well under any one of those scenarios, and so our really  
6 important ones are probably not overfishing and keeping biomass  
7 above 50 percent biomass, and the model is fairly robust against  
8 both of those, regardless of the time period.

9  
10 In fact, the time period really doesn't change the results very  
11 much for this method, or for any of the methods for that matter,  
12 but, as we showed before, some of those criteria don't do well  
13 relative to some of the other ones that were more important.

14  
15 If you have too few years, our trends estimates tend to  
16 fluctuate too much, and so you sort of generate noise into your  
17 estimates, and, if you have too many years, you're not able to  
18 really react sufficiently in time to recent landings.

19  
20 Here is the response to lambda, and, again, this is done with  
21 the five-year scenario, but now we have four different levels of  
22 lambda that we're looking at, 0.1, 0.4, 0.7, and 1.0. You can  
23 see, again, the lambda values aren't really affecting the  
24 results too much, except for our variation in yield from year to  
25 year.

26  
27 There is some difference there, but, again, the criteria vary  
28 widely in how they respond, and, again, probably not overfishing  
29 and B50 do fairly well. Some of the other criteria do not do  
30 fairly well, and so the lambda value controls how strongly the  
31 catch advice is adjusted in response to perceived trends in  
32 resources. It relates to the variability. The smaller the  
33 lambda value, the less variation in the adjusted catch advice.

34  
35 What that means is, if you're having changes, lambda controls  
36 how fast you can respond to that, and so it does affect your  
37 long and short-term yield predictions and whether you're going  
38 to fall below 20 percent of BMSY.

39  
40 As I said, decisions will have to be made on these, but, as you  
41 can see, at least in this particular case, the models are fairly  
42 robust to the different values of lambda relative to our  
43 criteria. That does not mean that they result in the same  
44 values of recommended catch, because remember that recommended  
45 catch is a straight multiplier of this lambda value, and so a  
46 lambda of 0.1 is going to give you a 10 percent of the  
47 recommended catch that a lambda value of 1.0 will, and so they  
48 do have very serious consequences in what they would return, in



1 terms of our recommended catch.

2

3 **CARLOS FARCHETTE:** Rich, a definition is needed here.

4

5 **MARCOS HANKE:** On the previous slide, you were explaining about  
6 lambda, and can you elaborate a little bit more for you to get  
7 what you were explaining here? I am lost there.

8

9 **RICHARD APPELDOORN:** This is the equation up at the top, and so  
10 the catch recommendation would be equal to whatever the catch  
11 during our reference period is times one times lambda times our  
12 SY value, and so we're talking about lambda, and lambda is the  
13 scalar.

14

15 Whatever lambda is, it's going to cut into that reference period  
16 by whatever factor that is, and so, if it's one, it leaves the  
17 catch record alone, and I should point out that this is under  
18 that scenario that the stock was actually in depletion, and so  
19 we're not talking about lambda being over one in this example,  
20 but it could be if we think that the stock can take more.

21

22 What it's doing is -- Let me go forward then. At the bottom,  
23 the lambda value controls how strongly the catch advice is  
24 adjusted in response to perceived trends in resource biomass,  
25 and so, if you have trends in your data that you want to be able  
26 to respond to, that is to say your stock is going down and you  
27 want to correct for that, the value of lambda you use will  
28 affect how fast you can control for that, and there is a  
29 tradeoff, in the sense that if you -- Maybe, Clay, if I say  
30 something wrong here, correct me.

31

32 If you want to be able to respond quickly, there might be a  
33 tradeoff in what your final allowed value will be, in terms of  
34 the catch recommendation. That is to say that we're looking at  
35 scenarios where maybe you want to build up to a stock level and  
36 the catch that would come out of that, and, if you want to be  
37 able to respond quickly to certain situations, it's probably  
38 going to cap where your stock level can be, but, if you can  
39 afford to respond a little bit more slowly, that might allow you  
40 to have a higher stock level after that rebuilding is in place.

41

42 As I said, there are tradeoffs here, and so lambda is going to  
43 control where your final catch recommendation is going to be  
44 and, on the other hand, it's going to put a cap on how fast you  
45 can respond to those changes.

46

47 **MARCOS HANKE:** Thank you.

48

1 **RICHARD APPELDOORN:** There is still a ways to go in this  
2 process, and so we look at -- Again, here are the landings for  
3 yellowtail snapper, and, as I said, the first thing you have to  
4 do is choose your reference period.

5  
6 What you're really looking for is an area where there is no  
7 trend in total removals. That would be the ideal, that is to  
8 say the catch is not increasing or decreasing. Here is the  
9 landings history for yellowtail from Puerto Rico, and the red  
10 period was considered, the red dots were considered, the  
11 reference period based on -- Well, it was chosen as the  
12 reference period for this example.

13  
14 You can see that, regardless of they are bouncing up and down  
15 widely, there is no -- There actually is no trend. There is a  
16 line there, but that line is not remotely statistically  
17 significant, and so that would be a possible example of what you  
18 might use as your reference period. That is an example of  
19 taking what would be close to the maximum highest -- The  
20 reference period with the highest average catch.

21  
22 As long as I have this up here, I will point this out. You can  
23 see 2005 is a really high peak. We've had a lot of discussion  
24 about that, and you will see that, for Puerto Rico, the SSC  
25 routinely recommends dropping 2005 from any of the Puerto Rico  
26 commercial fisheries data. We think it's erroneous, largely  
27 driven by the landings correction factor for the east coast of  
28 Puerto Rico, which blew everything up.

29  
30 Getting back to this example, the reference period is the first  
31 thing you need to look at, and so you're making assumptions  
32 where the catch is stable or sustainable, and, secondly, what is  
33 the stock status, and so, even before we run a model, we need to  
34 make those kind of determinations. Tony.

35  
36 **TONY BLANCHARD:** Can you repeat that statement of what you were  
37 saying about dropping 2005 because of the reason?

38  
39 **RICHARD APPELDOORN:** In Puerto Rico, we use expanded landings,  
40 and the expansion factors are developed by the Commercial  
41 Fisheries Laboratory with methodologies developed in conjunction  
42 with the Southeast Center, and we have found, consistently, in  
43 our look at species across the board, that 2005 always shows up  
44 as an anomalous year, and it seems to be the east coast landings  
45 that drive that.

46  
47 We think that there is some degree of statistical variability  
48 that goes into estimating those correction factors and, once in

1 a while, especially if you don't have a lot of data for an area,  
2 you can get this blip that blows everything up, and we feel  
3 strongly that that's what has happened in 2005, and so we  
4 decided not to use that, and we see it very clearly when you  
5 look at say recreational data versus commercial data. You don't  
6 see the 2005 blip, because recreational data aren't expanded the  
7 same way.

8  
9 You don't see it in species that are really not fished on the  
10 east coast of Puerto Rico, or, where the contribution from the  
11 east coast is really small, you don't see that blip, because the  
12 east coast isn't making the contribution to the overall landings  
13 data, but, when the east coast does, it just throws things very  
14 much out of proportion to what we understand, both from the  
15 fishermen and any other expertise that we have coming in, that  
16 there wasn't anything special going on that year and the catches  
17 really weren't particularly higher.

18  
19 We went through species after species after species looking at  
20 our assessments, and it just shows up all the time for those  
21 cases where the east coast is contributing to the overall catch,  
22 and it doesn't show up when it's not, which that is pretty  
23 telling.

24  
25 **CARLOS FARCHETTE:** Tony, a follow-up?

26  
27 **TONY BLANCHARD:** Well this is problem that I have with the  
28 expansion factor. I mean, we could choose to -- Well, I  
29 shouldn't say we, but it's chosen when we want to use an  
30 expansion factor and how we want to use it and how high the  
31 expansion factor is used, correct? In other words, an expansion  
32 factor does not stay the same?

33  
34 **RICHARD APPELDOORN:** No, it does not.

35  
36 **TONY BLANCHARD:** Okay. This is a dangerous thing with using an  
37 expansion factor, and then we have to come back and say, well,  
38 we're going to discard it, because the expansion factor could be  
39 the problem. Do you understand what I am saying?

40  
41 **RICHARD APPELDOORN:** Yes, and that's a major part of the  
42 uncertainty facing the landings data in Puerto Rico, and,  
43 unfortunately, the expansion factors tend to be fairly large and  
44 variable from year to year, and, while we think for the vast  
45 majority, while there is lots of uncertainty, we think the  
46 estimates are done with sufficient rigor that we can use them,  
47 and it would certainly be better to use those, because we want  
48 to know what's coming out of the ocean. In terms of the

1 productivity of the fish, that's the bottom line, what's coming  
2 out.

3  
4 Not using the expansion factors really sets us up for having  
5 another set of problems that would be even worse, and so we're  
6 sort of forced, at this time, to go with what we have, and we  
7 recognize the uncertainty with those. If we find a situation,  
8 as 2005, that we think we have gone beyond what is sustainable,  
9 we would recommend that it not be used, but this is one  
10 expansion factor, of out four that's done for all the coasts in  
11 Puerto Rico, over all the years, where there is any kind of  
12 strong feeling were really a mess.

13  
14 I think the methodologies used to do this are as best we can do,  
15 and that's going to remain the situation until such time as we  
16 hope in the future that we get a much more statistically robust  
17 landings monitoring program, the kinds of things that Todd  
18 Gedamke has been working on.

19  
20 **CARLOS FARCHETTE:** A follow-up by Blanchard and then Bill.

21  
22 **TONY BLANCHARD:** Now let me ask you this question. With the  
23 expansion factor, is weather conditions taken into effect,  
24 number one, and tide? Do they even go out and question the guys  
25 that catch the yellowtail on a steady basis, that target them  
26 really, whether they've been going out or look at that  
27 information of whether they've been going out as scheduled or  
28 not, because that could change that expansion factor, and maybe  
29 this is where it needs to be, or maybe we could be well off  
30 base.

31  
32 **RICHARD APPELDOORN:** The expansion factors are not subject to  
33 that kind of variability. What they are trying to understand  
34 is, in a simplified sense, how much non-reporting is going on,  
35 and so it's not trying to look at the variability in catch,  
36 which is subject to the kinds of things that you're talking  
37 about, and we had some lengthy discussions in the meetings about  
38 what kind of variabilities go into these kinds of things and  
39 what don't.

40  
41 What the expansion factors are trying to assess is how much  
42 underreporting is going on, and so they look at a number of  
43 things. First of all, how many people who have licenses  
44 actually reported catch, and they will assess what's moving  
45 through the markets, to see if the markets are reflecting what  
46 is said is being caught and a number of things like that.

47  
48 I actually don't know the nuances of all the factors that go

1 into that. I would hate to put Ricardo on the spot to do that,  
2 because that's really Daniel Matos's forte, and he is not here,  
3 but the kinds of things that you were referring to are not the  
4 kinds of things that go into the expansion factor. They  
5 wouldn't affect it.

6  
7 **CARLOS FARCHETTE:** Okay. Blanchard, a follow-up, again. Then I  
8 have Bill and then Nelson.

9  
10 **TONY BLANCHARD:** Number one, we're assuming that they are  
11 underreporting. That's an assumption, unless we could really  
12 prove it, and that's part of the problem that you have. We are  
13 assuming, number one, that they are underreporting, and, number  
14 two, the problem comes in when we decide what percentage that we  
15 are willing to use as the expansion factor, because that changes  
16 a scenario from Point A to Point B.

17  
18 To me, that's grasping for straws. Now, it probably is not that  
19 simple to come up with the percentages that are being used, but  
20 I just see it as a shot in the dark that that could go any  
21 direction, depending on what you plug into that. That could  
22 also mess up the strategies that we are using now to come up  
23 with it, because maybe some of these same scenarios would work  
24 if they had a different expansion factor.

25  
26 The problem with the expansion factor is they are inconsistent,  
27 number one, and, number two, we actually decided that they are  
28 underreporting, which I really don't know how we could come to  
29 that conclusion. I don't think that's a simple thing to take  
30 into account, and, to me, it's just inconsistent. It could go  
31 from one place to another.

32  
33 **RICHARD APPELDOORN:** Well, the underreporting isn't an  
34 assumption. Underreporting is something that comes out of the  
35 data that's looked at, in the sense that, to give you a simple  
36 example, if you're looking at X number of fishermen who have  
37 fishing licenses, and only 70 percent of them have submitted  
38 statistics, yet all of them are reporting that they were going  
39 and fishing, you have -- That tells you that not everybody was  
40 reporting, and so what we have doesn't represent the full. If  
41 everybody was reporting, you should actually come up with a  
42 correction factor or an expansion factor of one, and it doesn't  
43 change.

44  
45 **CARLOS FARCHETTE:** Tony.

46  
47 **TONY BLANCHARD:** I've just got a question, because I ain't sure  
48 as to how the DNER deals with underreporting or the commercial

1 licensing, but my question is, is there a penalty or you could  
2 suffer loss of the license if you don't use the license, number  
3 one, because they could just be saying that they're going out,  
4 and they really ain't going anyplace. Now you open another bag  
5 of worms, or to say -- Like I said, to save the license, they  
6 would say that they're going out, and they're not actually using  
7 the license, or maybe they really ain't going out. It could be  
8 looked at both ways.

9  
10 The thing that I have a problem with is the expansion factor and  
11 the flexibility, where we could go from Point A to Point B  
12 because we think it's a good idea. To me, that's how it seems  
13 to be, and we could just decide that the expansion factor may  
14 not work because of this scenario. Maybe the expansion factor  
15 is wrong. It's the inconsistency that I can't deal with,  
16 because that's exactly what we're dealing with, is  
17 inconsistency, where it can take you from one place to another.

18  
19 **RICHARD APPELDOORN:** I don't think that the method, as applied,  
20 is inconsistent. What we're getting is natural statistical  
21 variability in an estimate, and, to the degree that the  
22 methodologies are applied appropriately, we have some confidence  
23 to use that information as the best available information that  
24 we have.

25  
26 To your first point, yes, could we have those scenarios about  
27 reporting, sure, and why not. We certainly know of, or suspect  
28 we know, of situations with queen snapper in Puerto Rico where  
29 additional licenses were allocated and reports were coming in of  
30 catches that our commercial fishermen are telling us were not  
31 possible. That is to say, someone looked like they were  
32 inventing numbers just to maintain a license or something like  
33 that.

34  
35 That problem quickly showed up, and we were able to identify it,  
36 but this whole system goes back to best available data, and, if  
37 people aren't going to provide that information, we can try to  
38 control it, to the degree possible, but the system works on  
39 people trying to be honest with the system. In the end, that's  
40 what it boils down to.

41  
42 If people are trying to do something because of other reasons,  
43 that's going to screw things up, and there is going to be  
44 consequences for that. Sometimes we can identify those problems  
45 and account for them. For example, when Puerto Rico's fishing  
46 regulations went into effect in the late 1990s, there was a  
47 stipulation about reporting on tax forms. There was a lot of  
48 protest about that. Part of that protest was a lot of fishermen

1 stopped reporting, but we knew about that, and we could try to  
2 control for that, as much as possible.

3  
4 Sometimes you don't know, but, if it's just individuals  
5 reacting, that's just part of the natural variability in the  
6 system. Not everybody reports their landings accurately, even  
7 when they try to. They don't recall exactly what they had, but  
8 they're responding in good faith to try and do it, but it's just  
9 the nature of the data that we have, but we're obligated to deal  
10 with the nature of the data we have, and I can tell you that we,  
11 on the SSC, and I'm sure the Southeast Science people, don't  
12 like it any better than you.

13  
14 **CARLOS FARCHETTE:** Blanchard.

15  
16 **TONY BLANCHARD:** Let me make this statement to you. To the end  
17 of the day, you may not like it, but we suffer the penalty for  
18 the mistake if a mistake is made. Now, let me just draw you an  
19 example, and we're going to use the yellowtail, but we'll use it  
20 in St. Thomas. Mr. Magras is right across the room here from  
21 me.

22  
23 Some of the guys that went out on a consistent basis and are not  
24 going out on a consistent basis anymore because of age, because  
25 of bait, because of weather or tide, and he'll verify that, I am  
26 pretty sure. If we want to plug in an expansion factor, and  
27 let's say an expansion factor was used in the Virgin Islands,  
28 what direction do you think that would go in, just because we  
29 assume something is happening that is not really happening?

30  
31 **RICHARD APPELDOORN:** From what I have heard from interacting  
32 with you all and what I know about what's happening with the  
33 economies overall, I would say, if I may limit it to that  
34 proportion of the fishers who are contributing the vast majority  
35 of the catch, I would guess your expansion factor is not going  
36 to change your catch very much at all, because you guys have a  
37 reputation of trying to report what you're getting.

38  
39 In terms of these kinds of variations you're talking about, be  
40 it the market or the weather, those don't make a bit of  
41 difference. You would be reporting what you caught. It's as  
42 simple as that. Why you went out or didn't go out doesn't go  
43 into that calculation.

44  
45 If fishermen are presenting their data, we are less likely to  
46 make any mistakes in the interpretation of that data. If  
47 fishermen think they can game the system or are just not keeping  
48 good records or -- I don't want to denigrate anybody, because I

1 don't think that's what we're here for, and the vast majority of  
2 fishermen are not trying to do these things. They are honestly  
3 trying to represent what they have, but there is variability  
4 there, and that's going to make expansion factors go up and  
5 down, but it's not due to their effort. It's due to whatever  
6 vagaries go into the reporting system, be it honest mistakes or,  
7 in some cases, an intentional over or underreporting.

8  
9 If they overreport, we'll look at the market and say none of  
10 this is moving through the market. If you're really catching  
11 all of this stuff, where is it going? If it shows up, if you're  
12 underreporting, we will say the market is moving stuff more than  
13 what is being reported, and so this is something that, in Puerto  
14 Rico, because of our market structure, it would be different  
15 than what you would have in the Virgin Islands, from what I  
16 understand of your market structure.

17  
18 **MIGUEL ROLON:** What we need from the SSC at this time, rather  
19 than discussing little bits of things, is where are we and what  
20 is the SSC recommendation as to the next steps, and remember  
21 that all of this was because we wanted to incorporate the best  
22 available data, and we have to go through the control rules and  
23 all of that.

24  
25 I believe that Graciela told me that you are going to have  
26 another meeting in the summer to finish what we started, and let  
27 me tell you that this information is rather complex, and the  
28 members of the SSC have really devoted a lot of time, and people  
29 who have participated, the lawyers, and the three DAP Chairs  
30 have participated in these meetings, and so we have a lot of  
31 things to cover today, and this is very important, but we have  
32 to go back to the questions that are basic to all of this.

33  
34 What is the SSC ready to tell us regarding what we need to do or  
35 to have, in terms of information at this time, because, from the  
36 discussion, the summary, and we understand all of this very  
37 clear, and, actually, there was, at the March meeting, a  
38 recommendation by the DAP members to have a series of  
39 orientation workshops to the fishers talking about the  
40 importance of accurately reporting the data, because the  
41 scientists cannot create magic.

42  
43 If they don't have the data, they don't have anything to plug  
44 into the models that they have, and so, Richard, in your report,  
45 in your personal professional opinion, where are we and what are  
46 the next steps for the council to take on the management units  
47 that we have, because remember all of this information is  
48 because we wanted to choose the species that are going to be



1 managed in the three island areas.

2  
3 We want to choose the best available information, meaning that  
4 we have to look at the time series of information that we have  
5 and determine whether we have enough information from the  
6 recreational sector. We just heard that we don't have that  
7 information, especially from the U.S. Virgin Islands, and we  
8 need to also look at the models that we have.

9  
10 Remember, at the beginning, we have a toolbox of seventy-six  
11 models, or something like that. The scientists have narrowed  
12 that down to models that we can use, that we can adapt to the  
13 fishes and the species that we have. They look at the  
14 information that we have and they say, okay, this model conforms  
15 to the data that we have, or the data conforms to this model,  
16 and this is the output.

17  
18 Again, that is what we are supposed to do. You are not supposed  
19 to make any final decision on anything until August. After  
20 August, we have to go to public hearings with all of this  
21 information that we are going to include in the management  
22 plans, and remember that the goal is to have these management  
23 plans by the end of this year.

24  
25 If we don't have it by the end of this year, then we should have  
26 a good excuse of why not, because the more we delay the adoption  
27 of the FMPs for the three areas, the more difficult it will be  
28 for us to address the particularities of each one of the areas,  
29 in terms of what they need for fishery management and all that.  
30 The question, Richard, is, in your professional opinion, where  
31 are we, in terms of the SSC report with these three meetings and  
32 what the council needs to do, if anything, after this meeting?

33  
34 **RICHARD APPELDOORN:** I think I could answer that by going  
35 through the examples that we worked up here. If there are  
36 really issues that we want to go back to the correction factors,  
37 you should probably have Daniel and Steve Turner give a  
38 presentation on how those are done, but we're obligated to use  
39 the data that we have, and that's what we have.

40  
41 So where do we take these models then? You run these models  
42 many, many, many times, incorporating the kind of variability  
43 that you think represents variations in life history, some  
44 uncertainty in the data, et cetera, et cetera, and you look at  
45 all the outputs, and you get a graph that looks like this.

46  
47 The bottom axis is the catch level, and the Y-axis is the  
48 percentage of times that the model was hitting that particular

1 number, and so this is what is called a probability density  
2 function, and so, when you run these models many times, you get  
3 this probability density function.

4  
5 This was 10,000 runs of this model, and the first approximation  
6 you would have to some kind of catch recommendation would be the  
7 median value. That is to say that half the values fall on one  
8 side and half the values fall on the other side. That is that  
9 line there.

10  
11 This is not yellowtail. This is just a picture of what a  
12 distribution function might look like, and, in an ideal  
13 situation, we would have something that looked like that. From  
14 there, we could say, okay, our catch recommendation might be  
15 here, and then there would be some buffer coming down, and we  
16 would go back to find out where that fits on the curve and make  
17 the adjustment accordingly, but it should not change the -- The  
18 idea of the buffers is that it gives you some safety without  
19 adjusting the catch recommendation very much.

20  
21 What we possibly could come up with is the next slide, and,  
22 Marcos, I think this was your question early on. Here is four  
23 different models that are run, and remember that these models  
24 were based on assumptions that we know are not correct. They  
25 were just used for example purposes, and so do not treat those  
26 as the actual output that would come from an assessment of  
27 yellowtail snapper, but it is conceptually possible to get  
28 different models giving you different values. Then we're going  
29 to be faced with the question of what do we do if we have that  
30 scenario.

31  
32 The Southeast Center is working up guidance to deal with these  
33 things, but there is a number of things that come to mind. The  
34 first would be revisiting the data. Does, for example, this  
35 model, which is recommending a catch very much lower than the  
36 other ones, have some kind of bias that we missed, in terms of  
37 the nature of the data?

38  
39 In a perfect situation, where you have modeled everything in an  
40 ideal thing, that simulated environment, the models should  
41 actually all give you the same, or close to the same, response.  
42 That is subject to some of the things that you have to choose,  
43 like scalars, but, when you get to real data, they can respond  
44 differently because of potential slight biases in the data that  
45 were perhaps not recognized upfront.

46  
47 Another possibility would be that we combine all of the models  
48 and that we would have some probability density function that is

1 the sum of all of those put together and we work with the median  
2 overall, or there are some variations on those things. The  
3 guidance for that has not been worked out.

4  
5 We are hoping that we are not going to have a situation that  
6 would be this disparate. We think this worked out because we in  
7 fact were not treating the real data with the actual assumptions  
8 that we would for yellowtail snapper, and so the models will  
9 respond differently to those kinds of assumptions that are not  
10 appropriate. That is where we are at the moment.

11  
12 What are the next steps? It is to modify the ABC control rule  
13 so that we could use results that would come out of something  
14 like the SEDAR 46 evaluation. We are recommending that we  
15 convene a workshop of technical experts to refine representative  
16 characterizations of uncertainty and life history demographics,  
17 such as mortality and fisheries dynamics, or selectivity, for  
18 the species that we are dealing with in the Caribbean.

19  
20 Remember that I said that we have to make certain assumptions  
21 about our populations, both in terms of our reference periods,  
22 as to what scalars are going to be used, and what we think their  
23 status is, because, the more we can tune this to what we think  
24 the status is, the more reasonable the outputs should be. You  
25 will actually see how that works for our non-model Tier 4  
26 situation when I get to that, and so I think there is maybe one  
27 more slide.

28  
29 We want to define the -- There is a logic tree that's being  
30 developed to decide on what would be the appropriate models to  
31 use. We want to now go back and address some of the comments  
32 that the SSC had made in the previous review of this, refine the  
33 results using scalars and target values based on discussion that  
34 we had in the SSC, in that presentation that was given, which I  
35 just summarized, and see if we can start developing actual catch  
36 advice for yellowtail and then go back to those other five  
37 stocks that we've already started on and reevaluate those.

38  
39 We are sort of in a position now where we are much more  
40 comfortable with the procedures that have been developed, both  
41 for evaluating the models and how we might apply those models,  
42 but we haven't applied those models for real yet, and so that's  
43 kind of the next step. I don't know if you want to -- That  
44 finishes the SEDAR presentation, and now I'm going to get into  
45 the specifics of the actions that are really the heart of where  
46 you want to go. I don't know if we want to take a break at this  
47 point or ask any more questions now or --

48

1 **CARLOS FARCHETTE:** I want to let Hanke do a question, and then  
2 we're going to do a quick coffee break, and then you can get  
3 into your second portion.

4

5 **RICHARD APPELDOORN:** Okay.

6

7 **MARCOS HANKE:** Thank you. I will try to be brief. Among the  
8 fishermen, we have doubts, and we have a lot of things about the  
9 expansion factor, like Tony expressed, and I don't want to go  
10 over that, but, at the same time, I know that there is a few  
11 things that are trying to be done from you guys, and from other  
12 people, to get better expansion factors.

13

14 Recognizing that the expansion factor effects are so big on the  
15 outcome of the amount of fish you can catch and so on and so  
16 forth, and you can have better data on the life history of the  
17 fish and other elements that you well explained, but the true  
18 effect on the landings and the fishing dynamics is not -- You  
19 cannot compare it to the expansion factor, the way I see it.

20

21 I would like to see, from the SSC, a much stronger interest on  
22 creating parallel systems or a method of analyzing data some  
23 other way to address that expansion factor. This is what the  
24 fishing community, the way I see it, is looking for, that once  
25 all the systems get implemented that I would like to see the  
26 expansion factor being addressed a little strongly by you guys,  
27 because the outcome of that will really affect us.

28

29 **RICHARD APPELDOORN:** I would say that's probably something where  
30 the council wants to direct that question to the Science Center,  
31 and the SSC's role, I think, in that would be to evaluate what  
32 they would come up with in that review, but that's -- I wouldn't  
33 see our exploration of that as actually the role of the SSC, but  
34 we would evaluate an exploration that was made.

35

36 **CARLOS FARCHETTE:** Bonnie.

37

38 **BONNIE PONWITH:** Thank you, Mr. Chair. You know, expansion  
39 factors are not an unusual thing. The expansion factors are  
40 used when you have a sample instead of a census. Essentially,  
41 if you are sampling only a part of the population and using that  
42 as an indicator of what the rest of the population is doing,  
43 it's a very common practice.

44

45 I can understand that expansion factors make people wary,  
46 because the quality of that expansion factor is very important,  
47 particularly if the amount of the population that you're  
48 actually sampling is small. That means that, if the actual

1 samples are small, the expansion is large, and getting that  
2 expansion factor correct is really important.

3  
4 I think this is an important discussion. In other places, when  
5 it comes to commercial landings, and, by other places, I mean in  
6 other council jurisdictions, the Gulf Council jurisdiction and  
7 the South Atlantic Council jurisdiction, which is part of our  
8 area that we work with as well, we don't use expansion factors  
9 for commercial landings.

10  
11 The reason is because we have commercial trip ticket data, we  
12 have dealer report data, and we have commercial fishermen's  
13 logbooks. Essentially, the combination of those things give us  
14 a full census of all commercial landings, and so we don't have  
15 to expand for the other parts of the population that go  
16 unreported.

17  
18 In a perfect world, that would be a direction we would be  
19 heading for commercial landings, because then, essentially,  
20 those expansion factors are unnecessary. Until we can get  
21 there, the higher the quality of data we have for the reported  
22 data, the stronger our expansion and the better understanding we  
23 have of what population is unreported or unsampled, the stronger  
24 those expansion factors are in describing what is actually  
25 happening in that fishery.

26  
27 Dr. Appeldoorn already addressed this, and that is that it just  
28 really puts a very high premium on the quality of the data that  
29 we have in hand, and I think this is something that we can be  
30 talking about more going into the future.

31  
32 **RICHARD APPELDOORN:** If I may, the kind of projects that Todd  
33 Gedamke and his colleagues had done on all of the islands  
34 recently, he is now trying to do a much larger version, year-  
35 round version, of that.

36  
37 He's trying to convert at least the port sampling program to a  
38 statistically-rigorous assessment of catches, and so, as Bonnie  
39 said, he will only be -- That program will only assess a certain  
40 proportion of the catch, but, if it's done in a statistically-  
41 rigorous manner, we will be able to generate means, and we'll be  
42 able to generate errors around those means, which means we will  
43 be able to -- We will have to expand. If you sample 10 percent  
44 of the catch, you're going to be multiplying by ten to get the  
45 full catch, but you will know the statistics around that.

46  
47 You will know that I know it should be here, but I also know  
48 that my error is going to be between here and here, and that's a

1 lot better than what we have now, and so even getting it -- It  
2 doesn't eliminate expansions, but it gets it onto a much more  
3 rigorous scale, and that's going to be a great improvement over  
4 what we have now.

5

6 **CARLOS FARCHETTE:** Go ahead.

7

8 **MIGUEL ROLON:** Just to make sure and clarify something for the  
9 record, the SSC is not the one who sets the expansion factors.  
10 It's the Center, with the two local governments, and, basically,  
11 what happened was, in the case of Puerto Rico, when we -- I was  
12 the director of the program at the time, and we had an advisor  
13 from the university and National Marine Fisheries Service, of  
14 course, and what we did was a very simple way of collecting the  
15 expansion factor.

16

17 We knew that reports were not accurate, because fishermen were  
18 reporting less than what they were catching, and so what we did,  
19 at that time, was we had a sample designed by the scientists  
20 from Miami and the university and the National Marine Fisheries  
21 Service, and so we hired, for fifteen days at a time, a person  
22 that was sent to each one of the centers that were determined as  
23 a key center from statistical sampling that they made, and that  
24 guy was collecting every information, every little fish that  
25 went through that port.

26

27 He tallied up how many fishermen and how many species and how  
28 much per species, and we compared that with the report that was  
29 given to us by the port agents, and that gave us the percentage  
30 of escapement of the data.

31

32 It was not underreporting by the fishermen, not necessarily. It  
33 was because, at that time, we didn't have the person to collect  
34 the information or the system at the places that we needed to  
35 collect the information, and that was changed, and, actually,  
36 when Puerto Rico made the mistake of eliminating the port  
37 agents, the statistical sampling program went kaput, and we are  
38 now trying to rebuild all of that back, and the fishermen are --  
39 You will see tomorrow a presentation by the fishermen, because  
40 it's not a scientific issue alone.

41

42 The fishermen are interested in getting the best information,  
43 and they have been telling us this over and over, and so now we  
44 have an opportunity to do so, and the National Marine Fisheries  
45 Service Southeast Fisheries Science Center is on this, and so,  
46 from an elementary way of assessing the escapement, or that  
47 percentage, that we used, now we have better tools.

48

1 We have scientists looking at that process, and so I believe  
2 that the intent of Marcos is that we, as a council, and so we  
3 direct the question to the appropriate body, we will work with  
4 the Center and, of course, any advice that we can get from the  
5 SSC, but the Center is the one who is going to tell us what will  
6 be the next step regarding the correction factors.

7  
8 Also, sometimes we ask for something that you don't know what it  
9 is and you get shot in the foot, because, if you have a  
10 correction factor and you use it only for a certain length of  
11 period of years, and that moves the ACL one way or the other,  
12 watch it, because you may end up moving the ACL downwards and  
13 not up. When we have this playing with the numbers and  
14 everything, we all hope that we will be better off, but remember  
15 the law, and this is the last part.

16  
17 The law requires that we use the best available data. That  
18 includes the best available methodology and the best available  
19 data, and so, if we are going to do anything with this, you  
20 don't need a motion, but the Chairman can direct us to work with  
21 Dr. Ponwith and the experts and see if we can put together  
22 something with a couple of people looking at the expansion  
23 factor and the questions, and then we can report back to you in  
24 August.

25  
26 Bill Arnold gave us a good presentation. Very quick, what he  
27 said was, in the case of Puerto Rico, if you have an average of  
28 the correction factor, you may have 50 percent correction factor  
29 for the northern part of Puerto Rico, 30 for the south, 10 or 20  
30 for the west, and, when we use an average of that correction  
31 factor, you will be penalizing areas where the fishermen report  
32 more than other areas, and that will move up and down the ACL  
33 and the periods that we have, and so it's not a light question,  
34 but it's important, but it's not the real important question.

35  
36 We have others, but this is part of the question that we need to  
37 be more clear to you, and so, Bonnie, do you think that we can  
38 have something by August regarding the correction factor,  
39 because you are working on many other things, and I don't know  
40 whether this would take some more time of staff.

41  
42 **BONNIE PONWITH:** To address that, certainly I think a discussion  
43 about it would be beneficial to actually -- I think what would  
44 be important is to get some representatives together and really  
45 refine the question, because, to be able to tackle that question  
46 analytically or through an evaluation of methodology, we need to  
47 make sure exactly what we're asking ourselves for, but I think  
48 any discussion that improves the quality of the data and the

1 trust in those data is a good discussion.

2  
3 **MIGUEL ROLON:** A simple question to the issue of a correction  
4 factor of can we trust them or can we make them better or we are  
5 stuck with them forever, and that's really what we need to know.  
6 Mr. Chairman, maybe, between here and the August meeting, we can  
7 confer with Graciela and Bill and the others with Bonnie and we  
8 can bring back to you some more information regarding this.

9  
10 **CARLOS FARCHETTE:** Okay. I have to take a break, and so, Nelson  
11 and Julian, maybe you can ask Richard your question during the  
12 break and then Richard will answer, or you can ask them after  
13 the break.

14  
15 (Whereupon, a brief recess was taken.)

16  
17 **CARLOS FARCHETTE:** We are going to get back to work here. We  
18 are going to start again. We have Dr. Appeldoorn finishing his  
19 presentation, and then we have the three DAPs, because we have  
20 to break for lunch on time here today, and so let's get going.  
21 Dr. Appeldoorn.

22  
23 **RICHARD APPELDOORN:** Were you going to take the questions from  
24 Julian and Nelson?

25  
26 **CARLOS FARCHETTE:** Okay. We have only Crespo that had a follow-  
27 up.

28  
29 **NELSON CRESPO:** I just want to put, for the record, about the  
30 correction factor. In Puerto Rico, we only have two port  
31 samplers to cover the entire island. There is no way that the  
32 DNER lab can make a stable correction factor for the species,  
33 and so I support Marcos's suggestion to make maybe a better  
34 system to cover that issue.

35  
36 **CARLOS FARCHETTE:** Thank you, Crespo. Richard. Julian canceled  
37 out, and so --

38  
39 **RICHARD APPELDOORN:** All right. We looked at Action 1, which  
40 were the species lists, and there were really no changes from  
41 the previous recommendations on that. However, I will go  
42 through the list in Puerto Rico, because, as it turns out, with  
43 the time available, that's really the datasets we went through  
44 in working up Actions 2 and 3, and so we'll largely be just  
45 looking at Puerto Rico data at the moment.

46  
47 What we found, as we went into this, is that this is not an easy  
48 process, and, as a consequence, we felt that it was much better



1 to work up some examples fully of where we think we should be  
2 going with the harvest control rule. As we went through this,  
3 we kept narrowing down, more and more, the species groups we  
4 looked at, just to get these examples kind of fully worked out  
5 as examples.

6  
7 Action 2 is we're looking at species complexes and indicator  
8 species, and the first thing is our definition of an indicator  
9 species or stock. We just adopted pretty much the National  
10 Standard 1 Guidelines.

11  
12 An indicator stock is a stock with measurable and objective  
13 status determination criteria that can be used to help manage  
14 and evaluate more poorly-known stocks that are in the stock  
15 complex. We're going to use things we have data for and  
16 information on to and infer the status of a larger group of  
17 species.

18  
19 To indicate whether we could designate something as an indicator  
20 stock, we developed seven criteria. These are sort of applied  
21 loosely. In other words, we didn't have a rigorous scoring  
22 system. We just kind of said yes or no, and, if enough of them  
23 were met suitably, we said that, yes, something could serve as  
24 an indicator. Again, we're dealing with imperfect data, and so  
25 it's somewhat of an imperfect analysis, but it does force us to  
26 look at quite a number of factors when making this  
27 determination.

28  
29 In order, species have to represent a significant majority of  
30 the catch, of the complex in which it might be an indicator of.  
31 Fisheries have to be seeking this species as a target species.  
32 Life history and vulnerability is representative of the unit or  
33 complex or is more conservative of other members of the complex,  
34 such that, if we know that we're protecting this one, we are  
35 pretty sure that we're protecting everything else, because  
36 everything else is less vulnerable.

37  
38 The species occur in the same habitats as the others, and so  
39 they're likely to be fished together, to some degree. The  
40 species co-occur in the fishery, and that is the sector that is  
41 actually exploiting, like the trap fishery, the net fishery,  
42 diving, or whatever.

43  
44 The amount of data available is potentially sufficient for  
45 providing catch advice, so that we have to be collecting data,  
46 and we have to be collecting enough of it. You will see that  
47 that becomes a problem. Species are considered to be of equal  
48 value in the market relative to the other species in the group,

1 and so, if you're meeting most of these, you're probably going  
2 to get designated as an indicator species, and so let's look and  
3 see what happened in Puerto Rico.

4  
5 Those seven indicators are on the right, and, basically, we're  
6 just saying yes or no. Occasionally, we have something where it  
7 could be one or the other, and so we'll put an equals sign. Then  
8 the asterisk means that that's the one we were considering to be  
9 an indicator species.

10  
11 In doing this, of course, we are looking only at what we know  
12 about these species from the science point of view, and we had -  
13 - To some degree, there is expert opinion involved here, and we  
14 had some really good expert opinion coming in from the DAPs, and  
15 so we were really glad to have that.

16  
17 For the snappers, which are shown here, you can see that we have  
18 six units that we're breaking things down. The first one is the  
19 deepwater species and with silk snapper being the indicator  
20 species designated for that. The second group is the still  
21 deeper snappers, and most of the catch there is queen snapper,  
22 and that's clearly the indicator species for that group.

23  
24 The next one is lane snapper by itself, and so it's its own  
25 indicator, if you will. It doesn't need an indicator. The next  
26 group was a little bit more interesting. It's mutton snapper,  
27 dog snapper, and schoolmaster, and we had some discussion about  
28 whether those should be split out or not. In the end, we kept  
29 them together.

30  
31 The only one in Puerto Rico that's fished heavily commercially  
32 is the mutton snapper, and so that is the indicator species,  
33 even though it doesn't necessarily fulfill all the criteria. In  
34 this case, it's okay, because the other two species -- The "C"  
35 means that they have low market value because of ciguatera, a  
36 risk of ciguatera.

37  
38 If we're doing okay with mutton, we're sure we're doing okay  
39 with those. Despite the fact that some aspects of it as an  
40 indicator species don't match, we're not really concerned,  
41 because the fisheries for those other species really probably  
42 aren't threatening the species, because of their low market  
43 value in Puerto Rico. Yellowtail snapper is by itself, and so  
44 no indicator there, as is cubera snapper.

45  
46 These are the groupers. Nassau grouper and goliath grouper are  
47 both protected. They're their own group, and they're both  
48 closed, and so we weren't really concerned about that, but the

1 other groups we broke up into a number of smaller groups, and so  
2 these are the smaller groupers, the coney and the graysby, with  
3 the coney being the one where it meets most of the criteria that  
4 we looked at. It is the majority of what's being reported in  
5 the catch, and it is the largest species, and so it would be  
6 slightly less productive, and, therefore, the more conservative  
7 species to look at for monitoring those two species.

8  
9 In the same way, we have red hind and rock hind together. Rock  
10 hind shows up infrequently. Red hind is really what dominates  
11 things, and we're comfortable using that as an indicator species  
12 of the group. We have then a mix of the larger groupers that  
13 aren't too deep, and you can see that we really don't have a  
14 good indicator for this.

15  
16 We're going to look at yellowfin grouper in that kind of  
17 context, later on, as an example, and that's really kind of an  
18 example of where this generates problems, and so really don't,  
19 at the moment, have an indicator species for this group, and the  
20 same actually for the deep groupers as well. All of these seem  
21 to be also things that are more incidental catch rather than a  
22 targeted catch.

23  
24 The next complex, if you will, are the jacks, and we don't have  
25 an indicator. There is a ciguatera issue with the crevalle jack  
26 in Puerto Rico, but we don't really have any data on the jacks,  
27 and so it's hard to come up with an indicator for those at the  
28 moment. When we don't have this kind of information, if we're  
29 moving forward, obviously what we would like to do is work with  
30 DNER to modify the forms, in conjunction with the fishermen, to  
31 see if we can get all of these species getting data reported or  
32 getting an indicator and making sure that we're getting data at  
33 least on some of those, because, right now, some of these are  
34 not on the forms at all.

35  
36 The parrotfishes, we have our first group here, which is the big  
37 parrotfishes. Those are all currently closed, and so they're  
38 kept together as they are now, and then the rest of the  
39 parrotfishes are in the second group. Again, we are not  
40 collecting good species-specific data for any of those species,  
41 and so there is not a good indicator, as yet. We need to start  
42 collecting data on those.

43  
44 Again, we have the same situation here with the surgeonfishes.  
45 There is no indicator, because there really isn't good species-  
46 specific data being caught on those, and so, when we have this  
47 situation, we're probably going to have to deal with them, for  
48 at least purposes now, as a lumped stock complex.

1  
2 For the triggerfishes, we do have queen triggerfish as being  
3 something we would like to see as an indicator species. It is  
4 not really caught the same way the other species are, but it  
5 does meet the other criteria, and so, from a biological point of  
6 view, if we're doing okay with that, we're probably doing okay  
7 with the other ones, but, most importantly, we have data on  
8 queen triggerfish in the ways that we do not have for the other  
9 species.

10  
11 For the wrasses, again, it's being driven largely by hogfish.  
12 That's the big species, and we have data for hogfish. If we are  
13 okay with hogfish, we are really confident that we're probably  
14 okay with these other species, because they are smaller and more  
15 productive.

16  
17 We don't have information, a lot of information, on the  
18 angelfishes, and so we have one angelfish group, which may be a  
19 large lumped complex, again, and barracuda is by itself.  
20 Dolphinfish, it's almost all driven by the dolphin, although  
21 pompano dolphin is included, but dolphin is the clear indicator  
22 species, for every reason you can think of.

23  
24 Tripletail is by itself. We don't have too much data on that.  
25 That's showing up more in the recreational catch and not in the  
26 commercial catch, and so that's why we don't see much here.  
27 Then we have three groups of the mackerels and the tunas. The  
28 only ones where we actually had a discussion of indicator was  
29 king mackerel and cero, because we don't get good data on the  
30 others, at least up here. Wahoo is by itself.

31  
32 You can see here that, in terms of percentage of the catch and  
33 whether it's targeted, they're about equal value, these two  
34 species, and they are fished differently. One has a very strong  
35 season and the other one is more year-round, and so we were not  
36 comfortable having one as being the indicator for those two  
37 groups.

38  
39 We have not a lot of information on the rays, and so they're  
40 probably going to be done as a combined group, until we can get  
41 data. Queen conch and spiny lobster are really by themselves,  
42 and then we're going to have lumped groups of the sea cucumbers,  
43 the urchins, and all the corals, et cetera, are going to be  
44 closed anyway, as they currently are.

45  
46 We were able to indicate, at least for some of the important  
47 groups, some good indicator species. For others, we're still at  
48 a loss, because the data is just not being collected, and so

1 we're going to need to alter forms, hopefully, in the future, to  
2 get species-specific data. Otherwise, we're going to be dealing  
3 with them as a total lumped complex.  
4

5 **CARLOS FARCHETTE:** Rich, before we go any further, I have a  
6 question from Marcos and then Blanchard, but, before that,  
7 correct me if I'm wrong, but I thought I read somewhere that an  
8 indicator species must be an assessed species.  
9

10 **RICHARD APPELDOORN:** Must be what?  
11

12 **CARLOS FARCHETTE:** Assessed.  
13

14 **RICHARD APPELDOORN:** An indicator species is going to be one  
15 that can be assessed. In other words, we're going to use the  
16 assessment on the indicator to indicate the status of the other  
17 species in the complex, yes.  
18

19 **CARLOS FARCHETTE:** Okay.  
20

21 **RICHARD APPELDOORN:** That's why, if we have species that we're  
22 not getting data with, we can't deal with them as -- We can't  
23 designate an indicator species. We can't do an assessment.  
24

25 **CARLOS FARCHETTE:** Right.  
26

27 **IRIS LOWERY:** What the National Standard Guidelines have to say  
28 about indicator stocks is that, particularly in these instances  
29 where there is one stock where you have better data about it, or  
30 maybe a severe lack of data about the other stocks, then the  
31 idea is that you can use that stock as the indicator, so that  
32 you're relying on the more data-rich stock, but there's nothing  
33 in the National Standard Guidelines themselves or the preamble  
34 that specifically addresses the assessment issue, but I think  
35 that that is something that we can continue to talk about as the  
36 council sort of considers how to use these indicator stocks as  
37 indicators or to rely on them in the future as identifying what  
38 stocks should be assessed.  
39

40 **CARLOS FARCHETTE:** Okay. So, if you have data, you can use it  
41 without there being an assessed stock.  
42

43 **IRIS LOWERY:** Right, and so I think that's something that we  
44 should continue to discuss.  
45

46 **CARLOS FARCHETTE:** All right.  
47

48 **RICHARD APPELDOORN:** "Assessed" is somewhat of a loose term in

1 this context, because it could just be a Tier 4 assessment.

2

3 **MARCOS HANKE:** Can you go back to the snapper table?

4

5 **RICHARD APPELDOORN:** It should be the first one.

6

7 **MARCOS HANKE:** I want to make a comment there. If you consider  
8 the whole area where the lane snapper and the mutton snapper  
9 live throughout all the life cycles, through my experience, they  
10 are very tight together in a lot of different habitats and  
11 depth, and I want to state that as something -- Because I see  
12 the lane snapper apart from the mutton, and that's hard for me  
13 to digest that.

14

15 At the same time, and one example of that is trap fishing. You  
16 catch lanes and muttons together in Puerto Rico, but that  
17 interaction on the smaller-sized muttons with the lane snapper,  
18 and the bigger-sized too, is mainly in state waters. If you go  
19 to the federal waters managed by us in Puerto Rico, what you did  
20 is more correct, in terms of the distinction of them being  
21 apart, like in deeper-water reef areas, but I want to state  
22 that, throughout the dynamic of those two species, they live  
23 very tight together, and I want to make sure that that's very  
24 clear on the analysis.

25

26 **RICHARD APPELDOORN:** We had some discussion on that, and, in  
27 this case, we're actually taking the more conservative approach,  
28 in that we would have both of them assessed individually, and so  
29 we don't need to group them and then have one represent the  
30 other.

31

32 **CARLOS FARCHETTE:** Bonnie.

33

34 **BONNIE PONWITH:** I would just like to recognize all of the  
35 players who had a hand in this analysis. These are complex  
36 discussions and analyses, and they take a lot of hard work and a  
37 lot of expertise and knowledge to be able to do this, and so I  
38 would just like to acknowledge the folks who pulled the long-  
39 term datasets together to be able to look at these species  
40 affinities and the question of indicator species, the people who  
41 did the analyses, the SSC for being really diligent in working  
42 hard on this, and the APs, who really provided a lot of  
43 important awareness of the relationships of these species.

44

45 These decisions are really important to understand these species  
46 affinities. There are a lot of species, and the amount of data  
47 for each of those species is highly -- It's on a very steep  
48 gradient, a lot of information is available for some and less

1 for others, and to be able to understand how we can handle these  
2 in potential complexes is important.

3  
4 Once we understand, at a first cut, the relationship of these  
5 species and whether they vary in a way that is similar, then  
6 we're able to go the second step, and that is, if we do put them  
7 in complexes, then how do we make management decisions for one  
8 and how do those management decisions relate to the rest of  
9 them, and so this is an important step in getting to that point,  
10 to be able to manage the information that we have and do a good  
11 job in providing sound scientific justification for how we move  
12 forward in managing these complexes, and so thanks to everybody.

13  
14 **CARLOS FARCHETTE:** Blanchard.

15  
16 **TONY BLANCHARD:** I just need some clarification as to what's the  
17 definition of an indicator species, number one. Number two,  
18 whether or not, when we group them or put them in a unit,  
19 whether they need an indicator species.

20  
21 **RICHARD APPELDOORN:** Can we go back to the slide that had the  
22 definition of the indicator species? That one. Thank you. The  
23 reason -- What an indicator is supposed to do is exactly what  
24 the name -- It indicates something that is representative, in  
25 some way, for the rest of the group, and, in this case, what  
26 they're trying to indicate is what their stock status might be,  
27 and that could be anywhere from a Tier 1 full-blown stock  
28 assessment to a Tier 4 catch-only scenario.

29  
30 The caveat you want in that is that, if you're using this as an  
31 indicator for how this group of species is working, you want to  
32 make sure that it can do that, to some degree, and meet the  
33 goals.

34  
35 That is why we have the seven criteria that we were looking at,  
36 to say, okay, is there a reason that we think this could  
37 function as an indicator, but there is the other side of it, in  
38 the sense that, when you do an assessment, it has to be one that  
39 is making sure, to the degree possible, that that assessment on  
40 that one species is going to be able to tell you something about  
41 the others.

42  
43 We, by and large, looked at those seven criteria, but, in the  
44 end, you're saying either this species is so dominant in the  
45 catch, 90 percent of the catch or 80 percent of the catch,  
46 something like that, that that's really what the fishery is  
47 fishing on, and so that makes sense to make that -- That's  
48 really what you want to assess.

1  
2 Or it's something, a situation, where it is the most vulnerable  
3 one in the complex, such that, if you protect this one from the  
4 effects of fishing, we're pretty confident that we're protecting  
5 everybody else, just from the nature of biological productivity.  
6 All of this, of course, goes with all the uncertainties that we  
7 have to deal with, but, to the degree that we put all of this  
8 information that Bonnie was talking about together, that's what  
9 we're looking for.

10  
11 This is Puerto Rico, and we were looking at the situation there  
12 with respect to the available data that we might be able to use  
13 for making these assessments at whatever level, and, at some  
14 levels, that's just catch only, and so what my next slide is  
15 going to show is that we didn't get to the Virgin Islands,  
16 partly because, at this point, we made a decision that we were  
17 on a roll with Puerto Rico and what's the next step with that,  
18 and then we'll get to the Virgin Islands.

19  
20 Then, as we got later in the week, we realized that we're not  
21 going to get to any examples of how to work through the control  
22 rules unless we start whittling down our species, and so,  
23 basically, in the end, we didn't get to any of the Virgin  
24 Islands data, but I am well aware, from the information that was  
25 provided by the DAP Chairs to the committee, that their  
26 recommendation, for the most part, was to not have indicator  
27 species for the Virgin Islands data, because all of those  
28 species are now on the forms and data is coming in for those,  
29 and they could, potentially, all be assessed on their own.

30  
31 We are not obligated to have indicator species. In fact, it's  
32 something that you would like not to do, but it's something that  
33 you may be forced to do when you're faced with limits in the  
34 available information that you have over the range of stock  
35 complexes that you are looking at, and so, if you've got your  
36 data collection situation well tied to what's being fished and  
37 what needs to be assessed, you're not going to need indicator  
38 species. Does that answer your question?

39  
40 **TONY BLANCHARD:** Yes.

41  
42 **RICHARD APPELDOORN:** Okay. The Virgin Islands, as I mentioned,  
43 there were no changes to the species lists, and there were no  
44 final decisions made on any indicator species, because we  
45 basically didn't have the time to get to that, and so that's why  
46 we're going to have another meeting in July, to keep moving  
47 forward on that.

48



1 I would point out that SSC and DAPs had some different  
2 recommendations on that, and that's what we're going to address,  
3 and I assume, based on the way we've interacted so far, that  
4 we're going to come up with something that's going to work for  
5 everybody, and the DAP recommendation was species-specific, and,  
6 if the data is there, why not?

7  
8 This really gets into Action 3, which is the interesting part  
9 here, and that's the setting the reference points that we want,  
10 and, right now, we're looking at an ABC control rule, just Tier  
11 4 only, which is catch-only data, or only-catch data.

12  
13 We did recommend some changes in the wording, and I will show  
14 you the final product, but these came out when we were actually  
15 trying to apply these, and, again, this is only for Puerto Rico  
16 species, and now it's a narrower list of species than what you  
17 just saw.

18  
19 We had some references in there about when to use this that  
20 related to overfished status, and that's not what we should be  
21 addressing. These assessments address overfishing only. We  
22 initially had mandated, for Tier 4b, that we use only the most  
23 recent three years, and we're now allowing a more flexible  
24 reference period to be chosen for that assessment, and we  
25 deleted reference to minimum stock size threshold, minimum  
26 fishing mortality threshold, and MSY, because the reason you're  
27 using Tier 4 is because you don't know these things.

28  
29 **CARLOS FARCHETTE:** Iris.

30  
31 **IRIS LOWERY:** Just to clarify that last statement on the MSST,  
32 MFMT, and MSY, the reason that we discussed removing those from  
33 the ABC control rule is that I believe there will be additional  
34 conversations with the Science Center and the Region and GC  
35 about how to address those particular reference points in the  
36 context of the island-based FMPs, which is, I think, appropriate  
37 to have elsewhere and not in the ABC control rule.

38  
39 **RICHARD APPELDOORN:** So this is what it says, and, right off the  
40 top, you see there is a 4a and a 4b. That is really, really  
41 important to understand, because this is really going to change  
42 fundamentally what might come out of a Tier 4 assessment, even  
43 though it's only based on landings and whatever expert opinion  
44 that the committee has available to it.

45  
46 4a, the conditions for use, there is no accepted assessment that  
47 could be done that might put it in a Tier 3 or higher, but the  
48 stock is unlikely to be subject to overfishing. Now, remember,

1 in looking at what was coming out of the SEDAR assessments,  
2 we're trying to use those to move to a Tier 3 assessment, but  
3 even those assessments required us to make some assessment, from  
4 the top, about where we thought the fishery was, and let's just  
5 put it that way. Is it overfished? Is it near MSY? Is there  
6 room for expansion? We're making the same kind of judgment call  
7 here as well.

8  
9 It turns out that, at least in some cases that we used, there is  
10 some rationale that we can use to make those calls. It's  
11 unlikely to be subject to overfishing, and, just as a  
12 precaution, and you will see this in 4b, if we can't have a  
13 consensus reached on the use of 4a, then 4b is going to be where  
14 we go.

15  
16 This is a big difference, because how we approach the data after  
17 this point is very different. If we think we're not likely to  
18 be overfishing, our overfishing limit is going to be some scalar  
19 times the 75<sup>th</sup> percentile of the reference period landings, and  
20 so we need to choose a reference period of landings.

21  
22 We're going to find out what the 75<sup>th</sup> percentile was. Before, we  
23 didn't make this distinction between 4a and 4b, and we were  
24 using an average, and so now we're using something that is  
25 substantially higher than the average, but there is a scalar  
26 involved.

27  
28 In this case, the scalar has to be equal to or less than two,  
29 and so we could double that 75<sup>th</sup> percentile, to go even higher,  
30 if we think that the stock could support that, and so we're  
31 going to look at its perceived degree of exploitation, its life  
32 history, and ecological function to say, okay, what should that  
33 scalar be.

34  
35 Then there is a buffer, and the buffer is going to take us from  
36 the OFL to the ABC, and so ABC is going to be the buffer times  
37 the OFL, where the buffer must be less than or equal to 0.9, and  
38 so it's not one, because the buffer is there to deal with  
39 scientific uncertainty, and, if our discussion of expansion  
40 factors told us anything, we have substantial scientific  
41 uncertainty in our data.

42  
43 There is other rationales. Like I mentioned back in December,  
44 when I presented this for 0.9 showing up, in the sense that, in  
45 those jurisdictions that have had assessments and lots of  
46 experience with more rigorous determination of buffers, they  
47 come out to about a 0.9 anyway, and so there is kind of good  
48 practical and theoretical rationales for having that at the

1 level that we have it.  
2  
3 4b, our condition for use is that, again, there is no accepted  
4 assessment, but we think the stock is likely subject to  
5 overfishing or we can't come to some consensus that would put  
6 something in Tier 4a.  
7  
8 Here, if we're thinking the things are overfished, we're not  
9 going to want to make the catch larger than what is causing that  
10 overfishing, and so the OFL is going to be, again, some scalar  
11 times the mean of the reference landing period, and so that  
12 scalar will have to be less than one, again depending on how  
13 much we think it's overfished, the life history, vulnerability,  
14 and function of the species, and the ABC will be taken down from  
15 the OFL by the buffer, which, again, the buffer must be less  
16 than or equal to 0.9.  
17  
18 That is all fine in words, but we actually ran some examples of  
19 these, to show you how this actually works. We took another  
20 subset of species from Puerto Rico, where we had already gone  
21 through the data from the previous few days, and we tried to  
22 make some determinations.  
23  
24 Let's put a flow chart up here of how we went through this, and,  
25 again, these were selected from Puerto Rico's examples, because  
26 those are the data, at this point, that we had already spent  
27 three days working on.  
28  
29 Here it is, and so our first determination is, is overfishing  
30 likely to be occurring? If the answer is yes -- If the  
31 overfishing likelihood, if it's not likely to be overfishing,  
32 and so not likely is yes, you go into Tier 4a, and, if you're  
33 likely to be overfished, if overfishing is likely to occur, you  
34 would go into Tier 4b. I apologize for screwing up the language  
35 on that. It was late at night.  
36  
37 If you go into Tier 4a, you're going to come up with a year  
38 sequence, and so that's another determination that has to be  
39 made, and, from that sequence, we will get our 75<sup>th</sup> percentile of  
40 the landings. We will then have to define a scalar to go with  
41 that, to determine the OFL, and then we will determine what the  
42 buffer is to apply to determine that ABC.  
43  
44 In Tier 4b, again, we need a sequence of landings that we're  
45 going to get to get the average from, and then that's going to  
46 be multiplied by our scalar to get the OFL, and then that's  
47 going to be multiplied by the buffer to get the ABC.  
48

1 We went through a lot of information in Puerto Rico to try to  
2 get year sequences for the species groups. This took at least a  
3 day of discussion by the committee, and so what I am putting up  
4 on the screen here is really simplifying what was in fact a very  
5 complex discussion.

6  
7 In the end, what we decided, for our purposes here, is to -- For  
8 the determination of whether something is likely to be  
9 overfished, we decided to use the period for Puerto Rico that  
10 was covered by both commercial and recreational catch and that  
11 these would be added together to get an overall catch level that  
12 we would apply our eventual determinations of OFL and ABC.

13  
14 Allocation of that to those sectors, the commercial sector and  
15 the recreational sector, is not the jurisdiction of the SSC.  
16 That is a council decision, and we did not deal with that at  
17 all.

18  
19 For the most part, because it's constrained by the recreational  
20 data, we were going to look at a period starting at 2000 to  
21 2011, again excluding 2005, if the catch is constrained by an  
22 existing ACL in later years, but, if it's not constrained by an  
23 ACL, then 2000 to 2015, and so any new species coming online  
24 that didn't have an ACL would be looking at that larger period.  
25 Dorado is an obvious case, and that's one of the examples we  
26 worked up.

27  
28 We had a lot of discussion about what these periods should be,  
29 and, while we had consensus, we did not necessarily have a  
30 unanimous feeling on that. A lot of this came from our feeling  
31 our way through how this actually works in practice, and so the  
32 control rule looks really nice on paper.

33  
34 You can see that we already modified some of the language, once  
35 we started working with it, and saying, okay, we really can't be  
36 doing that, or we shouldn't be doing that, but, when it came  
37 time to actually applying it, there was a fair amount of  
38 discussion going on here about how it works out, and so we did  
39 reach consensus, but not necessarily unanimity, but I think, as  
40 we went through this, it became a little bit clearer to people  
41 about how this works, and so we actually might be better off  
42 than what that statement implies.

43  
44 Then we had to look at the scalars, and, while there isn't an  
45 established reference period requirement for that, we felt that  
46 we did want to make it clear that, for most of the species we're  
47 looking at, in Puerto Rico again, we were going to look at the  
48 full range of available data from 1988 to 2011, again throwing

1 out 2005, or 2015 for those not constrained by an ACL.

2  
3 The reason for that was that we wanted to make sure that, if  
4 we're looking at a situation where we don't think that something  
5 is likely overfished, which means we think it could be fished  
6 more than what it's being fished now, we wanted to have  
7 available to us the full range of what has happened in the past  
8 to guide us as to where there might be some sustainable level of  
9 catch that we were comfortable with.

10  
11 Because we're looking at this longer timeframe recreational  
12 data, which only goes back to 2000, it would have to be back-  
13 calculated, and that could be done on a proportional basis, and  
14 we are going to have some situations, and I will give you an  
15 example of that, where limited data is going to force us to  
16 perhaps do some adjustments, and so let's get into it.

17  
18 The sources of information we had for looking at the likelihood  
19 of overfishing certainly is the catch history itself. If  
20 there's been some trends that are related to something that we  
21 can put a finger on, that's going to help us.

22  
23 For instance, queen snapper in Puerto Rico, if you go back in  
24 the data, there is clearly a period where there is a buildup of  
25 that fishery as it first started, and so we don't want to use  
26 that buildup period as an indication of what the potential of  
27 the stock is. We want to use something that is more indicative  
28 of capability when the fishery is fully operational.

29  
30 Size information, are there any trends in the size of the fish,  
31 either in the water or coming to market, depending on the  
32 situation in Puerto Rico, and we can use both. How is this  
33 related to, as you will see the next category, existing  
34 regulations?

35  
36 This comes into play with spiny lobster. Spiny lobster has a  
37 high minimum size on its carapace length, and so does that offer  
38 protection that would say that it's not likely to be overfished?  
39 Is there plenty other existing regulations that are in place  
40 that help reduce the risk of overfishing, and so we wanted to  
41 make sure that we got those.

42  
43 Expert opinion really is kind of -- It encompasses all of this,  
44 but some people have particular expertise in certain species,  
45 and so we can bring those into play, and, by expert opinion, I  
46 don't mean just the scientists. I mean the DAPs were also  
47 really important in their knowledge base of what's happening in  
48 these fisheries.

1  
2 Market and economic trends, we have heard extensively in our  
3 meetings about what is happening in the Virgin Islands, but it  
4 was also clear that, in Puerto Rico, the economy has been  
5 affecting both the commercial and recreational fisheries, and  
6 so, if something is -- If the catch history is being low not  
7 because of the ability to catch fish, but the ability to market  
8 fish, we want to discount that effect in choosing or making our  
9 assessments, both of whether things are likely to be overfished  
10 and later, when we're trying to look at the scalars, as well.

11  
12 Past SEDAR reports ended up being useful, and so we've gone from  
13 a situation where we were doing SEDAR reports without really  
14 helping to get catch advice to a point where we're actually  
15 getting some management advice from those reports, and at least  
16 in making these determinations about whether something is likely  
17 to be overfished, and, as an extrapolation of that, what the  
18 scalars might be.

19  
20 Life history was a very important component of that, because  
21 that relates to the productivity of the stocks. The big, fat,  
22 deepwater grouper is not going to be nearly as productive as one  
23 of your highly-productive snappers, for example, and so they can  
24 withstand different levels of fishing, and that's going to  
25 affect it, and then any other studies we could get our hands on,  
26 and example was work that Gerry Ault and his group has been  
27 doing for the Department of Natural Resources in Puerto Rico,  
28 and they have done some assessments.

29  
30 Those assessments use methods that, at the time, were not  
31 formally incorporated into the data-limited model toolbox, but  
32 they're length-based methods, and those kinds of methods are  
33 being expanded and incorporated, and so I am going to sort of  
34 downplay -- We did use those things, but I will downplay that,  
35 because they're not equally applicable across species, and, in  
36 those assessments, he had to make some assumptions about life  
37 history parameters that, based on data workups that were not  
38 available to him at the time that analysis was done, relative to  
39 say what SEDAR did.

40  
41 They had this whole life history parameter group working to feed  
42 into the SEDAR analysis, and that was later than Ault's work is,  
43 but, if you're careful about the species that he's looking at  
44 and the nature of the data going into that, you can make some  
45 assessments about whether that can help or not, and so we did  
46 look at that, and, as I said, any other assessments that were  
47 available to us.

48

1 There was one for spiny lobster outside of Puerto Rico that was  
2 quite useful, and so here is our determinations for the ones  
3 that we looked at, and you can see the ones that have an  
4 asterisk are indicator species, with the exception of mutton  
5 snapper should also have an asterisk. That was an indicator  
6 species.

7  
8 You can see they're all falling into Tier 4a, and I'm just going  
9 to give an example, if I can read my handwriting here, of one of  
10 those, and I'm going to pick lobster, because it's one of the  
11 species that we're going to go forward with. For spiny lobster,  
12 there was a SEDAR assessment in 2005, SEDAR 8, that did have  
13 some yield per recruit analyses, and they concluded that the  
14 current carapace length limit was very high, and there really --  
15 It was maximizing yield per recruit, and so there is no  
16 indication that there would be any growth overfishing going on.

17  
18 Landings seem to be stable. While they said the status was  
19 unknown, the fact that we have catch per unit effort and  
20 landings seem to be stable seem to indicate that this was not  
21 being overfished. The carapace length, as I said, is high.  
22 It's 3.5 inches, and the average catch is actually well above  
23 that. It's more like four inches.

24  
25 What else did we have? Well, let me step back. The SEDAR 8  
26 review of lobster was actually rejected by the review panel that  
27 looked at it, but the reason they did that was not because they  
28 found fault with the science, but they thought that, because  
29 this species is so wide-dispersing in its larval phase, that  
30 external recruitment could be really driving what's going on,  
31 which, if that's the case, that actually feeds into a stronger  
32 feeling that this is not likely to be overfished.

33  
34 Then there was, as part of this, the assessment that was done  
35 for Florida in the same SEDAR 8. This is the Gulf, South  
36 Atlantic, and the State of Florida combined, and that  
37 assessment, there was a formal assessment there, and they found  
38 no formal overfishing going on, and that's with a carapace  
39 length of three, and so, here in Puerto Rico and in the Virgin  
40 Islands, by extension, with a carapace length of 3.5, we're  
41 being even more conservative, and so we're really, at this  
42 point, starting to say we're confident that we're not having a  
43 situation with overfishing going on.

44  
45 Then Nelson brought to our attention that in fact the market  
46 can't even take what they can capture at the moment, and so he  
47 was explaining the situation where they actually had a price  
48 collapse because they were bringing too many lobsters to the

1 market. Again, this would indicate that the threat of  
2 overfishing really is not very strong in that particular case.  
3  
4 We had a really easy case with dorado, where that was -- It's a  
5 recreational species, and although it's important in the  
6 commercial catch, it's not -- Well, I will go into more of that  
7 when we talk about the scalars. Maybe I will hold off there.  
8  
9 Let's go to the final one, and so the only -- It should be  
10 Grouper Unit 4, which is the yellowfin grouper. It was the only  
11 one that went into 4b, was that, and I will show that. I will  
12 show why that occurred when we get into how it performed and how  
13 we looked at the scalars.  
14  
15 Those eight determinations took a day of discussion. Now, it  
16 tended to go a little bit faster at the end, as we became a  
17 little bit more comfortable with how we were thinking and the  
18 data sources that were available, but there was substantial  
19 discussion going on, and so, again, I want to emphasize that  
20 this is not a simple process. Of course, we needed to document  
21 all of the contributing factors that went into all of those  
22 determinations, so that, when someone asks us to defend those,  
23 we can.  
24  
25 The next step is we have made those determinations, and how does  
26 then it look like when we're going to then choose scalars and  
27 come up with our OFLs and ABCs? We only worked this up for  
28 three groups, and those are the three there, and we really were  
29 pushing our Grouper Unit 4, because it's an example of 4b, and  
30 you will see that it's got other things that it represents well,  
31 though not necessarily in a positive way.  
32  
33 Here is our applications of scalars and buffers. This is the  
34 data for dorado, dolphinfish, in Puerto Rico from 2000 to 2015.  
35 You can see it's been going down. We think that is largely a  
36 response to market conditions and the state of the economy, in  
37 terms of this is -- About two-thirds of the catch, if I recall  
38 correctly, is recreational.  
39  
40 That fishery is certainly going to respond to market values,  
41 because it's recreational. It's related to your disposable  
42 income. If the economy is not doing well, you don't have as  
43 much disposable income. If the price of gas is going up, you're  
44 not going out as much, et cetera, and so we're not seeing a lot  
45 of evidence here of any kind of overfishing.  
46  
47 The stock itself is a Pan-Atlantic, or at least Western  
48 Atlantic, stock, and so Puerto Rico is fishing this along with



1 every other country all the way over to the east coast of the  
2 U.S., and so, in thinking about what scalars we should use,  
3 we're thinking this is a highly-migratory species. It is highly  
4 productive in its biology. It's unlikely that Puerto Rico could  
5 be impacting the overall stock by itself.

6  
7 There is good recreational data. It's the number one species in  
8 that. Its proportional standard errors are reasonably  
9 constrained, so we have some confidence in our estimates of what  
10 the recreational surveys are saying is being captured.

11  
12 As a result, we maximize the scalar at two, and so the blue  
13 line, that's the catch history that we used, and this is the  
14 line for the 75<sup>th</sup> percentile of data. We then took that and  
15 multiplied it by two to get the green line, and so that's our  
16 OFL. Then our buffer -- Again, we're pretty confident that  
17 we're still at a good state here, and so we used the maximum  
18 buffer of 0.9, and so we're getting an ABC of 2,500,000 pounds,  
19 which is certainly well below where we are now.

20  
21 The only point that really came up to that level was the first  
22 year in 2000, and we note that the program itself acknowledges  
23 that there were overestimations in that first year, because of  
24 the way they were motivating the collectors to collect data, and  
25 so that's probably not a realistic estimate of what has been  
26 achieved in the stock up to this point, and so we think there  
27 is, at this point, certainly relative to what's being done now,  
28 plenty of scope for growth in that fishery, and the nice thing  
29 about this is, if the fishery recovers and gets up to that level  
30 and still remains stable, we can adjust this, and it can go  
31 higher.

32  
33 If we start fishing up here and we see no impacts, we're going  
34 to have another baseline of data that says, hey, we can move up  
35 from that, and so there is a lot of flexibility in how we can  
36 apply this, but what we would be hoping in the future, because  
37 this is a fishery where we get a lot of information, that we'll  
38 actually do a formal assessment that will get us into Tier 3 in  
39 the future. I think Tony had a question.

40  
41 **CARLOS FARCHETTE:** Blanchard.

42  
43 **TONY BLANCHARD:** I would like to see the buffer go from 0.9 to  
44 0.99, because, really, there is reason why it can't go to 0.99.

45  
46 **RICHARD APPELDOORN:** 0.99 is saying that you basically have no  
47 uncertainty in your data. I think we've had already enough  
48 discussion on that point to know that that's not the case, and,

1 in addition, based on the experiences elsewhere, particularly  
2 with the guidance we're getting from the Southeast Center and  
3 what has happened in the other two councils that -- 0.9 is  
4 pretty much where you want to be.

5  
6 In this case, and in lobster, you will see that it's really not  
7 going to impact what's going to happen, in terms of what you  
8 want to see happen. To say that we don't have uncertainty, I  
9 think, is something that, if anybody wanted to challenge us in  
10 court, they would do that, and the SSC is really uncomfortable  
11 with saying that there is no uncertainty when we know that there  
12 is.

13  
14 **CARLOS FARCHETTE:** Blanchard, Bill, and Julian.

15  
16 **TONY BLANCHARD:** Okay. Seeing that you're saying that it  
17 probably ain't going to change anything, in using the example of  
18 lobster as well, why not let it go to 0.99? Do you understand  
19 what I am saying? If it ain't going to change anything, maybe  
20 it makes a difference to me and some of the other guys. If it  
21 does make a change, then it really don't make a difference,  
22 because you can't --

23  
24 **RICHARD APPELDOORN:** It doesn't make a large change necessarily  
25 in where the catch recommendation might be. It does make a  
26 large difference in what we're saying about the validity of that  
27 estimate. The SSC is mandated to account for scientific  
28 uncertainty in the data, and, to us, there is a big difference  
29 between 0.9 and 0.99 in the amount of uncertainty we're saying  
30 is there or not.

31  
32 **CARLOS FARCHETTE:** Bonnie or Bill.

33  
34 **BILL ARNOLD:** I just want to quickly point out that this is not  
35 your annual catch limit. This is allowable biological catch  
36 that's determined by the SSC. Then the council also applies a  
37 buffer to take into account management uncertainty, and that  
38 will bring the -- There will be a line either equal to or lower  
39 than that bright red line that reflects that adjustment.

40  
41 Now, the council -- The SSC is constrained by their ABC control  
42 rule, which does not allow that buffer to be above 0.9. The  
43 council is not necessarily constrained by that. They can set  
44 their buffer -- Unless they choose to do otherwise, they can set  
45 their buffer at 1.0 and make their ACL equal to their ABC.  
46 Legally, they can do that. Whether they're comfortable doing  
47 that or not is up to the council, but keep in mind that there is  
48 another buffer that will come into play that will be talked

1 about later.

2

3 **CARLOS FARCHETTE:** Bonnie.

4

5 **BONNIE PONWITH:** Just to reflect on Dr. Appeldoorn's comments,  
6 essentially we are in the middle of a discussion on Tier 4a and  
7 Tier 4b. In this example, we're talking about Tier 4a species,  
8 and the fact that we're in Tier 4 itself implies that there is  
9 scientific uncertainty in our understanding of the true status  
10 of this stock.

11

12 To have a buffer that is any higher than 0.9, I think that  
13 creates a challenge, in terms of being able to -- It creates  
14 kind of a logic disconnect, and so I think we need to be really  
15 careful about -- The Act itself tells us that it's the SSC's  
16 responsibility to give scientific advice, and that advice has to  
17 come with our best characterization of the scientific  
18 uncertainty with that advice, so that the council can take that  
19 into consideration as they are setting their management  
20 measures.

21

22 Setting that buffer is a really important decision, and it helps  
23 us to follow the intent of the Act, and it helps us be  
24 responsible in the way we deliver that scientific advice, to  
25 make sure that it's a reflection of our true characterization of  
26 the scientific uncertainty, and so I am comfortable with having  
27 that number not be one. Being one implies omniscience. It  
28 implies omniscience, that basically you know everything there is  
29 to know about that stock, which doesn't seem logical when you're  
30 in Tier 4, which implies that there is uncertainty.

31

32 **CARLOS FARCHETTE:** I have Blanchard and then Julian, and then  
33 I've got to speed this up, because I have a time constraint for  
34 lunch.

35

36 **TONY BLANCHARD:** I didn't ask for one. I asked for 0.99. Maybe  
37 it's not so much about what we gain, but maybe it's to say that  
38 we're getting something back. Maybe it's that showing effort,  
39 let's say. We all agree that there is uncertainty. There is  
40 uncertainty in everything. When you step out the door, you  
41 could get run over by a vehicle. There is uncertainty with  
42 that, but the bottom line is you need to show that you're  
43 willing to give something in order to receive something, and we  
44 all feel that we have given and we're not receiving what we  
45 should be receiving.

46

47 **RICHARD APPELDOORN:** Well, maybe we should see the next example.

48

1 **TONY BLANCHARD:** Hold on. Let me just finish up here. I think  
2 sometimes this is a one-sided pyramid. I wanted to say the one-  
3 sided pyramid because the one on always the backside of the  
4 pyramid is the user groups. The government are the two other  
5 sides. We're always on the backside. We always are left what I  
6 want to give us instead of what we ask for. Maybe sometimes we  
7 need to just give us what we ask for and stop assuming that we  
8 ain't doing what we're asked to do, especially when I see the  
9 plugging in of the expansion factors for Puerto Rico.

10  
11 You are assuming that they're not reporting accordingly, and  
12 maybe it's more than that. Maybe they are reporting how they're  
13 supposed to be reporting. This thought of always having a  
14 backside, like they're always trying to cheat the system, maybe  
15 the fishermen feel like you guys are always trying to cheat  
16 them.

17  
18 It's a two-way street. Sometimes it's not about what they are  
19 getting, but it's about what they see the effort that is being  
20 put forward to say, well, you're giving me something and not  
21 necessarily meaning what we getting, but what we ain't losing.

22  
23 Like Richard said, it ain't going to make much of a difference,  
24 and so big deal. If it don't make much of a difference to you,  
25 maybe it does to us, and I am talking about the fishermen and  
26 them, and so maybe it's time to give a little something when you  
27 want to receive a little something.

28  
29 **CARLOS FARCHETTE:** Bonnie.

30  
31 **BONNIE PONWITH:** I appreciate your comments. The thing that I  
32 want to be really careful about is creating something that is  
33 supposed to be essentially a statistical function, sort of a  
34 mathematical description of our knowledge that's available for  
35 making difficult decisions, and turning that into essentially a  
36 negotiating tool.

37  
38 There are many things that we can discuss in terms of weighing  
39 the value of one decision versus another. The challenge becomes  
40 when you're trying to take the science side of this and  
41 basically take something that is a scientific characterization  
42 of our awareness of the true status of that stock and modify  
43 that as a negotiation, and I think that's where my discomfort  
44 for this comes.

45  
46 **TONY BLANCHARD:** Let me just ask this question. When I say to  
47 move it to 0.99, that don't necessarily mean that we're going to  
48 get 0.99, but I want it in there to have the flexibility to move

1 it to 0.99. Do you understand what I am asking? It don't mean  
2 that we say we could go as high as 0.99. That don't mean that  
3 we're going to go that high, but the inability to go that high  
4 is something completely different.

5  
6 **BONNIE PONWITH:** I hear what you're saying. What my view on  
7 0.99 is, I can't get to 0.99 until I earn my way to 0.99, and  
8 what 0.99 would require is almost perfect knowledge of that  
9 fishery, and I don't see us there.

10  
11 What I could say is that we are always striving to work together  
12 to improve the quality of our science, because everybody  
13 recognizes how crucial that is to successful management. If we  
14 get to a day where we feel like we have achieved a level of  
15 confidence in the uncertainty characteristics, we can reopen  
16 that, but, right now, I think that implying that our knowledge  
17 of that stock is near perfect is just unrealistic.

18  
19 **CARLOS FARCHETTE:** I've got to stop this, because -- Since this  
20 is an ordered lunch, everything is out there already, and it's  
21 getting cold, and so let's break for lunch. Then we can pick up  
22 on Richard's completion.

23  
24 (Whereupon, the meeting recessed for lunch on April 18, 2017.)

25  
26 - - -

27  
28 April 18, 2017

29  
30 TUESDAY AFTERNOON SESSION

31  
32 - - -

33  
34 The Caribbean Fishery Management Council reconvened at the  
35 Renaissance St. Croix Carambola Beach Resort & Spa, St. Croix,  
36 USVI, Tuesday afternoon, April 18, 2017, and was called to order  
37 by Chairman Carlos Farchette.

38  
39 **CARLOS FARCHETTE:** We have Dr. Appeldoorn to finish up.  
40 However, before we get there, we are going to move, on the  
41 agenda, the Regulatory Amendment 6 to the Reef Fish Fishery  
42 Management Plan: Triggering Accountability Measures for Puerto  
43 Rico right after Dr. Appeldoorn, or after the DAP Report,  
44 because we have a public hearing tonight for Puerto Rico, and we  
45 need to get that in place, or have that discussed.

46  
47 Also, for tomorrow lunch, anyone who wants to change the menu,  
48 there is an order being placed for the Chicken Shack, and so you

1 can have chicken or fish. Make it easy. We don't want the  
2 whole list of menu they've got, but chicken or fish, and you can  
3 leave your name and what your choice is, and it will be brought  
4 here. Schuster will take care of paying them later on. He will  
5 collect the money and pay them later on in the day. It's about  
6 twelve-bucks, something in that range, I think, but we'll find  
7 out. It sure wouldn't be eighteen-bucks for a hamburger.  
8 Richard. Julian had a question.

9  
10 **JULIAN MAGRAS:** Before we took the break for lunch, we were  
11 having some discussions about the scalar, and we were having  
12 some discussions about the buffer, and I want to speak a little  
13 bit about the buffer, to make it clear for those who don't seem  
14 to understand where the fishermen are coming from.

15  
16 Where it's set at 0.9, it leaves no room for expanding in our  
17 fishery above 0.9, and we never made it to St. Thomas/St. John  
18 and St. Croix in the SSC meetings, but, from our recommendations  
19 from the DAPs, it was recommended that that buffer be changed to  
20 1.0.

21  
22 We are not asking for, when we are setting the different  
23 parameters, for it to be 1.0, but what we are asking for is to  
24 leave us the flexibility that even sometime in the future, if we  
25 are able to collect better data, which the responsibility falls  
26 on the Science Center, because the fishermen have been providing  
27 everything that's been asked of them, that we have that  
28 opportunity that we could even go to 0.91, but, right now, we  
29 can't go higher than 0.9, but, with 1.0, we can move.

30  
31 I am asking that one of the council members make a motion that  
32 that be changed, because, at the last council meeting in  
33 December in St. Thomas, it was just put on the board and not as  
34 a preferred action. It was put on the board for us to move  
35 forward that we had something to move forward with, and so that  
36 is what I want to clarify here today and give us that  
37 opportunity. Thank you.

38  
39 **TONY BLANCHARD:** Well, I would like to be the one making a  
40 motion that we move from a 0.9 to 1.0.

41  
42 **MIGUEL ROLON:** Guys, I will defer to the lawyer, but you have to  
43 be careful what you are talking about. The SSC gives you the  
44 ABC and the OFL. You as a council deal with the ACL and the  
45 target, if you ever have one, and so, at this time, we need to -  
46 - Also, that buffer is set by regulations or whatever, the  
47 National Standard 1 and all of that, but let's be very clear  
48 what we are talking about. It's the ABC, and we are saying 0.9,

1 and then don't confuse that with the ACL. We have to be clear.  
2 If you want to do it, fine, but you have to be clear what you're  
3 talking about.

4

5 **CARLOS FARCHETTE:** Iris.

6

7 **IRIS LOWERY:** I guess, Bill and Maria, are we talking about the  
8 action, the ABC control rule action, because I am just wondering  
9 if maybe, since this is the SSC's presentation, that that might  
10 be the appropriate point to talk about alternatives and what the  
11 options are.

12

13 **BILL ARNOLD:** My understanding is that what they're asking for  
14 is, where that buffer is set inside the ABC control rule,  
15 instead of being less than or equal to 0.9, it's less than or  
16 equal to 1.0. I think that's what they're talking about.

17

18 **IRIS LOWERY:** The way that the National Standard Guidelines set  
19 up the kind of structure for establishing the ABC control rule  
20 is that it is -- It's the SSC and the council work together to  
21 establish this control rule, and so that's certainly something  
22 that the council can have input on.

23

24 It seems like one way to potentially handle this would be to,  
25 and I hate to create more work for Bill and Maria, but to do  
26 some sort of different alternative, where you look at what it  
27 might be to have the flexibility of having a 1.0 instead of a  
28 0.9, but it certainly seems like that's something that's within  
29 the council's discretion.

30

31 However, that being said, I would reflect what Bonnie said  
32 earlier, which is that the National Standard Guidelines also  
33 require the SSC and the council to take into account the not  
34 only management uncertainty, but scientific uncertainty, and so  
35 I think that that's -- I won't put words in Bonnie's mouth here,  
36 but I think that that's certainly the concern that I heard  
37 reflected at the SSC meeting, and I think what Bonnie was saying  
38 as well.

39

40 When you're in this very data-limited context, it's difficult to  
41 say, with 100 percent certainty, which is what that 1.0 buffer  
42 indicates, that everything is known, and so I would have --  
43 Those are my thoughts.

44

45 **CARLOS FARCHETTE:** Magras.

46

47 **JULIAN MAGRAS:** Understood, but we're not asking for anything to  
48 be set at 1.0. We are asking for the flexibility to be there in

1 the event that better data collection on the Science Center side  
2 is present and that we have the opportunity that we can move  
3 from 0.9.

4  
5 Right now, we are not leaving that window open for the fishers  
6 at all. We are closing that window, and, once that window is  
7 closed and all the measures go in place and the new management  
8 plans are written, there is no way that it's going to be  
9 reopened in any quick manner.

10  
11 Everything takes years to be done, and so here we are putting  
12 these management plans together, and it's the opportunity to  
13 leave that window open. We should not close the window to the  
14 fishers, and it seems like we are always the ones where the  
15 window is closing and not leaving us any room for improvement.

16  
17 **CARLOS FARCHETTE:** I think to discuss this that we need a  
18 second, and I haven't heard a second.

19  
20 **MARCOS HANKE:** In order to have the discussion, I will second  
21 the motion of Tony Blanchard.

22  
23 **CARLOS FARCHETTE:** Blanchard, we need to put the motion up. I  
24 want to clarify something here, because I don't even think --

25  
26 **MIGUEL ROLON:** Wait.

27  
28 **TONY BLANCHARD:** The motion is to move the buffer from 0.9 to  
29 1.0, the ABC.

30  
31 **CARLOS FARCHETTE:** I don't think we're ready to be discussing  
32 the buffer right now. That's for when -- This is just the SSC  
33 report, and so I think we -- In the next thing on the agenda  
34 with island-based plans is where that's going to kick in, and so  
35 I would suggest that we wait for that.

36  
37 **TONY BLANCHARD:** Okay. **Let's table it.**

38  
39 **CARLOS FARCHETTE:** Okay. Rich, you can complete.

40  
41 **RICHARD APPELDOORN:** Here is the good news. This is spiny  
42 lobster in Puerto Rico. I mentioned before, when we had to make  
43 a decision about whether it was likely to undergo overfishing or  
44 not, what -- There was a very strong case there for it not to be  
45 undergoing overfishing, both due to the management measures that  
46 were in place and the fact that catches were not even  
47 approaching the limits of the management measures.

48



1 We had a long discussion about where our scalars should be, and  
2 we talked about whether there would be the possibility for  
3 exports from Puerto Rico, given that the local market seems to  
4 not be able to support what can actually be harvested, and so we  
5 were a little concerned about that, but what we did for our  
6 scalar, and I have to emphasize that this is not a final  
7 product. This is, at this point, something we're doing as an  
8 exercise, and so nothing here is fixed in stone.

9  
10 We decided to go with a scalar of 1.5. We acknowledged that it  
11 might be able to go higher than that, but then there would be a  
12 tradeoff on the buffer, because there would be more uncertainty  
13 with that, and so, as you move the scalar up, the potential for  
14 your buffer to bring it back down is pretty much going to leave  
15 you in the same spot.

16  
17 Anyway, these are the landing histories for lobster, minus 2005,  
18 and this is the 75<sup>th</sup> percentile of those landings. We went up  
19 1.5 times that, and we used the buffer of 0.9 to bring it down,  
20 and I don't have the exact number here, but it's in the 560,000  
21 pounds level.

22  
23 Here is your current ACL, and so application of this new control  
24 rule is resulting in a 75 percent -- Well, the ABC is 75 percent  
25 higher than the current ACL. The council can make a decision  
26 about whether they want to buffer down from that level, but, if  
27 you wanted scope for growth, there it is.

28  
29 If, as we all hope, that new data and better data, or at least  
30 more data, properly collected and documented, as we're hoping  
31 these new systems come in place, or perhaps like the Virgin  
32 Islands already has in place, that we would move out of this  
33 Tier 4 system.

34  
35 One of the things that, in your discussion later on about  
36 buffers -- As you go up the assessment chain, those buffers  
37 change. The more information you have, you can go to Stage 3,  
38 and the buffer levels there should allow you to have a smaller  
39 reduction, because you know more at the time, but this is an  
40 example of the good news.

41  
42 Because we're adapting a control rule that's going to allow us  
43 to make this determination about whether things are currently  
44 overfished or not, we're automatically getting into a situation  
45 where we're allowing the catches to exceed, and in some cases  
46 like this, greatly exceed what the constraints had been before.

47  
48 There is always going to be uncertainty. Saying that we're

1 pretty comfortable here with the catch, we don't have any  
2 catches that are really actually going this high, but, based on  
3 what we're seeing now with the levels we're at, we're  
4 comfortable that it can be at some level higher. You start  
5 getting into uncertainty when you say how much higher, and so,  
6 the more you bump up that scalar, the more you're also going to  
7 bump up your buffer, because of the uncertainty associated with  
8 that.

9  
10 Nevertheless, you've gone from here to here in this example, and  
11 I caution again that this is just an example, but it is one that  
12 we had a lot of discussion with. We're all feeling our way  
13 through this, in terms of how we should be applying the  
14 information we have and how to translate that into scalars and  
15 what level of confidence we have relative to the buffer.

16  
17 **CARLOS FARCHETTE:** Rich, I have Roy.

18  
19 **ROY CRABTREE:** Richard, is the SSC actually giving us a new ABC  
20 for Puerto Rican spiny lobster now, or is this just an example?

21  
22 **RICHARD APPELDOORN:** We did this -- At this point, it's the last  
23 day. We did this with the understanding that it was an example,  
24 but it was example that we were going to go through as  
25 thoroughly as possible, but the idea, especially at Bill's  
26 urging, is give us something that will illustrate us working  
27 through this whole system, so you can discuss alternatives that  
28 can go to the public in the future.

29  
30 I am hedging to say this is not the final determination, but I  
31 would imagine it's going to be somewhat close to that, but these  
32 are the first three full workouts, and there is one more to  
33 show, that we've done, and, as we become more comfortable with  
34 the information available to us and what we think it means,  
35 there might be opportunities to move these, but I would warn  
36 that it could move up or it could move down. I don't know.

37  
38 **ROY CRABTREE:** I asked just because we have had some closures of  
39 spiny lobster in Puerto Rico, and we may have one this year,  
40 based on the current ACL, but I think this discussion of the  
41 buffer is kind of missing an important point here. It's not  
42 just the buffer. It's the buffer and the scalar, and they work  
43 together.

44  
45 **RICHARD APPELDOORN:** And the baseline you're starting from.

46  
47 **ROY CRABTREE:** Right, and I heard some statement about there is  
48 no room for growth, but clearly there is substantial room for

1 growth, even with the buffer at 0.95. It's a matter of getting  
2 these things specified more precisely, or at least more  
3 reflective of what's going on in the fishery, because here  
4 you're looking at 75 percent growth.

5  
6 I don't know anywhere in the country that is using a buffer of  
7 one. That's effectively saying there is no uncertainty at all,  
8 and that's never going to happen, but I just don't think it's  
9 accurate to say there is no room for growth, because there  
10 clearly is, and you can't look at the buffer in isolation of the  
11 scalar, because they work together.

12  
13 **CARLOS FARCHETTE:** Blanchard.

14  
15 **TONY BLANCHARD:** I understand exactly what you're saying, but  
16 you see I say certain things just to bring a point across the  
17 table. Richard clearly stated that there is no big difference  
18 between 0.9 and 0.99.

19  
20 Now, like I said, sometimes what may not be a big deal to you  
21 may be a big deal to some of us. If it really don't make that  
22 much of a difference, what difference does it make if we just  
23 get 0.99 or even 1.0? I am not saying that we're going to get  
24 it, but we could go that high. I am not saying that it will  
25 ever get that high.

26  
27 **ROY CRABTREE:** I think what it would mean is that, when this got  
28 to the Fisheries Service, that it would be disapproved and sent  
29 back to the council, and then you wouldn't get the 75 percent  
30 increase, because you would have to do it all over again.  
31 That's the risk you are taking.

32  
33 We have guidelines, and we need to follow them, and I don't  
34 think adjusting buffers up to one are consistent with the  
35 guidelines, and so you put a lot at risk if you want to go down  
36 that path, and I'm not sure what the rationale or the argument  
37 you would be able to make for it is, and so that's the risk you  
38 take.

39  
40 **MIGUEL ROLON:** That's what I have been trying -- You know, guys,  
41 I just sit here and -- You are confusing apples and oranges with  
42 this thing. You have to be very careful with it, because what  
43 you have here with the SSC and what they have done and the  
44 scalar and the buffer that they have of 0.9, you are following  
45 National Standard 1.

46  
47 What you really want to ask yourself is how much more lobster,  
48 in this case, I can get with whatever numbers you have on the

1 board, legally and quickly, because let's say that we have 0.99  
2 or 1.0 and it is approved, and you are going to be probably  
3 wasting about three years of your fishery hanging in the air  
4 without the proper regulations that you will follow and that you  
5 can invest money in your fishery.

6  
7 The way that it's set up here in this example, and I personally  
8 would like to see not an example, but something concrete in our  
9 management plan, and you can go 75 percent higher than what you  
10 have now. I mean, you can fish a lot more lobster than what you  
11 have now.

12  
13 You will be closing less amount of days during the year, or none  
14 at all, if, at the end of the exercise, you think that you get  
15 the information from the scientists that this is the best  
16 available data for your fishery and, therefore, your ACL will be  
17 elevated from what it is now, and, at least with the spiny  
18 lobster, that will assure the fishers that they will be able to  
19 fish comfortably, legally and all of that, and they will be able  
20 to invest in the fishery and have more traps or whatever,  
21 because you have that increase. You have to wait until the  
22 process is finished before you get a clear, clear picture of  
23 what this is in the future.

24  
25 **CARLOS FARCHETTE:** Roy.

26  
27 **ROY CRABTREE:** It seems to me that what we ought to be focusing  
28 on, given this, is moving this thing more quickly and getting it  
29 in place, so we can head off some of these closures, because  
30 that's a substantial increase, but the more we turn this into a  
31 long argument and back-and-forth with the SSC and everything  
32 else, that tends to slow things down.

33  
34 **MIGUEL ROLON:** Roy, how can we do that, move this faster? What  
35 will be the steps that we have to take to move it faster?

36  
37 **ROY CRABTREE:** Well, the first step is we need the SSC to  
38 actually give us an ABC recommendation, instead of -- I mean, if  
39 I'm understanding what Richard says, this is just an example,  
40 and so we need an actual ABC from the SSC. Then we need to go  
41 through the rulemaking to get it put in place, and I think Bill  
42 has timelines, but as these things -- We keep slipping on the  
43 timelines a little bit, and it would be nice to get this stuff  
44 moving and done.

45  
46 **MIGUEL ROLON:** Do you think that the SSC will be ready, between  
47 here and the summer, to give us that ABC or do you think that is  
48 too soft, the information that you have the information that you

1 have, to make a solid ABC recommendation to the council?  
2

3 **RICHARD APPELDOORN:** I don't think the information we have  
4 available is soft. I think it really comes down to, as we get  
5 more into this, are we going to find that basically we're  
6 encountering the same kinds of situations and therefore we're  
7 automatically knowing what scalars and buffers we're going to be  
8 working with, because, hey, this is the same thing we did with  
9 that last species, and then it goes really quickly or whether  
10 we're going to have to slug it out for all of these things.

11  
12 The other point is it's not clear to me what all you need at  
13 what timeframe, because this is being done -- Well, this could  
14 be done outside the island-based plans, or it's part of the  
15 island-based plans, and those could have two different  
16 timeframes.

17  
18 **CARLOS FARCHETTE:** Commissioner.

19  
20 **DAWN HENRY:** I have a question of clarity, because I understand,  
21 in terms of wanting to move the issue forward, but what I am  
22 still not clear on, especially if there becomes a point where  
23 there needs to be a vote, is there seems to be a discussion  
24 about having a range, which is moving this buffer to 1.0 versus  
25 having it remain at the 0.9.

26  
27 I need clarity as to if the rule, the regulation, what we're  
28 acting by and in accordance to, allows for us to say that there  
29 is a buffer range that takes us up to 1.0 versus us saying that  
30 we can't have a range and that, for now, we can only  
31 substantiate having it at the 0.9. I am still not clear that  
32 that question has been answered, and I think after, at least in  
33 my mind, that that question has been answered, then, sitting  
34 here as a regulatory as well as keeping the fishers in mind, if  
35 I need to cast a vote, then I will know how I need to vote.

36  
37 **CARLOS FARCHETTE:** Bill.

38  
39 **BILL ARNOLD:** We're dealing with three different issues here.  
40 The first issue is the buffer. Now, nobody is arguing that a  
41 buffer higher than 0.9 should be applied now. The argument the  
42 fishers are making is that the cap on the buffer be raised.  
43 That's a legitimate argument, but it's not one that is going to  
44 be settled or should be settled today.

45  
46 You can talk about it, and I think that's something that the SSC  
47 would take up, because it's up to them, as they did before -- At  
48 the last meeting, they adjusted their control rule. If they

1 want to further discuss adjustments, I think that's a topic for  
2 down the road, because we need to make progress on the topics at  
3 hand today, and I'm not trying to push the council, but I am  
4 just making suggestions.

5  
6 The second thing is developing ABCs for the spectrum of species,  
7 and that's what we're trying to get the SSC to work on, and  
8 that's what we really need to have accomplished by the July  
9 meeting that has been scheduled. The third topic is this topic  
10 specific to spiny lobster and their ABC, and that is can the  
11 spiny lobster, separately from all these other things, can a new  
12 ABC be set for that to avoid a closure, potentially this year,  
13 and almost certainly, if you look at the landings, will be a  
14 closure next year, because we take the average of three years,  
15 and look at the last two years. Both of them are well above the  
16 ACL.

17  
18 Even if next year, if the 2016 landings are low, they would have  
19 to be way, way low to bring that average below the ACL, and so  
20 that will be the third year in a row that we have closed spiny  
21 lobster in Puerto Rico, and I'm not sure that anybody has a lot  
22 of confidence in the necessity for that closure, and so that's  
23 the third topic, and one that I think in a little while, and not  
24 now, but in a little while, we may want to revisit.

25  
26 I would suggest that, right now, that Richard get back to his  
27 presentation, because we really need to make progress on this  
28 and get it done, because there's a lot of important questions  
29 that are going to come out of his presentation.

30  
31 **CARLOS FARCHETTE:** Miguel.

32  
33 **MIGUEL ROLON:** To satisfy Commissioner Henry's question, this is  
34 exactly why we want to order this, because you will have a  
35 chance as a council to get more information, probably at the  
36 August meeting, to take final decisions, and so, if we get the  
37 ABC for the species that we are supposed to get the ABC from the  
38 SSC in July, that's it. We have the ABCs, because the law says  
39 that OFL and ABC come from the SSC.

40  
41 Then the council will be responsible for ACLs, determine that  
42 level, and that could be equal to ABC, which is what Tony was  
43 talking about. That's why I believe that we are confusing the  
44 issues, and Bill said something that is still very present and  
45 important. If we don't do something with the spiny lobster  
46 quick, and you will see tomorrow a presentation by the fishers  
47 from Puerto Rico, we will have more closures again, and that's  
48 not good for anybody.

1  
2 Personally, I believe the lobster is okay the way it is, and  
3 many people around the room believe that, but we have to  
4 demonstrate that following the rules that we have under the  
5 National Marine Fisheries Service, and so, if we combine that  
6 with what Dr. Roy Crabtree pointed out, that if we get too hard-  
7 headed as a council and go over this buffer that the SSC is  
8 presenting to us, NMFS will have to reject that plan, partially  
9 disapprove it, or totally disapprove it, and then send it to us  
10 back again, and that's when we lose more time, the three years  
11 or two years or whatever.

12  
13 In order for you to be able to vote, we have to provide you, the  
14 staff and the SSC, we have to provide you with more elements of  
15 judgment to get to that vote, and that is why I believe that  
16 your question is right on the money in what we are supposed to  
17 be doing here.

18  
19 I propose, Mr. Chairman, that we have, probably this afternoon,  
20 and we have the regulatory amendment and all of that, but if we  
21 can allow Richard to finish his report, and then, Richard, you  
22 are clear that -- Not clear. You are clearer than me, but do  
23 you think that it will be a -- You said something aside from  
24 this, that we don't need to wait until the island-based plans  
25 get going. Presently, what we have, we can have also the ABCs,  
26 but, during the summer, do you think that the SSC can provide  
27 the council with the ABCs for the species, as many as possible,  
28 that we need?

29  
30 **RICHARD APPELDOORN:** Well, as many as possible is an open thing.  
31 We're certainly going to start cranking through as many as we  
32 can, with the goal, obviously, of trying to do everything,  
33 whether that's realistic or not. To the degree that the council  
34 would like to give us a hot list, if you will, to make sure that  
35 we get certain ones attended to, yes.

36  
37 **MIGUEL ROLON:** Okay. We are willing -- The staff, Graciela, can  
38 put together that hot list, starting with the spiny lobster, and  
39 then we can give it to Richard and the SSC group. That will  
40 move us forward, and we can go to something else.

41  
42 **CARLOS FARCHETTE:** Okay. I guess, Richard, you will complete --  
43 I don't want to jump the gun, because we haven't touched St.  
44 Croix yet, and I don't know if we'll be able to in July. It  
45 depends on who goes first, St. Thomas or St. Croix, but our  
46 recommendation for spiny lobster for St. Croix was 1.5 to 2, and  
47 so, if the SSC says, okay, two is good, that 0.9 buffer really  
48 wouldn't hurt us. It all depends on what the scalar is going to

1 show, but, Richard, go ahead.

2  
3 **RICHARD APPELDOORN:** All right. There is only one more example  
4 left here. I am hoping that actually St. Croix and St. Thomas  
5 are actually going to be easier than Puerto Rico, because their  
6 data collection are more uniform now, more standardized, and  
7 we'll be able to move more quickly through those, but we will  
8 see when we get there.

9  
10 This is the problem child. This is Grouper Unit 4, the  
11 yellowfin grouper. If we were going to have an indicator  
12 species, it would be that, and so that's why I have that data up  
13 for that, but we didn't feel that we had enough information to  
14 even make that claim, and so this is the nature of the data. It  
15 is fished both commercially and recreationally in and around --  
16 A number of things happened in the late 2000s, in the sense that  
17 regulations went into effect and there were closed seasons put  
18 in and there were aggregation sites that were closed, et cetera.

19  
20 As you can see from the commercial data, the catches dropped  
21 precipitously after those things, and there is also the impact  
22 of the economy on recreational fishing, and so it looks like,  
23 and I use the words "looks like" because we don't really know,  
24 that the catches are going down because of they're really not  
25 able to target the spawning aggregations anymore and the  
26 recreational components are going down.

27  
28 Therefore, it's really been reduced to more or less an  
29 incidental catch, and these are species that, when they're not  
30 aggregating, are spaced out fairly well, so you kind of get one  
31 here and there, and you can see that the commercial data is  
32 actually pretty good.

33  
34 It shows there were trends going on or substantial landings  
35 being recorded every year until recently, after these management  
36 measures went into place. It's the recreational data that's the  
37 problem, and because our sampling for that is much more sketchy.

38  
39 This is not a common species in the catch, and so there is an  
40 expansion factor that's used in those recreational things, and  
41 that expansion factor, because they sample so little of the  
42 catch, is large, and so you get something that looks like this  
43 kind of variability, and it really looks like, well, they caught  
44 one fish that year or they caught two in those years and three  
45 here and four here and then six. Then, this year, maybe they  
46 caught ten. I don't know, because their expansions also vary  
47 depending on their surveys.

48



1 You get these wide swings in variations, like this, and then  
2 nothing out in here, nothing in 2004 and nothing in 2002, just  
3 because of the rarity of the species in the catch, and so how do  
4 you deal with something like that?

5  
6 This is I'm not showing this as we've made a determination, but  
7 I am showing this as this is where things start breaking down  
8 when the data is really poor, and so the next slide is, if we  
9 add the recreational and the commercial catch together, that's  
10 what it looks like, and, again, here's that really, really high  
11 peak.

12  
13 Because this is a Tier 4b, at least for our examples here, this  
14 brownish line here, that's the average, and then we decided to -  
15 - In here, our scalar was 0.95, because we felt that the catches  
16 down here really -- We're not overfishing at this point, even  
17 though, for the entire period, there might have been something  
18 like that which drove us, and so we didn't use the high scalar  
19 to bring it down, and then, again, we still maintained the  
20 buffer of 0.9 on that, and so we're still maintaining a  
21 capability, under this scenario, of harvesting at that level,  
22 but we're not achieving that, because of other reasons.

23  
24 Part of the reason that we were confident with a 0.9, in terms  
25 of the uncertainty, was because of some of the management  
26 measures that are in there. Even though we have uncertainty in  
27 where exactly we should be relative to what the data are telling  
28 us, there is at least some management already in place that  
29 reduces some of the scientific uncertainty about where we are,  
30 but that's a problem child.

31  
32 I am not suggesting this is what we would do with this species  
33 at all, but it illustrates that, when we get down to some of  
34 these, in Puerto Rico, these rare species, that it's going to be  
35 an issue. Again, in the Virgin Islands, I am anticipating, with  
36 the more directed and targeted forms that are in place, that  
37 this will be a much reduced problem.

38  
39 Some of those species are just coming online now, and so we're  
40 not going to have a lot of species, but the ones that have been  
41 on now for close to five years now, we're going to have good  
42 data, and so, in this case, maybe Puerto Rico is the problem  
43 child, relative to what we're expecting and hoping to see in the  
44 Virgin Islands. That's it.

45  
46 **CARLOS FARCHETTE:** Thank you, Rich. Now we're going to move  
47 into DAP Reports. Nelson, you're in the hot seat.

48

1                   **DISTRICT ADVISORY PANEL REPORT FROM MARCH 7-8 MEETING**  
2                                   **PUERTO RICO DAP REPORT**

3  
4 **NELSON CRESPO:** On the last DAP meeting, we discussed the  
5 species to be included for management. On the Snapper Unit 1,  
6 fishermen catch them together, except for the wenchman, which is  
7 caught often in shallow waters.

8  
9 Some fishermen say that wenchman is not targeted much, because  
10 they don't have a market in the west coast, but it does have a  
11 market in the south coast, and hence the need to consider the  
12 differences between coasts in the island FMP. That species  
13 usually is too small. The wenchman are not seen often in  
14 restaurants.

15  
16 Wenchman is not caught with other species, and we should keep it  
17 in this group, but keeping in mind that it would increase our  
18 overall landings. Wenchman is prey for queen snapper and some  
19 groupers. It is feasible to target wenchman alone.

20  
21 The recommendation is wenchman should be separated from Snapper  
22 Unit 1. We voted for that with eight in favor and one  
23 abstention. It could be Snapper Unit 1X. The difference  
24 between coasts should be taken into consideration for managing  
25 wenchman.

26  
27 With the Snapper Unit 2, everyone agrees that this unit should  
28 remain as is. Snapper Unit 3 should remain alone, because it is  
29 targeted alone. You could catch other species, but the target  
30 is lane snapper. On Snapper Unit 4, the mutton should be  
31 alone, because they occur in a different habitat. This species  
32 is kind of pelagic. The recommendation is Snapper Unit 4B  
33 should remain together. Not all are ciguatoxic. It depends on  
34 the area where they are caught.

35  
36 Ciguatera should not be considered to establish stock complexes.  
37 We had a heavy talk about ciguatera in that meeting. We could  
38 have species that are in the same area that have ciguatera and  
39 others that don't. To avoid ciguatera, you could consider  
40 establishing a size limit, because it is known that fish that  
41 are bigger are the ones that generally have ciguatera. Big fish  
42 don't have a market, because of the ciguatera risk and not  
43 because they are infrequent. Ciguatera cases have increased in  
44 Arecibo. Conduct studies about ciguatera in Puerto Rico to have  
45 a better understanding of the problem. The recommendation is  
46 the council to reach out to Sea Grant to educate fishermen.

47  
48 With Snapper Unit 5, it should be left alone. It's the same

1 case as the lane snapper. It is targeted alone. Snapper Unit 6  
2 should be left alone.  
3  
4 On the groupers, Grouper Unit 1, everybody agreed that it's  
5 okay. The same for Grouper Unit 2. On Grouper Unit 3, red hind  
6 should be alone. It has an economic value and big spawning  
7 aggregations. With the coney and rock hind, it could be caught  
8 in shallow waters. Rock hind should be part of Grouper Unit 3.  
9 The recommendation is Grouper Unit 3 be coney, graysby, and rock  
10 hind. We recommend a new group apart for the red hind.  
11  
12 With Grouper Unit 4, everybody agreed with that. They said the  
13 red grouper is confused with the Nassau grouper. One fisherman  
14 said that the yellowmouth has been seen in deep waters. With  
15 Grouper Unit 5, everybody agreed to maintain it the way it is.  
16 We considered that the Grouper Unit 5 is a bycatch and it's not  
17 a target.  
18  
19 With grunts, everybody is okay. The jacks, 1, 2, and 3,  
20 everybody is okay with that group. With the parrots, everybody  
21 is okay with that. With surgeon and triggerfish, everybody  
22 agrees with that. The same with the wrasses and the angelfish.  
23 The same with the barracuda.  
24  
25 With dorados, with like the indictor, the dolphin. With the  
26 tripletail, we thought that maybe we can have, in the future,  
27 some market for it. Now it's more targeted by the recreational  
28 guys, but the commercial guys are start thinking about taking  
29 them to the local market in the future.  
30  
31 With the tunas, we had a conversation about the name in Spanish  
32 and with the little tunny that we call that baqueta, and, with  
33 the blackfin tuna, that we call that bonito. With that unit,  
34 most of the fishermen agreed that they don't appear together.  
35 Blackfin are caught in a different way. Blackfin is more  
36 pelagic. The little tunny is more coastal. The recommendation  
37 is to separate the little tunny and blackfin tuna.  
38  
39 With mackerels, they should be separated. Fishermen target one  
40 or the other. They are two different fisheries. The  
41 recommendation was to separate the species.  
42  
43 With the manta, more information is needed to be brought to  
44 light to educate the public. Include in the reporting form to  
45 get more data. The economic value of sting ray is minimal. It  
46 is not a target. Species do not have commercial value, but are  
47 valuable for tourism purposes. We suggest to separate each  
48 species. Stingray is caught using different gear types.

1  
2 With the cartucho, everybody is okay with that and with the spin  
3 lobster, too. Also, I want to remind that with the ABC control  
4 rule that Bill gave to the Virgin Islands, if it's possible, to  
5 translate it into Spanish to bring it to the DAP members in  
6 Puerto Rico. That's all we've got.  
7  
8 **CARLOS FARCHETTE:** Thank you, Nelson. Any questions for Nelson?  
9 Carlos.  
10  
11 **CARLOS VELAZQUEZ:** I understand the confusion for the  
12 classification for the APs. There are so many species. I don't  
13 understand why to separate the cardinal snapper for the no sale.  
14 The fish on the west of the island or the whole island?  
15  
16 **NELSON CRESPO:** I don't say the cardinal snapper. The cardinal  
17 snapper and the queen snapper, we have a market for that. The  
18 one we are talking about is the wenchman.  
19  
20 **CARLOS VELAZQUEZ:** What is the wenchman?  
21  
22 **NELSON CRESPO:** It's the limosneara. It's the small ones. We  
23 have no market, because it's too small for it.  
24  
25 **CARLOS VELAZQUEZ:** Okay. Thank you. What is the reason for the  
26 snappers for the dog snapper -- The dog snapper for the island  
27 is ciguatoxic?  
28  
29 **NELSON CRESPO:** No, we didn't talk about the snapper are  
30 ciguatoxic. We are talking that the ciguatera increased on the  
31 north side of the island.  
32  
33 **CARLOS VELAZQUEZ:** For all species of snappers?  
34  
35 **NELSON CRESPO:** No, it's for the mackerel.  
36  
37 **CARLOS VELAZQUEZ:** Mackerel? Mackerel is the kingfish or no?  
38  
39 **GRACIELA GARCIA-MOLINER:** The jacks that you have.  
40  
41 **CARLOS VELAZQUEZ:** No, mackerel is one species and jacks is the  
42 other species.  
43  
44 **GRACIELA GARCIA-MOLINER:** In your briefing book, you have the  
45 minutes from the DAP meetings in March, for each of the  
46 districts, and they have a series of recommendations that they  
47 actually presented also at the SSC meeting in April.  
48

1 Based on the original recommendations of the SSC, that listing  
2 was taken to the DAPs. The DAPs looked at it and made another  
3 set of recommendations, which the SSC agreed or did not agree  
4 with and gave you the final presentation that Richard presented  
5 earlier today.

6  
7 During that discussion of the species that you have in the lists  
8 that I proposed for federal management, you have a number of  
9 species that are considered ciguatera and that are in fact  
10 prohibited from being bartered with, because of ciguatera, and  
11 that includes the jacks and the barracudas. In the case of the  
12 snappers, two of the snappers that are considered ciguatera,  
13 the schoolmaster and the dog snapper, in the discussion of the  
14 SSC.

15  
16 Of course, ciguatera is one topic that has not been dealt with  
17 in a while now, and there hasn't been a lot of research being  
18 done. It's what the DAPs call the ghost of the ciguatera,  
19 because it's there, but no one really knows how to deal with it,  
20 and so there are parts of the island that have certain species  
21 that are ciguatera and certain other parts of the islands that  
22 are not ciguatera.

23  
24 In the case of what you have here on the screen, the "C", in  
25 terms of the market, is what the SSC and the recommendations of  
26 the DAP and the discussion that took place. They ended up  
27 looking at them as if they were ciguatera and, therefore, not  
28 much of a market is available for them. It doesn't mean that  
29 it's for -- For example, you have two here.

30  
31 **CARLOS VELAZQUEZ:** This is the recommendation for the SSC and  
32 not the DAP?

33  
34 **GRACIELA GARCIA-MOLINER:** For the DAP specifically, I will tell  
35 you in a second, because I am looking at their minutes from the  
36 meeting. They basically stated that not all of the dog and  
37 schoolmaster are ciguatera and that they should be separate  
38 from the mutton snapper, and so the SSC actually put them, in  
39 their last discussion, and, again, they are going through the  
40 set of representations, that they should remain together, with  
41 the mutton snapper being the indicator species.

42  
43 Ciguatera should not be considered to establish stock complexes.  
44 We could have species that are in the same area that have  
45 ciguatera and others that don't. Let's see. Then, on the other  
46 hand, if you go down the list of the species that the DAPs  
47 looked at, then they talk about ciguatera for other species, and  
48 so you used it to separate them or to put them together, but you

1 don't want to use them to separate them or put them together,  
2 and so, in the minutes, it's stated in both ways.

3  
4 **CARLOS VELAZQUEZ:** But I don't understand that. Schoolmaster  
5 and mutton snapper is not sold too much in the island, and the  
6 case of ciguatoxic for these species is too slow. Did you  
7 search in the books under this species for the whole island?  
8 This is not ciguatoxic. It's too small to compare it for the  
9 other species.

10  
11 **MIGUEL ROLON:** Carlos, if I may, this is not the time to second-  
12 guess what the DAPs said. What we need to hear is the three  
13 presentations from them, and then we can discuss it later.  
14 Actually, Graciela has a table that, probably in August or  
15 sometime, we can discuss it, where you have all the three  
16 groups' recommendations for all the species that we have here,  
17 but, again, we are now just receiving the report from each one  
18 of the Chairs of the DAPs.

19  
20 They spent a lot of time deliberating about all of this, and  
21 you're right that, in some areas of Puerto Rico, the situation  
22 will be Y and the other will be X, and we don't know yet, and we  
23 maybe cannot generalize for the entire island about a fish,  
24 particularly being ciguatoxic or not, but, at this time, we just  
25 want to hear from the three of them.

26  
27 **CARLOS FARCHETTE:** Julian.

28  
29 **ST. THOMAS/ST. JOHN DAP REPORT**

30  
31 **JULIAN MAGRAS:** I am going to make this as simple and as  
32 painless as possible. First off, I would like to say a special  
33 thank you to the SSC for all their hard work that they have done  
34 at both the February and at the March meeting. Richard, you did  
35 a great job. It was not an easy task.

36  
37 We sat through, as the Chairs, also through the painful process,  
38 and we took in as much as we could take in, so we know and  
39 understand the process a little bit better and can be part of it  
40 moving forward.

41  
42 As far as the concerns, when we had the joint meeting of the  
43 DAPs in Puerto Rico, there was just one change to our list, and,  
44 actually, at the SSC meeting, they decided that it didn't need  
45 to be changed, and that was for the yellowmouth grouper, and so  
46 there is no reason for us to go through the whole list for St.  
47 Thomas/St. John.

48

1 All I would say is that we need to continue working together as  
2 a team and continue striving to get the process completed, but,  
3 at the same time, not trying to rush through the process. We  
4 must take our time and ensure that what we're doing we are doing  
5 correctly. I am looking forward, at the July meeting, to  
6 getting over to the Virgin Islands and looking at their numbers  
7 and getting that process in place, so we can move forward.

8  
9 Right now, there is no discussion on the table for that, because  
10 we haven't even attempted to touch any of the islands, and I  
11 will not discuss our recommendations for those groups until we  
12 have that DAP presentation at the SSC meeting, and so that's my  
13 report that I have for today. I will keep it short and sweet,  
14 because I know that we have a lot more to accomplish here today.  
15 Thank you.

16  
17 **CARLOS FARCHETTE:** Thank you, Julian. Schuster.

18  
19 **ST. CROIX DAP REPORT**

20  
21 **EDWARD SCHUSTER:** At the March meeting, the DAP for St. Croix  
22 that were present were Tom Daley, Viridin Brown, Patricia Skov,  
23 Mike Fuller, Gerson Martinez, Pew Charitable Trust, Miguel  
24 Rolon, Carlos Farchette, Diana Martino, and myself.

25  
26 The group agreed to keep the Snappers Units 1, 2, 3, and the  
27 yellowtail as they are right now. The mutton should be a  
28 separate unit, as well as schoolmaster. The reason for that is  
29 that these two species are found in shallower areas, and the  
30 mutton is found in shallow and deep waters.

31  
32 Regarding the groupers, we also agreed to keep the units Grouper  
33 Unit 1, Grouper Unit 2, Unit 3, 4, 5, and also 6, as the same,  
34 as it stands on that spreadsheet.

35  
36 The DAP St. Croix agreed that the groupings presented for  
37 grunts, squirrelfish, parrotfish, surgeonfish, triggerfish, and  
38 angelfish should remain the same. The DAP St. Croix also  
39 recommended that queen conch, spiny lobster, sea cucumbers,  
40 corals, and urchins should remain the same as they are right  
41 now.

42  
43 However, the group recommended that dolphin and wahoo be removed  
44 from the list of species proposed for federal management. These  
45 two species are seasonal and found in and around the island  
46 during the pelagic seasons. Fishers actually fish these fish to  
47 relieve some of the shallow-water reef pressure, fishing  
48 pressure.

1  
2 The group also discussed the additional protection, other than  
3 seasonal closures, offered to reef fish when fishers are fishing  
4 for pelagics. These fish species migrate with the currents, and  
5 they follow bait and are fished throughout the region. There is  
6 information from the recreational tournament data and the  
7 commercial data to confirm this. There is ongoing work to  
8 regulate recreational fishers that just go out on weekends and  
9 big holidays, but the only recreational records that we have is  
10 from tournaments on St. Croix.

11  
12 The following alternatives were offered by the DAP. Do not  
13 manage the dolphin and wahoo. If and when dolphin and wahoo are  
14 included for federal management, there should be no regulations,  
15 because of their highly-migratory transitions. Allocation to  
16 commercial and recreational fisheries separately, meaning that  
17 we thought about giving the recreational sector a bag limit and  
18 possibly a size limit. The Alternative 4 was to establish a  
19 high ACL if no separation of ACL for commercial and  
20 recreational, and that's for the dolphin and wahoo.

21  
22 Being in this process, I also learned a lot, because you have to  
23 go there as a sponge, like I said, and just listen to what the  
24 SSC has to come forward with. Dr. Appeldoorn took his time,  
25 along with Shannon from the SSC, among the other members that  
26 took their time to explain some of the process of how it goes  
27 through and thinking as a scientist, and so I welcome the  
28 information and also just being there as a part of this process.  
29 It's just amazing to see how it works.

30  
31 One of the things that I would like to reach out, as a DAP  
32 member, to maybe solve some of this problem that we're having  
33 with inaccurate reporting or fishers not participating here --  
34 As you can see, the room is filled, and it's just standing room  
35 alone, and it's just to continue the outreach and education  
36 program.

37  
38 Dr. Alida Ortiz does a fantastic job, and I think getting the  
39 process or the information to the fishers of accurately  
40 reporting -- I think there was a misconception, or a  
41 misunderstanding rather, of what the fishers thought, which was  
42 we report less and we have a longer fishing season, but it's  
43 totally opposite how the scientists think of it.

44  
45 They look at numbers and automatically that's a red flag that  
46 tells the scientists what's going on. It could be the fish have  
47 moved to deeper waters or shallower waters or the fishing  
48 pressure has increased or the stock is not there to support the



1 fishing pressure, but I welcome the information, and I look  
2 forward to working with the SSC.

3  
4 **CARLOS FARCHETTE:** Thank you. I have to put this one comment on  
5 the record when it comes to species selection for management for  
6 St. Croix, because we have black grouper, red grouper, tiger  
7 grouper, and yellowfin, and I mentioned this at the SSC meeting  
8 on the record also, but I want to do it at the council on the  
9 record.

10  
11 St. Croix has none of those species in their catch, and so I  
12 think that was a misidentification or something went wrong there  
13 that we need to take a look at. I have been fishing  
14 recreationally for forty-seven years, and thirty years of that  
15 has been monitoring fishermen commercially and spending a lot of  
16 time at the market, and I don't see those species at all.

17  
18 We also have a biologist on our DAP who agrees that those  
19 species do not occur on St. Croix, and, although it will not  
20 hurt us at the end, because you can have all the ACL and we'll  
21 never meet it, because we're not catching the fish, and so it  
22 really doesn't make a difference, but I just wanted to put it on  
23 the record that those species do not occur on St. Croix and we  
24 need to take another look at them.

25  
26 That takes care of the DAP reports, and now we have the  
27 Amendment 6, the triggering accountability measures for Puerto  
28 Rico. Who is handling that? Kate. Thanks. While Kate is  
29 bringing that up, I just want to correct something I said there,  
30 and so it's an alternative fact. I did see one yellowfin  
31 grouper in the last forty-five years, and so I can't say all  
32 species.

33

34 **REGULATORY AMENDMENT 6 TO THE REEF FISH FMP: TRIGGERING**  
35 **ACCOUNTABILITY MEASURES IN THE PUERTO RICO EEZ**  
36 **REVIEW PROPOSED ACTION AND ALTERNATIVES**

37

38 **KATE QUIGLEY:** I know you guys have seen this before, and I'm  
39 just going to go over it again. We have a public hearing  
40 tonight, and this is the presentation for you guys. The public  
41 hearing presentation is in Spanish, and it's very, very similar,  
42 and so I will get started.

43

44 I will just remind you that the purpose of this amendment was to  
45 revise how AMs are triggered for Puerto Rico only, the reef fish  
46 fishery, to increase the likelihood that optimum yield is  
47 achieved, while maintaining sector-specific accountability  
48 measures, and to minimize, to the extent practicable, adverse

1 socio-economic effects of accountability measure-based  
2 closures.

3  
4 We have got one action in this amendment to revise the trigger  
5 for implementing AM-based fishing season reductions for stocks  
6 and stock complexes in the reef fish fishery in Puerto Rico, and  
7 we have got three alternatives.

8  
9 The status quo, no action, is currently the AM for a stock would  
10 be triggered for either the recreational or commercial fishing  
11 sector if that sector's ACL for the stock complex is exceeded.

12  
13 Alternative 2 is less restrictive. It says the AM for a stock  
14 or stock complex would be triggered for either the recreational  
15 or commercial fishing sector if that sector's applicable ACL for  
16 a stock or complex is exceeded and the combined ACL, the total  
17 ACL, for that stock or complex is exceeded, and so both of those  
18 things need to be true. Basically, under Alternative 2, you  
19 have a greater chance of achieving the OY.

20  
21 Alternative 3, the AM would be triggered for either the  
22 recreational or commercial fishing sector if that sector's  
23 applicable ACL is exceeded and the total ACL for that stock or  
24 complex is exceeded, but Alternative 3 is, if the sector-  
25 specific ACL is exceeded, but the total ACL is not exceeded, the  
26 AM would not be triggered, except if the stock is undergoing  
27 overfishing, under 3a, or it's overfished, under 3b.

28  
29 With regards to what is restrictive, Alternative 1, the status  
30 quo, is most restrictive and results in the greatest number of  
31 closures. Alternative 2 is the least restrictive, and then  
32 Alternative 3 falls in between Alternative 1 and 2, and so I am  
33 going to go over the different effects. Of course, we've got  
34 physical, biological and ecological, economic, social effects,  
35 and then administrative effects, and so I'm going to go over  
36 them briefly.

37  
38 If you take a look at the bold lettering, it just kind of sums  
39 things up, and, at the end, I will summarize all of the effects,  
40 and so it's a lot to take a look at. This is all in the  
41 document, and so, when taking a look at physical effects, we're  
42 taking a look at what is the impact on the ocean floor.

43  
44 It really depends on how much fishing effort is occurring, and  
45 so, while we don't have direct effects on the physical  
46 environment from these three alternatives, you do have indirect  
47 effects, and the indirect effects are how much is fishing effort  
48 going to increase or decrease under each of these alternatives.

1  
2 Alternative 1, you've got less fishing effort occurring compared  
3 to Alternatives 2 and 3, because you have more closures. Under  
4 Alternative 2, you have got the greatest chance of gear and  
5 anchor interactions with the seafloor, because you have less  
6 closures, and so, presumably, more fishing effort.

7  
8 Alternative 3 falls somewhere in between, and so, in general, no  
9 direct effects are expected. The indirect effects depend on the  
10 changes in fishing effort under different alternatives, and that  
11 is very difficult to predict.

12  
13 With regards to biological and ecological effects, again we're  
14 looking at how many closures are actually taking place, and so,  
15 under the status quo, Alternative 1, current closures are  
16 resulting in less fishing effort, but potentially more  
17 regulatory discards, because you have more closures, than  
18 Alternatives 2 and 3.

19  
20 Alternative 2, you've got less closures, but the greatest chance  
21 of achieving the OY. You are still adhering to the ACL under  
22 all three of these. You are adhering to the ACL, which is set  
23 at a level considered to be sustainable for the stock and equal  
24 to the OY, and so no negative effects are actually expected  
25 under Alternatives 2 and 3, because you are adhering to the ACL  
26 regardless.

27  
28 Specifically, looking at Sub-Alternatives 3a and 3b, no negative  
29 effects are expected. However, biologically-greater benefits  
30 than Alternative 2 and Sub-Alternative 3b, because it results in  
31 more closures, and so undergoing overfishing. Then Alternative  
32 3b, you have got greater benefits than Sub-Alternative 3a,  
33 because overfished status occurs less often than the overfished  
34 status, but you are still adhering to the ACL, and so no  
35 negative effects.

36  
37 Economically, we're looking at fishing opportunities and how  
38 much can be landed and what are the chances of achieving the OY.  
39 With regards to Alternative 1, economic benefits are less than  
40 under Alternatives 2 and 3, because landings and revenues are  
41 less than they could be otherwise, because you're going to have  
42 less closures under Alternatives 2 and 3.

43  
44 Alternative 2, we are expecting there to be the greatest  
45 economic benefits, due to the increased possibility of capturing  
46 the entire ACL. Alternative 3, you're going to have less  
47 closures than Alternative 1, but more than Alternative 2, and so  
48 the economic benefits fall in between Alternatives 1 and 2.

1  
2 With regards to Sub-Alternatives 3a and 3b, 3a results in  
3 greater economic benefits than Alternative 1, but less than  
4 Alternative 2 and Alternative 3b. 3b is greater economic  
5 benefits than Alternative 1, but less than Alternative 2 and  
6 greater economic benefits than Sub-Alternative 3a, because the  
7 overfished status occurs less often than the overfishing status.

8  
9 Social effects, we're taking a look at the potential for fishing  
10 opportunities. Under Alternative 2, you've got the greatest  
11 social benefits expected, because you've got the greatest  
12 possibility of increasing fishing opportunities, because you  
13 have less closures, again, and so it's similar results to the  
14 economics.

15  
16 Under Alternative 3, it's a greater possibility of fishing  
17 opportunities than Alternative 1, but less than Alternative 2,  
18 and so, again, Alternative 3 falls in between. Sub-Alternative  
19 3a is greater fishing opportunities than Alternative 1, but less  
20 than Alternative 2 and Alternative 3b. 3b is greater benefits  
21 than Sub-Alternative 3a, because overfished status occurs less  
22 often than overfishing status. It all has to do with how many  
23 closures are occurring under the three alternatives.

24  
25 Administrative effects, we're expecting the least administrative  
26 burden due to decreased closures under Alternative 2. Of  
27 course, there is required rulemaking to modify the trigger.

28  
29 This is just a simple summary of effects. Under physical  
30 effects, no direct negative effects are expected. Biological  
31 and ecological effects, no negative effects are expected,  
32 because you're adhering to the ACL under all three alternatives.

33  
34 Economic effects, Alternative 2 has the greatest economic  
35 benefits, due to greater chance of capturing the entire ACL,  
36 which is equal to the OY. Social effects, Alternative 2 offers  
37 the greatest possibility of increased fishing opportunities.  
38 Administrative effects, Alternative 2 has the least  
39 administrative burden, due to less closures.

40  
41 The timeline, there is one date, today. Well, actually two  
42 dates, today and tomorrow, but, today and tomorrow, review and  
43 identify the preferred alternatives, and so we still do not have  
44 a preferred alternative. Today is approve the draft amendment  
45 for public hearings.

46  
47 Today, this evening, we are holding public hearings. Then,  
48 tomorrow, the expectation is that the council will revise the

1 draft amendment as necessary and deem the codified text. If you  
2 would like to take a look at the codified text today, we have  
3 that. Tomorrow, possibly approve the amendment for secretarial  
4 review.

5  
6 Two steps that we need to take today, and that is review and  
7 identify the preferred alternatives, and you all have the actual  
8 document, and then approve the draft for public hearings that is  
9 happening this evening. Any questions?

10

11 **CARLOS FARCHETTE:** Hanke.

12

13

**SELECT PREFERRED ALTERNATIVE**

14

15 **MARCOS HANKE:** I don't want to simplify too much the process,  
16 but the alternative -- We are deciding the preferred alternative  
17 between those, right? I am ready to make a motion, but I would  
18 like some discussion about it. Can you put Alternative 2 on the  
19 board there? I would like to see the alternative first. **I**  
20 **would like to move Alternative 2 as stated on the board as the**  
21 **preferred alternative.**

22

23 **CARLOS FARCHETTE:** I am looking for a second.

24

25 **CARLOS VELAZQUEZ:** Second.

26

27 **CARLOS FARCHETTE:** Is there discussion? The motion is  
28 Alternative 2, the AM for a stock or stock complex will be  
29 triggered for either the recreational or commercial fishing  
30 sector if that sector's applicable ACL for a stock or complex is  
31 exceeded and the combined recreational and commercial ACL for  
32 that stock complex is exceeded. That is the preferred  
33 alternative. It's moved by Hanke and seconded by Velazquez.  
34 Roy.

35

36 **ROY CRABTREE:** Kate, this provides the maximum economic benefits  
37 to the fishery, and is that correct?

38

39 **KATE QUIGLEY:** Yes.

40

41 **ROY CRABTREE:** Okay. Then that seems to make sense to me that  
42 we should do that.

43

44 **MARCOS HANKE:** Adding to the rationale of this, this has been,  
45 for many meetings, something that the fishermen have been  
46 stating that it's something that they would like to see, and I'm  
47 happy to see it on the board as an alternative, and that's why  
48 it's my motion.

1  
2 **CARLOS FARCHETTE:** Any further discussion? **Hearing none, all in**  
3 **favor say aye; any nays; any abstentions. Hearing none, the**  
4 **motion carries.**  
5  
6 **MIGUEL ROLON:** Kate, do we have anything else for the council at  
7 this time?  
8  
9 **KATE QUIGLEY:** The council just needs to approve the document  
10 for public hearing.  
11  
12 **MARCOS HANKE:** **Motion to approve the document for public**  
13 **hearings.**  
14  
15 **TONY BLANCHARD:** Second.  
16  
17 **CARLOS FARCHETTE:** The motion is to move the Amendment 6 --  
18  
19 **MIGUEL ROLON:** Just for the record, you can say motion to  
20 approve the document on AM triggers as presented by staff to go  
21 to public hearings, and then you can have the reference to the  
22 whole document at any time.  
23  
24 **CARLOS FARCHETTE:** So we will add that. The motion is to  
25 approve the AM triggers amendment document as presented by staff  
26 for public hearings. Motion by Hanke and seconded by Blanchard.  
27 **All in favor say aye; any nays; any abstentions. Hearing none,**  
28 **the motion carries.**  
29  
30 **MIGUEL ROLON:** Kate, are we finished with this section?  
31  
32 **KATE QUIGLEY:** Yes, that's it until tomorrow, when you review  
33 the public hearing comments.  
34  
35 **MIGUEL ROLON:** Just to refresh the memory of everybody, we also  
36 are going to have the seven o'clock public hearing.  
37  
38 **CARLOS FARCHETTE:** Yes, seven o'clock tonight until eight. It's  
39 open to the public, and, just in case, because we know it's a  
40 Puerto Rico issue, there are two listening stations in Puerto  
41 Rico for this meeting tonight. It's going to be in Spanish. We  
42 are going to take a quick break.  
43  
44 (Whereupon, a brief recess was taken.)  
45  
46 **CARLOS FARCHETTE:** We're going to get into Island-Based Fishery  
47 Management Plans. I don't know who is handling that. Graciela.  
48

1                   **ISLAND BASED-FISHERY MANAGEMENT PLANS**  
2                   **REVIEW OF PROPOSED ACTIONS AND ALTERNATIVES**

3  
4 **GRACIELA GARCIA-MOLINER:** We have had a technical difficulty,  
5 because there is no internet connection right now, and so a  
6 brief introduction to what you are going to see. You have heard  
7 from the SSC, and you have heard from the DAPs, regarding the  
8 list of species proposed for management, and so Actions 1 and 2,  
9 the groupings of how they recommend they should be grouped as  
10 stocks or stock complexes, and Action 3 is the ABC control rule  
11 and the way of setting the reference points.

12  
13 The IPT, which is composed of an interdisciplinary group from  
14 the Region, the Regional Office, the Science Center, the  
15 council, and General Counsel, have been working along the way to  
16 prepare the alternatives that the council will consider. We  
17 will go through what we have right now. This is a work in  
18 progress, because we had the last SSC meeting a week ago, and so  
19 this has been back-to-back.

20  
21 The SSC will meet again in July to review what they have done to  
22 date and to try and finalize the reference points. You heard  
23 earlier today that we should prepare a hot list of species that  
24 we would like for them to go through first and give the ABC and  
25 OFL to the council, and so we will work on that.

26  
27 The idea is for you to be aware of all the issues that come up  
28 when we are preparing the fishery management plans. We have had  
29 delays in the way that we had set up the timeline, and things  
30 are being pushed back, but, at the same time, that has been  
31 good, because things are being done with a very long and  
32 straightforward record, where everyone has been involved,  
33 everyone from the science, the industry, the council, the  
34 Regional Office and the Southeast Fisheries Science Center, and  
35 General Counsel has been present at most of the SSC meetings  
36 that we have been developing the ABC control rule and the way to  
37 apply that to the list of species proposed for management.

38  
39 These are the actions, the draft actions and alternatives, that  
40 are considered in the DEIS. Remember that we do this first and  
41 then the management measures come after that in the fishery  
42 management plan, and so we are setting up the scenario for the  
43 management measures that might or might not come out of this  
44 exercise.

45  
46 We are migrating the management measures, such as the spiny  
47 lobster minimum size, et cetera, but, if anything needs to be  
48 revisited, this will be done after all these alternatives are

1 considered. The thing that will change, most likely, will be  
2 the ACLs, and that is the council's prerogative to set that, and  
3 the way that the ABC and the OFL are determined by the SSC. I  
4 am going to go through the actions now.

5  
6 Action 1 is to determine the species to be included for  
7 management in each of the islands, and so we're just using the  
8 "X" here to say Puerto Rico, St. Thomas/St. John, and St. Croix.  
9 Otherwise, you would have to see this three times.

10  
11 Action 2 is to establish stocks or stock complexes in the X  
12 island FMP. Action 3 is management reference points. Action 4  
13 is essential fish habitat description and identification for  
14 species not previously managed in federal waters for X island,  
15 and Action 5 is framework procedures for the X island FMP.

16  
17 Right now, we have an indication that the preferred management  
18 to determine -- For Action 1, to determine the species to be  
19 included for management for each the St. Croix, St. Thomas/St.  
20 John, and Puerto Rico FMPs is Alternative 2.

21  
22 It reads as follows: For those species for which landings data  
23 are available, indicating the species is in the fishery, the  
24 council will follow a stepwise application of a set of criteria  
25 to determine inclusion/exclusion in FMPs.

26  
27 Action 1 is always no action, and so things remain the same,  
28 which, in most cases, cannot be the case, because you are  
29 looking at new species that have come under management, or will  
30 be coming under management. Then the Alternative 3 includes the  
31 same set of determinations, but just the selection of two of  
32 those that will set the list. This is what the SSC has been  
33 working on.

34  
35 There are four criteria that were developed by the SSC, and they  
36 have been brought to the council before. These are, for  
37 Criterion A, include overfished species, prohibited harvest  
38 species, due to ecological importance, or species with seasonal  
39 closures or size limits. This is your Nassau grouper and queen  
40 conch and goliath grouper, et cetera.

41  
42 Criterion B is, from the remaining species, exclude species that  
43 infrequently occur in federal waters, based on expert analysis  
44 guided by available data. Available data included the  
45 recreational and commercial landings, and it included surveys,  
46 SEAMAP, any information that we had available that indicated  
47 that the species occurs or did not occur in the EEZ.

48



1 Criterion C is, from the remaining species, include biologically  
2 vulnerable species or species with essential ecological value,  
3 as determined by expert analysis. Criterion D is, from the  
4 remaining species, include economically important species based  
5 on threshold of landings or value and important bycatch species,  
6 as established by expert analysis.

7  
8 In the number of draft documents that you have seen, we have  
9 gone through the exercise of putting all these species into the  
10 category of why they were included or excluded, and then the  
11 final list that we have presented to you and the SSC and the  
12 DAPs have looked at. We are just going to review the new  
13 species that have come under management, following the criteria  
14 that I just described.

15  
16 For Puerto Rico, you have the old species of queen conch, spiny  
17 lobster, cucumbers, sea urchins, all corals, and sixty-three  
18 finfish species. Eighteen of those are new species under  
19 federal management, and so, in the snappers, it's the cubera.  
20 In groupers, it's the yellowmouth. Then gray trigger, crevalle,  
21 African pompano, and rainbow runner, the eagle and manta rays,  
22 mackerels and tunas, barracuda, and the dolphinfish.

23  
24 For St. Croix, you have, again, the queen conch, the spiny  
25 lobster, the cucumbers, sea urchins, all corals, forty-three  
26 finfish species, and two of these are new, the wahoo and the  
27 dolphin.

28  
29 Keep in mind everything that the SSC and the DAPs discussed  
30 during today, because this includes the recommendation of the  
31 DAP to remove both the dolphin and the wahoo from the list of  
32 species under federal management and then the recommendation of  
33 the SSC to maintain them, the discussions that you've have  
34 during the council meetings about the percentage or the part of  
35 the stock that might be impacted when they go through here,  
36 because they are seasonal species in nature. They occur from  
37 Brazil all the way to the Northeast now, with the migrations  
38 that they are suffering.

39  
40 Finally, for St. Thomas/St. John, it's queen conch, spiny  
41 lobster, the cucumbers, sea urchins, corals, forty-seven finfish  
42 species, three of them new, the yellowmouth, the wahoo, and the  
43 dolphin.

44  
45 Most of the information comes from the commercial harvest. The  
46 SSC has looked at the changes that have taken place in the catch  
47 reports, and so that information has changed specifically and  
48 most significantly for the Virgin Islands, going from family

1 groupings to species-specific information for five or six years  
2 to now reflecting the list that was created during this  
3 development of the island FMPs.

4  
5 Right now, the Virgin Islands have a catch report that reflects  
6 exactly the same groupings that are proposed for federal  
7 management. Bill just reminded me, and this is also important,  
8 that quite a number of species, and I don't have the specific  
9 numbers, have been taken off the list, based on that Alternative  
10 2 and going through -- If they don't occur in the EEZ, if they  
11 are not ecologically important, if one of those criteria was not  
12 met or the whole process was not met, then they were deleted  
13 from the original fishery management units that we had in place.  
14 Are there any questions about Action 1? Then I continue.

15  
16 Action 2 is to establish stocks or stock complexes in each of  
17 the St. Thomas, St. Croix, and Puerto Rico FMPs. Always the no  
18 action would be the first alternative, and this would be to  
19 retain the stock complexes as they are presently. There have  
20 been changes, and so definitely, except for things like the  
21 queen conch or the spiny lobster, that could not be the case.

22  
23 Do not organize the species in stock complexes, and so species  
24 would be managed as individual stocks. Alternative 3, and it's  
25 underlined, because it's kind of the direction that we are  
26 heading, is manage species in the X island FMP as individual  
27 stocks or stock complexes based on scientific analysis,  
28 including one or more of the following: cluster analysis based  
29 on landings patterns, outcomes from the SEDAR Caribbean Data  
30 Evaluation Workshop of 2009, and that includes only those  
31 species that were previously managed that will remain in the  
32 FMP, biological and life history similarities and  
33 vulnerabilities for all species, or expert opinion, which, in  
34 many cases, is the modus operandi, from the scientific and  
35 fishing communities for all species.

36  
37 These are the species complexes that you heard of earlier today,  
38 and the differences between the way that the industry sees some  
39 of these complexes and the SSC looks at them, and so all the  
40 information that the DAPs had from their meeting was presented  
41 at the SSC meeting last week, or two weeks ago, and discussion  
42 ensued.

43  
44 The DAP Chairs have been very responsible in following through  
45 with the information that was brought to the SSC, which included  
46 meeting with the FACs in the Virgin Islands and all the DAP  
47 members and presenting the information, species-by-species, on  
48 what they thought their status was.

1  
2 They had comments such as were they common or uncommon on the  
3 islands and were they part of the market, whether they should be  
4 actually in the ABC control rule, Tier 4a or 4b, and why. All  
5 of that information was brought to the SSC two weeks ago.  
6  
7 Finally, another alternative that is included here is, where  
8 there are stock complexes, select an indicator stock based on  
9 any of the following, and this is to be determined.  
10  
11 The SSC has also looked at the use of indicators, as you saw  
12 earlier, and the determination of whether that will be the case  
13 for all of the other groupings will ensue following the SSC  
14 meeting in July.  
15  
16 You have a number of tables that includes the recommendations.  
17 This is the recommendations from the SSC and the DAPs and the  
18 final recommendation of the SSC as of two weeks ago, and so, for  
19 queen conch, it will only be the Strombus gigas. For the spiny  
20 lobster, it will be only panulirus argus.  
21  
22 Then this is where the discrepancy came, in the case of Puerto  
23 Rico Snapper Unit 1, to include or not include the wenchman in  
24 Snapper Unit 1, to include or not to include the dog and the  
25 schoolmaster alongside the mutton snapper, and then keep the  
26 Snapper Unit 2 as it was and yellowtail snapper as it was and  
27 include the new species of cubera snapper on its own.  
28  
29 I am just going to go quickly over these tables. If anyone sees  
30 anything that they need to ask or discuss, but, again, the star,  
31 that little star, means that the SSC is recommending that that  
32 be considered the indicator species for that group.  
33  
34 I think that you have already seen this, but this is where also  
35 there is some differences, and so this would be the groupers on  
36 the upper part of the table, and so keeping the goliath and the  
37 Nassau separate, but then having red hind and rock hind  
38 together, and this is for Puerto Rico right now, and use the red  
39 hind as the indicator, and have the graysby and the coney  
40 together and have the coney as the indicator.  
41  
42 There have also been changes in the catch reports for Puerto  
43 Rico, and so some of the species have dropped out, and so we  
44 would be getting information only on one of these species, or  
45 have been getting information on any one of these species in the  
46 past five or six years.  
47  
48 Continuing on, the Grouper Unit 4 that Richard presented earlier

1 and where everything kind of breaks down, because they are very  
2 vulnerable groupers, the Grouper Unit 4. They do aggregate for  
3 spawning. They have been under management for a number of years  
4 now, with a seasonal closure, and the seasonal closure only  
5 takes place in the EEZ. It doesn't include the state waters,  
6 and then two of the deeper-water species, the yellowedge and the  
7 grouper, that compose Grouper Unit 5.

8  
9 Moving on to the parrotfish, the same groupings that Richard  
10 presented earlier. The surgeonfish are three species and the  
11 triggers are three species also, and I apologize for not being  
12 able to show you the one that is at the bottom, but there are  
13 three species there.

14  
15 They had gone through these and thinking in terms of the queen  
16 triggerfish being the indicator species for those. It's for  
17 which most of the information that's available for Puerto Rico  
18 is collected.

19  
20 For the wrasses, the SSC recommends that they be separated,  
21 keeping the hogfish as one unit and the other two as a separate  
22 unit. Most of the landings do come in for the hogfish.  
23 Angelfish are three species now, and these were -- During the  
24 ACL and the SFA, et cetera, they have been considered as very  
25 important ecologically, and their ACLs suffered a fairly large  
26 buffer at the time, because of that ecological importance.

27  
28 Barracuda, that's a new one also for federal management, and  
29 although there is a prohibition on the sale of this species in  
30 Puerto Rico, they are able to harvest it. Tripletail, as  
31 Richard mentioned, is mostly from the recreational harvest, and  
32 that's also a new one, and the manta and eagle rays are also new  
33 to the listing, and, although there is no specific data being  
34 collected for these, it's known that they are marketable, some  
35 of them, for turnover stuffing and that kind of thing.

36  
37 The grunts, we used to have a fairly large list, and now it's  
38 only one, the white grunt. The jacks, you have three separate  
39 units, because of the differences in the fisheries. For  
40 dolphinfish, two species, with the larger of the two being the  
41 indicator species. Nelson explained the difference between the  
42 little tunny and the blackfin and the differences in the fishery  
43 and the seasonality of both.

44  
45 The same thing for the mackerels and the wahoo, and so, for  
46 Puerto Rico, this would be the list of species proposed for  
47 federal management. Now I am going to go through the same  
48 listing for St. Thomas and St. Croix.

1  
2 For St. Croix, you have the queen conch and the spiny lobster.  
3 The SSC did not go through the listing in as much detail as they  
4 have done with the Puerto Rico, because they wanted to carry  
5 through and go through the whole process of the reference points  
6 from start to finish, but the list is shorter, in terms of the  
7 snappers that are included here.

8  
9 In this case, only Snapper Unit 1 has four species in its group,  
10 and I believe that some of the discussion led to the blackfin  
11 being probably the indicator in this case, and so, for the  
12 Snapper Unit 3, the gray and the lane snapper, they co-occur,  
13 and so they're considered one unit.

14  
15 The groupers, it's basically the same separation of coney and  
16 graysby and red hind and rock hind. It's the same thing for the  
17 groupers and the Chairman, earlier today, mentioned the fact  
18 that there might be some species that are not really reported  
19 and there might be a problem with misidentification, and so we  
20 have made note of that, to look into the fishery-independent  
21 reports, and that might be where some of the information has  
22 come from.

23  
24 They might not be part of the fishery, but, if they are part of  
25 the -- If they are a potential fishery, and they are very  
26 vulnerable, because they are larger groupers that aggregate for  
27 spawning, et cetera, it might be worthwhile looking into them.

28  
29 The parrotfish, this one is different from all of the other  
30 islands. St. Croix has a minimum size in place for the  
31 parrotfish since 2010 or 2011. They have been dealing with  
32 these species more than any of the other groupings. They are of  
33 extreme ecological importance that has been mentioned before.  
34 The same thing with the surgeonfish and the angelfish, and they  
35 do have a very limited ACL. Things might change, because of the  
36 way the data are being collected these days.

37  
38 There are two species in the grouper unit. One is squirrelfish  
39 and one is queen trigger. Then the dolphin, the wahoo, and the  
40 cucumbers, sea urchins, and corals. If you have noticed, there  
41 are differences in the listings that we have for each of the  
42 islands, and so we will move on to St. Thomas.

43  
44 Again, the queen conch and the spiny lobster are by itself and  
45 the four of the deeper-water snappers, the black, blackfin,  
46 silk, and vermilion. Only one in Snapper Unit 2, the queen  
47 snapper, and two that compose the lane and the mutton, and, in  
48 this case, they are grouped together for St. Thomas, and then

1 the yellowtail snapper.

2  
3 The groupers are the same, the Nassau and goliath separate, and  
4 coney now is separated in its own unit, and red hind. Again,  
5 this basically reflects the information that's available from  
6 the landings data.

7  
8 For Grouper Unit 4, it's black, red, tiger, and yellowfin. That  
9 has seen quite drastic management measures since 2005, closing  
10 the main spawning aggregation and having a seasonal closure from  
11 the shoreline to the 200 nautical miles in place for a number of  
12 years. Then the deeper-water groupers are the yellowmouth,  
13 yellowedge, and misty, and so these species are in the catch  
14 reports to date.

15  
16 For the parrotfish, the three that are banned from the fishery,  
17 the larger ones, and then the other parrotfish that are listed  
18 for St. Thomas, again, they are all grouped into one unit, but  
19 they are in the form on a species-specific basis since 2016.

20  
21 For the grunts, there are three species, two in Grunt Unit 1 and  
22 one in Grunt Unit 2. There are four porgies that are still in  
23 the list, and this is the only island that has the porgies.  
24 There is one species of jack.

25  
26 The surgeonfishes and the angelfish are also a part of the  
27 proposed species for management, and, in the wrasses, it's only  
28 one species, the hogfish. Then it's one species of triggerfish,  
29 the queen trigger, which is one of the most significant -- The  
30 old wife is one of the significant fisheries of St. Thomas.  
31 Then the dolphin and wahoo and the sea cucumbers and sea urchins  
32 and corals.

33  
34 That is Action 2, and so you've seen the recommendations and the  
35 work that has been done by the SSC and the DAPs and the IPT in  
36 putting together this list. Are there any questions about those  
37 stock complexes?

38  
39 **CARLOS FARCHETTE:** Bill.

40  
41 **BILL ARNOLD:** Okay. Action 1, you guys have pretty much settled  
42 on. You have seen it. Action 2, grouping these species, sets  
43 up Action 3. It will strongly influence how the SSC determines  
44 their ABCs, because it's based upon what groupings. They are  
45 determining ABCs for groups.

46  
47 You've got recommendations from the SSC, and you've got  
48 recommendations from the DAPs, and they don't always agree, and

1 Iris may wish to comment, but I believe it's up to the council  
2 to make the decision. You don't have to choose preferred  
3 alternatives, but giving some direction as to what you intend to  
4 do will greatly benefit the SSC when they meet in July to settle  
5 these ABCs, and that's my particular alphabet soup, but it is an  
6 important decision, semi-decision, to make.

7

8 **CARLOS FARCHETTE:** Iris.

9

10 **IRIS LOWERY:** Right. At this stage, I think you're thinking  
11 about alternatives for the stock complexes, and that's certainly  
12 something that is appropriate for the SSC to weigh in on,  
13 because it has to do with looking at the stock vulnerabilities  
14 and ensuring that those complexes are composed of stocks that  
15 should be together, but, ultimately, that's something that the  
16 council can certainly weigh in on and evaluate. If there are  
17 decisions that the SSC has recommended that you think should be  
18 done differently, then that's within the council's purview.

19

20 **CARLOS FARCHETTE:** So, if the DAP and SSC differ, how do we  
21 merge that? How do we compromise or negotiate? Bill.

22

23 **BILL ARNOLD:** Richard may want to comment on this, but the SSC  
24 took the DAP's recommendations very seriously, and they did go  
25 through it on a step-by-step basis, and they evaluated the  
26 recommendations relative to the practicality and validity of  
27 making those changes, and they did, and Richard can correct me  
28 if I'm wrong, but I'm pretty sure the SSC did respond to some of  
29 those recommendations and make those changes. In other ones,  
30 they felt they wouldn't work for one reason or another,  
31 possibly because we don't have any data on some of the species,  
32 et cetera, et cetera.

33

34 It's not a matter of meshing them together. That's already been  
35 done. It's a matter really of just providing some comfortable  
36 guidance, so that the SSC, when they are going through their  
37 reference point establishment, and for everybody else who is  
38 involved in developing these EISs and FMPs, so that we have, as  
39 I said, a reasonable level of comfort that this is where we're  
40 going to be and that we don't have to go back and revisit this  
41 because we decided to group them in some different manner, and  
42 so that's all. It's not time to choose preferred alternatives,  
43 but I am just suggesting that you might want to provide a little  
44 level of confidence.

45

46 **CARLOS FARCHETTE:** Hanke.

47

48 **MARCOS HANKE:** I was confused if this is the moment to discuss

1 about Puerto Rico and give those comments. What I want to  
2 restate is -- I agree with the DAP of Puerto Rico, for the  
3 reasons that we exposed in the past, that I don't think it's a  
4 good idea to include the dolphin on that list.

5  
6 **BILL ARNOLD:** Okay, but that's Action 1 and not Action 2, and I  
7 thought that you guys had pretty much settled on Action 1. See,  
8 we could go back on this stuff a billion different times.

9  
10 **CARLOS FARCHETTE:** Next is -- Where are we at?

11  
12 **GRACIELA GARCIA-MOLINER:** We are in Action 2, and so we are  
13 trying to figure out if you want to -- Like, for example, your  
14 comment, Mr. Chairman, earlier of four species that you have  
15 never seen in your catch of forty-seven years of recreational  
16 fishing, and so we have taken that into consideration, and so  
17 we're going to go find out, because we do have fishery-  
18 independent surveys.

19  
20 They might be in areas where most people won't recreationally  
21 fish, because it's a high coral complex area or something like  
22 that, because they co-occur with other species in areas that are  
23 already closed or managed, et cetera, and so we'll go back,  
24 before the SSC meets again in July, and review the information  
25 that we have.

26  
27 **CARLOS FARCHETTE:** Okay, because the numbers were high, and so I  
28 don't understand it, but okay.

29  
30 **MIGUEL ROLON:** What we need is what do you need from the council  
31 at this time? Is it nothing, to just receive the report and  
32 move forward, or what?

33  
34 **GRACIELA GARCIA-MOLINER:** If there is anything specific that you  
35 want to show, in terms of what you have seen and the species  
36 groupings that you have seen -- If there is nothing, there is  
37 nothing, and that's fine.

38  
39 **MIGUEL ROLON:** Guys, you did a lot of work, and you have the  
40 DAPs and the SSC. You have the trickling down way of choosing  
41 the species, and only if you have a strong rationale to go over  
42 the SSC or the DAPs, and then there is no point of changing  
43 anything on this. However, the door is open. If any of those  
44 species you think should not be there, because of a strong  
45 rationale, this is the time. If not, we will move forward.  
46 Remember that all of this will be taken to public hearings.

47  
48 **MARCOS HANKE:** I just want to highlight the groupings and the



1 species, the indicator species, and the things that are  
2 presented for Puerto Rico. I think they are correct, and I  
3 agree with them.

4  
5 **GRACIELA GARCIA-MOLINER:** Let me go back a second. If you look  
6 at the screen now, Alternative 3, that's kind of the direction  
7 that the progress has been made, and so it's been including  
8 information from many sources, and that is the path that this is  
9 following.

10  
11 Then comes in the information from the industry and information  
12 that they bring in, comments like we have received today, and  
13 then we go back, and we're trying to finalize this by July. Is  
14 the council still -- Do they still have a preference or want to  
15 guide us in keeping Alternative 3 as the way to do this?

16  
17 **MIGUEL ROLON:** You're asking us, and we ask you, and it's a  
18 chicken-and-the-egg kind of thing.

19  
20 **GRACIELA GARCIA-MOLINER:** No, this is the direction that we're  
21 following.

22  
23 **MIGUEL ROLON:** If they are happy with the document, that's the  
24 point. If they are happy with it, just move forward with it.  
25 Not only by July, but by today, because we have a public hearing  
26 at seven o'clock.

27  
28 **GRACIELA GARCIA-MOLINER:** Okay. Action 3 is define management  
29 reference points for stocks/stock complexes in each of Puerto  
30 Rico, St. Thomas/St. John, and St. Croix. This is all draft.  
31 One of the things that has been happening is the ABC control  
32 rule.

33  
34 This is something that Richard already presented in changes to  
35 the language that they have been considering in this past SSC  
36 meeting, and so these are the alternatives coming out of -- Once  
37 we have that ABC control rule, there is the no action, and we  
38 will retain the same ABC control rule by the methods used in  
39 2010 and 2011.

40  
41 For those species not previously managed, then no ABC control  
42 rule has been established to date, and so then you would have to  
43 decide which one of the following alternatives that you will  
44 consider.

45  
46 Alternative 2 is the OFL and ABC will be set by the council's  
47 SSC on an ad hoc basis for each stock complex. Alternative 3  
48 is, for a stock/stock complex in the X island FMP, adopt the ABC

1 control rule described in Table X.

2  
3 The ABC control rule has four tiers. We have been dealing only  
4 with Tier 4, because we don't have the information to go into  
5 any of the other three tiers, and this is the flow chart that  
6 the SSC was presented with at the last SSC meeting. Basically,  
7 it's the decision tree that has been followed, and Richard went  
8 over this earlier today and showed you specific results of  
9 examples of carrying through with the ABC control rule.

10  
11 Once you do that, then the 3(B) would be to set the annual catch  
12 limits. The SSC will give you the ABC and the OFL, and then it  
13 will be the council's decision to set the ACL, and so the things  
14 to consider are the council establishes the management  
15 uncertainty. The same thing that we were discussing regarding  
16 scientific uncertainty needs to be discussed by the council.  
17 How much risk are you willing to take when you set the ACL  
18 equal, for example, to the OFL that the SSC is giving you.

19  
20 These are the things that you have to discuss, because this is  
21 the other buffer that needs to be discussed, in terms of how  
22 much risk you are willing to take.

23  
24 Here, you really need to think in terms of the optimum yield,  
25 and there is the definition of optimum yield. It's the amount  
26 of fish which will provide the greatest overall benefit to the  
27 nation, particularly with respect to food production and  
28 recreational opportunities and taking into account the  
29 protection of marine ecosystems.

30  
31 **MIGUEL ROLON:** Graciela, just to clarify that the council  
32 establishes the management uncertainty based on the best  
33 available data and all the information that they receive at that  
34 time. It cannot be capricious, because, otherwise, they are  
35 going to send it back to us again, and so the council members  
36 have to take note of this discussion and the prior discussion,  
37 so you will have an idea of what we're facing at the time that  
38 we have that.

39  
40 For some species, for example, the ACL could be equal to ABC.  
41 That is no problem. Species that you have enough information  
42 and you think that it's -- From what we get from the DAP and the  
43 SSC, it's a healthy fishery, and so ABC could be equal to ACL.

44  
45 However, in other species, where we don't have that much  
46 information and that we have some uncertainty as to the status  
47 of that fishery, then you have to discuss which buffer, which  
48 percent of a buffer, you have to apply, and this is probably one

1 of the issues that -- When we discussed it this morning, we got  
2 a little bit confused, but this is one of the issues that you  
3 should be discussing on the record when the time comes.

4  
5 **GRACIELA GARCIA-MOLINER:** Okay. Among the other things that you  
6 need to consider is the OY back in 2010 and 2011 was set equal  
7 to the ACL, and so that was the decision of the council, and  
8 those are the kinds of things that you need to be thinking about  
9 when you are going to make your decision.

10  
11 Additionally, you just heard, and we are going to public  
12 hearings tonight regard the AM trigger amendment, which is based  
13 on this relationship between the actual ACL and the OY.

14  
15 Along with all of that, you have heard from Richard, in terms of  
16 the examples that they followed through, and that was only for  
17 three species groups, or one species and two species groups,  
18 following the example all the way through to give you the ABC  
19 and the OFL. Then the SSC will come back to the council with  
20 their recommendations that are going to be most likely or, in  
21 some cases, different from what you already have from 2010 and  
22 2011.

23  
24 **MIGUEL ROLON:** Graciela, can you -- Later, when we finish today,  
25 can you cut-and-paste that part and send it to all the council  
26 members, because that's the kind of thing that they will have to  
27 remember when we discuss this at a future time.

28  
29 **GRACIELA GARCIA-MOLINER:** Okay. Among the alternatives that you  
30 have under this Action 3(B), which are the ACLs, it's that the  
31 ACL will be derived using the methods that we used before, or,  
32 for a stock or stock complex, determine the ACL based on a  
33 formula in one of the sub-alternatives and the ABC established  
34 in the action that we just saw before. For example, ACL equals  
35 ABC times a buffer, and this is where the management uncertainty  
36 comes in.

37  
38 **CARLOS FARCHETTE:** Bill.

39  
40 **BILL ARNOLD:** Just as a reminder, you went through this process  
41 of setting a management buffer for the 2010 and 2011 Caribbean  
42 Annual Catch Limit Amendments, and keep in mind, at that time,  
43 there was no reduction from OFL to ABC. This time around, the  
44 SSC is including a buffer from OFL to ABC. This is really  
45 important, you guys, because this is going to influence the  
46 decisions you make with regard to these buffers, and so what you  
47 chose to do was you had three separate buffers.

1 For those species mostly contained in the 2011 Caribbean ACL  
2 Amendment, species that were not considered to be undergoing  
3 overfishing at that time, you set a buffer of 0.9, and so you  
4 reduced by 10 percent. For those species for which, at that  
5 time, they were considered to be undergoing overfishing, and  
6 that was basically snappers, groupers, and parrotfish, along  
7 with queen conch, you set a buffer of 0.85, and so you reduced  
8 by 15 percent.

9  
10 Then there was a group of ecologically-important species,  
11 surgeonfish in particular, for which their grazing contributions  
12 and their ecological importance led you to assign a buffer of  
13 0.75, and so you reduced by 25 percent, and so those were the  
14 three categories of reduction.

15  
16 In almost every case, that second category, overfishing, no  
17 longer really applies, because we established ACLs and AMs, and  
18 the point behind that was to end overfishing. Now, we still  
19 have some species that we identify as undergoing overfishing  
20 periodically, and you may want to treat those separately, but  
21 these are important things to keep in mind when you are  
22 considering the buffer that you are going to develop, the  
23 council, and this is completely owned by the council, this  
24 management uncertainty buffer, when you decide what that  
25 management uncertainty buffer is going to be.

26  
27 This is basically going to be something that we will have to sit  
28 in the August meeting and go through stock-and-stock-complex-by-  
29 stock-and-stock-complex and determine which buffer you want to  
30 assign, or you could take a different approach.

31  
32 You could take an approach that we're going to assign a single  
33 buffer to everything and then we're going to look for  
34 exceptions. If we identify an exception, we will pull that one  
35 out and assign a different buffer. That's up to you guys, but  
36 you will probably want to think about an efficient process of  
37 doing this or your council meeting -- Either your council  
38 meeting will last five days or we don't get it done.

39  
40 As I have said in previous meetings, and I am happy to reiterate  
41 now, the longer we go without getting these new fishery  
42 management plans in place, the more outdated become the old  
43 fishery management plans, and it seems like every meeting we  
44 come in here that we identify another issue with the old plans.  
45 There is too low of an ABC for lobster and angelfish that we're  
46 having to say every year is due to enhanced reporting, and the  
47 list goes on, and it gets longer and longer. That's why I  
48 continue to emphasize that it's time to get this job done and

1 get these new fishery management plans in place.

2  
3 **MIGUEL ROLON:** I agree with all of that. I agree with  
4 everything that he said, and we need to also decide -- Probably  
5 the staff and the Chair will have to decide how many days we  
6 need in August, because if we go one way, stock-by-stock, that  
7 will take the whole day, if you don't talk too much about the  
8 little issues, but the other thing that I was going to ask  
9 Graciela is can you send a table with the decisions already made  
10 by the council regarding those levels that Bill just mentioned  
11 to everybody?

12  
13 That way, you will have a one-page that this is what you guys  
14 have done so far. Then we will have a question that says this  
15 is what you need to do, so you can come prepared to the council  
16 with those decisions. This is when we need to discuss the  
17 little percentage up and down and not how we did it this  
18 morning, part of this morning, but this is when you as a council  
19 -- That's the mandate that you have.

20  
21 You develop the strategy that you need to develop those ACLs,  
22 and so you have to be certain as to what is needed from you at  
23 the August meeting, and you will have to come prepared. That  
24 means that you will probably have to confer with your peers, the  
25 fishers, and, before the August meeting, we will have a meeting  
26 of the DAPs, to ask them the same question, and so we will have  
27 the benefit of having -- This is not a joint DAP meeting. It  
28 will be a separate meeting of each DAP, and they will be  
29 confronted with the same question that council will have in  
30 August. At that time, we will have the benefit of having, at  
31 that time, in August, the input of each one of the DAPs.

32  
33 Hopefully we will be able to move to public hearings during the  
34 fall, and, by the end of December -- Maybe we need to ask Santa  
35 Clause for a plan that we can send to the Secretary for review.

36  
37 **CARLOS FARCHETTE:** I've got a quick question. What are we going  
38 to do with that seven-pound ACL for wrasse?

39  
40 **BILL ARNOLD:** It will disappear, but we'll have a few here and  
41 there that aren't real high.

42  
43 **CARLOS FARCHETTE:** Thanks, Bill.

44  
45 **GRACIELA GARCIA-MOLINER:** Iris, I do have a question regarding  
46 the council decision. The OFL and ABC and then, legally, the  
47 council could set the ACL equal to the ABC, but not higher than  
48 the ABC.

1  
2 **IRIS LOWERY:** Right, and so, under the National Standard  
3 Guidelines, the ACL can equal ABC. However, what you did in the  
4 2010 and 2011 amendments to account for management uncertainty  
5 is you reduced the ACL from the ABC, and so what the National  
6 Standard Guidelines really discourage, and that's sort of we  
7 were skirting around this issue earlier today, is that you have  
8 your OFL, which then is typically reduced to get your ABC, which  
9 then you can reduce further to get your ACL, or ACL can be equal  
10 to ABC, but the situation to avoid is where you set your OFL  
11 equal to ABC equal to ACL. You're essentially then equating  
12 your overfishing limit and your annual catch limit, and so the  
13 presumption is that that generally will lead to overfishing  
14 without sufficient rationale.

15  
16 **GRACIELA GARCIA-MOLINER:** Any other questions regarding these  
17 issues? Then let's finish up with the Action 3, in terms of the  
18 annual catch limit, and this would be for Puerto Rico only,  
19 because, at this time, we only have information for the  
20 recreational sector for Puerto Rico.

21  
22 If the ACLs will be specified for each of the sectors  
23 separately, as they are right now, or you don't want to specify  
24 ACLs for each sector separately -- You saw earlier that the SSC  
25 has been looking at the combination, the sum, of the commercial  
26 and recreational landings to determine the ABC and such things,  
27 but you can still have ACLs per sector.

28  
29 Then again, you are going through the public hearing tonight,  
30 and that is saying that, as long as you don't go beyond the sum  
31 of the ACL of the recreational and the commercial, then the AMs  
32 won't be triggered.

33  
34 **CARLOS FARCHETTE:** Bill.

35  
36 **BILL ARNOLD:** Just a little clarification on that. The SSC is  
37 summing the commercial and the recreational catch, because the  
38 OFL addresses total catch. It doesn't care about sectors. You  
39 can split that out later and allocate among sectors, and so  
40 there is no direct relationship between what the SSC is doing to  
41 determine their OFL, which has to be total landings and how  
42 ultimately the ACL you derive from this process is or is not  
43 allocated among sectors.

44  
45 **GRACIELA GARCIA-MOLINER:** Okay. You do have Action 4 for  
46 essential fish habitat, and this is the description and  
47 identification for species not previously managed in federal  
48 waters. Just to remind you that EFH is defined as those waters

1 and substrate necessary to fish for spawning, breeding, feeding,  
2 or growth to maturity.

3  
4 Then you would need to identify and describe EFH for the new  
5 species added to the FMPs, and we would need to remove the  
6 designations that have been made for species that are no longer  
7 part of the FMUs, and so there are a number of alternatives.

8  
9 The no action is not to describe the EFH for these species not  
10 previously managed. Alternative 2 is to describe and identify  
11 EFH according to the functional relationship between the life  
12 history stages of these federally-managed species and the  
13 island, marine, and estuarine habitats.

14  
15 Alternative 3 is to use other methods to describe and identify  
16 EFH for these species that were not previously managed, and so  
17 you do have the 2004 EIS for the generic EFH that was  
18 implemented through the SFA in 2005. That explored a number of  
19 concepts that could be used, depending on data availability, and  
20 some of these methods for describing EFH include the designation  
21 of EFH based on the distribution data, and so distribution of  
22 habitat types, fish species, and fishing effort, and so this is  
23 Level 1 data.

24  
25 Then presence or absence of the species in the various habitats  
26 during the life stages and designating EFH based on habitat-  
27 related densities of the species, and so this would be defined  
28 as the area where the density or relative abundance of a species  
29 life stage is above a threshold level.

30  
31 Number three is, using spatial data to designate EFH, and so it  
32 would be more depending on the data availability and qualitative  
33 or quantitative information that link the fish distribution and  
34 the habitat that is to be described and identified as EFH.

35  
36 The habitat suitability models that were also described during  
37 that time and the designation of EFH based on data on growth,  
38 reproduction, survival rates, et cetera, and the designation of  
39 EFH based on production rates by habitats. I think this is what  
40 we have for the EFH, and are there any specific questions?

41  
42 I mean, there are a number of issues going on with the essential  
43 fish habitat, and so the council had submitted a proposal to  
44 update a document that the council had requested back in 1987,  
45 or something like that, regarding the ecological basis of yield  
46 for Puerto Rico and the Virgin Islands, and so, depending on  
47 whether the money comes through or not, you will have that as an  
48 update, and that actually gives you some measure of biomass

1 based on fishery-independent surveys that have been done, and so  
2 it would be an update since 1987 to the present.

3  
4 There is also the five-year EFH review, but then, since we are  
5 changing FMUs, we are like in the twilight zone, and so not  
6 until we get this -- If we do the EFH review for the five years,  
7 we will be missing some of the new species that are going to be  
8 coming into the FMP, and then we'll be doing additional work for  
9 species that are no longer under federal management, and so  
10 that's also something that we have been discussing.

11  
12 **CARLOS FARCHETTE:** Hanke.

13  
14 **MARCOS HANKE:** On a few slides back, you mentioned estuarine  
15 areas, and I am curious, because those areas are in state  
16 waters, mostly. How do we deal with that, and what is the  
17 implication?

18  
19 **CARLOS FARCHETTE:** Bill.

20  
21 **BILL ARNOLD:** Just because habitat is not in federal waters, it  
22 doesn't mean that it's not essential to health, growth, et  
23 cetera, et cetera, of that species.

24  
25 **MARCOS HANKE:** I understand, but what is the implication once we  
26 establish that, and I recognize that. I know that is correct,  
27 and I want to clarify, to me and to the people here, what is the  
28 implication of once we establish an EFH that is out of the  
29 jurisdiction of the council, even though -- How does it work?  
30 What is the legal implications of that?

31  
32 **CARLOS FARCHETTE:** Roy.

33  
34 **ROY CRABTREE:** What we do is more consult on federal projects  
35 and things that are happening, and so, if there was a dredging  
36 project that was going to take place and it had an Army Corps  
37 permit, we would consult with the Army Corps, and we could make  
38 recommendations for ways to mitigate the damage, even if it is  
39 in state waters, because it would still potentially be subject  
40 to a permit.

41  
42 **MARCOS HANKE:** Thank you for the clarification.

43  
44 **GRACIELA GARCIA-MOLINER:** In the EFH, as it stands right now,  
45 there are areas that have been identified even further as  
46 habitat areas of particular concern within the state waters, and  
47 so there is no regulation that applies to that, but there is the  
48 recommendation that they look at these areas of special concern,



1 and most of them are basically related to the juvenile stages of  
2 species that occur in the EEZ.

3  
4 To finish up, Action 5 is the framework procedure for each of  
5 the island-based FMPs. Here, the IPT is consulting with the  
6 council and still working on this. This is really, really under  
7 development. There is a framework that has been basically  
8 copied from the Gulf of Mexico framework approach, et cetera,  
9 but there are a number of alternatives that are being considered  
10 and explored, and probably we're a little bit early in asking  
11 for guidance from the council, because we are still discussing  
12 some stages that might not make it to the final draft, as it's  
13 being developed.

14  
15 Basically, you do have framework approaches in the ACL  
16 documents, and you have had it in the various FMPs, but this is  
17 going a bit further and actually making it procedurally correct,  
18 if I can say that, because it will definitely make the  
19 difference between taking much longer to take action and to  
20 resolve a problem as it happens now and make it easier, not in  
21 the sense that it's not looking at the problems in depth, but  
22 it's just that the procedure to make the changes will take place  
23 faster or sooner.

24  
25 **IRIS LOWERY:** Right, and I think we've talked about this before,  
26 but, essentially, the idea of a framework action is that it's  
27 not kind of a major regulatory action, and it is consistent with  
28 previous analysis that's been done in other documents, and so  
29 the only requirement that it really gets rid of is the sixty-day  
30 comment period for a notice of availability.

31  
32 It does save some time, and I think one thing also that I wanted  
33 to point out is that we've discussed including -- I think,  
34 currently, ABC is included in your framework provisions, but  
35 also the ABC control rule, and so, with the idea that as you're  
36 moving with these new management plans, there is certainly an  
37 expectation that maybe things don't work out quite as you  
38 anticipated, and so, if you need to tweak numbers in there, or  
39 you figure out that it doesn't work in the ways that you thought  
40 it would, then you should have some flexibility to use the  
41 framework procedures to accomplish that.

42  
43 **GRACIELA GARCIA-MOLINER:** Okay. These are some of the  
44 alternatives that you have. There are inclusion of what it  
45 means to have an open framework, in terms of it's more a policy  
46 issue than it is a biological or ecological issue, and so these  
47 are types of frameworks that we have available to look into, and  
48 this is what is called the base framework approach. There is an

1 abbreviated and a standard, and it compares back and forth what  
2 the differences and similarities are.

3

4 You have the closed frameworks, which address more specific  
5 circumstances, where the FMP and implementing regulations  
6 identify specific action to be taken in the event of specific  
7 facts occurring, such as closing off a sector of a fishery after  
8 their quota has been harvested.

9

10 One of the things to consider when you are looking at these  
11 framework approaches is what impact it will have ecologically  
12 and economically and socially, in terms of the analysis that  
13 needs to be prepared to take such an action. I think that this  
14 is kind of small to look at, but, basically, it goes through  
15 comparing the Alternative 2, 3, and 4, and so the base approach  
16 and the narrow and the open and closed, and so the types of  
17 frameworks are the same at the top, except that one is an  
18 abbreviated or shorter form for carrying out actions.

19

20 This is something that is going to come to you probably at the  
21 August meeting with more meat than it has now, because of all  
22 the discussions that are taking place among the IPT. As Iris  
23 mentioned, the ABC was heavily discussed at the last IPT  
24 conference call, and so these are things that we just want --  
25 You have seen it before, because it's been part of the draft  
26 document that has been circulated around, but this will come to  
27 you with more details for the August meeting.

28

29 We also -- The issue is that you don't want to include too many  
30 things that, in the end, you will be wasting a lot of time and  
31 effort into something that might not come to fruition, and so  
32 that's where we're at right now, is trying to eliminate things  
33 that are not really practical or not really part of the process  
34 here.

35

36 Basically, this is the summary of where we are right now. For  
37 Action 1, you have the preliminary preferred Alternative 2. For  
38 Action 2, we are dealing with the final draft groupings  
39 recommended by the SSC and the DAPs and the indicator species.  
40 For Action 3, the management reference points, the preliminary  
41 preferred Alternative 3 is to use the ABC control rule  
42 recommended by the SSC.

43

44 Then there are the sub-actions that will follow that  
45 determination of the ABC control rule and what it will mean in  
46 terms of the OFL and the ABC and, finally, the ACL that the  
47 council will be setting. Finally, the actions regarding the  
48 recreational and the commercial sector, if the ACLs are going to

1 be allocated as such, the Action 4 is basically to use the same  
2 methods that we have used previously to evaluate the new species  
3 that will come under management and the framework procedures,  
4 and that includes the framework that has been used by other  
5 councils, and to update the one that we've had before that. It  
6 needed some more tweaking.

7  
8 These are the next steps that the IPT will continue to develop  
9 these draft alternatives at the same time that the SSC will be  
10 meeting in July at the same time that the DAPs will be meeting,  
11 prior to the August council meeting, and so, by August, you  
12 should be reviewing the draft alternatives, and we'll be  
13 providing you with the document, and the preferred alternatives  
14 for each of these actions will become the management measures  
15 that we'll include in the respective fishery management plans  
16 that will follow.

17  
18 This is a very ambitious timeline. We are here, and so the IPT  
19 continues to work on the actions and alternatives. There will  
20 be an SSC meeting in July. This summer, Miguel just mentioned  
21 that there will be DAP meetings before the August CFMC meeting,  
22 and so sometime during the summer.

23  
24 Then, at the August council meeting, we will review the outcomes  
25 of the July SSC meeting and the DAPs, and that needs to be  
26 included in our timeline now, and choose the preferred  
27 alternatives. Depending on what happens in July, we will be at  
28 that stage or not, but, as Bill said, it would be really good to  
29 push forward and finalize the DEISs.

30  
31 By the fall, there will be the preparation of the FMPs for  
32 public hearings and the DEISs for the December council meeting.  
33 The December council meeting has already been set, and so we  
34 will be reviewing the FMPs, the public hearing draft and the  
35 DEIS.

36  
37 That will, of course, all depend on the changes that you will  
38 look at and changes that you might request or require from the  
39 staff. Then, during the winter, it will be the publishing of  
40 the DEIS for public comment and the public hearings. In the  
41 spring of 2018, for the council meeting, then the council votes  
42 to submit the FMP for secretarial approval, and I think that's  
43 it. Thank you very much.

44  
45 **CARLOS FARCHETTE:** Thank you, Graciela. Are there questions or  
46 comments for Graciela? I know that was a lot to take in.

47  
48 **GRACIELA GARCIA-MOLINER:** Just one more thing that I want to

1 say. I mean, this is not me at all. This is the Southeast  
2 Fisheries Science Center, and this is the Regional Office,  
3 especially Maria and the Caribbean Branch, and then everyone who  
4 gets involved during the IPT and homework and assignments that  
5 are given out by Maria, some of which are not met, but it's  
6 really a big team effort, and then basically distilling  
7 everything that comes out of the SSC and the DAPs and making it  
8 into the format of these actions and alternatives, and, finally,  
9 what you will see next, which will be the rationale behind all  
10 of the discussions that you've had put into a document.

11  
12 **CARLOS FARCHETTE:** Okay. Are we here to select the preferred  
13 alternatives for each action? No? Okay. So scheduling public  
14 hearings, not yet either, and the next steps roadmap. That was  
15 the last -- All right. So everything is done. Okay.

16  
17 **GRACIELA GARCIA-MOLINER:** We will have the SSC meeting in July,  
18 the DAPs meeting before the August meeting, and then the August  
19 meeting. Meanwhile, while all the planning for those meetings  
20 is going on, the Science Center is providing the data that we  
21 look at during these meetings, and the IPT is putting together  
22 more language and presentations, et cetera, and developing the  
23 meat of the document.

24  
25 **CARLOS FARCHETTE:** Thank you. Thanks to all the people involved  
26 and all the hard work that they had to do, because I know it had  
27 to be a lot of work. Next on the agenda is Review of Annual  
28 Catch Limit Overages and Resultant 2017 Accountability Measure-  
29 Based Closures.

30

31 **REVIEW OF ANNUAL CATCH LIMIT OVERAGES AND RESULTANT 2017**  
32 **ACCOUNTABILITY MEASURE-BASED CLOSURES**

33  
34 **BILL ARNOLD:** This has to do with comparing our three years of  
35 average landings to our annual catch limits and determining if  
36 any closures need to take place for 2017, and, if so, when those  
37 closures will take place and how long they will last.

38  
39 This is something that we really should have had done a long  
40 time ago, but there have been quite a few delays. Obviously  
41 they were unavoidable delays, but delays nonetheless. We like  
42 to get this done and report this at the December council  
43 meeting, so that everybody is ready for the coming year, but  
44 it's time to get ready for the coming year, and so, this year,  
45 we used the three years we have of available landings.

46  
47 The most recent year we have right now is 2015, and so we take  
48 the average from 2013, 2014, and 2015. This is one of the

1 problems with the reporting system. It's just an inherent  
2 problem, but it takes a while to get the data collated and  
3 submitted, and so we run about a year -- This time, we're  
4 running a little farther behind, but we usually run about a year  
5 behind regarding the years we're using to average versus the  
6 year we are going to be managing in, and so we get up to 2015  
7 and we're managing in 2017.

8  
9 Using those three years of average landings, these are the  
10 landings versus the annual catch limit and the percentage of  
11 overage for each of the species that I consider to be the 2010  
12 species. Remember the 2010 species are those species that were  
13 included in the 2010 Caribbean ACL Amendment, the species that  
14 had been identified as undergoing overfishing, as opposed to the  
15 species in the 2011 Caribbean ACL Amendment, which were not  
16 identified as undergoing overfishing, and so they're two  
17 separate groups, and I will treat them accordingly.

18  
19 In this group that includes conch, grouper, parrotfish, and  
20 snappers, if you remember, we had enough data to separate out  
21 the snappers, but the data weren't resolved well enough to  
22 separate out parrotfish or grouper, and also keep in mind, and  
23 this is Puerto Rico, and the allowable take for conch in Puerto  
24 Rico EEZ waters is zero, and so we don't really apply an  
25 accountability measure.

26  
27 The landings, the 304,327 pounds of landings you see up there,  
28 the average for those three years, we assume are harvested from  
29 state waters, since it's illegal to harvest queen conch from  
30 federal waters around Puerto Rico. We don't know where they're  
31 coming from, but I think that that's the assumption that we are  
32 required to make.

33  
34 For conch, there is no overage of the ACL, because there is no  
35 ACL. It's essentially zero, and there is no AM. For grouper,  
36 as you can see, they are way, way, way below their annual catch  
37 limit, only 36 percent of the annual catch limit. Parrotfish is  
38 a little closer, but they are still below. The Puerto Rico  
39 commercial fishers harvested -- Remember this is state and  
40 federal total. They harvested about 94 percent of their  
41 allowable annual catch limit.

42  
43 Snapper Unit 1 is about 65 percent, but, as in past years,  
44 Snapper Unit 2 is over their annual catch limit by almost 6  
45 percent. Otherwise, Snapper Unit 3 and 4 are well below theirs,  
46 less than 50 percent of their allowable annual catch limit.

47  
48 Now these are the 2011 species for Puerto Rico commercial, and,

1 for these, there were three species that were over their annual  
2 catch limit, the one we talked about before, earlier, spiny  
3 lobster, and they are eight-and-a-half percent over theirs.  
4 Triggerfish and filefish is 18 percent over, and wrasses are  
5 just a little bit over, and I will talk about them more as we go  
6 through the presentation.

7  
8 Now the recreational species for grouper, parrotfish, and  
9 snapper, and grouper were way, way down, thirteen-and-a-half  
10 percent of their allowable annual catch limit, but, parrotfish,  
11 surprisingly and unusually, were almost 60 percent over their  
12 annual catch limit, and then the snappers were all well below.  
13 Now keep in mind that these data are collected in a much  
14 different way than commercial data.

15  
16 These data are collected by the Marine Recreational Information  
17 Program, which samples some fishermen coming in and then  
18 multiplies that by the estimated number of fishers that are  
19 fishing, and Bonnie talked about that earlier, saying, when  
20 you're talking about doing a sample and expanding it out, the  
21 more people you sample, the better estimate you're going to get,  
22 and, with so many recreational fishermen, it's hard to get a  
23 very large percentage sample of the total, and so there can be  
24 some error, or variation, around that mean. That's for the 2010  
25 species.

26  
27 For the 2011 species, jacks were slightly over, half-a-percent,  
28 hardly anything, but over is over and rules are rules.  
29 Triggerfish and filefish are 6 percent over, and wrasses,  
30 recreational harvest of wrasses, almost three times their  
31 allowable annual catch limit.

32  
33 Now we move on to St. Croix. St. Croix is under on everything.  
34 They are not even 50 percent of their allowable catch, except  
35 for groupers, and that's only 56 percent. For their other  
36 species, and remember there is no recreational monitoring in St.  
37 Croix, and so we strictly use commercial data.

38  
39 For St. Croix's 2011 species commercial, they had the usual  
40 suspects of angelfish and squirrelfish. They were way, way, way  
41 over their ACLs, but these were not on the form when we set up  
42 the annual catch limits. They were added to the forms after  
43 that, and so now we're getting much, much more reporting, and,  
44 as a result, that is a prime example of enhanced reporting that  
45 does not lead to an application of accountability measures.

46  
47 For St. Thomas/St. John, it's a very similar situation.  
48 Everything is under. The only thing that is coming anywhere

1 near is 71 percent for grouper, but they are harvesting already  
2 well under their annual catch limit. Then, for their 2011  
3 species, again, angelfish, squirrelfish, and wrasses, the three  
4 that were added to the form. All three are over. They're  
5 pretty much over every year in both St. Croix and St. Thomas,  
6 and pretty much every year the Science Center, in consultation  
7 with the Scientific and Statistical Committee and the council,  
8 determines that that can be attributed to enhanced reporting and  
9 not to an actual increase in harvest.

10  
11 Then we have a couple of Caribbean-wide species. They're  
12 obviously not real popular. Now, the aquarium trade is not  
13 allowed in the Virgin Islands, and it's strangely reported in  
14 Puerto Rico. Kind of half of it goes to recreational and half  
15 of it goes to commercial, but, anyway, their landings, reported  
16 landings, and these are expanded, but even expanded, they are  
17 way, way, way below their annual catch limit. For tilefish,  
18 we're not even getting any landings for them in the record.

19  
20 These are the species that actually have annual catch limit  
21 overages, based upon the 2013 to 2015 landings, and you will see  
22 the Puerto Rico snappers and triggerfish and filefish, and those  
23 could not be attributed to enhanced reporting, but Puerto Rico  
24 commercial wrasses was attributed to enhanced reporting, and  
25 that's why it's in italics.

26  
27 Then Puerto Rico spiny lobster was an actual overage.  
28 Recreational parrotfish, recreational jacks, recreational  
29 triggerfish and filefish and recreational wrasses were all  
30 attributed to an actual increase in catch and an overage of the  
31 ACL.

32  
33 The rest of them, St. Croix and St. Thomas angelfish,  
34 squirrelfish, and wrasses, all were attributed, as I mentioned,  
35 to enhanced reporting, and so accountability measures will not  
36 be applied in any of those instances. In any instance where the  
37 type is italicized, the accountability measures will not be  
38 applied.

39  
40 Given the ones that are, the seven that are, these are the  
41 closure dates, and let me explain this a little bit. We're  
42 looking at third column here of closure start date. If you  
43 remember, we developed a new -- The council developed a new rule  
44 that the closure date would no longer be December 31 and it  
45 would now be September 30, but, because of the situation we're  
46 in, the rule, the final rule, has not yet taken effect, and  
47 we've got to address two of these species, and so we're going to  
48 address those two stock complexes using the old rule, the

1 December 31 closure rule.

2  
3 That is because, if we use September 30 for recreational  
4 wrasses, then the start date for the closure would have already  
5 passed, and so we had to use December 31. Even with December  
6 31, we had to hustle to get the notification out, because it  
7 closes tomorrow.

8  
9 Then the other one, kind of strange, was Puerto Rico parrotfish.  
10 The Puerto Rico parrotfish, if we use the December 31 closure  
11 date, then we don't close until November 4, but, if we use the  
12 September 30 closure date, because of the vagaries of landings  
13 rates, the closure would have well passed. I think it was April  
14 4 or something like that, and so we couldn't use -- If we used  
15 September 30, it would have already passed, and so we couldn't  
16 use September 30, but, for the other ones, the closures -- Even  
17 using September 30, they're all relatively short closures, and  
18 so we have plenty of time to notice them and get the closures  
19 started using the September 30 closure date, and so that's what  
20 we're going to do, and you can see that I have put them in  
21 chronological order.

22  
23 The Puerto Rico commercial triggerfish and filefish will close  
24 on August 13. Puerto Rico spiny lobster -- They will open again  
25 on October 1. Keep this in mind. For all of these September 30  
26 end dates, these things reopen on October 1, and so Puerto Rico  
27 commercial triggerfish and filefish will close on August 13 and  
28 open again at midnight, basically 12:01 a.m., October 1, 2017.

29  
30 Puerto Rico spiny lobster will close on September 7, and they  
31 will reopen at 12:01 a.m. on October 1, and similarly for the  
32 others. Commercial Snapper Unit 2 will close on September 15.  
33 Puerto Rico recreational triggerfish and filefish will close on  
34 September 18. Puerto Rico recreational jacks will close on  
35 September 28, and that's it. I already dealt with the  
36 recreational parrotfish, and so those are your closures.

37  
38 Then we had a couple that overshot their overfishing level,  
39 which is not good, because now you're overfishing the resource,  
40 and this is extra bad because, for both Puerto Rico spiny  
41 lobster and Puerto Rico triggerfish and filefish, they are over  
42 their OFL by 10 to 15 percent, and this is the second year in a  
43 row that they have exceeded their OFL. That's a problem.

44  
45 Now, that's a problem that we are being a little bit lenient on,  
46 because we are instituting new OFLs and new ABCs and new ACLs  
47 and, at least for spiny lobster, given the conversation we had  
48 earlier this morning, if the new ABC resembles anything like



1 what the SSC has already talked about, and I can't promise it  
2 will, but, if it did for Puerto Rico, they would be well under  
3 their OFL. They would be well under their ACL.  
4

5 Now, Puerto Rico wrasses did not exceed their OFL this year.  
6 They exceeded their ACL, but they didn't exceed their OFL, and  
7 so they were overfished last year. They are not undergoing  
8 overfishing this year, and so that's a good thing, and I think  
9 that's everything. Yes, that's it, unless you have question.  
10

11 **CARLOS FARCHETTE:** I have a question. What happens if, for some  
12 reason, a species becomes a very demanded species, like how it  
13 happened on St. Croix with parrotfish, like Puerto Rico with  
14 their parrotfish? It may be that they're starting to -- The  
15 consumers are starting to like that fish, and they are demanding  
16 it more, and you're going to see overages all the time. Do you  
17 have the flexibility to fix that, or are we still stuck by that  
18 ACL?  
19

20 **BILL ARNOLD:** That's a common question, but you have to keep in  
21 mind that the desire to harvest a species does not necessarily  
22 match up with the species ability to support that harvest. We  
23 have to establish our allowable catch levels based upon what the  
24 species or stock or stock complex can support and not upon what  
25 people desire.  
26

27 You may want to harvest 300,000 pounds of parrotfish from Puerto  
28 Rico waters, but, if the assessment process indicates that that  
29 species can only handle 50,000 pounds of harvest, then you're  
30 not going to be allowed to harvest your 300,000 pounds. It's  
31 sort of the reverse situation of the spiny lobster we saw.  
32

33 Spiny lobster, maybe they can handle 450,000 pounds of harvest,  
34 but the market doesn't demand 4.5 million or whatever. The  
35 market will only support three million pounds of harvest, and so  
36 you don't use your entire annual catch limit, and so some things  
37 you -- These reference points are largely biologically based, or  
38 at least they're supposed to be. That's the theory behind the  
39 assessments. They are not demand-based, and demand does not  
40 always match up with biological capacity.  
41

42 **CARLOS FARCHETTE:** Hanke.  
43

44 **MARCOS HANKE:** Can you go to the graphic of Puerto Rico?  
45 Because I know, on Naguabo and on the east coast, there was an  
46 effort that I saw, from Carlos Velazquez, from his fishermen and  
47 the fishing community, to report more, and that's a trap fishery  
48 on the recent years.

1  
2 **BILL ARNOLD:** What species are you talking about? All of them  
3 or one in particular?  
4  
5 **MARCOS HANKE:** I am talking about trap fishing first, which  
6 lands a lot of lobsters and triggerfish, and I can see that they  
7 are going to together in an overage, and I am curious if, in  
8 some way, somehow, that's not the reason that we are seeing more  
9 numbers there, because of more compliance, and I don't know, but  
10 it makes sense to me that maybe it's one of the reasons that  
11 you're seeing the overage.  
12  
13 **CARLOS FARCHETTE:** Bill.  
14  
15 **BILL ARNOLD:** Okay. The big difference, one big difference, and  
16 there's plenty of them, between the USVI and Puerto Rico is that  
17 Puerto Rico has an expansion factor, and that expansion factor  
18 is designed to take account of that very thing.  
19  
20 If the fishermen start reporting more, your expansion factor  
21 should respond accordingly, and it should have less influence,  
22 create less of an adjustment from your reported landings to your  
23 expanded landings.  
24  
25 Say in one year you have got 50 percent of your fishermen  
26 reporting. You would have an expansion factor that would  
27 basically double what the reported landings were. Half of them  
28 are reporting, and you figure half of them are not reporting,  
29 and so you double the catch.  
30  
31 The next year, 75 percent of them are reporting, and so you only  
32 increase the catch from reported to expanded by 25 percent, and  
33 that's what the expansion factor -- I don't want to start that  
34 conversation over again, but that is a fundamental purpose of  
35 having the expansion factor, and nobody, even Daniel, is going  
36 to claim that the expansion factors are perfect, but they do the  
37 best job they can, and it brings these estimates in, and this is  
38 a good example of why we have expansion factors.  
39  
40 It brings these expansion factors closer to reality than just  
41 the reported landings, because, if you just use reported  
42 landings, you wouldn't capture that at all. You wouldn't know  
43 that this sudden increase in landings was due to more reporting,  
44 and you assume that these guys are harvesting a lot more and  
45 you've got a problem.  
46  
47 Then we would apply accountability measures. They would be  
48 undergoing overfishing. The council would be required to

1 reassess the fishery and potentially establish new management  
2 measures that would prevent that problem from reoccurring.

3

4 **CARLOS FARCHETTE:** A follow-up?

5

6 **MARCOS HANKE:** Thank you for the clarification. The only  
7 problem is that the dynamics on the fishing and the things that  
8 I have been seeing in that area show me a different aspect, and  
9 I am not questioning the expansion factor or anything.

10

11 I don't want to discuss that, but I just want to highlight that  
12 those two overages can -- They are gear-related. I mean, they  
13 are caught with the same gear and so on, and I don't -- For what  
14 I talked to Carlos, I don't see that they caught way more  
15 triggerfish than what they usually caught in the past, but, at  
16 the same time, they are reporting more, and at least that was  
17 the effort on that area, and that's why I am bringing the point.  
18 That's it.

19

20 **CARLOS FARCHETTE:** Bill.

21

22 **BILL ARNOLD:** The one thing we do not want to do, and this is  
23 why we included that clause in the FMP amendments, back in 2010  
24 and 2011, is we don't want to punish fishermen for being more  
25 compliant and reporting better. That's why we said, if it's due  
26 to enhanced reporting, then we're not going to apply the AMs.

27

28 If there is a situation, or a developing series of situations,  
29 in Puerto Rico that would suggest that they are working hard to  
30 report better and that's not being captured in the expansion  
31 factors, maybe now, with the new FMPs coming into place, it's  
32 going to be handled there, but this is an issue that needs to be  
33 really brought to the Fisheries Lab, so that they are aware of  
34 it and they can adapt their sampling and expansion factor  
35 developments accordingly, so that we avoid this terrible  
36 situation where we're punishing the fishers for being better  
37 fishermen. We don't want to do that.

38

39 **CARLOS FARCHETTE:** I have Julian and then Crespo.

40

41 **JULIAN MAGRAS:** Bill, just a little clarification for me,  
42 please. I know, from the conversations that we have had, that  
43 we don't know what the maximum sustainable yield of any stock is  
44 right offhand, and so we set an OFL off of say thirty years of  
45 landings.

46

47 Let's use Grouper Unit Number 4. Grouper Unit Number 4 was a  
48 targeted group during the spawning aggregation periods. That

1 went into a seasonal closure back in 2005, with the SFA, and so  
2 now that fishery was no longer heavily targeted, and so, just  
3 using as an example -- I want to get a clarification.

4  
5 What would happen if the example that was raised here earlier  
6 that a fisherman now turned from fishing those groupers that he  
7 can't catch anymore and they have turned to the parrotfish, and  
8 you already went off of the information, but you don't know what  
9 the maximum sustainable yield of parrotfish was ever in the  
10 beginning, because you went off of what was landed through those  
11 thirty years.

12  
13 Don't you guys weigh any of that into consideration, that that  
14 overrun could have been because the fishermen now have chosen a  
15 new method and the targeted species that they're targeting?  
16 Like I also said, there is a market that has been created for  
17 that, and then I look at the lobster also.

18  
19 The fishermen also are being introduced to new traps that catch  
20 more lobsters, and so that's another number that would cause the  
21 lobster fishery to also go up, because they are finding new ways  
22 and better ways of catching the lobsters, and they weren't  
23 landing in those numbers before, because that method was not  
24 being used. How does that all play into the equations here?

25  
26 **CARLOS FARCHETTE:** Bill.

27  
28 **BILL ARNOLD:** I may not be the only one that answers this, but,  
29 first, just because you come up with better gear and can catch  
30 more animals, it doesn't mean -- That's what I just said. It  
31 doesn't mean the population can handle it. You've got maintain  
32 the health of these populations so that you have a fishery going  
33 into the future.

34  
35 The second thing is, and Bonnie may want to comment on this, but  
36 this is why the Science Center is working so hard to develop  
37 these new assessment methods, so that we can have more frequent  
38 and more accurate assessments, because one of the problems we  
39 have is things change, but it takes -- I mean, we did these  
40 assessments and, really, we used data that's from 1999 to 2005  
41 and stuff like that. It's really old data.

42  
43 We need to have a system, and this isn't a fault, but it's just  
44 a fact of life. The technology is finally catching up, the  
45 capabilities are catching up, so that we are on the verge of  
46 having a much more efficient and effective means of conducting  
47 these assessments that will be more responsive to situations  
48 like that.

1  
2 So, you can -- You could alert us to that. The Science Center  
3 could say, okay, we're going to reassess this species and we're  
4 actually going to be successful, and we've got new numbers for  
5 you, but, Julian, that doesn't mean that those new numbers are  
6 going to allow you to harvest all that you can harvest. It  
7 still may say you can only have 250,000 pounds, for example,  
8 even though your gear and your markets might allow you to  
9 harvest 350,000 pounds.

10  
11 If you keep harvesting at 350,000 pounds, you will severely  
12 damage your resource, and then you won't even be able to make  
13 the 250,000, even if it was allowed, because you're killing off  
14 your resource.

15  
16 **JULIAN MAGRAS:** Just a rebuttal. If you don't know what the  
17 maximum sustainable yield is, then how are you damaging the  
18 resource if you don't know that true number? You're going off  
19 of uncertainty and assumptions, and that's where we the fishers  
20 have a problem, because we don't know what the true number is,  
21 and we're assuming that the number that we have seen over the  
22 years is the true number, but it's just like if we go all the  
23 way back to the early 1990s, when we first started to collect  
24 information.

25  
26 There was no market for the -- Let's use the lobsters as a  
27 perfect example. They used to bait the traps with the lobsters,  
28 but, as the market created, those numbers continued going up,  
29 going up, going up, and so this is my -- It's just for clarity,  
30 because we do juggle around. Fishers do juggle around, and, if  
31 you take a fishery away from me, like just using these closures,  
32 we're going to turn to something else. We're not going to just  
33 stop fishing. We're going to start to pound on one of the other  
34 fishes in order for us to keep our incomes coming in, but, if we  
35 don't know what that maximum sustainable yield is, that's my  
36 whole concern is, you don't know what that true number is, and  
37 so you really don't know what the fishery can handle.

38  
39 **BILL ARNOLD:** No, we may not, Julian, but we don't know on  
40 either side of that point. Also, if we allow more fishing, we  
41 don't know if we're above what the true maximum sustainable  
42 yield is, and so, in situations like that, you always have to  
43 err on the side of caution, because you have to make sure that  
44 your resource is sound and is allowed to continue to be healthy.

45  
46 We didn't use the data from back when the lobster resource was  
47 developing. When we established the ACLs we're operating under  
48 now, the SSC identified periods of landings that they felt were

1 stable and representative of what was a reasonable harvest, a  
2 harvest that could continue into the future.

3  
4 For example, for St. Croix, we used 1999 to 2005 for snappers,  
5 and, for St. Thomas, we used 2000 to 2005 for snappers. Was it  
6 perfect? No, but it was probably about the -- It remains, so  
7 far, about the best information we had available to estimate  
8 where we were with these things, and, given the fact that right  
9 now, as I just showed, almost all of these are well under their  
10 ACLs, I would say we probably did a pretty good job of  
11 estimating a high point on allowable harvest.

12  
13 I get the economic impacts and the present situation, but the  
14 bottom line is that St. Croix and St. Thomas aren't exceeding  
15 their ACLs. They aren't even hitting their ACLs, because, right  
16 now, the demands and productivity and activities of their  
17 fisheries are less than what they were in 1999 to 2005, and so  
18 those are valid reference periods.

19  
20 No doubt they may not continue to be, and we would certainly  
21 like to do Tier 1 assessments on all of these species and really  
22 understand what the heck is going on out there, and I think that  
23 the Science Center and the people they contract with, like Todd,  
24 and the fishermen and the Regional Office and the council, and  
25 the list goes on and on, are working very hard to get to that  
26 point.

27  
28 Really, this era of fisheries management in the U.S. Caribbean  
29 has everything to do with building a foundation and nothing to  
30 do with trying to achieve perfection. Let's get a good, solid  
31 foundation laid down, and then we're going to be building on  
32 that, and so I wouldn't claim that we're in nirvana land, but we  
33 certainly have every desire to get there.

34  
35 **CARLOS FARCHETTE:** Crespo.

36  
37 **NELSON CRESPO:** It is a reality that the fishermen on the west  
38 coast of Puerto Rico started providing better data, especially  
39 in the case of the lobsters and the snappers, and the truth is,  
40 in the past three years, I see so many lobsters and so many  
41 Snapper Unit 2 fish in my area than ever before.

42  
43 I know that it's a reason that the numbers are coming up, but I  
44 don't understand how can you make a confident correction factor  
45 with only two port samplers to cover the entire island, and so  
46 that is -- It really concerns me a lot. Many people in my area  
47 are asking me what it means if only the guy who is in our area -  
48 - I hope he gets a new contract renewal, because his contract

1 expired about one month ago, more or less, and I don't remember.  
2  
3 It's a real concern, because the numbers are there, and I know  
4 you have to do your job, but we have to do something to resolve  
5 the problem with personnel that the laboratory of Puerto Rico  
6 has, because they are doing a great job with the tools they  
7 have, and I have to recognize Daniel Matos and Ricardo. They  
8 are doing an excellent job, but they are very limited, and I  
9 know it is what it is, but we have to keep that in mind and do  
10 something about that.  
11  
12 Also, with the triggerfish, I don't see as many triggerfish in  
13 the west area, and so I can sense that that big increase during  
14 those years can occur, and so that's what I have to say.  
15  
16 **CARLOS FARCHETTE:** Bill.  
17  
18 **BILL ARNOLD:** I will start with the triggerfish. We don't  
19 manage by coast in Puerto Rico, and so it could be that you are  
20 seeing fewer triggerfish and filefish landed on the west coast,  
21 but the landings could be going up on the north, south, and east  
22 coast to counteract that and to actually -- I am not saying  
23 that's the case, but I am saying something drove those landings  
24 up.  
25  
26 Now, the other thing is, and this applies to Snapper Unit 2 and  
27 pretty much everything in Puerto Rico, the expansion factors are  
28 generalized and averaged over not all coasts, but all species,  
29 and so the funding just simply isn't there for them to put out  
30 the kind of effort that would be required to develop separate  
31 expansion factors for each stock or stock complex. It's too  
32 bad, but the best solution is not expansion factors. The best  
33 solution is everybody reporting 100 percent, because, the closer  
34 you get to 100 percent in your reporting, the less influential  
35 those expansion factors are going to be.  
36  
37 Now, that was my proposal on Snapper Unit 2, when I said you  
38 should get this fishery permitted, as the state has done, and  
39 you should have these guys reporting, so, that cohort of  
40 fishermen, we know exactly who they are and we know that they're  
41 all reporting and we know that we're getting 100 percent and we  
42 don't need an expansion factor, and we would have a complete  
43 understanding of the fishery.  
44  
45 Now, that wasn't a -- That's not a dead notion. That was just a  
46 tabled notion, and I anticipate that it will come back up, and I  
47 appreciate your frustration. I appreciate the frustration of  
48 all the fishermen. It's shared by the managers and the

1 scientists, but that's why everybody is working so hard to -- We  
2 won't eliminate the frustration, but we can certainly work to  
3 minimize it, and I think that's what we're trying to do.

4

5 **CARLOS FARCHETTE:** Velazquez.

6

7 **CARLOS VELAZQUEZ:** Thank you. Bill, I don't understand that --  
8 For this one table for the recreational sector, and, Marcos,  
9 help me, but please clarify, for the parrotfish -- Ricardo, how  
10 many people collect data? You and I both know that the data is  
11 not put on the paper that the fishermen, the recreational, send  
12 to the laboratory. How many people work to collect this data on  
13 all docks and on the beaches in Puerto Rico? How many people  
14 work with this data in the recreational sector?

15

16 **BILL ARNOLD:** Okay. I don't run the MRIP program and --

17

18 **MARCOS HANKE:** He is asking Ricardo, correct?

19

20 **CARLOS VELAZQUEZ:** Yes.

21

22 **MIGUEL ROLON:** He can ask Ricardo at the coffee break sometimes,  
23 but let Bill clarify the issue.

24

25 **BILL ARNOLD:** The recreational data are not collected by the  
26 Fisheries Lab. The recreational data are collected by the  
27 Marine Recreational Information Program, and so they are  
28 separate. The Fisheries Lab collects commercial landings data.

29

30 **CARLOS VELAZQUEZ:** For the recreational, it's one program for  
31 all the islands.

32

33 **BILL ARNOLD:** There is no USVI recreational program. There is a  
34 recreational data collection program for Puerto Rico only.

35

36 **CARLOS VELAZQUEZ:** How many people work in this program?

37

38 **BILL ARNOLD:** I am not positive, but I think there are six  
39 samplers, and they cruise around to the different landings  
40 areas, and they interview fishermen and ask them what they  
41 caught. Then there is a separate effort that does telephone  
42 surveys, calling randomly, and I don't know all the details, and  
43 Bonnie or Roy will know much better than I do, but they make  
44 random calls to estimate the effort, how many people are  
45 recreational fishing.

46

47 Now you've got this one number over here, and this is how many  
48 people we estimate are recreationally fishing. You've got



1 another number over here, and this is what we estimate they  
2 catch when they do go fishing, and you multiply the number by  
3 the estimated catch and you get your total recreational harvest.  
4 That's how you do it. That's how it is.

5

6 **CARLOS VELAZQUEZ:** Do you not use the factor in this?

7

8 **BILL ARNOLD:** There is no expansion factor. Not for the  
9 recreational fishery.

10

11 **CARLOS FARCHETTE:** Miguel.

12

13 **MIGUEL ROLON:** We have to be done at 5:30, guys, but I just  
14 wanted to ask Bill and the local government of Puerto Rico -- I  
15 remember when we were discussing the closing of the year,  
16 statistically speaking, and the goal was to have the numbers by  
17 the first quarter of the following year.

18

19 Here we are in the second quarter, and we have not received  
20 anything from 2016, and the question is, if we have not received  
21 anything, what is the status of that statistics, from Puerto  
22 Rico at least?

23

24 **BILL ARNOLD:** Just to clarify first, what we set up was a  
25 timeline that we would have all the data in our hands by  
26 September 30 of each year. We would then work with the Science  
27 Center, and ultimately the SSC, but primarily the Science Center  
28 and the Regional Office, to determine what the catches are, how  
29 they relate to the annual catch limits, and what the closures  
30 would have to be.

31

32 The part about working with the SSC has to do with whether that  
33 landings level was due to actual increase in catch or due to  
34 enhanced reporting, and then we would, as I mentioned earlier --  
35 The desire was to be able to come to the December council  
36 meeting and tell them what I just told you, what the catches  
37 were and what the closures were going to be.

38

39 This year, there were a variety of impediments that prevented us  
40 from achieving that goal, and that is all there is to it. Here  
41 we are, we finished this up last week or the week before, or  
42 maybe the week before. That's it.

43

44 It was probably while I was at the SSC meeting that I think we  
45 got the final numbers in, et cetera, et cetera. We would hope  
46 that's not the case, and we would hope that this year we have  
47 all the landings data and the expansion factors by September 30,  
48 but, you know, stuff happens.

1  
2 **MIGUEL ROLON:** If I could ask Ricardo, do you think that you  
3 will be able to meet that September 30 deadline for the 2016?  
4  
5 **RICARDO LOPEZ:** I am not sure about that. I will have to talk  
6 with my staff and check about that.  
7  
8 **MIGUEL ROLON:** Because it's a recurring problem that we have,  
9 and we discussed this before. There was a commitment to do it  
10 this year, because we have now, in 2015, the last year, but, if  
11 we don't do it this year, next year we will have the same  
12 problem again, and, if we have overages, they are not -- Then  
13 they will be penalized, the fishermen, unfairly.  
14  
15 **RICARDO LOPEZ:** About the port samplers, we do have three  
16 persons that still are working during this month. We only lost  
17 two persons for one month. We will have them very soon, and, if  
18 we have them, we can be faster and keep trying to meet --  
19  
20 **MIGUEL ROLON:** You are supposed to have all of that information  
21 by December 31, and so you are not collecting in 2017 to put it  
22 in September, and so I don't know. We are trying to help here  
23 somehow, and we have discussed this personally, but it seems  
24 that it will take -- It is taking you more time for that data  
25 entry, and, when Daniel gave us a talk in Mayaguez, the idea was  
26 to have all the information by February or March and send it to  
27 the Center.  
28  
29 Then we have almost six more months to comply with the  
30 requirements -- Not the requirements, but the policy that we  
31 started was to have all these numbers, so the Center can give  
32 those numbers and Bill can tell us whether we have to have a  
33 closure or not the following year, and that's the problem that  
34 we are having now, and I believe, when you see tomorrow what the  
35 fishermen are doing, let's be optimistic, and we think that  
36 their project will fly, meaning other fishermen will adopt that  
37 and the scientists will be happy with the sampling design that  
38 they are going to work on and we can improve the situation that  
39 we have.  
40  
41 I believe that everybody around the table -- What we would like  
42 to do is see if we can best improve the way that we collect the  
43 data and see if we can shorten the average, if it's just because  
44 of problems that we have in the system and not because of what  
45 is happening out there.  
46  
47 **RICARDO LOPEZ:** Allow me to check for tomorrow morning with  
48 Daniel and the staff on how we're doing and what do we need and

1 if they have any expectation. For tomorrow morning, I will give  
2 you that information.

3

4 **CARLOS FARCHETTE:** Bill.

5

6 **BILL ARNOLD:** I truly understand that problems arise, and that's  
7 just something that has to be taken into account, but I just  
8 want everybody to be aware that we went from December 31 to  
9 September 30, which means it's going to be even more imperative  
10 that we get these data, and, first, ideally, that we get them by  
11 September 30. Okay, that may not happen, but that we have as  
12 much information as possible to make plans as to when we are  
13 going to have those data.

14

15 Unlike this year, when we had the convenient out of still having  
16 the December 31 on the table, so we could use it, it won't be on  
17 the table next year. It will only be September 30, and I guess  
18 we could, if we're running late, we could take as much as we can  
19 up to the date when we can get it announced and then take the  
20 rest from October 1 towards December 31, but that's not the way  
21 we wrote the rule, and that's not the ideal situation.

22

23 The ideal situation is to get this stuff announced before the  
24 beginning of the closure year, so that everybody knows what the  
25 game is. This is really important to the fishermen, because  
26 they have to plan their years accordingly.

27

28 If they know that there is going to be a spiny lobster closure  
29 that goes through August and September, then they may plan their  
30 family finances differently. They may plan their vacations  
31 differently. They certainly may plan their gear allocation  
32 strategies differently. I know I would, and, again, this is not  
33 meant to be a criticism of anybody, because this applies to  
34 everybody. This applies to us.

35

36 I could screw up and run these things late or whoever, but we  
37 need to plan, as best we can, so that the ultimate end users  
38 have as much advance notification as possible, because that's  
39 where the rules hit the pocketbooks, is out on the water.

40

41 **CARLOS FARCHETTE:** Miguel.

42

43 **MIGUEL ROLON:** One last thing about that is I just talked to a  
44 fisher the other day, and he was telling me something that, to  
45 me, with this discussion, probably we may end up revising that  
46 September 30 thing for all the species, because, right now, when  
47 you show us the table, there are two of the species that have to  
48 use the September 30, and you said that next year we won't have

1 that, and so we may run into the problem that we get the  
2 information by September 30 and then we get to know -- We may  
3 end up closing something after the fact, and that has happened  
4 in New England one time.

5  
6 I remember that I was at that meeting, and those fishermen were  
7 really upset, because they closed after the season, and so that  
8 may be a problem here, and he was worried, and he told me to  
9 convey the message to you, and I forgot about it.

10  
11 **CARLOS FARCHETTE:** Bill.

12  
13 **BILL ARNOLD:** Two things. These things take a while, and so you  
14 better hurry, and the second thing is we're going into that  
15 shadow zone that I told you about before, where the old FMPs --  
16 It's going to take too long to amend the old FMPs, and it's too  
17 early to amend the new FMPs, and so that is why I was thinking  
18 that this accountability measure trigger amendment, which I  
19 thought was really important so that we meet our OY obligations  
20 -- That was going to be our last amendment to the old fishery  
21 management plans, the species-based fishery management plans.

22  
23 Now, I don't make the rules, and so that's not necessarily the  
24 way it's going to be, but it's going to be more and more  
25 difficult to do anything until we get the new FMPs in place.  
26 Again, I go back to the mantra that I've been espousing over and  
27 over again that we've got to get these new FMPs in place so that  
28 we can get on with effective fisheries management in the U.S.  
29 Caribbean.

30  
31 **CARLOS FARCHETTE:** I agree with that, but I also think it's  
32 important, and I keep hearing about Puerto Rico with their port  
33 sampling. I think port sampling is very important. I mean, it  
34 validates a lot of the work, the overreporting or underreporting  
35 or whatever it is. The port samplers can validate that and see  
36 really what's coming into the fishery and maybe fix a lot of the  
37 issues that we're having. Graciela.

38  
39 **GRACIELA GARCIA-MOLINER:** I am glad that you mentioned that,  
40 because I do have another request for Ricardo to see if he can  
41 find out from Daniel, because the spiny lobster fishery is  
42 closing again, but we have been hearing, over and over, that  
43 most of the lobster that are being landed are four inches in  
44 carapace length.

45  
46 Therefore, the poundage per lobster should have increased, and I  
47 was wondering if there is enough sampling that's been done on  
48 the spiny lobster to say that the overage is because the

1 lobsters are larger than they used to be and that that's the  
2 cause of the increase and it's better reporting because they are  
3 actually reporting closer to the fact that there is so much  
4 poundage being landed.

5  
6 In addition to the projects that they've been carrying out  
7 regarding the changes in traps, that goes into the commercial  
8 fishery landings also, and it doesn't get marked as improved  
9 gear methodology or something or other. It just goes into the  
10 commercial landings.

11  
12 I am wondering about -- In addition to that, for Snapper Unit 2,  
13 there is a permit by the government of Puerto Rico to sixty-  
14 seven fishers who are only allowed 120 trips per year with no  
15 compatibility from the EEZ. If they are in fact reporting  
16 better to the permits that they have acquired, then how can they  
17 track that through the Fisheries Lab and respond to the ACL  
18 overage by being better reporting and better standards and  
19 better methodologies, et cetera. Another request for Ricardo  
20 and Daniel is to see if there are other things that can be  
21 brought into the equation.

22  
23 **CARLOS FARCHETTE:** That's a good point, and I didn't even think  
24 about the lobsters being bigger and so the poundage is more. I  
25 was thinking about more lobsters being harvested, but it's not  
26 necessarily more lobsters and just bigger lobsters. Okay.  
27 Ricardo, is it possible to get what Graciela requested, a length  
28 frequency analysis?

29  
30 **GRACIELA GARCIA-MOLINER:** Actually have a quick look at what  
31 they are harvesting.

32  
33 **CARLOS FARCHETTE:** Okay. We are finished with the -- We have  
34 the five-minute comment period. Does anybody want a five-minute  
35 comment period from the public? Hearing none, okay. That ends  
36 the meeting for today.

37  
38 **MIGUEL ROLON:** No.

39  
40 **CARLOS FARCHETTE:** We have the Administrative Matters. That's  
41 right. Sorry about that.

42  
43 **MIGUEL ROLON:** For tomorrow morning, we would like to switch and  
44 have -- The first thing in the morning will be the O&E AP  
45 report. Then we will follow by Tony Iarocci's presentation of  
46 the spiny lobster workshop, because it's germane to the  
47 discussion that we have here, and then Julian will give some  
48 updates. Tomorrow morning, we will have the update of the O&E

1 AP, followed by the Tony Iarocci report, and then Julian Magras,  
2 but we haven't finished yet, guys.

3  
4 **CARLOS FARCHETTE:** Right. That's true. I just forgot that,  
5 after lunch tomorrow, we have Rick Nemeth is going to do a  
6 presentation on the update on Nassau grouper, on the project in  
7 Puerto Rico and St. Thomas.

8  
9 **GRACIELA GARCIA-MOLINER:** You also have Clayton Pollock coming  
10 in to talk about the work that is being done in St. Croix under  
11 Other Business.

12  
13 **ADMINISTRATIVE MATTERS**

14  
15 **MIGUEL ROLON:** Mr. Chairman, I mentioned this morning that the  
16 CY 2017 is still a question, but we managed to set aside money  
17 from last year, and we will be able to finish to September 30.  
18 Actually, without that money, we would have to close the office  
19 by the end of May. A

20  
21 At the office, we discussed it, and we are okay, and so the  
22 powers in Washington are telling us that we have to wait and see  
23 what happens with the continuing resolution. Once the  
24 continuing resolution is resolved, they will inform us what is  
25 going to be the level of the 2017 budget for the Caribbean  
26 Fishery Management Council. At this time, we need to have a  
27 closed session to discuss the membership of the SSCs and other  
28 panels.

29  
30 **CARLOS FARCHETTE:** Okay. We will give a five-minute recess  
31 until everybody leaves, and we will have a closed session with  
32 only council members. Then, after that, we will have the public  
33 hearing.

34  
35 (Whereupon, the meeting went into closed session on April 18,  
36 2017.)

37  
38 - - -

39  
40 April 19, 2017

41  
42 WEDNESDAY MORNING SESSION

43  
44 - - -

45  
46 The Caribbean Fishery Management Council reconvened at the  
47 Renaissance St. Croix Carambola Beach Resort & Spa, St. Croix,  
48 USVI, Wednesday morning, April 19, 2017, and was called to order

1 by Chairman Carlos Farchette.  
2  
3 **CARLOS FARCHETTE:** Good morning, everyone. This is a  
4 continuation of the 159<sup>th</sup> Caribbean Fishery Management Council  
5 meeting held at the Renaissance Hotel St. Croix Carambola. It's  
6 April 19, 2017. We will do a roll call, and I will start on my  
7 left with Alida.  
8  
9 **ALIDA ORTIZ:** Alida Ortiz, Outreach and Education Advisory  
10 Panel.  
11  
12 **VIVIAN RUIZ:** Vivian Ruiz, council staff. Go to Meeting  
13 attendee is Sarah Stephenson.  
14  
15 **GRACIELA GARCIA-MOLINER:** Graciela Garcia-Moliner, council  
16 staff.  
17  
18 **BILL ARNOLD:** Bill Arnold, NOAA Fisheries.  
19  
20 **TONY BLANCHARD:** Tony Blanchard, St. Thomas, council.  
21  
22 **DAWN HENRY:** Dawn Henry, Commissioner, DPNR.  
23  
24 **DAMARIS DELGADO:** Damaris Delgado, DNER.  
25  
26 **MARCOS HANKE:** Marcos Hanke, council member, Puerto Rico.  
27  
28 **CARLOS FARCHETTE:** Carlos Farchette, Council Chair.  
29  
30 **MIGUEL ROLON:** Miguel Rolon, council staff.  
31  
32 **DIANA MARTINO:** Diana Martino, council staff.  
33  
34 **CARLOS VELAZQUEZ:** Carlos Velazquez, Puerto Rico, commercial  
35 sector.  
36  
37 **JEREMY MATOS:** Jeremy Matos, United States Coast Guard.  
38  
39 **LOREN REMSBERG:** Loren Remsberg, NOAA Office of General Counsel.  
40  
41 **CLAY PORCH:** Clay Porch, NOAA Fisheries.  
42  
43 **RICHARD APPELDOORN:** Rich Appeldoorn, SSC Chair.  
44  
45 **EDWARD SCHUSTER:** Edward Schuster, DAP Chair, St. Croix.  
46  
47 **NELSON CRESPO:** Nelson Crespo, DAP Chair, Puerto Rico.  
48

1   **HOWARD FORBES:** Howard Forbes, DPNR Enforcement.  
2  
3   **KATE QUIGLEY:** Kate Quigley, council staff.  
4  
5   **MARIA DE LOS A. IRIZARRY:** María de los A. Irizarry, council  
6   staff.  
7  
8   **MARIA LOPEZ:** Maria Lopez, NOAA Fisheries.  
9  
10  **RICARDO LOPEZ:** Ricardo Lopez, DNER.  
11  
12  **JOCELYN D'AMBROSIO:** Jocelyn D'Ambrosio, NOAA Office of General  
13  Counsel.  
14  
15  **YASMIN VELEZ:** Yasmin Velez, Pew Charitable Trusts.  
16  
17  **BRIAN MATIAS:** Brian Matias, commercial fisherman, Puerto Rico.  
18  
19  **TONY IAROCCI:** Tony Iarocci, commercial fisherman.  
20  
21  **HELENA ANTOUN:** Helena Antoun, contractor.  
22  
23  **PETER FREEMAN:** Peter Freeman, contractor.  
24  
25  **CAROLINA POTT:** Caroline Pott with the USVI DPNR at the East End  
26  Marine Park.  
27  
28  **ORIAN TZADIK:** Orian Tzadik, Pew Charitable Trusts.  
29  
30  **ORIANA VILLAR:** Oriana Villar, NOAA Fisheries.  
31  
32  **TODD GEDAMKE:** Todd Gedamke, MER Consultants.  
33  
34  **AMY HOCKENBERRY:** Amy Hockenberry, United States Coast Guard.  
35  
36  **HECTOR RUIZ:** Hector Ruiz, HJR Reefscaping.  
37  
38  **JULIAN MAGRAS:** Julian Magras, DAP Chair, St. Thomas.  
39  
40  **IRIS LOWERY:** Iris Lowery, NOAA Office of General Counsel,  
41  Southeast Section.  
42  
43  **BONNIE PONWITH:** Bonnie Ponwith, NOAA Fisheries.  
44  
45  **ROY CRABTREE:** Roy Crabtree, NOAA Fisheries.  
46  
47  **RUTH GOMEZ:** Ruth Gomez, DPNR, Fish and Wildlife.  
48



1 **MIGUEL ROLON:** Very early in the morning, we pay attention to  
2 what we say, and so we have some news today. Iris Lowery will  
3 be on a detail in Washington, and she will not be at the August  
4 meeting. Hopefully she will be at the Christmas meeting in  
5 December, but I have been around for a long time, and Iris is --  
6 I can say that she is one of the best that we ever had here, and  
7 we hope that you can come back. She's a nice lady, but she also  
8 has a hell of a brain for law and regulations, and you always  
9 keep us on track, and so we are grateful for your presence, and  
10 I hope that you cross our paths again, at the end of the year or  
11 next year.

12  
13 The other thing is that she will be replaced at the August  
14 meeting by Jocelyn D'Ambrosio. She is the lady in the back  
15 there, and so, if you haven't met her, please introduce  
16 yourself, and she will be at our next meeting.

17  
18 The other thing is sort of a technical thing, but we will have a  
19 roll call today, and I forgot about the forty-eight hours, and  
20 so you can blame me, but Damaris did her best. We were talking  
21 at night about all this meeting and all the documents that we  
22 have to send and get back for her and Ricardo to be here, and,  
23 when we have the roll call, she will abstain, not because she  
24 hates us or she doesn't like what we are saying, but it's  
25 because, technically, she has to do so.

26  
27 It's similar to when we have a roll call when we submit a  
28 document for review to the Secretary and Roy has to say no,  
29 because he cannot say yes here and then go over to his office  
30 and pass judgment over the same document, and so, with that, we  
31 will start with Alida, I believe, Mr. Chairman.

32  
33 **CARLOS FARCHETTE:** Okay. Outreach and Education Report, Alida  
34 Ortiz.

35  
36 **OUTREACH AND EDUCATION REPORT**

37  
38 **ALIDA ORTIZ:** Good morning. I am really happy that you are here  
39 very early, and so we will talk a little bit about what we have  
40 been doing in outreach and education. The panel met at the end  
41 of March, and we had a very good discussion about the things  
42 that we were going to present to the council and have the  
43 council consider and either approve or disapprove or give new  
44 ideas to it.

45  
46 The first thing that we had was the DAP meetings. All DAPs met  
47 in Puerto Rico, and, the first day, they met all together, and  
48 we had a very, very good interaction with the DAPs. First, we

1 had an orientation about how the council works, and that was the  
2 presentation that Helena Antoun did, and it was very, very well  
3 received.

4  
5 Then I had a presentation that Miguel presented in my name,  
6 because I had to be absent for that period of the program, on  
7 the expectations that we have from the DAP members. The DAP  
8 members is our connection between the council and the community,  
9 and not just the fishers, but all the people around the  
10 fisheries industries, and so we want the DAP members to be aware  
11 of -- They should understand very well what happens in the  
12 council and then how to present that to their peers and then  
13 have the information that they give or the recommendation and  
14 present them to the council in the best way, so that they all  
15 feel represented and they all understand what's going on.

16  
17 We hope to do this type of meeting as many times as possible,  
18 because DAP members change, and, many times, when we change a  
19 person, that doesn't give any inheritance to the next one. The  
20 next one has to find it all by himself, and so we will have that  
21 as like a regular presentation for the DAPs. Helena, at any  
22 time that you want to add anything to what we have been doing  
23 together, please feel free.

24  
25 With the DAPs, we then collected the ideas for outreach that  
26 came out of the DAPs, and, at the DAP Puerto Rico, more than  
27 once, the issue of a fish safety, seafood safety, and handling  
28 was presented, and, a long time ago, through the Sea Grant  
29 Program, we had a very good orientation to the fishers of how to  
30 manage the catch, and that was done mostly on the western coast  
31 of the island, but, as you know, in Puerto Rico, it is not the  
32 same, the western coast and the eastern coast, and so we  
33 requested Sea Grant to repeat those workshops, those trainings,  
34 and to have them all around the island, instead of just one  
35 side.

36  
37 The other issue that the DAP Puerto Rico is very concerned is  
38 the ciguatera poisoning, and the thing that ciguatera is being  
39 used in the selection of the species, like Nelson mentioned  
40 yesterday, and we really don't have much more information about  
41 ciguatera, and there are fish that are toxic on the west coast,  
42 but the same species is not toxic in the other part of the  
43 island, and, at some time, we also had very good statistics from  
44 the health department and from the people who were doing the  
45 research, but, since that research was done probably five or  
46 eight years ago, we don't have any more statistics, and so  
47 that's a project that we should either promote or support that  
48 Sea Grant get the funding, that the health department get some

1 type of funding, to review the statistics on ciguatera.

2  
3 In the DAP St. Croix, we found a very, very interesting  
4 recommendation to always use the common names, no matter what  
5 the table is, but every time you use the name, the scientific  
6 name or the English name, use the common name, and that at least  
7 should be available not only to the fishers, but to everyone, so  
8 that we learn more and more about what we are eating and what we  
9 are consuming, and so we will do that.

10  
11 There are many outreach-related activities, and some of them  
12 happen in the schools. Marcos Hanke has been one of our best  
13 delegates in working with children and in the very, very  
14 elementary schools, and they have been very, very successful.  
15 Marcos, you can tell us what you do.

16  
17 **MARCOS HANKE:** We try to take the message of conservation and  
18 adapt it to the curriculum or whatever class the teachers are  
19 given to support, with illustration from the field and from the  
20 fishermen and manager perspective, and the kids enjoy it a lot,  
21 at every level. The young ages are very important to address.

22  
23 **ALIDA ORTIZ:** Yes, and the meaning of Marcos's presentation to  
24 us in outreach is that every council member is an outreach  
25 person, because, many times, you do meetings with your people  
26 and you do meetings with the communities, with the schools, and  
27 we don't know about that, and so, if you are working with the  
28 schools or you are doing anything in the church, in the  
29 community, please let us know.

30  
31 It's the same thing we had with the presentation that Carlos  
32 Farchette gave to us about the USVI agricultural fair, where  
33 lionfish was one of the big actors in the fair, and so we were  
34 very impressed, and it is, again, the same thing. We have a  
35 council member that is doing the outreach and presenting all of  
36 this material, and the other thing is that fisheries is not just  
37 catching fish and selling fish.

38  
39 When you speak about science and technology and engineering and  
40 math and research on fish and research on marine habitats, where  
41 they live, that is part of the information that we need and we  
42 should support, and so we were very happy to see that  
43 presentation that happened here in St. Croix.

44  
45 The other presentation that we had was on marine debris. Marine  
46 debris is an issue that has been with us in the marine  
47 environment like forever, since we discovered plastic and we  
48 decided to throw it all over the place, but every time, every

1 year, we have schools that call for a presentation on marine  
2 debris, and, this time, we had two of them, one in the high  
3 school that I did myself and Diana, and another one that Helena  
4 did with a very wide community level of all ages on marine  
5 debris. That is an issue that, no matter what time of the year  
6 or where in the world, marine debris is always present, and the  
7 impact on marine life is always there.

8  
9 The other thing that you have noticed today is a banner that we  
10 have put out here for the Caribbean Council. When we came in,  
11 we found that the council meets anywhere, in any hotel, but,  
12 most of the time, we don't see any sign of who is meeting there  
13 except the very little card that the hotel puts there, and so we  
14 thought that's a space where people who go by can always ask and  
15 see and read a little bit, and so we had four banners like the  
16 one you have outside of this room today.

17  
18 One is a general council, and this is the one that we are using  
19 for this meeting, but then there is one for each one of the  
20 DAPs, and the one for the advisory panel of Puerto Rico and then  
21 the other two advisory panels of St. Croix and advisory panel of  
22 St. Thomas.

23  
24 Wherever these DAPs are meeting, we are going to have those  
25 banners out, so that people know who is meeting. We didn't have  
26 a specific person involved in the DAP, because that changes a  
27 lot, but at least the information, and, if anyone reads it and  
28 they want information, they have a place where they can call or  
29 reach the web and find out about what is the function of the  
30 DAPs.

31  
32 With the island-based fishery management plans, I think outreach  
33 and education is going to be very, very, very important, first  
34 because we have to diversify the information. We have different  
35 communities and we have different cultures and we have different  
36 traditions, and so outreach and education to promote or to  
37 understand the fisheries management plan for Puerto Rico is not  
38 the same as the one from St. Croix and St. Thomas, and so we are  
39 finding ways of how to support those plans.

40  
41 We have been talking about a series of short videos, and,  
42 yesterday, I was very enthusiastic with the presentation that  
43 Kate Quigley made on the socioeconomics and culture of the USVI,  
44 because that's something that we have to promote. That is  
45 something that we have to see inserted in the plan.

46  
47 When you talk about an ecosystem-based management plan, we have  
48 to put there the human animal, because that's part of that food

1 chain. That is part of the habitat, almost, and so it will be a  
2 very short video on each one of the islands, and, in Puerto  
3 Rico, we are working on one for the entire island, so that we  
4 can see the difference between the coasts.

5  
6 Another video that we would like to produce is what fishers are  
7 doing that is very good for management. Most of the time, when  
8 we see these videos, the fishers complain about this is not  
9 working or the government doesn't do this or we cannot do the  
10 other thing, and then we sort of put aside that they are doing a  
11 lot of things that are supporting that management, that are  
12 giving the information, the fact that the way the statistics are  
13 taken in the field is not because there were forced, because  
14 they realize that that was the best thing to do, and they are  
15 doing it.

16  
17 In many places, they are the ones that are taking care of  
18 protecting the area or of complaining of things that will be bad  
19 for the environment, and so we want to make a short video on the  
20 best practices that are done, and we will begin with Puerto Rico  
21 and then we will move to the other islands.

22  
23 The other thing is that we need, as an activity, to promote  
24 this, we need to enhance and strengthen, I would say, our  
25 communication with the U.S. Virgin Islands. We need to know  
26 what you're doing, and we need to see what we can put in  
27 outreach and how we can support that outreach, because, at this  
28 time, we have very little communication with that.

29  
30 The other thing that we have as an activity for the council to  
31 support is PEPCO, and that's the activity that Helena is doing  
32 in Puerto Rico with the train the trainer and to include  
33 recreational activities, recreational fisheries, and Helena will  
34 have a presentation in a little while.

35  
36 We also want to explore that concept of citizen science that is  
37 being used so much in research, and much of the research that is  
38 done, sometimes by private organizations or by universities,  
39 could use fishers in the field, and they could be the support in  
40 the field for that researcher, and that would provide a better  
41 communication, and so we are going to work on identifying what  
42 are those opportunities and make them known to the community.  
43 Now I am going to put Helena's presentation up.

44  
45 **CARLOS FARCHETTE:** Is there any questions or comments for Alida  
46 so far, before Helena starts? Velazquez.

47  
48 **CARLOS VELAZQUEZ:** Alida, do you show, for the ciguatoxic in

1 Puerto Rico, do you propose a table of information or what do  
2 you propose for this, for ciguatoxins?

3  
4 **ALIDA ORTIZ:** To this moment, we don't have anything, because we  
5 called the School of Medical Sciences in Puerto Rico, and we  
6 went to the campus, because that's where the research was done,  
7 but all the information that we have is like a literature list  
8 of what was done, and so we have to make that new. We have to  
9 begin finding out what fishes are identified as ciguatoxic and  
10 see what the researchers are doing with that.

11  
12 There is a lot of research on ciguatera in Cuba and in the  
13 Dominican Republic, anywhere else in the Caribbean, and I don't  
14 know whether you have information for the U.S. Virgin Islands,  
15 but I don't.

16  
17 **CARLOS FARCHETTE:** Miguel.

18  
19 **MIGUEL ROLON:** We do have information, but, with ciguatera, you  
20 have to be very careful in outreach and education, because you  
21 may end up messing the whole thing up, as they have done before.  
22 There is a lot of information about ciguatera. Actually, at the  
23 council, we put together a conference, several years ago, and  
24 it's a publication of the *Marine Fisheries Review*.

25  
26 In there, we were able to bring experts from all over, from  
27 Hawaii, where the whole thing started, over to the Caribbean and  
28 people from Washington and even a Canadian guy, and so there is  
29 a lot of information on ciguatera.

30  
31 At the beginning, when we had our Reef Fish FMP, we had an OY  
32 influenced by those ciguatoxic species that we didn't want the  
33 fishers to sell, and the species were identified by the fishers  
34 and not by us. The fishers came to the table and told us this  
35 fish is ciguatoxic.

36  
37 You have to be very careful with that, because, in Puerto Rico,  
38 somebody was talking about ciguatera, and he didn't know beans  
39 about ciguatera, and, at the same time that he was talking on  
40 TV, the only video they had about fish being unloaded at the  
41 dock were red hind, and so there you are, a guy talking about  
42 how ciguatera killed his brother and his father and this red  
43 hind being shown on the video.

44  
45 The whole fishery shut up for a while, and, based on that, we  
46 had to get people to clarify the whole issue and everything, and  
47 so ciguatera is one of the issues that you have to be very  
48 careful with.

1  
2 We also have a -- There was some fish on the south coast of St.  
3 Thomas that were poisonous, and the fishermen knew about it.  
4 The same fish was not poisonous in the north, and so fishermen  
5 were fishing in the south and going around and selling it in the  
6 north, and nobody got poisoned, and so, again, outreach and  
7 education is a good tool, but you have to be very, very careful  
8 how you use it in some cases that are sensitive to the  
9 livelihood of fishers. At the same time, we have to be  
10 sensitive to the perils that you may have if you eat the wrong  
11 fish.

12  
13 Sometimes when people get sick they think it's ciguatera, which  
14 it's not. It's poor handling of the fish, and not by the  
15 fishers, but the people who sell the fish or the housewives at  
16 home, and so all of those issues could be considered, but, at  
17 this time, what Alida and the group is doing, they are  
18 collecting that information, and, when we are ready, maybe we  
19 will have some clarification.

20  
21 In the U.S. Virgin Islands, Dr. David Olsen gave us a  
22 presentation about the activities in the Virgin Islands, and  
23 there was some hospital where they train doctors on ciguatera,  
24 and there was a project on ciguatera in the U.S. Virgin Islands,  
25 and so we have that information available. Actually, if you  
26 want it, we can send it to you, and the *Marine Fisheries Review*.  
27 Then, when are ready, we can discuss it.

28  
29 **CARLOS VELAZQUEZ:** Very quickly, in the case of Puerto Rico, the  
30 south of the island, all the south, all the hogfish caught --  
31 All hogfish are ciguatoxic in this area, all south of Puerto  
32 Rico.

33  
34 **CARLOS FARCHETTE:** Okay. On that same subject, the Commissioner  
35 and then Marcos.

36  
37 **DAWN HENRY:** Good morning. I just need to -- This position,  
38 this outreach position that Alida just represented on, is this -  
39 - Is her position for the region, the Caribbean, or is she just  
40 for Puerto Rico, and, if that's the case, is there something  
41 vacant for the territory?

42  
43 **MIGUEL ROLON:** It's not a position. We have an Outreach and  
44 Education Panel, the same as we have the DAP. In that panel, we  
45 have representation from St. Thomas/St. John and St. Croix and  
46 Puerto Rico. Alida is just the chair of that panel, and her  
47 duty is to report whatever the panel does, the same as the three  
48 gentlemen in the back here.

1  
2 One issue with the U.S. Virgin Islands on this panel that Ruth  
3 and I have been talking about is how to enhance the  
4 participation of fishers especially on that panel, and Ruth now  
5 actually -- She couldn't be at this meeting because she was in  
6 the SEDAR joint meeting, but Ruth is instrumental in this panel,  
7 and so we have to balance the three areas as much as possible.  
8  
9 **DAWN HENRY:** Thank you.  
10  
11 **CARLOS FARCHETTE:** Marcos.  
12  
13 **MARCOS HANKE:** I just want to report that Miguel De Pozo in the  
14 University of Puerto Rico is the link for a new study of  
15 ciguatera that will be conducted next year, and I just texted  
16 him to send me the details, and I'm going to put you guys in  
17 coordination.  
18  
19 **ALIDA ORTIZ:** Okay. Great. Thank you, Marcos.  
20  
21 **CARLOS FARCHETTE:** Okay. On the same subject of outreach, I  
22 have Schuster.  
23  
24 **EDWARD SCHUSTER:** Alida, I saw that, in your presentation,  
25 Marcos was in the schools. Did anyone, when you did it here in  
26 St. Croix or St. Thomas, did anyone go into the schools like  
27 Marcos did?  
28  
29 **ALIDA ORTIZ:** No, Marcos -- Those are in Puerto Rico.  
30  
31 **EDWARD SCHUSTER:** That's what I am asking. Do you plan on doing  
32 it in our schools here?  
33  
34 **ALIDA ORTIZ:** That's something that I would love to see if --  
35 The people from the U.S. Fish and Wildlife do the same thing,  
36 and they send us information so that we can promote it. For the  
37 last meeting, Ruth Gomez sent me a list of the activities, and  
38 there have been activities with children and schools and  
39 everything, but like having a photograph or having at least an  
40 idea of what is the discussion and how do I fit in with  
41 fisheries, that we need to promote.  
42  
43 **EDWARD SCHUSTER:** I think that's an excellent idea that needs to  
44 be implemented when you do outreach and education, because the  
45 kids take home a wealth of information to their parents, and you  
46 will be surprised the effect that it has on them, but excellent  
47 work. I think that's the key to the door that we need opened to  
48 the fishers.



1  
2 **MIGUEL ROLON:** In the past, organization of educators in the  
3 Virgin Islands used to go to schools, and we interact with them,  
4 and Diana provides the materials for the schools. Probably, at  
5 this time, we have to revisit that and see if we can reactivate  
6 it, but this is an example of what a council member who is  
7 interested in this issue can do, because Marcos went on his own  
8 to talk to these kids, and any of you can do it, or any DAP  
9 member can also do that.

10  
11 **ALIDA ORTIZ:** And send us the information.

12  
13 **MIGUEL ROLON:** Yes, and we can provide the information to any of  
14 you to go to schools. Nelson went to a meeting that was put  
15 together by the fishers of Guanica, and they asked for  
16 information, and so Helena and Nelson went and talked to them.

17  
18 Alida and I are always saying that outreach and education is not  
19 a one-shot deal. It's a continuum and, the more we do, the  
20 better, because many of the things that we have discussed,  
21 especially yesterday, all of this jargon -- I have been here for  
22 forty years, and, every time I come to a meeting, I have to read  
23 the jargon again, to make sure I know what they're talking  
24 about.

25  
26 For that, we are grateful for the work that the DAP is doing and  
27 being led by Alida at this time, and Diana and Alida work  
28 together with Helena in many of these activities, and, at the  
29 national level, the eight councils have been working on outreach  
30 and education.

31  
32 Twenty years ago, outreach and education was a so-what question  
33 at NMFS. It wasn't until they said, no, we need to go with  
34 outreach and education, and now we have better communication  
35 with the people.

36  
37 **HELENA ANTOUN:** Good morning, everybody. Just a brief update on  
38 some of the things that we talked about during the last meeting,  
39 and I just wanted to show you all quickly just Facebook, since  
40 we've implemented it. Since we've talked about it at the last  
41 meeting, we've been implementing it, and it's been working out  
42 really well. We've been getting engagement, and we've been  
43 getting people responding, and this just is an example of the  
44 analytics.

45  
46 This is the total of number of people reached. This is like the  
47 number of people engaged. That's a click, or at least they go  
48 into the -- Whether they react or they click, that's the

1 engagement there, and, to get an idea of what kind of people we  
2 have, here we have the demographics, the percentage of men and  
3 women and the age groups.

4  
5 The majority of the age groups fall between thirty-five and  
6 forty-four years old, and it's almost 50/50 in terms of men and  
7 women, and, with location, we actually, surprisingly, have  
8 people all over the world that are clicking on our Facebook  
9 page. We have Brazil, Canada, China, the Netherlands, the  
10 Philippines, and so we're actually, slowly, slowly, starting to  
11 reach out further than just Puerto Rico, and so I just wanted to  
12 give you guys that update.

13  
14 It is turning out to be a really useful tool, and I think that  
15 we should at least keep using it, and so I don't know if anybody  
16 has any comments or anything regarding Facebook before I move  
17 on.

18  
19 **MIGUEL ROLON:** Facebook, when we started this -- We're still in  
20 an experimental stage, but this is one of the media tools that  
21 most people are using to communicate with agencies and among  
22 themselves, and we have identified several fishers and fisher  
23 groups who have webpages, and they interact with ours, the same  
24 as the one with Sea Grant and other universities, but we have a  
25 question for the council at this time.

26  
27 Some of the councils use Facebook to collect comments during  
28 official comment periods where you are required to have public  
29 hearings and public comment periods for regulations for  
30 management actions, and so, at this time, we would like to ask  
31 the council whether you think that's a good idea or just keep it  
32 the way it is.

33  
34 The way they do it in other councils is when we have a comment  
35 period, let's say thirty days or sixty days or whatever, they  
36 open a box, where the public can punch a button and the box will  
37 open, and there they can write their comments. Those comments  
38 are official.

39  
40 The comments that you receive in the Facebook saying that Miguel  
41 Rolon is a you-know-what are not official, but, if you open this  
42 box, then you will present to the public that this is amendment-  
43 so-and-so, Amendment Number 6 to whatever plan, and then they  
44 will be able to submit those comments.

45  
46 If we do that, then they will be managed by Helena, and Graciela  
47 will have to tally up the comments that we receive, to present  
48 it to the council when the time comes, and so, at this time, do

1 you want to use that tool, or do you want to keep it as is? I  
2 polled some of the other EDs, and they said, no way, Jose, we're  
3 not going to do that. Some of them are not even considering  
4 Facebook or Instagram or Twitter, but we are thinking about it,  
5 because we have a big guy in Washington who likes to use  
6 Twitter, and they may go into Twitter again, but, here, it's a  
7 question for the council at this time.

8  
9 **CARLOS FARCHETTE:** Hanke.

10  
11 **MARCOS HANKE:** Addressing that, my first question is, because I  
12 am not an expert on that by any means, what is the need for time  
13 and personnel to do that? I would like clarification on that,  
14 but, aside from that, I think, because of the nature of our  
15 council, that we have three islands apart, and we have all the  
16 dynamics that we know it's a small council and there is a  
17 request to participate in the process and how hard it is that  
18 they could not attend or whatever, but it's a tool to get those  
19 opinions from those people that cannot travel or cannot -- It's  
20 just to engage more people. In this case, I think more is more  
21 and it's going to add to the process, and I think it's a good  
22 idea.

23  
24 **CARLOS FARCHETTE:** Blanchard.

25  
26 **TONY BLANCHARD:** Well, I'm going to speak for me. I ain't on  
27 Facebook, and I have no intentions of getting on Facebook or  
28 anything else, and so, if it works for the rest of you, that's  
29 fine with me, but it just ain't going to work for me.

30  
31 **CARLOS FARCHETTE:** I've got to say that I strongly support  
32 Facebook. I believe social media has taken over the world, and  
33 I am like Blanchard. I do not Facebook, and I do not Instagram,  
34 and I do not tweet, and so you won't see me on there, but I do  
35 strongly support the use of Facebook and social media to get  
36 outreach and information out there.

37  
38 **ALIDA ORTIZ:** Okay. In this case, Blanchard, it's the same  
39 thing here, but I do see the mechanism. I do see the strategy  
40 as a way to contact people that are more and more into this, but  
41 then, of course, you have to have all of these cautions on what  
42 you do there.

43  
44 One thing is that entry box that Miguel is questioning, where  
45 the people who respond to that are responding to a document of  
46 the council, and then that should be very well coordinated and  
47 very well regulated, and I use this and I use the other thing,  
48 and another part of Facebook that I want to ask is can we

1 conduct surveys?

2

3 **MIGUEL ROLON:** No.

4

5 **ALIDA ORTIZ:** Okay.

6

7 **MIGUEL ROLON:** No, and I just had discussion, because I want to  
8 go on the record and get it out of the way, but you may create  
9 more problems than you think by using Facebook the wrong way. I  
10 keep telling Helena that the way that we have our page on  
11 Facebook is not to interact directly with the people, but just  
12 to provide information.

13

14 Sometimes she has to bit her tongue, because she cannot get into  
15 comments with people, based on the experience of Emily from the  
16 Gulf Council. At the beginning, she was writing to people, and  
17 people were writing to them and saying, well, I believe that  
18 they RA is a you-know-what, and she would say, no, he's a nice  
19 guy, and it got into this discussion with people.

20

21 Now, she told us that the Gulf Council, what they do is they  
22 have soundbites. They have videos that explain to the people  
23 that these are ACLs and this is the way that it works, and they  
24 are fixed soundbites, and so it's pure information that they  
25 send, but then the opportunity of having this tool is that it's  
26 also complicated, because, legally, you have to be mindful of  
27 how you deal with comments and, when you ask for comments, how  
28 you're going to do it.

29

30 The other thing about surveys is a survey has to be cleared.  
31 Any survey that you do has to be cleared by lawyers and all  
32 that. You cannot put together a survey and go asking people  
33 questions.

34

35 **CARLOS FARCHETTE:** Iris.

36

37 **IRIS LOWERY:** My suggestion would be that, if the council is  
38 interested in kind of looking into how Facebook could be used in  
39 this way, to engage with the public more fully, that maybe  
40 that's something that Miguel and I or council staff can discuss,  
41 to figure out exactly the parameters within which you can  
42 operate, because it doesn't make sense to have that conversation  
43 if you're not interested in it, but, if you are, then I think  
44 that's something that certainly I can discuss.

45

46 I think the Gulf Council, and maybe the South Atlantic, have  
47 slightly different ways that they maybe use email addresses or  
48 Facebook to interact with constituents, and that is certainly

1 something that I can provide, or I guess Jocelyn can provide,  
2 more information about at the August meeting.

3  
4 **MIGUEL ROLON:** That's great, and then, at the August meeting,  
5 you can make a decision of whether you will go into it or not.  
6 I talked to some of the lawyers in Washington about it, and they  
7 told me that you have to be mindful of a couple of things. One  
8 of them is that you have to make sure that it's available to the  
9 public. Two is you have to make sure that you will be able to  
10 collect that information and keep it archived, that information.

11  
12 Just to give you an idea, when the whole thing actually started,  
13 the Gulf received something like a half-a-million comments by a  
14 machine. At that time, the lawyers had to respond to those  
15 comments, and so they did it on purpose, and I will leave it at  
16 that. That's when the lawyers started talking about this, and  
17 so these new tools are there, but it doesn't mean that you have  
18 to jump into all of them.

19  
20 To manage a page like Facebook, you also have to be careful how  
21 you do it, and the most important part of the Facebook is that  
22 you can provide more information to the public, but, right now,  
23 there are people who don't know much about Facebook. They are a  
24 little beyond the interest that Tony has, but they get confused  
25 with the page, and I get calls.

26  
27 They go onto our webpage, or they have a search for the  
28 Caribbean fisheries, and then you have everything that is  
29 Caribbean fisheries on Facebook will show up, and they think  
30 that it's our page, and then you have people who don't like the  
31 local government and they write about it, and then I get the  
32 call of why the council doesn't like this agency or why the  
33 council doesn't like this part. Helena is working this out, and  
34 probably, at the end of the year, we will have one year of  
35 experience, and we will --

36  
37 **HELENA ANTOUN:** Just following up on what Iris was saying, it  
38 would be great. I don't know if we can do it, but that would be  
39 awesome, if we could have a meeting with Iris, and maybe a few  
40 lawyers, and the Gulf Council and actually just focus on that,  
41 how Facebook is being used, how social media is being used, and  
42 the laws and regulations. Take like some time apart and  
43 dedicate it to figuring out like how much we can explore and  
44 what we can do and how much engagement we can have. I think  
45 that would be fantastic.

46  
47 **MIGUEL ROLON:** We were not thinking of a meeting. We were  
48 thinking of correspondence. Then, if I need to send you to

1 learn about it, you will go.  
2  
3 **CARLOS FARCHETTE:** Hold all thoughts. Diana has an announcement  
4 to make.  
5  
6 **DIANA MARTINO:** Sorry, but I have been asked if there is anybody  
7 interested in pre-ordering, like yesterday, lunch. It's the  
8 same menu as yesterday. If anybody is interested in doing it,  
9 just let me know, so I can give you the menu.  
10  
11 **CARLOS FARCHETTE:** Helena, are you finished?  
12  
13 **HELENA ANTOUN:** Now, moving on, PEPCO, just a quick overview of  
14 what's been going on in the past three years, since we started  
15 the program. Here, I have the years 2014, 2015 and 2016 and the  
16 total number of workshops that we had for each year and the  
17 total number of participants approved. It's not the total  
18 number of participants that went to the workshop, but approved,  
19 and, to be approved, you have to stay there for the full  
20 workshop and take the test at the end, which is a really simple  
21 thing. It's just to make sure that people stay until the end.  
22 Then they get a certification.  
23  
24 We have had, in 2014, 226. Then the numbers went down to 164  
25 and 120, but the reason why the numbers went down is because we  
26 had to put a cap on the total number of people we would allow in  
27 the workshop, because it was getting overfilled, and we could  
28 not handle seventy people at one time, and so we started  
29 limiting the numbers.  
30  
31 The maximum number of people permitted in the workshop was like  
32 thirty, or a maximum of forty, and, for those that don't know,  
33 PEPCO is the commercial fishers' education program for Puerto  
34 Rico, and "PEPCO" is just the Spanish acronym.  
35  
36 Then the map shows the areas where we've had all the workshops,  
37 and we've gone pretty much all around the island, including  
38 Vieques and Culebra, and so it's been very successful. It's a  
39 voluntary program. We are not obligating anybody to take it.  
40  
41 There was a lot of skepticism in the beginning, but our  
42 experience has shown that people are actually interested in this  
43 program, and now we're actually starting to get requests.  
44 People are calling us because they're hearing about it, they're  
45 learning about it, and they're calling us and asking us to come  
46 over and give them the workshop.  
47  
48 A couple of the next steps that would be great would be

1 officializing the program with DNR, and I've already spoken  
2 about that with Ricardo and Damaris, and so we're going to be  
3 looking into making it more available on the website,  
4 information more available on the DNR website, so people can  
5 look it up.

6  
7 Once again, port agents have been key. They're the ones that  
8 know the fishermen. They have the good relationship with the  
9 fishermen, and so hopefully we'll keep the port agents involved,  
10 but the reality is that we only have, right now, two full-time  
11 port agents for the entire island, and maybe we may get  
12 contracted maybe two or three more, and so that's only like four  
13 or five total, and so we need to be realistic, and one of the  
14 things that we're looking at is a training-the-trainer program,  
15 which is getting other people to start giving the workshops.  
16 That is something that we're going to further explore with DNR.

17  
18 **MIGUEL ROLON:** I believe that Ruth has a question for you.

19  
20 **RUTH GOMEZ:** The funding for these workshops, where does it come  
21 from?

22  
23 **HELENA ANTOUN:** We are very low budget. Basically, DNR has some  
24 funding for the fisheries program, and so, like when I have to  
25 print material and stuff like that, I just make the order, and I  
26 print out the material, but funding for small things has --  
27 We've gotten a lot of support from TNC, and they help fund like  
28 small little things here and there, buying pencils and folders  
29 and labels and stuff, but this is part of the issue.

30  
31 The port agents are contracted to do a certain job, and PEPCO is  
32 not part of it, and so they are -- Daniel can only give so much  
33 time of his port agents for this, which is why we have only been  
34 doing like seven or eight workshops total, because each agent  
35 cannot do more than maybe two per term, and so that is an issue,  
36 and there's also another reason why we -- Like the next step  
37 would be considering a volunteer program, where you start  
38 training other people to come and give the workshop.

39  
40 **RUTH GOMEZ:** Is there a possibility that liaison funds could be  
41 used if we wanted to do something like this in the Virgin  
42 Islands?

43  
44 **MIGUEL ROLON:** As a matter of a fact, yes. When Helena came to  
45 this position that she has under contract with us, it was  
46 because the Puerto Rico Department of Natural Resources -- She  
47 worked for one year, and then Miguel came and told me that he  
48 was going to lose this person, the resource, and how can we work

1 together, and so we worked something together with liaison  
2 funds, that I believe we talked a little bit more, and so, yes,  
3 you can use liaison funds for any activity that is related to  
4 fisheries that the council is interested in, and so it's mostly  
5 everything. You can use it for materials or you can use it for  
6 contracting a venue, where you have the fishermen, and so forth.

7  
8 **RUTH GOMEZ:** I would like to talk to you later about the  
9 details.

10  
11 **HELENA ANTOUN:** Absolutely.

12  
13 **MIGUEL ROLON:** By the way, Ruth, now that you're mentioning  
14 this, there is a difference between PEPCO and what you have in  
15 the Virgin Islands. When the fishermen -- When it comes to the  
16 time that they have to renew their license, they are supposed to  
17 take kind of a workshop.

18  
19 **RUTH GOMEZ:** Not anymore.

20  
21 **MIGUEL ROLON:** Okay. That's what I was going to mention,  
22 because, in Puerto Rico, they were thinking about it, and what  
23 we have found in the past is that the fishermen are more willing  
24 to come and sit down for a day or two when it's a volunteer  
25 thing. They put more attention into it, and that has been  
26 Helena's experience.

27  
28 When you force them to do it, they cannot -- They sit here and  
29 check it and they're gone. I have my license, and that's all  
30 that I came here for, but the fishermen themselves have --  
31 Actually, can you give us a very brief idea of what the feedback  
32 from the fishers has been?

33  
34 **HELENA ANTOUN:** The feedback has been fantastic. They always --  
35 At the end of every workshop, we have an evaluation form, and we  
36 ask them how was their experience and recommendations and  
37 suggestions, and it's always -- They will always say to do this  
38 more often and we need this, because it's not only a forum where  
39 they are getting the information straight from the horse's mouth  
40 and they're clarifying a lot of misconceptions, but it's also a  
41 forum where they can engage directly with the people, with the  
42 representatives of DNR, and be like, hey, this is going on and  
43 this is a problem we have and this is the situation, and then,  
44 annually, I make a report, and then I include all those comments  
45 in the report, and I give it to DNR.

46  
47 A couple of key things, and I know I've mentioned this before,  
48 but I am going to mention it again, because it is really, really



1 important. It's a voluntary program. We have seen that we  
2 don't need to make this an obligation, because people are  
3 interested. They want it.

4  
5 We take the program, we take the workshop, to the fishermen.  
6 That's another key thing here. We don't make them come to a  
7 place. We ask them where it comfortable for you, and then  
8 they're the ones that -- We just ask them to make sure that the  
9 place has certain requirements, that it meets handicapped and  
10 parking and it has certain things, and we take it to them.

11  
12 They pick the venue, and that really helps in participation,  
13 because, if you're going to try to make it like obligatory and  
14 they have to come to the central office, it's not going to work.

15  
16 **CARLOS FARCHETTE:** Ruth.

17  
18 **RUTH GOMEZ:** I agree with that. When registration, prior to my  
19 return, for four years, the fishermen would go in to register,  
20 and it would take them two hours. It became more of a  
21 punishment, and so we ended up having fishermen that would  
22 bypass the two to three-day registration event and wait until it  
23 was over, because then they wouldn't be forced to sit through  
24 presentation after presentation after presentation. A process  
25 that takes fifteen to twenty minutes ended up lasting an hour or  
26 two hours.

27  
28 I agree that you can't force them to come to a meeting or an  
29 education and you need to take it on their terms, take it to  
30 them on their terms, and so that is a very important key.  
31 That's why I'm asking about funding, because, in fact, this  
32 morning, Julian, myself, and Dr. Ponwith were talking about  
33 education avenues for commercial fishers, and that was one of  
34 the things that we were looking into, and so that's good to  
35 hear, and so I will learn from Puerto Rico's mistakes.

36  
37 **ALIDA ORTIZ:** Good.

38  
39 **HELENA ANTOUN:** I believe that's what I have for PEPCO. Also,  
40 just really, really quick, just so you guys have an idea, I got  
41 this information just this morning, and so here is the number of  
42 total participants approved in 2014, 2015, and 2016.

43  
44 I just received, from the Office of DNR, the licensing and  
45 permitting office, the total number of licenses that were given  
46 out for each of those years. For 2014, it was 368. In 2015, it  
47 was 398. In 2016, it was 282. These are new licenses or  
48 license renewals, and so, if we look at those numbers and we

1 look at the numbers that we're getting per workshop, we're  
2 actually covering a good percentage of fishermen, even though  
3 we're very limited in resources, and so that's just to give you  
4 an idea.

5  
6 Then one of the results of this has been better reporting. All  
7 the port agents are recognizing that they're getting better  
8 reporting.

9  
10 **RUTH GOMEZ:** In Puerto Rico, there is no moratorium like there  
11 is in the Virgin Islands? People still get new licenses in  
12 Puerto Rico? What is the most licenses in any given year that  
13 Puerto Rico has issued?

14  
15 **MIGUEL ROLON:** Well, it's funny that you mention that, because  
16 that has been a problem in Puerto Rico. In the 1990s, they made  
17 it a little bit loose how you get a license, and, at that point  
18 in time, according to Genio Piñeiro, we have more than 4,000  
19 licenses out there, because we also have an incentive for the  
20 fishers, which is, once you have a commercial fishing license,  
21 your taxes, 10 percent of your taxes, are free.

22  
23 You also have programs through the Department of Agriculture  
24 that, once you have that license, you are entitled to  
25 participate and so forth, and so we have a lot of people that  
26 were not fishers at all with a commercial fishing license, and  
27 so the fishermen, the real commercial fishermen, started to  
28 complain about it, and now they have a system in Puerto Rico  
29 that they issue licenses to people who are either beginnings or  
30 commercial fishermen that are renewing their license, and they  
31 have some requirements. The tax return was one, and they have  
32 to prove that they are bona fide fishermen and so forth.

33  
34 The situation has been a little bit complicated. The Department  
35 of Natural Resources is working on straightening that out, so  
36 the fishers will be able to renew their licenses or get their  
37 licenses, and, according to Aida Rosario, and she gave us a  
38 presentation some years ago, we have around 1,400 to 1,700  
39 fishers registered.

40  
41 Out of those, 700 were full-time fishers, commercial fishermen,  
42 but the other issue here is the fishermen are getting older, and  
43 that generation has not been replaced as fast as we wanted, and  
44 so most of the fishers that retire or die are replaced by young  
45 fishermen who do not dedicated the same time or effort as their  
46 parents, but they are fishermen. They are beginning to see this  
47 as a business.

48

1 That's a long answer to your question, but, in the case of the  
2 Virgin Islands, you are better off with many things that you  
3 have done. With the moratorium, the fishermen started that  
4 moratorium, and you and I have been participating in this for  
5 many years.

6  
7 Julian is one of the heroes behind all of this and Tony  
8 Blanchard, and so you have around 300 fishermen, and people know  
9 who is fishing and who is not fishing, but, in the case of  
10 Puerto Rico, we have fishermen in St. Croix that come to fish in  
11 Puerto Rico and fishermen from Puerto Rico that go to St. Croix  
12 to fish, and they go to the northern part of St. Thomas to fish,  
13 and they have the license.

14  
15 We are looking at all of this, about the distribution of  
16 fishers, and, the fishermen on the west coast, they don't fish  
17 the same as the east coast of Puerto Rico, and so, all of that,  
18 we are now beginning to understand, because the other part about  
19 PEPCO is that we receive a lot of input from the fishers  
20 themselves.

21  
22 The Department of Natural Resources takes that into  
23 consideration and then modifies the way that they operate, and I  
24 have to mention that he hated it, but one of the pioneers of the  
25 PEPCO in Puerto Rico was Ricardo Lopez. He was working -- He  
26 had been working for around twenty-three years, and he was  
27 saying, why don't we use the example of the hunters in Puerto  
28 Rico to illustrate the topics, the way that they have outreach  
29 and education to the hunters and apply it to the fishers.

30  
31 We have been lucky that we have the right players, Helena and  
32 others, that have been able to implement this, and so, yes, you  
33 need to make a point of having the universe of fishermen that  
34 you have, and then you can distribute the PEPCO equivalent, and  
35 the council will help you with the liaison funds.

36  
37 Sometimes when the Puerto Rico DNR has a need for materials,  
38 like for lionfish, the council can -- If we are rosy with our  
39 budget, we can give money, aside from the liaison, for a special  
40 project, for example posters and venues that you may need to  
41 have, and the guides. We have been able to put together  
42 guidelines, or booklets or brochures, that the council helps  
43 with.

44  
45 The last thing that I was going to say is that, without  
46 involving the fishers, we are not going anywhere, and this is  
47 why PEPCO and MREP -- Helena is going to put together and give a  
48 presentation, and she has been instrumental in getting the

1 people to understand each other around the table.  
2  
3 MREP was introduced to me by our crazy Italian friend, Tony  
4 Iarocci. Tony was in the northern part of the continental U.S.,  
5 and he told me about this project. MREP started with fishermen  
6 asking questions to fishers, and they put together this project,  
7 and now the Caribbean is part of that project.  
8  
9 I believe that Julian is actively participating as a member of  
10 the steering committee of MREP, and so, when Helena gives the  
11 presentation, we would like to hear your perspective on it.  
12  
13 **CARLOS FARCHETTE:** Julian, you had a comment?  
14  
15 **JULIAN MAGRAS:** I had a question. In these workshops, was the  
16 focus directly to commercial fishers or were recreational  
17 fishermen also part of this?  
18  
19 **HELENA ANTOUN:** For PEPCO, they are commercial. It's focused  
20 solely on commercial fishing.  
21  
22 **MIGUEL ROLON:** Julian, there was a time where we had another  
23 agency, and they had a project and they put it together on a  
24 similar approach for recreational fishers, but there was a  
25 change in administration and nothing happened, but some of the  
26 outlines are still there.  
27  
28 The recreational fishermen usually tell us they would like to  
29 have their own workshops, because they get to mix things, but,  
30 when you see MREP, you see the participation of both sectors,  
31 recreational and commercial.  
32  
33 **HELENA ANTOUN:** Just going over what we did in MREP, the first  
34 MREP, or Marine Resource Education Program, for the Caribbean  
35 that we did -- Just for those that are not familiar with the  
36 program, it's a program that started up in New England and then  
37 started spreading locally and regionally in the areas.  
38  
39 Then we have the MREP Southeast Program, which covers Florida  
40 and the Gulf, and they have expanded into the Caribbean, and I  
41 have been collaborating with the program director for MREP,  
42 Alexa Dayton, and we've been coordinating to bring the program  
43 to the Caribbean, starting with Puerto Rico and now the U.S.  
44 Virgin Islands.  
45  
46 We did our first workshop in 2015. It went really, really well.  
47 It's normally a full six-day workshop. It's split during the  
48 year, but the total is about six days, and, for the Caribbean,

1 we brought it down to three days. Now, for 2017, we reduced it  
2 even further. Instead of having three full days, the workshop  
3 is two-and-a-half days.

4  
5 The reason why we did that is because one of the things that  
6 they told us back in 2015 was that for people that -- This  
7 program, this one, is for commercial and recreational fishermen,  
8 and one of the things that they told us back in 2015 is that,  
9 for recreational fishermen who work during the week, it's very  
10 hard for them to take a whole week off to come to a workshop,  
11 and so they asked if we could do it during a weekend, and so  
12 that's what we did.

13  
14 We did it over a weekend, Friday, Saturday, and Sunday, but  
15 obviously Sunday they have to learn earlier, and so we were not  
16 going to keep them Sunday until five o'clock in the afternoon,  
17 and so it was two-and-a-half days. On Sunday, we finished at  
18 noon and wrapped things up.

19  
20 We did that to see how it went and see if we could work with it.  
21 Of course, we had to make some adjustments to the agenda. We  
22 held it in the same place like we did before, back in La  
23 Parguera, because we're next to the Marine Science Department  
24 and Laboratories, and we had two full days of science and  
25 management.

26  
27 Then we had to cut out law enforcement, which had a full day in  
28 the last 2015 workshop, and, what we did for law enforcement is  
29 we just had an evening with law enforcement agents and had a  
30 panel discussion, and so those were the changes that we did, and  
31 then I will discuss the outcomes and the results.

32  
33 The slide previous to this one is a slide of the science  
34 workshop, which was the first day, and so it's really  
35 unfortunate that we can't see the pictures, but what we did in  
36 that workshop was we took an entire day and spent it at the  
37 Marine Science Labs.

38  
39 The group was split in two. We had a morning group and an  
40 afternoon group, and then they would alternate afterwards. One  
41 group would be in the laboratory, and they would do the otolith  
42 extraction, and they would talk about fishery biology,  
43 reproduction and sex and all that sort of stuff, and so they had  
44 three full hours doing that, and everybody had -- Thank you,  
45 Carlos. Carlos provided the fish for that workshop, and  
46 everybody had the opportunity to extract their own otolith, and  
47 then they talked about age and reproduction there.

48

1 They were all excited, because even though these are all  
2 fishermen and they work with fish, nobody knew that there was a  
3 little thing called an otolith like between their eyes and their  
4 heads, and so it was really interesting for them. They really  
5 enjoyed it, and I had such great pictures. Anyway.

6  
7 After that, and then in the meantime, we took the other group,  
8 and we would go visit the Marine Science Labs, and so we would  
9 see what kind of research is going on in marine sciences. Of  
10 course, everything, in one way or another, related to fisheries,  
11 and so, when we visited Roy Armstrong's lab, who is the techy,  
12 robotic guy who has all these little robot things that go in  
13 deep waters, they had the opportunity to experience that and see  
14 the kind of information that they're pulling out of deepwater  
15 fisheries.

16  
17 Then they went -- Then we saw several other stations. Dr. Stacy  
18 Williams with the sea urchin restoration and then Richard  
19 Appeldoorn -- We also went to his lab, and they saw the research  
20 that was going on with the groupers and everything. They could  
21 hear the recordings that were being made with the groupers and  
22 all that, and so it was really exciting. It was a full day, and  
23 it was very exciting. Everybody enjoyed it, and then, in the  
24 evening, we came back and we had the panel discussion. The  
25 first day was very intense.

26  
27 The second day, we had the management workshop, and, during the  
28 management workshop, we talked about population dynamics and  
29 stock assessments, council structure and process, the role of  
30 science in management, how to effectively participate, and then,  
31 what we did here that we did not do the last time was a mock  
32 District Advisory Panel meeting.

33  
34 It was a role-playing game. It was a mock setting, a mock  
35 situation, and we had an issue. It was a conflicting issue, and  
36 then we had the roles of the commercial fishers, the  
37 recreational fishers, the managers, the scientists, the NGOs.  
38 We had all those people there in the game, and the way we did it  
39 is we reversed assignments.

40  
41 If you're commercial, you're going to represent a recreational  
42 fisherman, and vice versa. Then there were a few people that we  
43 would select to be the managers, and so they had a lot of fun  
44 doing that one, and you can see that here in this picture, and  
45 so they all split in groups, and they all did their role-  
46 playing. They all had their characters, and each group had  
47 their District Advisory Panel Chair.

48

1 One thing that we did, which was a bit last minute, and this was  
2 Hanke's idea, and it was great, but we did a quick mock council  
3 meeting, where the Chairs got together, as they would in a  
4 council meeting, and then Hanke was playing the role of the  
5 Council Chair. Each District Advisory Chair would have to  
6 present their recommendations and why, and so it was a very  
7 hands-on game.

8  
9 It took everything that they learned in the two days and put it  
10 to practice, and that was, I think, one of the most useful  
11 things that they all got out of it, because they also had to  
12 apply Roberts Rules during this, and so they got an idea of how  
13 the council structure is and how the process is. The only  
14 complaint that I had about this one was that they needed more  
15 time, they wanted to spend more time talking about the situation  
16 and the case.

17  
18 This is the law enforcement panel discussion. Just going back,  
19 we had to sacrifice that one day of law enforcement, and so what  
20 we did is we decided to invite a representative of each law  
21 enforcement agency, and we had some preset questions that we  
22 were just going to ask them and then open up the discussion to  
23 the participants.

24  
25 For that night, we only had three people that were able to join  
26 us. There was NOAA Law Enforcement, DNER, and Customs and  
27 Border Protection. They were the only ones that were able to  
28 join us for that evening.

29  
30 A couple of things here. One thing that I realized is, for law  
31 enforcement, once you ask them to come after hours or on a  
32 weekend, it gets really complicated. I will go a little bit  
33 more into that later.

34  
35 Now, I am still going through the evaluations of this last  
36 workshop, but, just to give you guys an idea, here, the first  
37 question that they are asked during the evaluations, after the  
38 workshop is over, is, before participating in this workshop, how  
39 involved were you in fishery management council processes and  
40 meetings, and then one being not very well and five being very  
41 well. You can see that most of the people that came into that  
42 workshop were not very involved in council meetings or anything  
43 like that.

44  
45 Then the next question is, after this workshop, are you more  
46 likely or less likely to participate in the fishery management  
47 process. In other words, go to meetings and stuff like that,  
48 and one being not likely and five being most likely. You see a

1 very big shift all of a sudden. Most of the people are more  
2 likely to be involved, and so this is having a very positive  
3 effect on the participants.

4  
5 The next question was do you find that your experience in this  
6 workshop has changed your perception on how science and  
7 management are connected and used to make decisions and manage  
8 Caribbean fisheries, one being less credible, five being more  
9 credible, and the total score was 4.5, with the majority feeling  
10 that now it's more credible.

11  
12 Then there are still a few that were mostly credible and then  
13 there were a few that were like, well, not so credible, but at  
14 least we could see a very positive trend in this direction, that  
15 they are starting to appreciate and feel more confident that  
16 what is being discussed at the table is something that is really  
17 -- A lot of thought is really being put behind it.

18  
19 This is just a comparison, and so all of these -- What you see  
20 here, down on the X-axis, these are all the presentations that  
21 were given in the workshops, for 2015, which is in blue, and  
22 2017, which is in orange, and I just wanted to compare, to see  
23 how we fared regarding evaluation.

24  
25 Here, the score is whether the workshop -- Whether they find it  
26 valuable, the themes that have been discussed, whether they  
27 found those themes valuable, which very valuable would be five  
28 and one being not very valuable, and so we would see that the  
29 trend is mostly pretty valuable, except right here, and we'll  
30 get into that in a second.

31  
32 It's been pretty positive. In fact, we've seen improvements in  
33 areas like stock assessment, which, the first time around, it  
34 was really difficult to get through to the participants, but,  
35 this time, some tweaks and modifications were made. Adyan did  
36 some changes, and it was -- They actually more easily  
37 understood, and the participants actually found it -- They gave  
38 it a higher scoring this last time around than they did the  
39 first time around, and so that's a positive thing.

40  
41 Now, here, this is the law enforcement. What happened here was  
42 that, one, we did not have all the law enforcement agencies  
43 present. Two, they did not have enough -- One of the major  
44 complaints that I got from the participants was we needed more  
45 time to talk with the law enforcement agents.

46  
47 A one-hour panel discussion was not enough for them. They  
48 wanted to interact a lot more. The last time we did it, it was,



1 like I said, a full day, and it was a great dynamic between the  
2 participants, and so that's something that we need to think  
3 about, because, if we're going to keep doing it on a weekend,  
4 the steering committee of this workshop is going to have to  
5 figure out how they want to -- What the tradeoff is going to be.

6  
7 **CARLOS VELAZQUEZ:** Very quickly, for the law enforcement, in  
8 this year, in 2017, is we were waiting for the -- They never  
9 arrived from the U.S. Coast Guard.

10  
11 **HELENA ANTOUN:** I just want to mention the U.S. Coast Guard.  
12 They are usually always there. I wasn't able to follow up with  
13 the Coast Guard person, but they're usually always there, and so  
14 something must have happened. That is not usual.

15  
16 A couple of take-home lessons from this last experience with  
17 MREP is that weekends work. In fact, we were able, this time  
18 around, to get almost, pretty much, 50/50 between commercial and  
19 recreational fishers, whereas, last time, it was mostly  
20 commercial and maybe just a few recreational.

21  
22 Doing it on a weekend opens the door for recreational fishermen  
23 to participate, and so probably the recommendation would be to  
24 continue doing it on a weekend. The only exception here is for  
25 law enforcement, because it's really hard for law enforcement to  
26 get the permission to come, like I said, after hours or on  
27 weekends. It's a bit more complicated, rather than getting them  
28 to come during regular working hours, and so that's something  
29 that would have to be looked at.

30  
31 Our agenda modification worked really well. The mock DAP  
32 meeting and role-play was great. I think that was probably the  
33 highlight of the workshop. Like I mentioned earlier, the law  
34 enforcement panel meeting did not give participants enough time  
35 to interact, and so maybe, perhaps, a consideration would be to  
36 hold a workshop or a working group meeting specifically with law  
37 enforcement agents, and maybe having one just for law  
38 enforcement, with all the agencies, and a meeting with law  
39 enforcement and the fishing communities and maybe even a  
40 separate one with law enforcement and managers. That is  
41 something that we could explore, maybe in the future, and  
42 consider that.

43  
44 Definitely, after looking over the evaluations, after  
45 participants go through an MRIP, they are more interested in  
46 participating in council and DAP meetings. After that mock  
47 council we had, I had a few people come over and ask me to get  
48 on a DAP panel, and so it's been pretty good.

1  
2 **CARLOS FARCHETTE:** I have a question in the back.

3  
4 **CLAYTON POLLOCK:** Thank you. I just had a quick question about  
5 what the fishermen wanted to talk with the law enforcement  
6 agents about. They didn't have enough time, but what were the  
7 questions that they had?

8  
9 **HELENA ANTOUN:** One of the issues that we found that fishermen  
10 have a lot is jurisdiction, because you have several agencies,  
11 or several law enforcement agencies, patrolling the same areas,  
12 and they get -- The fishermen get intervened constantly by each  
13 one, and one of the complaints that the fishermen had is, if  
14 I've already been intervened once, why do I have to be  
15 intervened with two or three or four more times.

16  
17 One of the things that we wanted to try to address, and we did  
18 address it the first time around, in 2015, but, this time, I  
19 don't think we really got that message through, but it was the  
20 roles, responsibilities, and jurisdictions of each law  
21 enforcement agency, because just because the Coast Guard stops  
22 you and checks that you have everything, all of your security  
23 things up-to-date and all of that, it does not mean that DNER or  
24 Border Patrol is going to let you go, because each one is  
25 looking for something different, and so that is like the number-  
26 one issue.

27  
28 The other thing that fishermen complain about is the interaction  
29 that they have with law enforcement agents, and, the last time,  
30 that was something that was brought to the table and it was  
31 talked about, and that is something that, when you have this  
32 kind of discussion, it gives you the opportunity, or it gives  
33 people the opportunity, to talk to the law enforcement agents  
34 and be like, hey, we have had this situation and we've had this  
35 experience with this law enforcement agency, and we were not  
36 very happy about the way things were handled and the way things  
37 were done and the protocol and all of that.

38  
39 These are opportunities to bring those kinds of things to the  
40 table to discuss, and hopefully maybe start working on them,  
41 but, to answer your question, it's mostly the jurisdiction  
42 issue.

43  
44 **ALIDA ORTIZ:** MREP is coming to the USVI, and Julian has been  
45 part of that steering committee. Julian, would you like to take  
46 on this one?

47  
48 **JULIAN MAGRAS:** We had our first meeting back in December of

1 2016, and the picture up on the screen is the panel of  
2 fishermen, recreational and commercial. We had scientists, and  
3 we had enforcement. This is the group that met back in  
4 December, and we are getting ready to host a big meeting on May  
5 23 to 25 out at Frenchman's Reef.

6  
7 We have been organizing. We have Peter Freeman in here and  
8 Alexa Dayton, and we've been pretty much pulling together an  
9 agenda that we feel that can address some of the issues at hand  
10 and also to give a good educational background on the process  
11 that takes place on the different panels, from the FAC to the  
12 DAP to the Caribbean Fishery Management Council, all the way up  
13 to the Magnuson-Stevens Act.

14  
15 It's a two-and-a-half-day meeting, and what we have tried to do  
16 is, on day one, to capture the most important parts of the  
17 entire process, because I see a problem with a three-day meeting  
18 of people not being there for three days.

19  
20 What we are hoping is that, on day one, that we're going to  
21 capture a large group of people. When they understand the  
22 process that is taking place, we are hoping that some of them  
23 will come back the next day, which that possibility is going to  
24 be great.

25  
26 We are not only looking at recreational and commercial  
27 fishermen, but we have reached out to some of our commissioners,  
28 and we are reaching out to all of the senators. We have reached  
29 out to our delegate to Congress, and we are reaching out to the  
30 public. We're trying to get a good group of people in there,  
31 because a lot of the people don't know the process.

32  
33 The fishers at the table have a good hands-on on the process  
34 that is taking place right now. There are a couple of them that  
35 might not be up to the speed of myself, where I'm at, but a lot  
36 of them understand the process, and we also, at the same time --  
37 On the other days, there is some presentations of what the  
38 fishers don't have any understanding of some of the information  
39 or some of the studies that have been done and how it's  
40 processed and analyzed and put forward.

41  
42 We are really, really looking forward to this. I think it's  
43 going to end up being something positive. We won't know until  
44 after this meeting, but I think we can go along with this  
45 process, and I'm glad to see that Puerto Rico has had a couple  
46 of successful meetings, the outcomes, listening to people talk  
47 about the process, and I am looking forward to the mock  
48 presentation.

1  
2 I'm going to get together with Maria later on today, and we're  
3 going to put together what we're going to decide to do it on,  
4 because I think switching up the role-playing and everything is  
5 important also, because it gives the different people a chance  
6 to interact in different positions that they normally don't  
7 interact in.

8  
9 I hope that some of you in this room will be attending. I know  
10 Miguel has it on his calendar to at least attend one of the  
11 days, and we will have Fish and Wildlife, and we'll have  
12 enforcement, and so we'll have all the powers at be at the  
13 table, and we hope that we can carry away a great message of  
14 improving the communication and understanding of the process.

15  
16 **ALIDA ORTIZ:** So, as our last approach to the council, in the  
17 meeting of the Outreach and Education Advisory Panel, we  
18 supported bringing to the council that the council support the  
19 Fisheries Forum and the Sea Grant Program.

20  
21 They are very effective instruments for fisheries outreach and  
22 education, through the workshops and through other activities  
23 that are very, very aligned with what we do in the outreach in  
24 the council. With the problems that right now they are facing,  
25 in terms of funding, they need all of our support.

26  
27 We also would like to request the council support that workshop  
28 or orientation on enforcement issues, including local and  
29 federal officials in the council jurisdiction. Notice that,  
30 with PEPCO and with MREP, law enforcement is one of the big,  
31 important issues from the agencies and from the fishers  
32 themselves, but it's very difficult sometimes to just insert law  
33 enforcement anywhere or in any type of workshop.

34  
35 We think that it has to be something directed specifically to  
36 law enforcement, and we would like to see how we can do that  
37 within the entire jurisdiction of Puerto Rico and the USVI.

38  
39 Also, we would like the council to recognize the positive impact  
40 of PEPCO and recommend to DNER the institutionalization for  
41 fishers' education. That means including also recreational  
42 fishers, whether it's a different PEPCO or whether it's another  
43 day in PEPCO, but please do include the recreational, because we  
44 are working with the same resource, and so they have to  
45 communicate among themselves and they have to understand each  
46 other's position.

47  
48 Also, it is urgent that more port agents come into the field.

1 Port agents are essential for the good reporting, for the  
2 fishers to know that the information that they gather is  
3 important for better statistics, for better management. The  
4 last one, and I think we sort of discussed it when Helena spoke,  
5 and so we are going to wait for that until the August meeting,  
6 to see if they put the entry box or not on the Facebook.

7  
8 That is our presentation on outreach. Really, thank you so much  
9 for moving the presentation a little earlier. We have better  
10 outreach this way than when we are too late, and outreach is not  
11 an assignment. Outreach, to me, is like a recommendation. It's  
12 something that is absolutely necessary. If whatever is done  
13 within the council stays here, you don't get anywhere. If you  
14 cannot get the information that the public is demanding outside,  
15 you don't get anywhere either, and so thank you so much.

16  
17 **CARLOS FARCHETTE:** Marcos.

18  
19 **MARCOS HANKE:** I want to take this time first to support PEPCO.  
20 I think it's a tool, a fisheries management tool that is  
21 necessary to continue. I urge the DNER to support this effort  
22 for whatever strategy of use, but to keep the program running.

23  
24 Also, I like the idea of the voluntary program or whatever to  
25 train people to do PEPCO, because you're going to start to  
26 create people or entities or that connection, extra connection,  
27 with the fishing community that is going to be educated, and  
28 that is another channel to reach out to people besides training  
29 those people for one activity.

30  
31 That guy is going to be in the fishing community, back and  
32 forth, but well trained, and that's an added value that I see,  
33 and, in terms of the law enforcement issue that Helena brought  
34 up about MREP, I think it's a very good idea, because just the  
35 issue itself is going to bring people to attend the meeting,  
36 because they are very interested, and, the way I see it, it has  
37 to be done after the MREP activity with the fishermen.

38  
39 Once they understand the process, then to do the specific  
40 enforcement activity and, also, I want to say that my experience  
41 with the complaints or the requests from the fishing community  
42 always addressed softly and with respect, with a lot of respect,  
43 for the Coast Guard.

44  
45 The way you guys intervene and treat the fishermen in the water,  
46 it's something that the fishing community recognizes as being  
47 very professional, and I want to state that on the record, and  
48 thank you very much for that. Maybe you guys can help the other

1 agents in the water to create a standardized, well-behaved and  
2 effective intervention in the water. Thank you very much.

3  
4 Not last, and the most important, is I don't know anybody that  
5 is well -- With a big compromise and put all the effort and the  
6 talent, and, more than anything, the respect from the fishing  
7 community than Helena. She is just amazing to the council  
8 process, on every level, recreational, commercial, managers,  
9 anybody should recognize the importance of Helena. She is  
10 respectful and knowledgeable. She is not afraid of working  
11 extra hours, and she's always available. I get a little  
12 emotional about this, because we don't get a chance to bump on  
13 people like her all the time, and thank you very much, Helena.

14  
15 **CARLOS FARCHETTE:** Okay. Thank you. We're going to take a ten-  
16 minute break, and, by ten minutes, I hope it's ten minutes.

17  
18 (Whereupon, a brief recess was taken.)

19  
20 **CARLOS FARCHETTE:** Let's get back online. Tony Iarocci, it's  
21 all yours. Tony Iarocci will talk about the Spiny Lobster  
22 Fisheries Workshop Report.

23  
24 **SPINY LOBSTER WORKSHOP FISHERIES REPORT**

25  
26 **TONY IAROCCI:** Thank you, Mr. Chairman. I want to -- At this  
27 time, I want everybody to remember back, and I want to thank Dr.  
28 Appeldoorn for what he put on the screen yesterday, the charts  
29 and the information he did to show how healthy the spiny lobster  
30 fishery really is, and that is throughout the whole Caribbean  
31 range.

32  
33 From New England to the South Atlantic to the Gulf of Mexico,  
34 and locally here in the Caribbean, fishermen and managers are  
35 still at odds with one another when it comes to the health and  
36 management of their fisheries, whether it's codfish, red  
37 snapper, or, locally, spiny lobster, the answer is always better  
38 data.

39  
40 Locally, we can talk about different species, but I would like  
41 to focus on spiny lobster. Let's look at the stock status.  
42 From Florida to Brazil, stocks are healthy, recruitment is as  
43 good as it's ever been. Areas in Nicaragua and the Honduras,  
44 where tons of eggers were scrubbed and short lobster tailed, and  
45 that no longer happens. Adding to the recruitment, a closed  
46 season was put into effect years ago, which really helped.

47  
48 Studies show most spiny lobster arrive from Central America,

1 juvenile spiny lobsters that settle throughout the Caribbean and  
2 have a high probability of recruiting from several spawning  
3 populations throughout the range, and so local harvest and  
4 landings are unlikely to have a substantial effect on future  
5 recruitment. In turn, the stock is not at risk of undergoing  
6 overfishing.

7  
8 Remember, again, the charts and the information that Dr.  
9 Appeldoorn put on the screen yesterday from the SSC. We heard  
10 his presentation yesterday talk about the 2005 stock assessment  
11 and saw average catch data that, along with the three-and-a-  
12 half-inch carapace, a market-based fishery that almost works  
13 like a closed spawning season. During that time of spawn,  
14 effort is low, and sales are low, and so the lobsters get a  
15 chance to take a break.

16  
17 I could go on and on, but I think everyone in this room knows  
18 that spiny lobster is a robust, healthy stock throughout the  
19 Caribbean. Remember the council and the SSC uses the best  
20 available data for management, and hopefully the fishermen's  
21 data can be used to help modify the management of spiny lobster.  
22 Dr. Arnold will present the start of the collection process.

23  
24 It's time now to move forward with cooperative projects like  
25 this, because fishermen are more than willing to work together  
26 to prevent closures and change the ACLs and for better  
27 management. With that said, Dr. Arnold, if you would.

28  
29 **BILL ARNOLD:** Okay. The fishers want to do whatever they can to  
30 assist with data collection for spiny lobster in Puerto Rico  
31 and, to at least initiate the path towards that goal, they  
32 volunteered to use a new reporting form and report details of  
33 their trip, and so I'm just going to go through the reporting  
34 forms and a few other details regarding spiny lobster traps.

35  
36 What this is, is this is for the year 2014, Puerto Rico spiny  
37 lobster mean carapace length, and the dashed line on this plot  
38 is focused at the three-and-a-half-inch carapace length size,  
39 and that is the legal size for keeping a spiny lobster in Puerto  
40 Rico and in the U.S. Caribbean.

41  
42 You can see the filled circles, the black circles, those are the  
43 average sizes, by month, January 1 being one and December being  
44 twelve, that are reported by the Puerto Rico Fisheries Lab.  
45 These are not self-reported data. These are Puerto Rico  
46 intercept data.

47  
48 You can see that that mean carapace length hovers right around

1 four inches, roughly a half-inch above the legal minimum size.  
2 Now, the range bars you see there are the actual range from  
3 smallest lobster reported and largest lobster reported, and  
4 there's a few here and there that are under three-and-a-half  
5 inches, but it's remarkable, really, how big some of these  
6 lobsters are. They're six-and-a-half, and almost seven, inches  
7 in carapace length. That's a pretty healthy lobster.

8  
9 That gives some indication that the -- This is hardly an  
10 assessment or anything, but it does seem to indicate that there  
11 is a reasonable level of health in this fishery.

12  
13 This is long-term mean carapace length, also from Puerto Rico  
14 Fisheries Lab data, that we got from the Science Center, but,  
15 ultimately, it derives from Puerto Rico's Fisheries Lab, and you  
16 can see, running from 1984 to 2016, the mean carapace length is  
17 actually increasing in the fishery as you go forwards towards  
18 the present, and, in 2014 and 2015, you can see they're up  
19 around four inches, as I showed in the previous slide.

20  
21 I think the fishermen have a pretty good feel for this, and they  
22 felt like we're operating in a healthy fishery, and yet we're  
23 suffering from accountability-measure-based closures to this  
24 fishery, and that's been the big complaint, and that sort of led  
25 to their willingness to gather additional data and enhance the  
26 database. Not replace the database, because data are already  
27 being collected, but to enhance the database.

28  
29 We created two forms, and I had to copy these, and so they're  
30 not perfect, but they're identical, except one is the Spanish  
31 version and one is the English version. That's the Spanish, and  
32 that's the English, and I'm sorry that you can't read it, but I  
33 just really wanted to give you an example of what these forms  
34 look like.

35  
36 We provided them with some instruction on how to fill these  
37 forms out, but I think one of the first lessons from this short  
38 exercise is we gave them about three weeks to do this, and each  
39 fisherman got two trips in, or maybe three, and so it's just  
40 really a preliminary let's see how this works and let's see what  
41 issues we need to improve upon to make it better.

42  
43 I have got several examples of how the fishermen filled them  
44 out, and I'm not giving any names, but here is the poster child  
45 for beauty, and it's very easy to read. That's important,  
46 because you need to be able to get these sizes off of there, and  
47 the other important thing to note is that we want them to fill  
48 in sizes and not just numbers.



1  
2 Over here, we get the total number of lobster that they  
3 collected from each trap. They choose the trap that they pull  
4 the data from. They don't do every trap that they haul that  
5 day. They do a subset of those traps.

6  
7 Some discussion may need to be made as to how they choose, in a  
8 statistically-valid and defensible manner, which traps they're  
9 going to pull, because, of course, they could pull all traps in  
10 deep water or all traps in shallow water. They could have a  
11 pattern that would violate the fundamental statistical  
12 assumptions, and so that's one thing that needs to be  
13 considered.

14  
15 Then here are some other examples. They're not quite as clean,  
16 but still a very useful form. Trap type is simply that -- There  
17 was a legend at the bottom of the trap type, because they have  
18 in operation six or eight different trap types, and you need to  
19 know what trap each fisher is using.

20  
21 Here is another one, and this one is reasonably legible, not  
22 bad, and so we can work with that. You can see this guy pulled  
23 his first trap, and then he pretty much pulled every fifth trap.  
24 That was his pattern, self-chosen.

25  
26 Now, here is a fisher, and this is not an accusation of the  
27 fisher, but we didn't give clear enough instruction, but he  
28 didn't put the sizes down. He just put the numbers down. We  
29 can get the numbers if you put all the -- If you list the size  
30 of every keeper male you had and every keeper female you had  
31 from that trap, et cetera, et cetera, we can get the numbers,  
32 but we can't get the sizes from the numbers, and so this is a  
33 clear example of how better instruction needs to be provided.

34  
35 Then we've got the ones that are very difficult to read, and I  
36 couldn't read a lot of these numbers. Again, that's an example  
37 of better preparation of the fishers. Then, finally, we had --  
38 This is a diver, and so we had one diver who volunteered to  
39 participate.

40  
41 The reporting forms and the scheme were not set up for a diver,  
42 but this is a good opportunity to learn, and the diver -- This  
43 is one form, and it consisted of two dives. He puts down the  
44 numbers that he collected from each dive, and it's not really  
45 well set up for that, and so he's got numbers here, but, on the  
46 next page, he put the sizes, very clear and very legible, but  
47 that's a little bit different approach.

48

1 Now we've got a two-page form instead of a one-page form, and we  
2 would have to be very careful to make sure that these two pages  
3 stayed together. That's another example of something that will  
4 probably need to be considered and potentially enhanced before  
5 this went into effect.

6  
7 This is how their data compared to that data that I showed  
8 previously. I am only showing four months, because these are  
9 the only months during which the lobster fishers conducted their  
10 self-driven reporting, but you can see from this that the --  
11 What they reported, the round circles, falls within the range of  
12 values that were collected by the Puerto Rico Fisheries Lab,  
13 which is the triangular symbols, and so, in every instance, they  
14 were well within that range, and certainly not definitively  
15 proving, but indicating, that the fishers are doing a very good  
16 job of reporting and the data we would get from them, based upon  
17 this very preliminary data, we at least have some confidence  
18 that it would be similar to and comparable to the data collected  
19 by the Fisheries Lab.

20  
21 Some preliminary conclusions, and, like I said, all of this is  
22 very preliminary. We just wanted them to get out there and get  
23 some data and use the forms, so that they get a feel for the  
24 data and the forms and so that the council can get a feel for  
25 the data and forms and, critically, the Fisheries Lab and the  
26 Science Center, so that they are sure and very confident that,  
27 if this approach is taken and the fishers are involved, that  
28 they will be not wasting their time and providing data that can  
29 be used.

30  
31 The first preliminary conclusion is that the fishers are willing  
32 and able to participate. Maybe not every fisher, but it seems  
33 like enough fishers to get data that would help to better  
34 understand the fishery and how it's being prosecuted, and so, is  
35 there a need for regional representation? In Puerto Rico,  
36 you've got four coasts, et cetera, et cetera, and so do we need  
37 to better refine it?

38  
39 These are just some thoughts that I came up with, and certainly  
40 it's not the total range of thoughts and questions, but the  
41 other thing is long-term commitment is essential, and maybe not.  
42 Maybe a short-term data collection would be useful in some  
43 regard, but, if you're going to get the fishermen in, the  
44 fishermen and everybody else involved needs to be pretty much  
45 committed, so that we can have some temporal understanding of  
46 how the fishery -- Not just how it works, but how it changes  
47 with time.

48

1 Number two is do the data fields provide information that is  
2 needed for the Southeast Fisheries Science Center to conduct an  
3 assessment, because this is kind of where this is going, and  
4 this is input that we have to get from the Science Center.  
5 You're not going to get it from me.

6  
7 Are we missing anything on the forms, and are all data columns  
8 needed? We don't want to collect data and ask the fishers to  
9 collect data that won't ultimately be used, and these fishers  
10 would be citizen scientists, as Alida talked about earlier, and  
11 there is two -- In citizen science, there is the citizen  
12 component and there is the science component, and both have to  
13 be equally represented.

14  
15 If you're going to do this, you have to do it right, because  
16 that's what science is all about, a very defined sampling  
17 procedure in the field, but the fishers will benefit, and  
18 everybody will benefit by partnering, in a lot of different  
19 ways, and that's a very strong opinion that I have.

20  
21 Working as partners increases compliance and understanding and  
22 probably, especially in a region where enforcement may not be as  
23 thorough and complete and, besides that, enforcement is not  
24 really what you want. You want to have participation and  
25 compliance.

26  
27 Number three is are the resultant carapace length data  
28 consistent with independently-collected data? It seems like  
29 they are. Of course, again, everything is very preliminary, but  
30 there certainly was no indication that the data are being ginned  
31 to provide a better outcome, and, also, a very important part of  
32 this is how does and how will this program blend with long-term  
33 state data collection efforts, not just for Puerto Rico, but say  
34 this is transferred over to the USVI. It also has to blend  
35 there.

36  
37 We're not trying to -- I am not suggesting that this is a  
38 replacement effort. This is a complementary effort, and that's  
39 what it needs to be, and so everybody needs to be comfortable  
40 with what's going on and how all the datasets integrate to  
41 provide a better understanding and better answers regarding  
42 management.

43  
44 Number four is obviously, and I mentioned this several times,  
45 the fisheries clearly need better guidance for completing the  
46 forms. We must educate the fishers to ensure consistency in  
47 data input, and they must understand why they are providing the  
48 data. Now, we have five or six fishers, and those are generally

1 your more astute and aggressively desiring to participate  
2 fishers. If you're going to expand the program, you're going to  
3 get a broader range of fishers, and they're going to need this  
4 education. They're going to need this understanding.

5  
6 Finally, you saw some -- I mean, they all write better than I  
7 do, and so I have no room to criticize, but electronic reporting  
8 would provide some of that needed consistency and would enhance  
9 accuracy and clarity, and so, like I said, these are just some  
10 preliminary conclusions. I'm sure other people in the audience  
11 have other conclusions that they're making in their minds.

12  
13 We would like to acknowledge the participants. All of them,  
14 Helena being a very fundamental to this whole process, as she  
15 was the manager on the ground, but also the fishers: Ricardo,  
16 Brian, Nelson, Julio, Miguel, Fred, Carlos was involved  
17 assisting on the east coast, Renaldo Rivera, and Ismael Pena.  
18 Thanks to them, and, of course, to Tony for working on this.  
19 That is the report.

20  
21 **TONY IAROCCI:** Thank you, Dr. Arnold. As always, having your  
22 input and the way you explain things, I think it's easy for  
23 people to understand what we're trying to do here, but the  
24 citizen scientists that we're talking about, bringing the  
25 fishermen to the table -- Through this cooperative,  
26 collaborative research, when you have the fishermen and the  
27 Science Center, or the council, or the managers, working  
28 together on data, you do get compliance. You get better  
29 understanding from the fishermen that understand what they're  
30 doing.

31  
32 Then, when they see that data compared, and it's similar, and  
33 it's a positive outcome, other than the negative stuff we've  
34 been seeing, and I can't say enough about Dr. Appeldoorn's  
35 charts and presentation yesterday about spiny lobster.

36  
37 I think we're all on the same page here, and now it's time, like  
38 Miguel said yesterday, that we need to move this forward, and we  
39 need to move it forward as quickly as possible. How do we do  
40 that? Is it through doing more data like this, or is it  
41 changing some of the stuff?

42  
43 Thank you to the fishermen for getting us those pictures, and a  
44 picture is worth a thousand words. One thing too with this  
45 fishery that I want to stress the importance of where these guys  
46 fish. Most of the guys fish on the break of the reef, in that  
47 deeper water, but they do not go to that deeper, deeper water  
48 that -- Who knows? That's like a spawning area closure out

1 there where these bigger lobsters are.  
2  
3 You see the size of some of these lobsters that come ashore and  
4 get caught. There are areas, and there are studies that have  
5 been done in that deeper water of how big and how many lobster  
6 are really there and also in the shallower water, where these  
7 guys don't fish a lot, which is the recruitment area, where  
8 there is habitat and there is smaller lobsters. Some study has  
9 been done on the pueruli down here, but, like I said, with the  
10 changes throughout the Caribbean and South America, the  
11 recruitment is only going up, which I think in fact adds to the  
12 recruitment and the stock of the spiny lobster.  
13  
14 The main question at the table is moving forward. How do we  
15 bring this to come together and get the Science Center involved  
16 with the fishermen and where we go with this with the council?  
17 I am looking to the Science Center and council members and  
18 people in the audience.  
19  
20 Let's move this forward and use this as a model, and I mean look  
21 throughout the whole Caribbean. We are starting in Puerto Rico,  
22 but I have worked with the fishermen of St. Thomas and St.  
23 Croix. They see the same thing. This fishery is very healthy,  
24 and we need to address it as healthy, and we need to give back  
25 to the fishermen on this. With that, I want to open it up for  
26 discussion.  
27  
28 **CARLOS FARCHETTE:** I have Dr. Ponwith and then Nelson.  
29  
30 **BONNIE PONWITH:** Thank you, Mr. Chairman, and thanks for the  
31 presentation, and a huge thanks to the collaborators on this  
32 project. I admire the tenacity of the people who originally  
33 came up with this idea and pitched this idea. It was not easy  
34 to get off the ground. It took a lot of back and forth to  
35 understand what was being proposed and how that information  
36 could be used.  
37  
38 Generically, I am a big fan of citizen science. I believe that  
39 it's the best good for all if the projects are developed in  
40 strong coordination, and that is with the fishers and the  
41 scientists, or the potential end users, the managers or  
42 scientists or communicators, whoever is using the information,  
43 can get together and agree on the objectives of why you're  
44 collecting those data and then use those objectives to drive how  
45 you collect those data, to make sure it's done in a way that  
46 helps you achieve the desired outcomes.  
47  
48 Again, a hearty congratulations on getting the program this far.

1 If I were to say the one thing that could benefit us, in terms  
2 of making those data more useful, it is to increase the spatial  
3 coverage of the collection, so that we have representation that  
4 is roughly equivalent to the levels of fishing effort, and that  
5 really strengthens the usefulness of those data.

6  
7 Then the other thing that strengthens the usefulness of the data  
8 is really to have the participants in with both feet, so the  
9 data are coming in reliably and consistently, because, once  
10 we're comfortable that those data are reliable, it becomes more  
11 easy to find a way to build the science ability to interpret and  
12 use those more fully, and so congratulations again.

13  
14 **TONY IAROCCI:** Bonnie, and we've discussed this before, and we  
15 did modify a few changes, and is that form exactly what you  
16 want? Does that cover everything? I think it's a full dataset,  
17 but I want to make sure that everybody is on the same page. If  
18 we need to modify it or shorten it or whatever, but --

19  
20 **BONNIE PONWITH:** There are two sides to that, and one is are  
21 there more data or more data fields that would make what you  
22 have already even more valuable, and I think what I would do is  
23 defer to Clay on that.

24  
25 The second half of that is, is the form easy for the fishers to  
26 fill out? Again, as a partnership, both of those questions are  
27 important, and then the best thing to do is to take a look at  
28 the combination of those two and find the happy medium ground.

29  
30 If those forms, the size of the columns and things like that,  
31 make it easy for the fishermen -- If the fishermen look at those  
32 columns and know exactly what is supposed to go in there, the  
33 more self-explanatory it is, the better it is.

34  
35 **CARLOS FARCHETTE:** Clay.

36  
37 **CLAY PORCH:** As you know, we've been talking about this over the  
38 past day, and the progress has been really impressive, and, as  
39 I've said to you, my biggest concern at this point is making  
40 sure we have good representation around the island and getting  
41 people to participate consistently.

42  
43 Maybe you could pull up the form. I didn't have the latest  
44 version, and so I don't remember all the fields that are in it.  
45 I can't read that fine print from here. Maybe you could step  
46 through what each column is. It looks similar to the form we  
47 saw in St. Thomas when we met. I think the major change was,  
48 instead of latitude and longitude, we have grid number.

1  
2 I see trap sample number, and that was the issue you brought up  
3 of how should you select traps, and so something like every Nth  
4 trap, every fifth, every tenth, as long as you're consistent, is  
5 a good way to go.

6  
7 Then I see trap type, and so that's very important. Then you  
8 have the categories of keeper male, keeper female, small male,  
9 small female, measuring all of them. That's fantastic  
10 information that we don't have now, basically the discard  
11 information.

12  
13 Egger, that is useful as well, and then you have the total  
14 lobster, bait type, grid number, bottom type, depth in feet, and  
15 those are the main variables that I would be interested in if I  
16 were trying to interpret this data. I guess I would put it up  
17 to the fishermen in the group. Is there some other factor that  
18 needs to be incorporated in here that is key? I see, at the  
19 top, it's got soak nights and total traps. I assume that is  
20 total traps pulled.

21  
22 **GRACIELA GARCIA-MOLINER:** Can I ask a question? Bill had taken  
23 a look at the data that they received from the Science Center  
24 regarding the length, the carapace length, of the lobster,  
25 right? That should have, associated with it, the weight per  
26 lobster when they measure them, if this comes from the port  
27 agents, and is that correct? Do we know if we -- They are  
28 supposed to measure and weigh the lobster, and so I am trying to  
29 figure out a way of -- We have the data since 1984, and the  
30 carapace length has been increasing over time.

31  
32 Therefore, the pounds per lobster should have increased, and so  
33 we can back-calculate the number of lobsters that come from the  
34 commercial fishery, based on the average size that they present  
35 every year, and we have the reported landings from the  
36 fishermen, and so we should know how many lobsters they are  
37 landing total, and so we should have an idea of how many  
38 lobsters they are landing per area and how that size varies over  
39 time per area, because that's one of the other issues that  
40 Puerto Rico had.

41  
42 It might be a very decent exercise to go back through that time  
43 series and look at that weight and to see how many lobsters are  
44 represented by the total landings per year, because we should  
45 have the data. We should have the information.

46  
47 Then the number of lobsters measured would give us the bars that  
48 we saw. There is such a high variability in that, and it

1 depends on how many lobsters were measured. It might be that  
2 there were only ten measured in a number of years, but, if we  
3 have thousands of lobsters measured per year, I think that  
4 that's a big sample size.

5

6 **CARLOS FARCHETTE:** Clay.

7

8 **CLAY PORCH:** I am not sure exactly what you're asking. They do  
9 have total number caught on the trip, and it's easy enough to  
10 get a weight-length relationship. Were you suggesting that they  
11 also weigh the fish on this form?

12

13 **GRACIELA GARCIA-MOLINER:** No, I'm talking about the TIP data  
14 from the port agents, the old dataset from 1984 to present. I  
15 mean, if we're talking about thousands of measurements per year,  
16 and I can't recall off the top of my head, it would be  
17 worthwhile.

18

19 **CLAY PORCH:** Sure. That would be a worthwhile analysis, but  
20 what the fishermen are giving us here as those length  
21 measurements is perfectly adequate there, and we don't need to  
22 weigh them too, and that's the only thing that I was checking.  
23 That would be a pretty big extra burden if they had to weigh all  
24 of the lobster.

25

26 **GRACIELA GARCIA-MOLINER:** No, I'm not requesting it from the  
27 fishers, but just, since the port agents have gone through the  
28 exercise of --

29

30 **MIGUEL ROLON:** Graciela, that's something that you can do on the  
31 side and maybe give a little bit more information of what we  
32 need, but, at this time, we need to concentrate on that form.  
33 As Clay said, the form has everything, but, around the table,  
34 the scientists, do you think that we can improve the form?

35

36 One suggestion could be, for example, something that we did  
37 similar to this, and Bill mentioned that the -- Somebody  
38 mentioned that the handwriting is not that good, and maybe the  
39 scientists can come up with ranges and they can check how many  
40 were within each range, and is that something that can be done  
41 and, at the same time, we do not jeopardize what we want to  
42 collect?

43

44 That will be one way of easing off of the collection of data by  
45 the fishermen. The other thing that we asked the fishers, and I  
46 want to hear from Tony and the guys that went there, is remember  
47 that you are doing this while your boat is rolling. Usually  
48 they don't want to do this when they come in at the dock, and so



1 what has been the experience so far?

2  
3 The last thing that I wanted to touch on was, if we are going to  
4 expand this into divers, then we need to modify -- Somebody  
5 mentioned, I think Bill mentioned, that we have to modify this  
6 to collect the information from divers, and, right now, in some  
7 areas, it has been documented that the divers remove more  
8 lobster than the trap fishers, and so we need to take that into  
9 consideration.

10  
11 **TONY IAROCCI:** Thank you, Miguel. My first -- I've done this up  
12 north, on bigger boats, and it's a whole different -- Anybody  
13 that's been an observer or did data, and Julian has done it  
14 forever and ever, and a lot of this has been done in St. Thomas  
15 and on St. Croix.

16  
17 When I first went out in Rincon, on Tito's boat, with a similar  
18 chart to the project that we had with Tom Matthews down here,  
19 and it was rough, and I had a hell of a time writing, and you  
20 could see that on some of them. You can see the other ones that  
21 are perfect, and I think that -- I mean, if we can simplify the  
22 chart and make it shorter for the fishermen, that's all well and  
23 good, but I do not want to take any data away from this dataset.

24  
25 If it's needed there, we need to do it all. What we need to do  
26 is to have two sheets per trip, the one sheet that's done on the  
27 boat that's hard to read and all that stuff, and that's fine and  
28 dandy, but, when they get home that night, or after their trip,  
29 they can copy that and maybe have that where it's legible.

30  
31 Other than that, I want to get to the fishermen, and I would  
32 love to have every one of the fishermen, starting with Brian,  
33 and then work through Nelson and Carlos, and give their input of  
34 what they're getting and what they're seeing from being a part  
35 of this and from their fishermen and then turn around and get  
36 back to everybody else, if we could.

37  
38 **CARLOS FARCHETTE:** I have Nelson and then Hanke.

39  
40 **NELSON CRESPO:** Starting this trial, the fishermen on the west  
41 coast of Puerto Rico started to understand the importance to  
42 provide accurate data, and, when we started this, a few group of  
43 fishers, the lobster fishers, they came by and wanted to  
44 participate, but I have to say, hold on. In the future, you're  
45 going to be in, but we want to do this trial with only two or  
46 three fishermen.

47  
48 To pick up the data, it's a little tricky, but, because it's

1 only one trap in the case of what we do, it's one trap per every  
2 five, and we take the time to measure it, because it's not as  
3 much lobsters, and it's more or less between ten and fourteen  
4 lobsters per trap, and that is not too much work.

5  
6 In the case of the divers, I get impressed, because, on one of  
7 his reports, he showed that he saw, in one case, around 200  
8 lobsters, and I said, that is real, and he said, yes, Nelson.  
9 All are small lobster, and it was a hard to reach cave, but they  
10 were all lumped together, and I had to pass the time to select  
11 the right ones, because it's almost impossible to take it out,  
12 because one is over the other. I said, well, I want to see a  
13 picture of that. I don't want to get into that cave, but I want  
14 to see a picture of that.

15  
16 Also, something that we have to have in mind is we have to look  
17 forward to see how we deal in the future with trammel netters  
18 for the sake of this fishery. The fishery is healthy, but we  
19 have to do something, and I wish to do the same project with the  
20 deepwater snapper, to keep working with the council.

21  
22 **CARLOS FARCHETTE:** I have Marcos and then Bonnie, and I suggest  
23 prohibiting the use of trammel nets, but I will stay out of  
24 that.

25  
26 **MARCOS HANKE:** This is great. Right now, I have many things to  
27 say. A follow-up to what Nelson says about the trammel nets,  
28 and I think that we truly have to address responsibly about  
29 that, because the socioeconomic adverse impacts to the industry  
30 in general -- The big chunk of the industry, of lobster, it has  
31 been proven to be hurt through that activity, and that is  
32 something that we need to address.

33  
34 One thing that we cannot lose track on this is that this is the  
35 example that, around the world, people look for, in terms of  
36 management, where the fishermen get engaged and they develop the  
37 interests and the science to manage better our fishery, and  
38 don't forget that fishermen, including myself, we monkey-see-  
39 monkey-do.

40  
41 Maybe you don't understand something now, but you see somebody  
42 doing it, and suddenly you see the guy fishing better,  
43 performing better, complying better, and everybody starts to  
44 comply, and that is something that -- This is the example that  
45 we need to pursue, not just for the lobster fishing, but for  
46 deepwater snapper among other activities, including the charter  
47 business and so on. It's something that we really need to look  
48 at, as an example more than just a management tool.

1  
2 I want to make a comment about the spatial coverage request by  
3 Bonnie, and Clay addressed something about that, and I think  
4 it's important to highlight that the only thing that I heard  
5 that the fishermen were a little skeptical, which is not true,  
6 is to give the specific coordinates and the grid, even a bigger  
7 grid, but with description, and I think, for managing, it's good  
8 enough information for what you guys are looking for, the  
9 combination of those two information.

10  
11 One thing that I see, especially on the lobster, is this is --  
12 Because everything Tony Iarocci explained, that we have the  
13 larvae moving throughout the Caribbean, like conch and other  
14 invertebrates that have the same reproduction characteristics,  
15 and, if we develop something that is extremely effective, from a  
16 small vessel perspective, in the artisanal industry, the way we  
17 are doing now, we are truly helping, in the future, for other  
18 islands to follow our steps.

19  
20 As a council member, I feel the responsibility to create that  
21 framework and that hard work made by the fishermen, with the  
22 help of the Science Center, because this is our mission, to  
23 protect the resource, and that effect can be Caribbean-wide.  
24 Don't lose that opportunity. Thank you.

25  
26 **CARLOS FARCHETTE:** Okay. I have Dr. Ponwith, Carlos Velazquez,  
27 and Brian.

28  
29 **BONNIE PONWITH:** Thank you, Mr. Chairman. I just thought of  
30 something that could be done that would make the data even more  
31 valuable, and that is I am hearing that people are sampling like  
32 one in every five traps, so that you don't get overburdened by  
33 that.

34  
35 One thing that would make the data better would be, before you  
36 start pulling your traps, put on your form which trap numbers  
37 you are going to sample. Essentially, put the trap number down  
38 on the paper before you pull it, and what that does is it gives  
39 an element of randomness to how you make the decision about  
40 which trap you are going to measure. It isn't influenced by  
41 things like how full the trap is or how many animals or the size  
42 of the animals.

43  
44 When the department is sampling, and they're applying the  
45 concept of randomness, that's how they would be doing it. It's  
46 essentially doing it in a way that's driven by randomness, as  
47 opposed to looking at what's in there first and then -- So  
48 mimicking that kind of randomness, I think, would make the data

1 valuable.

2

3 **CARLOS FARCHETTE:** Velazquez.

4

5 **CARLOS VELAZQUEZ:** Thank you. Just very quickly, a follow-up on  
6 the same lines as Nelson and Tony. Thanks for the Science  
7 Center for helping us for this project. The guys in my area,  
8 they are excited for this project, step-by-step, to show how  
9 healthy the lobster is in this area and around Puerto Rico.

10

11 **CARLOS FARCHETTE:** Brian.

12

13 **BRIAN MATIAS:** Good morning. I would like to take the  
14 opportunity to say thank you very much for allowing me to help  
15 do this project. I have been a commercial fisherman in New  
16 England, and, when we had a die-off up there and we had to do  
17 stuff with the DEP and do tests and measure lobsters and v-  
18 notching, and it helped us a lot up there.

19

20 Coming down here and working with the lobsters here and doing  
21 the same concept, pretty much -- You know, we're trying to save  
22 the fishery, but make sure that we can still make money and grow  
23 from it.

24

25 I am happy that the data sheet is working out. A lot of  
26 fishermen are liking it. For what I got from some fishermen,  
27 and it's like we were talking about the grid map, they really  
28 don't want to put the actual small grid map. They would rather  
29 do like an area, say Fajardo or Rincon or the north. They just  
30 want to give the bigger area instead of the exact small area,  
31 but I would like to say thank you to everyone, and let's keep  
32 moving forward.

33

34 **CARLOS FARCHETTE:** Thank you, Brian. I have a question or a  
35 concern about the use of divers to collect data, because a diver  
36 would be mostly bringing up legal size, and so you won't get the  
37 shorts, and you won't get the egg-bearing, and I don't think  
38 he's going to bring that up and then throw it back and all of  
39 that, unless he is specifically working for the project.

40

41 **TONY IAROCCI:** That was the main thing, Carlos, because we  
42 wanted a -- Carlos Velazquez harped on this over and over again.  
43 The divers catch more lobster and the trammel nets catch more  
44 lobster, but the data is -- We started with the traps.

45

46 It was great that Nelson took the initiative to bring one sample  
47 from a diver to see, and what I wanted Clay and I wanted Bonnie  
48 and I wanted everybody to see was we can gather the data from a

1 diver, but, like you said, it's lacking. How are we going to  
2 get the complete dataset from a diver, unless you do -- Like  
3 you're going to go into those caves that Nelson doesn't want to  
4 go into.

5  
6 I mean, we have to look at that. We're starting with the traps.  
7 Do we need to go into the diving? Do we need to go into the  
8 trammel nets? Everybody around this table, like I said, they  
9 know the stock of this lobster, but they also know the  
10 detrimental effect of these trammel nets on this fishery, and  
11 everybody wants to address that, but I think that can be  
12 addressed later.

13  
14 Let's get this project focused on getting better data and  
15 working through this thing and making sure this form is done  
16 right. The main thing I am hearing, and everybody is saying it,  
17 from the fishermen on up, and I want to hear from Clay and  
18 Bonnie, is whether it's the area, the grid, or the location. If  
19 we can make that more general, where this data is being done so  
20 the fishermen feel more at ease about their location and where  
21 they fish, I think that would be a great start to this dataset.

22  
23 **CARLOS FARCHETTE:** I have Julian.

24  
25 **JULIAN MAGRAS:** Just a question to the Science Center. On this  
26 form here, would it be helpful also to show the total poundage  
27 of what was landed for that trip, since we're just showing the  
28 random numbers of the traps that are pulled?

29  
30 **CARLOS FARCHETTE:** Clay.

31  
32 **CLAY PORCH:** Just to answer that and the previous question, I  
33 guess, on the diver survey, if they're not giving us any size  
34 information, then the quick answer to Julian's question is that,  
35 yes, that would be helpful, so you get an idea of the average  
36 weight, because you know they're keepers, and so what's the  
37 average weight of the keeper, and then you can infer average  
38 size, and so, yes. The short answer is that would be helpful.

39  
40 In terms of area, of course, we would like it as fine scale as  
41 we can get it, of course. We didn't expect lat/long, and so,  
42 when we saw that in the first round, we were like, wow. The  
43 question is how coarse of a grid are you suggesting?

44  
45 I talked with Marcos some, and I think he had about six grids,  
46 and I've seen a couple of other proposals, and those would work  
47 for us. If your grid was all of Puerto Rico, probably not, but,  
48 if you sub-divide it into six or more areas, I think that would

1 be very useful for us, especially if you're also giving us the  
2 habitat information.

3

4 **CARLOS FARCHETTE:** Dr. Ponwith and then Hanke.

5

6 **BONNIE PONWITH:** Thanks very much, Dr. Porch, for that input. I  
7 would just add that, if divers are voluntarily submitting  
8 information, the one thing that is going to be really crucial is  
9 that those forms are clearly, clearly identified as diver trips,  
10 because, as has already been pointed out by the fishers, the  
11 selectivity of the animals for divers versus traps is different,  
12 and we wouldn't want to mix those data. We would want to keep  
13 those data separate.

14

15 **CARLOS FARCHETTE:** Hanke and then Miguel.

16

17 **MARCOS HANKE:** The area division that I presented to Clay,  
18 besides being something that is simpler, the size addresses the  
19 fact that the fishermen that leave from those ports and those  
20 areas are going to be in that area. You are going to avoid also  
21 the problem of being in multiple grids or anything, and that is  
22 one of the highlights of that.

23

24 **CARLOS FARCHETTE:** Miguel.

25

26 **MIGUEL ROLON:** You have to be careful not to screw this up. If  
27 we try to collect everything that you want to collect, this will  
28 not fly. Just stick to what you need, stick to what the  
29 scientists are telling us is viable information, and then you  
30 move forward. Also, don't mix management measures like banning  
31 traps or banning gillnets with this, because you are going to  
32 mess it up.

33

34 The fishermen who are fishing with gillnets have been fishing  
35 with gillnets for many, many years, and I don't think that they  
36 will be very happy when they hear that they are going to be  
37 banned of this and that, and the word spreads very fast, and the  
38 people who are collecting the data say, well, you know, you are  
39 killing me because of your data, and they are going to do  
40 something with my traps and my nets and whatever.

41

42 At this time, what we want to do is to collect the information  
43 that will give some guidance to the scientists as to the status  
44 of the fishery, and remember the goal is to improve the data  
45 that we collect and not to substitute the Fisheries Research  
46 Laboratory data in Puerto Rico, the way they do it, but improve  
47 it.

48

1 Also, we need to keep the forms simple and easy to fill out by  
2 the fishers. The divers is another story, because the divers  
3 can tell you how many small ones they saw and they didn't fish.  
4 That is still valuable information, if you take it with a grain  
5 of salt, because scientists would like to see everything that  
6 moves in the water to make an assessment, but there will be an  
7 opportunity to do it.

8  
9 There are many, many divers around Puerto Rico, and you can take  
10 samples of divers, volunteers, and Helena can help us with that,  
11 too. Those divers that have demonstrated an interest in  
12 providing that information, then we can attack that.

13  
14 Then the other thing is, if this flies, fishers like the ones  
15 that Nelson represents would like to apply this to the deepwater  
16 snapper grouper complex and other species that they have, and so  
17 that's in the future, but, at this time, we want to make sure  
18 that this is a good project and that the fishermen are onboard  
19 and that we will be able to demonstrate to other fishers that we  
20 can collect this information and it will be valuable information  
21 that the scientists can use to assess the status of the stock.

22  
23 Carlos has several fishermen, and I know some of them, and just  
24 one of the guys who fishes lobster like crazy say, no way, Jose,  
25 am I going to measure any of this, and he is waiting to see what  
26 happens with the other fellow. That person, we don't mention,  
27 but he will participate, and so I believe that, first, thanks,  
28 Tony, for this effort and the fishers who participated. The  
29 question is what do we need to do now? What is the next step?

30  
31 **TONY IAROCCI:** Miguel, we've had this discussion, and it's to  
32 bring more people in. At one time, we were talking about  
33 scheduling two meetings, one on the east and one on the west,  
34 dealing directly with gathering data, the forms in English and  
35 Spanish, and bringing in different participants and how we move  
36 forward with this.

37  
38 I think, if everybody is comfortable with the data sheet and  
39 what we're doing, now we look at going to the areas and bringing  
40 in more people and getting more data. Like Bonnie says, the  
41 random sampling of the traps, I think, is a great idea, where  
42 it's not always the first, fifth, tenth, and fifteenth trap. We  
43 do a random sampling every day, and we look at the grid and make  
44 a little change to that.

45  
46 If we get some other people onboard with this thing and make it  
47 easier, like Bill had said, and you saw it on the screen. Make  
48 it where it's easier to read, maybe a little bigger block for

1 the one, or, like I said, give them two sheets per trip, one on  
2 the boat to be filled out and then neatly done when it gets to  
3 shore, so it's easier to read, but that's up to you now, Miguel.

4  
5 I am looking to you guys to if you want to schedule some  
6 meetings and where, east and west, and do we want to do that?  
7 When do we want to do it? Like I said, I am all for helping Dr.  
8 Appeldoorn and the SSC and the Science Center and the fishermen  
9 get this thing fixed, so we don't have any more closures and we  
10 can maybe raise this ACL, to show that this fishery is robust  
11 and it's healthy.

12  
13 Let's not penalize fishermen for a healthy stock that everybody  
14 in this room -- There is not one person in this room, or  
15 anywhere that I have talked to, from Nicaragua to Florida, that  
16 tells me there is a problem with spiny lobster. We all agree  
17 with that. We all know that, but how do we fix this in the  
18 Caribbean?

19  
20 That is the main thing, and we need to do it in a timely manner,  
21 and I hate to keep harping on this. I have said this since day  
22 one, since I've been here, but now we've got to deal with it,  
23 and we've got to do it now.

24  
25 **CARLOS FARCHETTE:** Bill.

26  
27 **BILL ARNOLD:** A couple of things. First, everybody agrees it's  
28 healthy. The council's challenge is to make it stay that way,  
29 but, regarding the next steps, I think that probably a good  
30 first next step would be for the involved people to make sure  
31 that that form is the way they want it, to get that finalized,  
32 and then to draw up a set of instructions, maybe just one page  
33 of instructions, for the fishermen, but certainly for the people  
34 that are going to be working with the fishermen and training the  
35 fishermen, so that everybody is on the exact same page with how  
36 these forms need to be filled out and submitted.

37  
38 **MARCOS HANKE:** I would like to suggest the creation of a working  
39 group between Tony and Bill and the fishermen to work on that.

40  
41 **MIGUEL ROLON:** The first thing we need to do is to get a clear  
42 definition of the form by the scientists. Once we have that,  
43 then we can develop the page with the instructions of how to  
44 fill it out.

45  
46 Second, we can go to the workshops, to the fishers, and I  
47 caution you not to tell the fishermen that the ACL will be  
48 increased if you did this, because you did that before, and it



1 backfired. There is no way in hell that we can tell anybody  
2 here that, if you fill out this, magically the ACL will go up,  
3 because you will lose all credibility. It may happen, but we  
4 don't know.

5  
6 Yesterday, when we were talking about the 0.9 and 1.5 scalar,  
7 which is another thing that we need to really clear up for  
8 everybody, is what the hell a scalar is, and then we can go  
9 through these workshops, and probably we need four, one in the  
10 north, one in the south, and then -- But the first step will be  
11 to have a clear document that we call this is the form that we  
12 are going to collect.

13  
14 The fishermen have participated in that form and the scientists.  
15 When we have that, then we move to develop a set of  
16 instructions, and we can try the instructions ourselves, and  
17 then we can take it to the fishers, who have participated and  
18 others, and so it's kind of a focal group that will tell us,  
19 okay, this is okay with me or this is not.

20  
21 Once we have that, we need to decide when we can start  
22 collecting that information and all of that, and remember that  
23 Todd Gedamke mentioned that the information, what we have now,  
24 is enough to start tomorrow, start collecting the information,  
25 and so, between here and the August meeting, we need to have a -  
26 -

27  
28 Graciela can be the focal point for collecting the table from  
29 the Center, and so Graciela and Bill and Clay and the others  
30 will be giving us that table, and then Tony and the fishers, we  
31 can set a couple of meetings, but, before that, we have to have  
32 a meeting to make sure that we know what we're going to be  
33 talking about to these guys.

34  
35 The council has to make an effort to separate the gear type and  
36 the way that they're fished and the regulations from this  
37 exercise. You have to do it in the future, at some time, but  
38 you have learned some of the traps they are using are not legal,  
39 or sometimes the fishermen are asking me if you can use this  
40 mesh, and I have to send them the -- Graciela and I have been  
41 discussing it at the office. Keep those two separate.

42  
43 By the time that we finish this, I believe that, between here  
44 and August, we will have more information, and I hope that we  
45 have more fishermen involved, and we have a -- We will be  
46 working towards the place we want to be, which is better data  
47 that will allow the scientists to tell us where we are regarding  
48 the status of the lobster.

1  
2 **TONY IAROCCHI:** Thank you, Miguel. If I could, Bill, one  
3 question I do have, and we brought this up not only for bringing  
4 other people to the table on this, but we can get together,  
5 myself and Bill and Clay and the fishermen, to talk about this,  
6 but we had always talked about timing. Is this going to be -- I  
7 am not asking for an answer right now, but, when we start this,  
8 let's start this data collection, but how long we're going to do  
9 it.

10  
11 Are we going to say that we're going to do it for two months or  
12 we're going to do it for a whole lobster season, because one  
13 thing that everybody has to remember is that, when you look at  
14 the lobster fishery here, a lot of it has to do seasonally, and  
15 not only market driven, but also, when the cold fronts come  
16 through -- At certain times of the year, lobster fishing is slow  
17 here, and so the last thing we want to do is get data during a  
18 slow season or, in turn, get data just during while the lobster  
19 fishery is hot.

20  
21 We might want to look at it seasonally or whatever, but, like I  
22 said, it's something we don't have to discuss now, but I think  
23 timing to gathering the data is important.

24  
25 **CARLOS FARCHETTE:** I have Blanchard and Bill.

26  
27 **TONY BLANCHARD:** I would just like to reinforce on what Miguel  
28 said. Credibility, and I think we understand what we're talking  
29 about here. The other part of it is don't make promises that  
30 you can't deliver on, because then you find the backfiring  
31 effect.

32  
33 As for the form, I think if you pull off the GPS coordinates  
34 that you just might get some more compliance with that, because,  
35 to be honest with you, if this was me, I wouldn't fill it.  
36 That's just me.

37  
38 **CARLOS FARCHETTE:** Bill.

39  
40 **BILL ARNOLD:** First, I showed several forms, and some of them  
41 were the earlier version and some of them were the later  
42 version. The earlier version, they were actually providing  
43 lat/long coordinates. The more recent version just had the  
44 grids, and a version can -- We can create an updated version  
45 that has different grids, but the fishermen have to have those  
46 grids in hand so they know how to report.

47  
48 The other thing is I mentioned who is going to get the form,

1 and, well, somebody is going to get this form, and they're going  
2 to have to enter the data. That is a time-consuming task, and  
3 they're going to have to do it right, and they have to know how  
4 many forms they're going to be getting and when they're going to  
5 be getting them and all of these practical considerations.

6  
7 All of this has to be worked out before you start this program  
8 up. If we're expecting to send these to the Puerto Rico  
9 Fisheries Lab, I'm pretty sure that Ricardo needs to know that,  
10 et cetera, et cetera. If we're going to send them to the  
11 Science Center, they need to know it too. They need to know  
12 what the workload is going to be, because everybody is already  
13 pretty much full capacity, and so you've got to take these  
14 things into account.

15  
16 That is not meant to put a damper on this thing, but these are  
17 the things that have to be worked out before we go to the  
18 fishermen and start getting more fishermen involved, because we  
19 have to know how many we're going to get involved and how  
20 frequently they're going to report and how we're going to  
21 distribute those fishermen amongst the different regions and  
22 islands, et cetera, et cetera, and so there is still work that  
23 needs to be done.

24  
25 **CARLOS FARCHETTE:** Iris.

26  
27 **IRIS LOWERY:** I would certainly agree with Bill on that, and I  
28 just wanted to flag the potential for issues with the Paperwork  
29 Reduction Act as well, which basically covers government  
30 agencies that are collecting information from more than ten  
31 individuals, and so, depending on how this is structured, then  
32 there might be a requirement for PRA clearance, which goes  
33 through OMB, and I haven't done it, and so I'm not sure how long  
34 it takes, but my understanding is that it can be time-consuming.  
35 I think that's just a consideration, as discussions move  
36 forward, about how to structure this to keep that in mind.

37  
38 **CARLOS FARCHETTE:** That's the confidentiality part of it?

39  
40 **IRIS LOWERY:** No, and so it just has to do with where you have  
41 forms that you're sending out to the public soliciting  
42 information, or if you're collecting information, basically, on  
43 these sorts of forms. I would think that would be --

44  
45 **MIGUEL ROLON:** How when the local government collects the  
46 information -- Do they have to abide by that?

47  
48 **IRIS LOWERY:** We can --

1  
2 **MIGUEL ROLON:** Let's say that Ricardo is a good mood and he  
3 says, I am going to collect and I will put somebody onto data  
4 entry of that information, and he still has to jump through  
5 those hoops?

6  
7 **IRIS LOWERY:** No, and so the PRA is going to apply where it's  
8 the federal agency is conducting the research or collecting the  
9 information or where they sort of have control of that, and so,  
10 as far as details, that is certainly something that I think we  
11 can talk about moving forward, but I think it's something to  
12 keep in mind as we structure it.

13  
14 **MIGUEL ROLON:** Because I believe that -- What Bill just said is  
15 the key to moving this forward anyway and make it meaningful, in  
16 terms of what we want to collect, and so I believe that I will  
17 talk to Ricardo outside of this meeting and then the council can  
18 identify -- For example, if you need a data entry person, we can  
19 supply some funding for a data entry person.

20  
21 Let's say that this is something that we can do for two or three  
22 months more between August, and then we can do that through  
23 Ricardo, to make sure that we comply with what Iris told us,  
24 because it's for federal. Then, if that can be done, then the  
25 council can put the money into this, because this is probably  
26 one of the issues that we have the fishers and the scientists  
27 working towards a common goal right from the get-go, and so,  
28 Ricardo and Damaris, we can have -- Some time, maybe next week,  
29 or sometime this afternoon, and I don't know, but exploring the  
30 possibilities of data entry.

31  
32 If that happens, then the forms will be sent to the laboratory,  
33 to Daniel, or to Ricardo directly, and they will make sure that  
34 the data will be entered. To me, for example, it was a good  
35 surprise to see Bill comparing the data and showing us where we  
36 are, in terms of the data that we have, and that is the kind of  
37 thing that we need to have, and so, going back again, I believe  
38 that Graciela will make sure that the data form will be cleared  
39 by the Center and with the help of Bill.

40  
41 We will then take it back to the fishermen and make sure that  
42 Matias and the fishermen are in agreement with that, and I am  
43 talking only about trap fishers now. The divers is another --  
44 Let's keep it to the trap, because, if it doesn't work with the  
45 trap, forget about the other people, and so we will do that.

46  
47 That will be the first step. We have that, and I will talk to  
48 Damaris and Ricardo. If we can identify that person that can

1 enter the data, then we are following what Bill is telling us  
2 that we need, and hopefully, by the month of August, when we  
3 meet again, we will have something to show to you that this is  
4 where we are and this is the number of fishers that are  
5 providing the information and so forth.

6  
7 **TONY IAROCCI:** Miguel, if I may, to follow up to that, I think  
8 that's right on target, but the one thing with the diver, that  
9 was just to throw in that we could get it and what a sample was,  
10 if it would be needed. We don't want to even -- We didn't even  
11 want to talk about -- Everybody wanted to address trammel nets,  
12 but we don't want to address them at this time at all. We're  
13 sticking strictly to data from traps, and that's what we have to  
14 prioritize on.

15  
16 **CARLOS FARCHETTE:** I have Clay.

17  
18 **CLAY PORCH:** Thank you, Mr. Chair. I just wanted to emphasize  
19 that, if this is done right and we have enough participants, it  
20 really would be a game-changer for how we assess and manage this  
21 fishery, and we absolutely can use this information in the  
22 assessment, if we get enough coverage across the areas.

23  
24 Exactly how we use it will depend on how much participation we  
25 get. If you had reasonably good coverage in each area, say a  
26 few fishermen working each area, and we can get mean size  
27 information, that's really useful, because it tells us that,  
28 even if fishermen are sticking to the size limit, if you saw  
29 that the average catch was 3.5 inches, right at the carapace  
30 limit, you know that there is extremely high fishing pressure,  
31 but, when you're seeing here at four inches or above, that's a  
32 good sign that the fishing pressure is not too high, and so that  
33 information right there is useful.

34  
35 With that same kind of coverage, you can also look at the catch  
36 rates through time and see if they're going up or down. That  
37 would be useful over the longer term, and so the mean size gives  
38 us immediate information. If you had this system running for  
39 several years, we can see catch rate trends, and that's also  
40 useful, and then, finally, if you could fairly say you have  
41 representative -- That the choice of fishermen was  
42 representative of all the fishermen that are operating in this  
43 area, then you could get an independent estimate of the total  
44 landings.

45  
46 That is harder one, because, a lot of times, you tend to get  
47 more interested people, a lot of times high-liners,  
48 participating in this, and so it's hard to extrapolate the

1 catches of the high-liners to everybody, but, again, even if you  
2 weren't able to do that, if you have consistent people  
3 participating through time in all of the areas, you can use the  
4 catch rate information and the mean size, and it would be a lot  
5 more than what we have right now.

6  
7 **MIGUEL ROLON:** Clay, we have been trying to figure out what  
8 percentage will be acceptable from each area of fishermen  
9 participating, and I asked Ricardo and Daniel to give me  
10 information as to how many fishermen fish with traps in Puerto  
11 Rico that indicated that I fish lobster in my traps, and that  
12 universe that Daniel has can give us an indication of where the  
13 fishermen are. Then we can sample those fishermen to make sure  
14 that we cover all of the areas, and will that do it? Will that  
15 help in one way of doing it, or is there a better way to do it?

16  
17 **CLAY PORCH:** I see Bill itching to say something. Did you have  
18 this discussion already?

19  
20 **BILL ARNOLD:** I was going to mention something a little  
21 different, and so if you want to go ahead, Clay.

22  
23 **CLAY PORCH:** I can't give you an exact number on that. What we  
24 need to do is just look at how many fishermen do you think are  
25 in each area and then see what -- Of more interest is the total  
26 number of trips that are being made, and so we would like to get  
27 a certain fraction of the total number of trips, but, again, it  
28 depends on what we want to use this information for.

29  
30 If you wanted to use it to get an estimate of catch, then it's  
31 not only a percentage, but it's making sure that it's really  
32 representative, and so, if you've got some people that only run  
33 a few traps and aren't as efficient, they need to be included in  
34 the sample, and we need to do it in a representative way, and we  
35 could go into the details offline.

36  
37 If you wanted to focus on getting a good catch rate index, a  
38 good mean size index, then it's probably more important to have  
39 people participate consistently through time, and so, if you had  
40 certain people that you know are going to report the data and do  
41 it over a several-year period, then you could focus on that, and  
42 so it may be a discussion that we need to have in more detail  
43 later, but I couldn't give you an exact number right off the top  
44 of my head if you want to get a catch estimate, but, again,  
45 typically, if you can get 20 percent coverage, that's pretty  
46 good, for most fisheries.

47  
48 **MIGUEL ROLON:** That's what I was asking, in general terms. For

1 politicians, 10 percent is okay, but, for science, 20 to 100  
2 percent is better, and so the scientists, Clay and Richard and  
3 Todd, that were present at the meeting in St. Croix, the first  
4 thing that they asked is to give me an inventory of what you  
5 have, fishermen by area and type of gear and everything. A  
6 sample design will require this. We need to work towards that.

7

8 **CARLOS FARCHETTE:** Bill.

9

10 **BILL ARNOLD:** First, this is the domain of the Science Center  
11 and not the Regional Office, and so I'm perfectly happy to help,  
12 but I would be totally dependent upon them for guidance. The  
13 second thing is it's always good to have a goal. I like to  
14 stress having a goal. I am not the one that would decide what  
15 that goal is, but a potential goal would be we have the control  
16 rule, and we have four tiers, and we're operating in Tier 4.

17

18 I think collecting a dataset that might allow us to move into  
19 Tier 3 or something like that would be a worthwhile goal. If  
20 you define your goal clearly, then you can have a much better  
21 idea of how many fishermen you need, from where, how  
22 consistently, et cetera, et cetera, and how many forms we're  
23 going to be getting and who we need to enter the data and how  
24 much time it's going to take, et cetera, et cetera. That would  
25 be my thought on that. Let's get the goal clearly defined  
26 first.

27

28 **MIGUEL ROLON:** The fishers' goal is to get rid of the ACL, and  
29 so, the way we operate -- The way that we operate, we have to  
30 follow the path that Bill presented, and so, Bill, probably the  
31 goal will be to move towards Tier 3. What we need to do is to  
32 move toward a goal that can be documented, and so, as Bill said,  
33 we are now in Tier 4. If we want to move higher up with better  
34 data, that could be one way of -- For those of you who don't  
35 remember what Tier 4 and Tier 3 are, I'm sure that somebody will  
36 remind you what it is at the August meeting.

37

38 From this meeting, we got that the fishermen are interested at  
39 least in participating at the pilot survey, and it has been a  
40 success story with the fishers. The scientists will tell us  
41 about the best table that we can use, and we may have to use a  
42 second table for what Tony Iarocci mentioned, which is to allow  
43 the fishermen to maybe mark the areas where they are, the  
44 ranges, and we are going to talk with Ricardo to see if the  
45 laboratory is able and capable of doing this.

46

47 Then we will have sort of a second pilot between here and  
48 August, to see how this flies, and so Graciela will collect the

1 thoughts of the Center, in terms of the improvement of the  
2 table, and then we will have to make an inventory of the  
3 fishermen here and see if we can get to that 20 percent  
4 participation.

5  
6 Clay said something that is very important. We not only are  
7 interested in how many people participate, but we also need to  
8 know the number of trips, how many trips we are going to cover  
9 with this sampling design and so forth, and so, with that, Mr.  
10 Chairman, I believe that we have enough guidance to the staff to  
11 proceed, and, of course, we will be keeping in the loop the  
12 fishers and Tony and you between here and the August meeting.

13  
14 **CARLOS FARCHETTE:** Okay. If it's any use, Tony, on the grid  
15 part, the USVI uses a 2.5 mile square. If the fishermen agree  
16 with something like that, maybe that's something. It protects  
17 their trade secrets.

18  
19 **TONY IAROCCHI:** It's one thing too, Carlos. I want to make sure  
20 that the fishermen are comfortable, but I also want to make sure  
21 the Science Center is comfortable with that area too, because  
22 they're going to be the ones finally deciding what is best for  
23 them to get the best data out of, and so, if we can pull that  
24 together as one of the priorities from this and get that sheet  
25 done, I think we're ready to rock and roll.

26  
27 **MIGUEL ROLON:** We are ready to break for lunch, and so we going  
28 to -- Just a word of caution. If the fishermen accept the five  
29 miles square, they will never show you a one-mile-square  
30 quadrant. We already went through that already, and so we'll  
31 break for lunch and come back, but we have an announcement by  
32 the Chair.

33  
34 **CARLOS FARCHETTE:** We had a little snafu with the hotel's  
35 administration, and so they said if you want to eat your lunch  
36 from outside that you have to eat it in your room or at the  
37 beach, but not in this room and not at the restaurant. Since I  
38 don't have a room, I will sit under a coconut tree.

39  
40 **DAWN HENRY:** Mr. Chair, I am requesting for the USVI, if it's  
41 possible for us to just meet during lunch. That would be  
42 excellent.

43  
44 **CARLOS FARCHETTE:** Okay. All USVI persons to meet with you.  
45 Okay. Perfect.

46  
47 (Whereupon, the meeting recessed for lunch on April 19, 2017.)  
48



1 - - -  
2  
3 April 19, 2017  
4

5 WEDNESDAY AFTERNOON SESSION  
6  
7 - - -  
8

9 The Caribbean Fishery Management Council reconvened at the  
10 Renaissance St. Croix Carambola Beach Resort & Spa, St. Croix,  
11 USVI, Wednesday afternoon, April 19, 2017, and was called to  
12 order by Chairman Carlos Farchette.  
13

14 **CARLOS FARCHETTE:** We're going to get started again with the  
15 continuation of the 159<sup>th</sup> Caribbean Council meeting. Next up on  
16 the agenda is Dr. Nemeth, and he's going to discuss the  
17 Sustainability and Recovery of Groupers in Puerto Rico and the  
18 U.S. Virgin Islands.  
19

20 **SUSTAINABILITY AND RECOVERY OF GROUPERS IN PUERTO RICO AND THE**  
21 **U.S. VIRGIN ISLANDS**  
22

23 **RICK NEMETH:** Good afternoon, everyone. I am going to be  
24 presenting a project, and you can see the collaborators on the  
25 bottom of Hector Ruiz, Michelle Scharer, myself, Evan Tuohy,  
26 Elizabeth Kadison, and Richard Appeldoorn.  
27

28 The objective of this project was, after the Nassau grouper  
29 aggregation was found in Bajo de Sico, we wanted to understand  
30 how similar these two aggregations are, in terms of the timing,  
31 the lunar cycle, the month, and the numbers.  
32

33 Here is Bajo de Sico. It's an MPA. It's thirty-one square  
34 kilometers. It's closed from October to March, the end of  
35 March, and the prohibitions are similar to what I am going to  
36 show you next in the Grammanik Bank. There is no bottom fishing  
37 and no anchoring in the closed area.  
38

39 This is a picture, a larger-scale picture, of the St. Thomas/St.  
40 John region of the Puerto Rican shelf, and you can see that the  
41 red is the shallow reefs less than thirty meters, and the deeper  
42 mesophotic reefs, and mesophotic reefs represent over 60 percent  
43 of the bottom type, and so it's really a lot of reef area that  
44 exists in this area, especially in the Virgin Passage. Here is  
45 Culebra, and Sail Rock is over here.  
46

47 If you look at the Grammanik Bank, it's a much smaller area.  
48 It's only three kilometers long by 500 meters wide. It's a very

1 small area, and it was established in 2006, and it's only a  
2 three-month closure of February, March, and April. Again, it's  
3 closed to bottom gear during all year-round.

4  
5 Some of the data -- The two types of data that I will be showing  
6 here is visual counts, where divers go underwater and either do  
7 drift surveys or swim surveys over the same parts of the reef,  
8 trying to focus those surveys during the late afternoon, when  
9 the groupers are concentrated in an area.

10  
11 The other data that I will be presenting is acoustic data, where  
12 we tagged fish with acoustic transmitters and then had an array  
13 of receivers moored on the reef, and we tracked their movements  
14 and the timing and residence time on the spawning site. Here,  
15 you can see the blue bars are the Grammanik Bank from south of  
16 St. Thomas and Bajo de Sico, and one thing that jumps out right  
17 away is that the fish, the Nassau grouper, in the Grammanik Bank  
18 aggregate earlier in the lunar cycle than the ones at Bajo de  
19 Sico. There is no data for March, because we had really bad  
20 weather in March of 2016, and we couldn't get out for any  
21 surveys. If anybody has any questions, just please interrupt.

22  
23 **MIGUEL ROLON:** These aggregations are viable for spawning? Have  
24 you detected actual spawning or just the aggregation occurring?

25  
26 **RICK NEMETH:** Well, we have never observed spawning at either  
27 site. When we did the acoustic tagging, we had males that were  
28 running ripe, and I was using -- I had done a similar project in  
29 2008, where we used ultrasound imaging, and you could see the  
30 ovaries full of eggs, and some of the females that were hydrated  
31 had eggs that came out, and so we see all the courtship patterns  
32 and the colorations associated with spawning evident, but we  
33 have never observed spawning.

34  
35 I had a project with Laurent Cherubin and Claire Paris. They  
36 brought an ROV, and we saw that there was a huge number of fish,  
37 about a hundred Nassau grouper, down at about 200 or 220 feet,  
38 and I will present some data on that, that they actually may go  
39 deep when they start doing their spawning, and so we haven't  
40 observed it, and so that's something we would really like to  
41 see, just to confirm absolutely that spawning is happening,  
42 because sometimes we think, because of the way they tend to form  
43 these mass spawning and the aggregations, that they may need a  
44 critical mass of fish to actually be successful. I think maybe  
45 some pair spawning is occurring, but not the type that you see  
46 in videos from the Cayman Islands, for example.

47  
48 **MIGUEL ROLON:** If I may, Mr. Chairman, at one workshop that we

1 put together several years ago on Nassau grouper, and we had a  
2 bunch of experts, I remember that they told us that, as of that  
3 date, we needed that mass, and they have a guesstimate of 1,000  
4 animals before they saw actual spawning.

5  
6 The other issue they have is sometimes you have large numbers of  
7 animals, but they are all males, unless they decide to change  
8 before or after the aggregation, if the aggregation is not  
9 viable. Then, in discussing it with Michelle, it seems that you  
10 might be able to find whether that's true or not or whether we  
11 will have a smaller number of animals being able to aggregate  
12 and reproduce, and that's what we are after to make sure, and we  
13 are going to have, this year or next year, and this is an  
14 invitation, by the way.

15  
16 The scientists would like to take a look at this again and see  
17 how much data we have, how many papers and what is the status of  
18 the knowledge of the Nassau grouper and other species that  
19 aggregate, and so thank you.

20  
21 **RICK NEMETH:** In terms of the sex ratios, when we did the  
22 ultrasound, it was 50/50 really, and that's typical of the  
23 gonochoristic-type species.

24  
25 **CARLOS FARCHETTE:** Tony.

26  
27 **TONY BLANCHARD:** I've got a question. You say the Nassau that  
28 went in is in over 200 foot of water at which site?

29  
30 **RICK NEMETH:** This is at the Grammanik Bank.

31  
32 **TONY BLANCHARD:** In over 200 foot of water?

33  
34 **RICK NEMETH:** Yes, off the shelf edge. This is maximum number  
35 of Nassau and yellowfin from the Grammanik Bank this year, and  
36 you can see that the largest number of Nassau are in January and  
37 February and less so in March, with the numbers of yellowfin  
38 grouper building in February and March.

39  
40 One interesting thing that came out from here is we had quite a  
41 few data points on diver observations, and, typically, the  
42 Nassau grouper tends to -- The numbers peak around what you see  
43 here, five to seven days after the full moon, and so this is  
44 days after the full moon, and so this is five, six, seven,  
45 eight, nine, and twelve days after the full moon, and so, here,  
46 the peak was right around eight days, or maybe even a little  
47 later, and then it shifted to five days after the full moon, and  
48 then it shifted back to twelve days after the full moon.

1  
2 This is actually very unusual. Normally, we see it be very  
3 consistent, and so we're not really sure why this shifting is  
4 happening and if it has to do maybe with water temperatures or  
5 currents or some other factor, and so we have hydrophones that  
6 listen to the grouper vocalizations, and we also have the  
7 acoustically-tracked fish, and so we'll be able to compare those  
8 three datasets to see if just the diver counts were off or if  
9 they actually were similar to those other data types, and so  
10 that will be interesting, once we download the acoustic  
11 receivers and the hydrophones.

12  
13 I put this graph in here, which shows the counts that we've been  
14 doing at the Grammanik Bank since 2002, and you can see a  
15 dramatic increase in the number of groupers, and this represents  
16 the maximum counts during any single survey on any day during  
17 that year, and so a max count could be in February or March on a  
18 particular day, and so this is just the maximum number we've  
19 seen, and, typically, we expect that we're underestimating the  
20 actual numbers that are out there.

21  
22 You can see that it went from below fifty for about five or six  
23 years and then there was this jump in 2009, and this may be --  
24 We had a large recruitment of small juvenile Nassau in the grass  
25 beds in 2005 and 2006, and so it could be that this jump in the  
26 numbers at the aggregation site, and so this represents adults  
27 at the spawning site, or the aggregation, could have been that  
28 recruitment pulse of young fish in 2005 and 2006 growing up and,  
29 four years later, showing up at the spawning site.

30  
31 **MARCOS HANKE:** What you are explaining about the 2005  
32 recruitment of juveniles, if previous on the aggregation, on  
33 that specific aggregation, there was not a lot of fish, that may  
34 be an indicator that we are dealing with other aggregations that  
35 are supplying those juveniles to the area?

36  
37 **RICK NEMETH:** That's a good question, and we tried to do an  
38 experiment where you take genetic samples from both the  
39 juveniles and the adults, and so the problem with what happened  
40 is we saw a lot of juveniles in 2006, and we wrote a grant and  
41 got funded in 2008, and then there was no more recruitment until  
42 2014, and so it took almost nine years until another pulse of  
43 Nassau grouper, of babies, came through.

44  
45 Our samples were mismatched by a couple of years, and so it's  
46 still inconclusive whether the baby Nassau that we see here are  
47 coming from the Grammanik or from elsewhere. It could be that  
48 they're coming from up in the eastern Caribbean islands, and so

1 what we're really excited to see is that the numbers have jumped  
2 up again, just last year and this year, and so that is very  
3 promising, seeing that result.

4  
5 If we look at the length frequency distribution, Bajo de Sico is  
6 blue, and the Grammanik Bank is orange. This is for last year,  
7 for 2016. The proportion of fish within each of these size  
8 categories, and so these are five-centimeter size categories,  
9 and I want to point out that the fish at Bajo de Sico seem to be  
10 a bit larger than they are in the St. Thomas area.

11  
12 One thing I want to highlight is you can see this kind of nice -  
13 - It's sort of what they call a bell-shaped curve for Bajo de  
14 Sico, but, in St. Thomas, you have this big lump of higher  
15 proportion of fish in the fifty to fifty-four centimeter size  
16 class, and this may represent that pulse of fish that are now  
17 getting to be about ten years old from the 2006 juvenile  
18 recruitment event. This is kind of good to see. It kind of  
19 verifies that we had a lot of fish that survived that  
20 recruitment event and moved through the system to reach  
21 adulthood.

22  
23 This is Bajo de Sico, and now this is acoustic data, and so the  
24 results of tag detection, and so these tags, these acoustic  
25 transmitters, are surgically implanted. The fish are released,  
26 and they emit a ping like every minute. When it's within a few  
27 hundred meters of an acoustic receiver, the receiver will  
28 download the ID number of the fish, the date, and the time, and  
29 so you can get presence/absence and how long a fish is in a  
30 particular site or within the vicinity of an acoustic receiver.

31  
32 You can see the timing here. In January, the numbers are up,  
33 and these are number of detections, 10,000, 20,000, 30,000. You  
34 can see it peaks in February and March and starts to drop in  
35 April, and what is really interesting here is that about -- This  
36 is about 10,000, and it was just under 10,000 detections for May  
37 through December, and that represents about 30 to 40 percent of  
38 the fish are resident at Bajo de Sico, or at least within the  
39 vicinity of these receivers, which is interesting, because they  
40 don't leave.

41  
42 They are resident, and they are contributing to the spawning  
43 aggregation as well, and so I don't know what that means in  
44 terms of the population there, but it could be more vulnerable,  
45 because they are not getting possibly as much recruitment, and  
46 so you have -- It's a fairly small area relative to where the  
47 Grammanik Bank is on the shelf.

48

1 **CARLOS FARCHETTE:** Rick, a question from Schuster.  
2  
3 **EDWARD SCHUSTER:** I've got a question. You mentioned there is a  
4 ping on there. How many of those that you have surgically  
5 implanted have not been recovered? The other thing is, is there  
6 any predators that may pick up on the ping? I am just curious.  
7  
8 **RICK NEMETH:** It's a very high-frequency ping, and so it's  
9 ultrasonic, and so we can't actually hear it ourselves. Some  
10 fish might be able to hear it. I am not sure. In terms of the  
11 number of tags, I forgot to mention on this side is the number  
12 of tags that were detected, and I think this is -- This is  
13 Michelle's graph, but I think this 85 percent means that 85  
14 percent of the tags were detected, I believe, and so this is  
15 most of the fish are at the site here, and here is down only a -  
16 - That is 20 or 30 percent of the actual fish that were tagged  
17 are present as residents at the site.  
18  
19 **CARLOS FARCHETTE:** Richard.  
20  
21 **RICHARD APPELDOORN:** Just to add some commentary to that, there  
22 are twenty-nine fish that were tagged, ten the first year and  
23 nineteen the second year, and you're right that the percentages  
24 is how many were being detected at Bajo de Sico, and so this is  
25 a characterization of the receivers around what I would call the  
26 shallow part of the bank, because they have to be within diving  
27 range to put the receivers out.  
28  
29 There is a small percentage of fish that we only see at the  
30 aggregation site, but most of them have been picked up someplace  
31 that indicates that they're somewhere on the bank. They will  
32 pass through a receiver, but they're not resident, and so you  
33 don't see those being picked up mostly through the rest of the  
34 year.  
35  
36 There is a percentage of fish that we have seen heading in the  
37 direction of Puerto Rico, shall we say, and then they go off the  
38 grid, and then we don't know whether they're just resident on  
39 that southern end of Bajo or whether they actually do cross  
40 over, and we have put receivers out there to try to pick them up  
41 on kind of a can-we-get-lucky type of scenario, because it's  
42 really deep water there, and we're just dropping these things  
43 in, and we have not found those again to recover them, and so I  
44 don't know whether we have any data yet.  
45  
46 **RICK NEMETH:** Thanks, Rich, for clarifying that.  
47  
48 **CARLOS FARCHETTE:** Blanchard.

1  
2 **TONY BLANCHARD:** I've got a question. On the Grammanik Bank,  
3 you have these same detectors?  
4  
5 **RICK NEMETH:** Yes.  
6  
7 **TONY BLANCHARD:** Okay. What part of the bank? Is it the whole  
8 entire bank or just part of the bank?  
9  
10 **RICK NEMETH:** They are spread from the eastern Grammanik to  
11 about halfway -- They are spread from the eastern Grammanik to  
12 about the eastern MCD.  
13  
14 **TONY BLANCHARD:** Okay. That's a stretch about how far?  
15  
16 **RICK NEMETH:** It's about maybe like three miles, something like  
17 that.  
18  
19 **TONY BLANCHARD:** Okay. How long do the detectors sound for? In  
20 other words, it's got a battery in it, right?  
21  
22 **RICK NEMETH:** Yes.  
23  
24 **TONY BLANCHARD:** Okay. How long does the battery last for?  
25  
26 **RICK NEMETH:** They're usually good for about a year. We go and  
27 download the receivers about every six months to collect the  
28 data and put them back down. Every year, we replace the  
29 batteries.  
30  
31 **TONY BLANCHARD:** Okay. So let me ask you this question. Since  
32 you've got the detectors on the bank, from the head of the bank  
33 and go down to the head of the Hind Bank, when you pick up the  
34 information, does it tell you exactly where on the bank the  
35 pings were coming from?  
36  
37 **RICK NEMETH:** The detectors will pick up the pings from within  
38 maybe 300 yards or so, and so, if a fish passes within 300 yards  
39 and then a tag pings at that time, it will record that data.  
40  
41 **TONY BLANCHARD:** Right.  
42  
43 **RICK NEMETH:** When the fish pass by -- If the fish lives in that  
44 area, it will record lots of pings, if the fish is living near  
45 that detector.  
46  
47 **TONY BLANCHARD:** So are we talking a stretch of about 900 square  
48 feet?

1  
2 **RICK NEMETH:** Yes.  
3  
4 **TONY BLANCHARD:** A 900-foot diameter?  
5  
6 **RICK NEMETH:** Yes.  
7  
8 **TONY BLANCHARD:** The bank is about three miles long, correct?  
9  
10 **RICK NEMETH:** Yes, and let me go back to the map here.  
11  
12 **TONY BLANCHARD:** It's probably about two miles, maybe a little  
13 over two miles.  
14  
15 **RICK NEMETH:** Here is the Grammanik here, and so we have  
16 receivers from here stretching to about there and then some  
17 other receivers here at El Seco, and we've picked up Nassau  
18 grouper showing up here after the spawning, and so they swim  
19 thirty or forty kilometers over to here.  
20  
21 **TONY BLANCHARD:** So you find the same fish on one spot as well  
22 as the other spot is what you're telling me?  
23  
24 **RICK NEMETH:** Yes, they move around. They travel to the  
25 spawning site, and then they -- Actually, what we've seen with  
26 the data is that the fish will show up at the spawning site, or  
27 where they aggregate, at some time around one or two in the  
28 afternoon, and then they get closer and closer to where the  
29 center of the aggregation is.  
30  
31 Then they spend maybe from four in the afternoon to nine or ten  
32 o'clock at night around that area, and then they leave. They  
33 swim from -- We had fish swim from here several miles away,  
34 because we had detectors in those areas. Then, the next  
35 morning, they come back again, and they do that every single  
36 day.  
37  
38 Actually, I published a paper with Rich here, and we had a  
39 hydrophone that listens to the grouper when they do their  
40 courtship sounds, and we had one at the Grammanik and one in the  
41 middle of the Hind Bank here. We found out that these groupers,  
42 Nassau and yellowfin, were making these courtship sounds while  
43 they're swimming in these big loops.  
44  
45 Then would end up back at the aggregation site every afternoon,  
46 and so I think what's happening is they are making these calls  
47 to attract fish back to the spawning site, especially young fish  
48 who have never spawned before and don't know where to go. They



1 might be a way to lead them or teach them how to get to the  
2 spawning site. That's what we think is going on, because  
3 they're spending a lot of energy swimming.  
4  
5 Every single day, they will out and do a big loop and come back  
6 that night. The next morning, they'll go out and do a big loop  
7 and come back, and we think that's what helps to synchronize the  
8 fish to be at the same place at the same time, and so they're  
9 moving a lot. It's kind of interesting.  
10  
11 Here is the St. Thomas acoustic data, and we didn't add the  
12 other months, because there are no detections, and so, after  
13 August, there are no fish detected, or even in December. You  
14 can see that the peak is -- Here again, it's the same way, the  
15 number of detections and number of tags.  
16  
17 We tagged eleven fish, or I guess this is from all the years  
18 that we've done this, and so most of the detections were in  
19 March. This is 2016, and so it's just eleven fish. We had most  
20 of the detections in March and April, but we tagged most of the  
21 fish in February, and so I think that's why the February  
22 detections are low in this particular graph.  
23  
24 When we download the receivers at the end of this season, in May  
25 or June, then we will probably fill in the data for 2017. We'll  
26 get information for those months.  
27  
28 **CARLOS FARCHETTE:** Blanchard.  
29  
30 **TONY BLANCHARD:** You said a while ago that you find the fish  
31 going into over 200 foot of water.  
32  
33 **RICK NEMETH:** Yes.  
34  
35 **TONY BLANCHARD:** You don't have the detectors in that depth of  
36 water, correct?  
37  
38 **RICK NEMETH:** The detectors are right on the edge. If the table  
39 is the shelf edge, we have the detectors right here on the edge,  
40 and they can detect hundreds of feet down below where they are.  
41 We put them on the edge because you can have kind of a shadow.  
42 If they're too much on the bank, you wouldn't hear the fish as  
43 they went over the edge, and so we place them on the edge so you  
44 can actually -- When the fish is down deep, the ping can travel  
45 up the water column.  
46  
47 **TONY BLANCHARD:** Okay. Let me ask you this question. When you  
48 pick up the detection, does it tell you how far off the fish was

1 from the device that detected him?

2  
3 **RICK NEMETH:** No, and that's a good question. It's just  
4 presence/absence, but, this last year, we added another twelve  
5 receivers around where they aggregate, and so then you can  
6 triangulate. If you have a group of three detectors, and a fish  
7 is somewhere within that group of three, it tells you the exact  
8 second that the detector picked up that ping, and so you can  
9 look at the time lag between the three detectors and kind of  
10 place where that fish is in between. I will show the depth data  
11 in a couple of slides.

12  
13 Here is the Bajo de Sico acoustic data. Again, you can see it's  
14 daily detections, and this is when the end of the closed season  
15 is right here, and so fish are aggregating after Bajo de Sico is  
16 open to fishing again.

17  
18 Here is the Grammanik Bank. Again, we don't have January data.  
19 We know the fish show up in January, but they are very  
20 distinctive, big gaps, and so the fish leave completely. Here  
21 is the full moons, the yellow dots, and here is the end of the  
22 Grammanik closed period at the end of April.

23  
24 This is some of the depth data for Bajo de Sico. The average  
25 depth is around forty meters, which is about 120 or 130 feet,  
26 and a minimum depth is anywhere from sixty to ninety feet, and  
27 the maximum depth is seventy to eighty meters here, but it  
28 fluctuates by month.

29  
30 This shows a lot of the detail, the fine detail, and the daily  
31 movement patterns are kind of lost, because it's been averaged  
32 by month, and, if you look at the data for the Grammanik Bank,  
33 here's the months that we had the receivers out here, and you  
34 can see the depth, and so the forty meters, about 130 feet, is  
35 the top of the shelf. That's where most of the fish hang out,  
36 and then, after each full moon, when the fish start to  
37 aggregate, you can see the depths go down to about 240 feet, and  
38 that happens each of these three spawning months.

39  
40 What's interesting is they also go up in the water column,  
41 especially after the February full moon, and what I think is  
42 happening there is the fish often come up into the water to  
43 release their eggs and sperm to fertilize, and so what you might  
44 be seeing is that the fish go deep, and then they rise up in the  
45 water column to actually spawn. We have to look at the hourly  
46 data on here to see if there is -- I suspect that's happening  
47 right at sunset, or a little bit after sunset, and so I have to  
48 look at that more closely.

1  
2 Just to summarize, and that was my last slide, we see that, at  
3 Grammanik, they aggregate a little bit before Bajo de Sico, in  
4 terms of timing, and we have also seen that with red hind. The  
5 red hind in the Marine Conservation District aggregate about a  
6 week before the ones in western Puerto Rico, and the timing of  
7 abundance, relative to the full moon, shifted a lot this last  
8 year, from six days after the full moon to twelve days after the  
9 full moon, and so that was quite unusual.

10  
11 The Nassau at Bajo de Sico are larger than Grammanik Bank, but  
12 the Grammanik Bank showed that kind of signs of a recruitment  
13 pulse, and so a large number of fish in the forty-five to fifty-  
14 centimeter size range. About 50 percent of the Nassau were  
15 resident around Bajo de Sico, but, as Rich explained, I guess  
16 that represents all the receivers around the area, and so that's  
17 not just at the spawning site, right?

18  
19 **RICHARD APPELDOORN:** There are some that are resident at the  
20 spawning sites, but also --

21  
22 **RICK NEMETH:** Okay. Then so acoustic data shows that Nassau  
23 aggregate from January to April at Bajo de Sico and January to  
24 April at Grammanik Bank, and that extends outside the closed  
25 season during some moon periods. Then the depth data shows  
26 distinct movements into deep water and possibly rising up in the  
27 water column during the spawning months.

28  
29 **CARLOS FARCHETTE:** Blanchard and then Crespo.

30  
31 **TONY BLANCHARD:** I am just a little confused as to the  
32 acoustics, because you just said that the acoustics pick up  
33 within a 300-yard radius, which is 900 feet, and now you say  
34 that you have some on the edge of the shelf, which is right in  
35 the deep water.

36  
37 Now, my question is, how do you figure that they went into  
38 deeper water, because, if they've got a 900-foot radius, let's  
39 say we're -- That's 450 feet. What makes you think that they  
40 ain't just sitting 450 feet straight off the edge, along the  
41 shelf, and they are getting picked up on the receiver?

42  
43 **RICK NEMETH:** Right, and so these tags actually had a pressure  
44 sensor, and so, the deeper they go -- They sent two types of  
45 data. One was a ping for the presence, and one was data based  
46 on pressure, and so, as the fish goes deeper, there is more  
47 pressure on that tag, on the transmitter, and it's sending depth  
48 data.

1  
2 **TONY BLANCHARD:** Okay.  
3  
4 **RICK NEMETH:** So this is actual real depth data and not just  
5 distance.  
6  
7 **CARLOS FARCHETTE:** Crespo.  
8  
9 **NELSON CRESPO:** You said that fish moves a lot.  
10  
11 **RICK NEMETH:** Right.  
12  
13 **NELSON CRESPO:** Did you consider to put those sensors at  
14 Desecheo Island, because I remember that, when I was a kid,  
15 there was a big population of Nassau grouper.  
16  
17 **RICK NEMETH:** The more we learn, the more we can help to have  
18 the species recover. I think, as we see the numbers increase  
19 here, I think it would be great, once we get a very active  
20 spawning and lots of young fish coming. We can start fishing  
21 them again, and I think that would be awesome, and, the fish at  
22 the Grammanik Bank, they look like they are -- I think there was  
23 a paper that was done in the late 1990s that estimated how many  
24 years it would take for Nassau grouper to be a viable fishery,  
25 and they estimated it, based on the life history, to be about  
26 forty years.  
27  
28 We're about halfway through that right now, and so, based on  
29 this trajectory, it looks like the numbers are increasing  
30 rapidly, and so it's a long time, but, what you're saying, that  
31 would be really interesting to check that out.  
32  
33 **NELSON CRESPO:** I say that because it's a short distance. It's  
34 about less than ten miles from Bajo de Sico to Desecheo.  
35  
36 **RICK NEMETH:** Okay. Rich, would you have any receivers there?  
37 That would be really interesting if some fish are moving from  
38 that site and back.  
39  
40 **RICHARD APPELDOORN:** We have been trying to get there. We're  
41 working with Pauco to just get a hydrophone out there, and we  
42 haven't been able to do that yet, and so it's basically a  
43 limited resources situation, and so, with more resources, we can  
44 cover more areas.  
45  
46 **RICK NEMETH:** Rich mentioned the hydrophone, and that's another  
47 piece of equipment that we have out there that we haven't  
48 downloaded yet, and it's recording the grouper vocalization, and

1 so the sounds that the groupers make, and so we can use that to  
2 compare against our diver surveys and against the acoustic  
3 telemetry that the data shows, and that helps us verify what the  
4 timing of the groupers are and if it's changing, if the water  
5 conditions change and things like that.

6  
7 **CARLOS FARCHETTE:** Richard, Nassau spawn every month?

8  
9 **RICK NEMETH:** It seems to suggest, from like the data here, that  
10 they're spawning February, March, April, and then maybe in May,  
11 and here, for Bajo de Sico, it's January through April, and so  
12 it's synchronized with the full moon during the winter months.

13  
14 **CARLOS FARCHETTE:** Let me ask you something, because I remember,  
15 many moons ago, that GCFI -- I am going to switch here to  
16 parrotfish. You were doing a study with the parrotfish in St.  
17 John, and, if I remember right, it was moving every day, like it  
18 was going to a spawning site every day, and can you elaborate on  
19 that?

20  
21 **RICK NEMETH:** The species was the yellowtail parrot, and they  
22 show up there every day, but I had a student, actually Ashley  
23 Ruffo, who might be here later, that was her master's thesis,  
24 and what she found is that -- We did some acoustic tracking also  
25 on those fish, and, even though you saw parrotfish there  
26 spawning every day, it wasn't the same group of parrotfish.

27  
28 Some came and spawned for a month and then stopped for a couple  
29 of months, and some came every full moon. Some came every new  
30 moon, and some came every other week. I mean, it was really  
31 interesting, different patterns. Yes, you could go there and  
32 see parrotfish spawning every single day, and it was in shallow  
33 water, twenty or thirty feet, forty feet, deep.

34  
35 **CARLOS FARCHETTE:** Okay. I was just wondering, because we have  
36 a lot of parrotfish on St. Croix, and so I was wondering if they  
37 spawned quite often.

38  
39 **RICK NEMETH:** Yes, I suspect the same pattern is here. The  
40 different species, some don't swim to spawning sites and they  
41 just spawn locally, in like a small group, but I think the  
42 yellowtail parrot, I think the striped parrot, and maybe the  
43 stoplight parrot are the ones that actually swim to a spawning  
44 site.

45  
46 **CARLOS FARCHETTE:** Okay. Thanks. Any more questions for Rick?  
47 Schuster.

48

1 **EDWARD SCHUSTER:** Do you have any results from St. Croix? I  
2 think you were up on Lang Bank.

3  
4 **RICK NEMETH:** We had put a hydrophone out at Lang Bank, at a red  
5 hind spawning site, and we actually were able to hear some  
6 Nassau grouper vocalizations, and so, this year, we also put one  
7 out on the very tip of Lang Bank, I think where the historic  
8 Nassau grouper aggregation was, and, when we put the instrument  
9 down, we saw five or six Nassau adult, big large adult, Nassau  
10 grouper there.

11  
12 We're going to follow up on that, and I also mentioned the baby  
13 Nassau grouper that we're seeing last year and this year, and so  
14 we saw those mostly on the south side of St. Thomas and St.  
15 John, but I also heard that they've been seeing lots south of  
16 Culebra, and I talked to -- When we were tagging some fish for a  
17 different project in Teague Bay here, we actually caught a  
18 little one-foot Nassau grouper that we put a transmitter in, and  
19 then we saw some local kids snorkeling in the back reef of  
20 Teague Bay, and they said they've seen lots of little Nassau  
21 grouper under some of the coral heads. I think that's really  
22 great news, to see that. We didn't see that kind of a pulse in  
23 2006, but we see some fish showing up here just this last year.

24  
25 **EDWARD SCHUSTER:** One other question. With the acoustics, did  
26 you pick up any yellowfin grouper up on Lang Bank?

27  
28 **RICK NEMETH:** Yes, we picked up yellowfin, and we also saw maybe  
29 ten yellowfin when we put that instrument down too, and so big  
30 ones, big adults, and so it will be interesting to see, when we  
31 download that data in the summer, to see how many -- We can't  
32 really tell how many there were, but we can get an idea,  
33 relative to the Grammanik and Bajo de Sico, in terms of the  
34 number of vocalizations. That might give us a clue.

35  
36 **RICHARD APPELDOORN:** Just a clarification. I looked this up.  
37 For Bajo de Sico, about 62 percent of the tags, of the fish that  
38 were tagged, were consistently recorded throughout the year at  
39 Bajo, which means they were resident somewhere near a receiver,  
40 and another 38 percent were only detected at the aggregation  
41 site at aggregation time.

42  
43 **RICK NEMETH:** Okay.

44  
45 **RICHARD APPELDOORN:** So we don't know where they hang out, and  
46 we suspect that a subset of that are the ones we think may have  
47 potentially moved to the main platform, but we have never  
48 detected that, and so it's a hypothesis.

1  
2 **RICK NEMETH:** That's interesting. Thank you.

3  
4 **CARLOS FARCHETTE:** One more question. I am going away from  
5 Nassau, and I wanted to validate if it's true what I heard, that  
6 they had tagged a mutton snapper south of St. Croix, at the  
7 aggregation area, and it pinged off of Buck Island, which is on  
8 the opposite side of the island, and do you know about that?

9  
10 **RICK NEMETH:** Yes, that happened.

11  
12 **CARLOS FARCHETTE:** That's a long way for it to travel.

13  
14 **RICK NEMETH:** Yes, it's very long, and we have this project in  
15 Brewers Bay, St. Thomas, where we're looking at movements of  
16 different species of fish relative to environmental conditions,  
17 water temperature and oxygen, and we've had like a horse-eye  
18 jack show up south of St. John, on the shelf edge. We've had a  
19 yellowtail snapper at El Seco, and we've had tarpon show up at  
20 the Grammanik Bank, and a gray snapper show up at the Grammanik  
21 Bank, and so a lot of these really, really big movements by  
22 fairly small fish.

23  
24 We also had a lionfish move from Brewers Bay out to the  
25 Grammanik, but it may have been something that ate it, maybe,  
26 and I don't know. That's also possible for the small fish, that  
27 it gets eaten, but usually you can tell, because that tag will -  
28 - If it gets eaten, it's going to get pooped out eventually, and  
29 so it might just be pinging without moving ever. That usually  
30 says either fish died or got eaten, but the fish that went out  
31 there kept moving around longer than it would take to digest it,  
32 and so we think they're alive.

33  
34 **CARLOS FARCHETTE:** Thank you. That is very interesting work,  
35 Rick. Very interesting.

36  
37 **RICK NEMETH:** All right. Thanks.

38  
39 **CARLOS FARCHETTE:** Any more questions for Rick? Hearing none,  
40 we are going to do Ricardo Lopez and the Electronic Reporting  
41 System Update.

42  
43 **ELECTRONIC REPORTING SYSTEM UPDATE**

44  
45 **RICARDO LOPEZ:** Good afternoon. I am Ricardo Lopez from Puerto  
46 Rico DNR. I was asked to give a small presentation about what  
47 we are doing with the proposal about the electronic reporting  
48 system.

1  
2 This idea started two years ago with the company Point 97,  
3 which, at that time, was a non-profit organization, but it turns  
4 now to be a profitable organization, and so it will be more  
5 expensive, and I think that they closed some of their offices  
6 also.

7  
8 They still have a page on the internet, but they are no longer a  
9 good team for us, and so started moving toward analyzing other  
10 alternatives, because we still need to provide to the fishermen  
11 a way to enter the data faster and more efficiently.

12  
13 We have been talking about the absence or the lack of port  
14 samplers in Puerto Rico DNR. Right now, we have only two port  
15 samplers, and we have the biologist, or the coordinator, also  
16 going to the ports to sample the fish, and we also have one  
17 clerk, which is the person in charge of data entry.

18  
19 We have two contracts that we are waiting for, for two more port  
20 samplers and one data entry. One we have all that personnel, we  
21 should be updated, or at least trying to have the data of 2017  
22 ready for May of 2018.

23  
24 We are about six months late right now, but, even with the  
25 personnel that we have, we still have another issue to address,  
26 and that is the regulation. The regulation provides a time for  
27 the fishers of about sixty days so they can report their  
28 landings.

29  
30 A fisher that has until the end of February to provide all the  
31 data, and then we have about one month or two to put that data  
32 into the system, but, with this electronic reporting system, we  
33 hope to do this faster and more efficiently.

34  
35 What we are trying to do is we already have a cooperative  
36 agreement with TNC and NOAA and the Coral Reef Conservation  
37 Program, and the idea is to have Shellcatch, which is a non-  
38 profit company, to do the work of the application and have the  
39 application ongoing very soon. We are already coordinating with  
40 NOAA to ensure fishery data needs and requirements.

41  
42 As you can see there, there is a picture of one of our meetings  
43 with some of the staff of DNR and some of the fishers, which  
44 will be working in the application at the beginning. We also  
45 have the idea to expand this new electronic reporting platform  
46 to the U.S. Virgin Islands, and Raimundo Espinoza already has  
47 been talking with the U.S. Virgin Islands to extend the idea to  
48 the USVI. He has been in meetings, I think, with Ruth Gomez and



1 more personnel.

2  
3 In one of those meetings, we tried to include, for the  
4 application, an ID guide, so everybody in the U.S. Virgin  
5 Islands and in Puerto Rico will identify the fishes correctly  
6 and in the same way, with the same scientific name. If they  
7 have a picture, it will be very difficult to get it wrong.

8  
9 For the next steps for the electronic reporting in Puerto Rico,  
10 Shellcatch right now is working with NOAA Fisheries Caribbean  
11 commercial landings to make the electronic fishery reports  
12 compatible with them. We are hoping that, by June of 2017, five  
13 fishers will test the electronic reporting application.

14  
15 Again, the expectation will be, for August of 2017, to have  
16 about fifty fishers already trained to start using the  
17 application. If everything goes as expected, we hope, in the  
18 next three years, to have all the fishers in Puerto Rico working  
19 with this application. The funding from NOAA and The Nature  
20 Conservancy cooperative agreement has been granted to include  
21 all fishers in this effort. That's the idea.

22  
23 At the end, you can see now who are the persons which are the  
24 collaborators right now, and we can include more eventually, and  
25 which are the organizations also. Any questions?

26  
27 **CARLOS FARCHETTE:** Miguel.

28  
29 **MIGUEL ROLON:** Ricardo, just to make sure, this is only for  
30 commercial fishers at this time, and do you have any -- Well, do  
31 you have any program in the future that will do the same for  
32 recreational fishers?

33  
34 **RICARDO LOPEZ:** It would be ideal to have everything in the same  
35 application.

36  
37 **MIGUEL ROLON:** But you don't have that for recreational yet?

38  
39 **RICARDO LOPEZ:** We have been talking about that, but we want to  
40 start first with the commercial fishers and let's see how it  
41 goes and what are the bumps and what are the difficulties, and  
42 then we can move forward to get the recreational fishermen also.

43  
44 **MIGUEL ROLON:** How are the fishers able to upload the electronic  
45 data?

46  
47 **RICARDO LOPEZ:** The application will be available for tablets,  
48 for laptops, and for cellphones, including Apple.

1  
2 **CARLOS FARCHETTE:** Any more questions for Ricardo? Velazquez.  
3  
4 **CARLOS VELAZQUEZ:** Ricardo, now is that just five fishermen from  
5 Puerto Rico to use the reporting by electronic reporting?  
6  
7 **RICARDO LOPEZ:** Yes, we're going to start with five. They have  
8 already been in that meeting, and they already support us, but,  
9 very soon, we will include about forty-five more.  
10  
11 **CARLOS VELAZQUEZ:** The five fishermen are commercial fishermen  
12 and no recreational?  
13  
14 **RICARDO LOPEZ:** All are commercial fishermen.  
15  
16 **CARLOS VELAZQUEZ:** The five fishermen, what side of the island  
17 are they from? Are they from the west coast or all the coasts  
18 of the island?  
19  
20 **RICARDO LOPEZ:** I believe that they are -- At this time, that is  
21 not so important. We believe, eventually, everybody will have  
22 the application, but, right now, we are going to be testing  
23 that. I believe there are some from the west and some from the  
24 north.  
25  
26 **CARLOS FARCHETTE:** Hanke.  
27  
28 **MARCOS HANKE:** I put myself in this position. If anytime you  
29 guys are ready to test with the charter industry, I am  
30 available.  
31  
32 **RICARDO LOPEZ:** Thank you. I will say that to TNC.  
33  
34 **CARLOS FARCHETTE:** Any more questions? Bill.  
35  
36 **BILL ARNOLD:** We talked about the lobster data collection  
37 initiative and the new form. Is that going to be integrated  
38 into this?  
39  
40 **RICARDO LOPEZ:** It should be. Hopefully it will be. Also, we  
41 would like to have sharks.  
42  
43 **CARLOS FARCHETTE:** Any more questions for Ricardo? Hearing  
44 none, thank you, Ricardo. I believe that electronic reporting,  
45 in-season reporting, is important. I believe it would save a  
46 lot of issues with the state offices and the Science Center, and  
47 so let's see how the smartphones go. Miguel.  
48

1 **MIGUEL ROLON:** Ricardo, there was an idea to start with the  
2 deepwater snapper grouper fishers on the west coast of Puerto  
3 Rico. Do you have any idea of when and where the electronic  
4 reporting system will start with the five and then the fifty  
5 fishers?  
6

7 **RICARDO LOPEZ:** Not now. What I do know is that the application  
8 is in development right now. We already have five fishermen  
9 that will be there, and we are trying to have some of the  
10 fishermen, eventually, of the U.S. Virgin Islands, and that's  
11 where we are right now.  
12

13 **MIGUEL ROLON:** Then, when you say NOAA Fisheries, you are  
14 talking about the Center or you are talking about the Center and  
15 the people in NOAA who are working with electronic data reporting  
16 at the national level?  
17

18 **RICARDO LOPEZ:** That is a good question for Raimundo Espinoza.  
19 I think it's from the first one that you said.  
20

21 **CARLOS FARCHETTE:** Hanke.  
22

23 **MARCOS HANKE:** One thing that this brings to mind, and, again, I  
24 am available to participate at any level you guys need, but I  
25 think, because you are designing this right now, there is an  
26 added value on this application that is going to encourage the  
27 people to participate, either commercial or recreational,  
28 especially recreational, if you have things in there that help  
29 and address safety and help and address navigation and help and  
30 address logbooks and like an added value to the application and  
31 that it's not just to comply with a report, but it's something  
32 extra. That will attract a lot of fishermen to be included on  
33 that benefit. You should explore that approach.  
34

35 **RICARDO LOPEZ:** Yes, and the application, as we were thinking,  
36 is more like you're telling me right now, including a GPS way of  
37 taking the points and taking pictures of the fishes, and you can  
38 upload that very fast, and we get more information, and not only  
39 the landings information, but more details of what is the  
40 fisherman doing. That is the expectation, and we'll see if that  
41 can go on.  
42

43 **MARCOS HANKE:** Just one example about -- I have a follow-up.  
44 Just one example about the safety. You can have a button with a  
45 code that makes a direct call to the Coast Guard or to whatever  
46 line it is if you have a true emergency. That is something that  
47 they would have to coordinate with you guys, but, on that  
48 application, it would be a good tool that will increase the

1 safety on the water for everybody.

2

3 **CARLOS FARCHETTE:** Bill.

4

5 **BILL ARNOLD:** Bonnie or Roy probably has better insights, but  
6 the recreational approach is a lot more complicated than the  
7 commercial, because of the way they go about sampling, and so  
8 you need -- That would have to be a very coherent and cross-  
9 agency approach to doing that. It's nice like you're replacing  
10 a written form with an electronic form. You are replacing a  
11 system with a totally different system.

12

13 **RICARDO LOPEZ:** No, we are thinking of different versions. The  
14 first version will be only with commercial fishermen, and that  
15 should be evolving to get more information eventually.

16

17 **CARLOS FARCHETTE:** Any more questions for Ricardo? Hearing  
18 none, thank you, Ricardo. Next, we have the Results of the  
19 Public Hearing for the Regulatory Amendment 6 to the Reef Fish  
20 FMP: Triggering Accountability Measures in the Puerto Rico EEZ.

21

22 **REGULATORY AMENDMENT 6 TO THE REEF FISH FMP: TRIGGERING**  
23 **ACCOUNTABILITY MEASURES IN THE PUERTO RICO EEZ**  
24 **RESULTS FROM PUBLIC HEARINGS**

25

26 **GRACIELA GARCIA-MOLINER:** The council approved the preferred  
27 alternative yesterday for this amendment and approved it to go  
28 to public hearing the same evening. We did have quite a  
29 difficult time, with technical difficulties, in trying to get a  
30 connection through to the listening stations, and so we had the  
31 public hearing here at the Carambola, and we had two listening  
32 stations, one in San Juan and one in Mayaguez.

33

34 That is the action that you are dealing with, to revise the  
35 trigger for implementing accountability-measure-based fishing  
36 season reductions for stocks and stock complexes in the reef  
37 fish fishery in the Puerto Rico Exclusive Economic Zone.

38

39 That is the preferred alternative, Alternative 2, and so the AM  
40 for a stock or stock complex would be triggered for either the  
41 recreational or commercial fishing sector if that sector's  
42 applicable ACL for stock/complex is exceeded and the combined  
43 recreational and commercial, i.e., total, ACL for that  
44 stock/complex is exceeded.

45

46 You did the review and you approved the amendment for public  
47 hearings, and we held the public hearings. These are the  
48 results from those. In Mayaguez, you had six people attending

1 the public hearing for whom -- The one person who could actually  
2 speak over the Go To Meeting actually spoke on behalf of thirty-  
3 six commercial fishers, and they all agreed on Preferred  
4 Alternative 2.

5  
6 You had no one in San Juan, and then you had Nelson Crespo here,  
7 who was representing sixty commercial fishers from the west  
8 coast of Puerto Rico, and they also chose Alternative 2 as their  
9 preferred.

10  
11 Specifically, the distribution of the people who were present at  
12 the meetings is shown on the screen, and you also had written  
13 comments. You received one written comment before noon today,  
14 and this is a group of fishers from Boquerón, and he is the --  
15 Ricardo Lugo is the secretary of the fishing association, and he  
16 wrote on behalf of active commercial fishers, and they have  
17 seventeen honorary members, and these are mostly older fishermen  
18 who are retired from fishing activity, but they still are part  
19 of the association.

20  
21 They discussed the document that we had circulated, and I should  
22 make a parentheses here to report on -- We mailed over 600  
23 envelopes and sent about 400 emails. To each fishing village,  
24 that's seventy-two, and so we sent more than ten notices. If  
25 the minimum is ten people, then you have 720 other people who  
26 should have known about the public hearing.

27  
28 In addition to that, they are published on the website, and they  
29 are published in the local newspaper, and so it's not for the  
30 lack of intention to let everyone know, and so they are also in  
31 favor of Alternative 2. Specifically, this will benefit the  
32 commercial fishing sector financially if the recreational sector  
33 is below the normal catch limit and still protecting the fish  
34 populations.

35  
36 Finally, those are the results of the public hearings, and now  
37 the council would like to see the codified text, because the  
38 next step is that you would have to decide if Alternative 2 is  
39 still your preferred, if you are voting for the amendment to be  
40 submitted for secretarial review, and so should I project the  
41 codified text? The codified text is just you have selected  
42 Alternative 2, and so it turns into the regulation of what it  
43 actually means when it's actually implemented.

44  
45 **MIGUEL ROLON:** Graciela, rather than the codified text that we  
46 cannot see from here, can you just provide some language as to  
47 the motion that we need?  
48

1 **GRACIELA GARCIA-MOLINER:** Inserted into the Code of Regulations  
2 as they are right now -- They are pieces that are put in.  
3  
4 **MIGUEL ROLON:** Don't worry. We believe you, but it's just that  
5 we want the language for the motion that the council has to  
6 submit now. If we are going to submit the document, then we  
7 have to have a roll call vote.  
8  
9 **GRACIELA GARCIA-MOLINER:** Do you deem the document ready for  
10 secretarial review?  
11  
12 **IRIS LOWERY:** I would wait on deeming the regulations, but have  
13 the motion, as far as the amendment, first. Then the  
14 regulations and then the motions that give staff the editorial  
15 license, following the council's approval.  
16  
17 **GRACIELA GARCIA-MOLINER:** Okay. Motion to submit the --  
18  
19 **MIGUEL ROLON:** Then we need the title of the document.  
20  
21 **GRACIELA GARCIA-MOLINER:** Submit the AM -- For secretarial  
22 review with the Preferred Alternative 2. Iris, do we need to  
23 establish what the alternative is, or is it as it presented in  
24 public hearings that already had the Alternative 2 as the  
25 preferred?  
26  
27 **IRIS LOWERY:** I think you can identify the preferred alternative  
28 in the motion.  
29  
30 **MIGUEL ROLON:** With Alternative 2 being the preferred  
31 alternative. Alternative 2 is the preferred. Iris, is that  
32 okay for the first part of what we need to do? Then move it and  
33 second it, and, for this one, remember that we have to have a  
34 roll call.  
35  
36 **CARLOS FARCHETTE:** Okay. The motion is --  
37  
38 **MIGUEL ROLON:** Who proposed the motion?  
39  
40 **MARCOS HANKE:** I would like to move -- Motion to submit  
41 Regulatory Amendment 6 to the U.S. Reef Fish Fishery Management  
42 Plan of Puerto Rico and the U.S. Virgin Islands Triggering  
43 Accountability Measures in the Puerto Rico Exclusive Economic  
44 Zone for secretarial review. Alternative 2 is the preferred.  
45  
46 **TONY BLANCHARD:** Second.  
47  
48 **CARLOS FARCHETTE:** Okay. I am going to do a roll call vote, and

1 I will start on my right with Carlos Velazquez, but is there any  
2 discussion? Hearing none, I will start a roll call vote with  
3 Carlos Velazquez.  
4  
5 **CARLOS VELAZQUEZ:** Yes.  
6  
7 **ROY CRABTREE:** Yes.  
8  
9 **CARLOS FARCHETTE:** Yes.  
10  
11 **MARCOS HANKE:** Yes.  
12  
13 **DAWN HENRY:** Yes.  
14  
15 **TONY BLANCHARD:** Yes.  
16  
17 **DAMARIS DELGADO:** Abstention. I abstain.  
18  
19 **CARLOS FARCHETTE:** Okay. We have six yes and one abstention.  
20 Any nays? **Hearing none, the motion carries.**  
21  
22 **MIGUEL ROLON:** Okay. Iris, you mentioned two other actions.  
23  
24 **IRIS LOWERY:** We will also want to have a motion that deems the  
25 regulations as necessary and appropriate for implementing the  
26 amendment, and we'll get to -- Following that, we'll want a  
27 separate motion that gives staff editorial license on the actual  
28 text of the amendment.  
29  
30 **MIGUEL ROLON:** So the first motion is -- Can you repeat that  
31 again slowly, please?  
32  
33 **IRIS LOWERY:** Deem the regulations necessary and appropriate for  
34 implementing the AM trigger amendment. You can copy and paste  
35 the title from above. After that, and give the Council Chair  
36 the authority to deem any modifications made to the proposed  
37 rule.  
38  
39 **MIGUEL ROLON:** By the way, this is legal requirement to make it  
40 neutral. It's Chair for everybody, and is that okay, Iris?  
41  
42 **IRIS LOWERY:** Can I amend that slightly? On the motion to deem  
43 regulations, can that be regulations before the council or  
44 regulations presented by staff or something?  
45  
46 **MIGUEL ROLON:** We need a mover and a seconder.  
47  
48 **MARCOS HANKE:** I would like to present a motion. The motion is

1 to deem the regulations presented by staff as necessary and  
2 appropriate for implementing the Regulatory Amendment for the  
3 Reef Fish Fishery Management Plan of Puerto Rico and the U.S.  
4 Virgin Islands: Triggering Accountability Measures in the Puerto  
5 Rico Exclusive Economic Zone and give the Council Chair the  
6 authority to deem any modification made to the proposed rule.

7  
8 **MIGUEL ROLON:** Let the Chair read the motion.

9  
10 **CARLOS FARCHETTE:** Okay. The motion is to deem the regulations  
11 presented by staff as necessary and appropriate for implementing  
12 the Regulatory Amendment 6 to the Reef Fish Fishery Management  
13 Plan of Puerto Rico and the U.S. Virgin Islands: Triggering  
14 Accountability Measures in the Puerto Rico Exclusive Economic  
15 Zone and give the Council Chair the authority to deem any  
16 modification made to the proposed rule.

17  
18 **MIGUEL ROLON:** It was presented by Marcos, and who seconds it?

19  
20 **TONY BLANCHARD:** Second.

21  
22 **CARLOS FARCHETTE:** Any discussion?

23  
24 **DAWN HENRY:** Yes.

25  
26 **CARLOS FARCHETTE:** Commissioner.

27  
28 **DAWN HENRY:** Can we bring the screen back down a little bit,  
29 please? Thank you. I don't understand the last portion, where  
30 it talks about giving the Chair the authority to deem any  
31 modification made to the proposed rule. What do you mean by  
32 giving the Chair the authority to deem any modification?

33  
34 **IRIS LOWERY:** Under Magnuson, the council is required to deem  
35 the regulations, which is so you're deeming them as necessary  
36 and appropriate to implement the amendment, and it's saying  
37 basically the regulations are consistent with your intent  
38 through the amendment.

39  
40 However, it's possible that, on review, when NMFS is publishing  
41 the rule, we might notice that something is inconsistent or in  
42 error and need to make a change, and so, in order to make  
43 changes, it needs to be, and I am using air quotes here, but re-  
44 deemed by the council. However, that typically happen in  
45 between council meetings, and so, where there is a change like  
46 that, then the Council Chair will re-deem the regulations in  
47 place of the council, to basically authorize any change.



1 **MIGUEL ROLON:** One caveat is that any change cannot modify the  
2 intent of the council or the essence of what the council  
3 approved.  
4  
5 **ROY CRABTREE:** I have almost never seen one of these rules go  
6 through without some changes to it along the review process, and  
7 this avoids us having to come back in August, at another council  
8 meeting.  
9  
10 **DAWN HENRY:** But I believe what Miguel said is significant, in  
11 that we're not talking about any substantive change that will,  
12 in essence, change the intent of what --  
13  
14 **ROY CRABTREE:** Carlos will ensure that that's the case when he  
15 looks at it.  
16  
17 **MIGUEL ROLON:** Usually, this process, the lawyers, NOAA General  
18 Counsel, tells us that this is significant and this is not and  
19 that's why we need to authorize the Chair, because, if it's  
20 significant, then the Chair has to say that we have to take this  
21 back to the next council meeting, and so we protect the intent  
22 of the council at all levels.  
23  
24 **DAWN HENRY:** Thank you, Mr. Chair.  
25  
26 **CARLOS FARCHETTE:** Thank you, Commissioner. I thought that was  
27 a very important comment that you made there, just to make sure  
28 that I don't do anything underhanded. I am going to -- No more  
29 discussion? Then I will take it to a vote. Just to confuse the  
30 troops, I am going to start on my left with Blanchard.  
31  
32 **TONY BLANCHARD:** Yes.  
33  
34 **DAWN HENRY:** Yes.  
35  
36 **DAMARIS DELGADO:** Abstain.  
37  
38 **MARCOS HANKE:** Yes.  
39  
40 **CARLOS FARCHETTE:** Yes.  
41  
42 **ROY CRABTREE:** Yes.  
43  
44 **CARLOS VELAZQUEZ:** Yes.  
45  
46 **CARLOS FARCHETTE:** Okay. We have six yes and one abstention.  
47 **The motion carries.**  
48

1 **IRIS LOWERY:** Last one, and this is the one that basically will  
2 give -- You have now looked at the amendment, but it will go  
3 back to NMFS before it's finalized, and so there's a motion that  
4 just gives NMFS staff and council staff the authority to make  
5 any editorial changes in response to any discussions at this  
6 meeting or that might otherwise be necessary before it's a final  
7 document.

8  
9 **MIGUEL ROLON:** Also, this follows the same spirit of the second  
10 one. These are cosmetic or technical and not in violation of  
11 any intent of the essence of the council's will.

12  
13 **IRIS LOWERY:** Exactly.

14  
15 **DAWN HENRY:** If I understood you, if there are any non-  
16 substantive proposed changes, what we're voting on next is to  
17 allow for the staff to make those changes to finalize the  
18 document.

19  
20 **IRIS LOWERY:** Correct.

21  
22 **MIGUEL ROLON:** Can you help, Iris?

23  
24 **IRIS LOWERY:** Can I suggest an amendment to this? I would also  
25 say that any changes will be reviewed by the Council Chair.  
26 Then I would, additionally, add this motion gives staff the  
27 editorial license -- I think we're covered. We're good.

28  
29 **CARLOS FARCHETTE:** The motion is to allow staff to make  
30 editorial changes, non-substantive changes, to the Regulatory  
31 Amendment 6 to the Reef Fish Fishery Management Plan of Puerto  
32 Rico and the U.S. Virgin Islands: Triggering Accountability  
33 Measures in the Puerto Rico Exclusive Economic Zone. Any  
34 changes will be reviewed by the Council Chair.

35  
36 **MARCOS HANKE:** So moved.

37  
38 **MIGUEL ROLON:** You can drop the "changes" after "editorial" and  
39 say the "editorial non-substantive changes", unless you want to  
40 make it idiot proof.

41  
42 **CARLOS FARCHETTE:** Okay. There was an edit. The motion is to  
43 allow staff to make editorial, non-substantive changes to the  
44 Regulatory Amendment 6 to the Reef Fish Fishery Management Plan  
45 of Puerto Rico and the U.S. Virgin Islands: Triggering  
46 Accountability Measures in the Puerto Rico Exclusive Economic  
47 Zone. Any changes will be reviewed by the Council Chair.

48

1 **MARCOS HANKE:** So moved.

2

3 **TONY BLANCHARD:** Second.

4

5 **CARLOS FARCHETTE:** It's moved by Hanke and seconded by  
6 Blanchard. Any discussion? **All in favor say aye; any**  
7 **abstentions.**

8

9 **DAMARIS DELGADO:** Abstain.

10

11 **CARLOS FARCHETTE:** Any nays? Seeing none, four yes and one  
12 **abstention, and the motion carries.**

13

14 **MIGUEL ROLON:** Graciela, did we finish? Okay.

15

16 **CARLOS FARCHETTE:** We will do a coffee break.

17

18 (Whereupon, a brief recess was taken.)

19

20 **CARLOS FARCHETTE:** Let's get back to work. Next on the agenda  
21 is the Fishery Ecosystem Plan Status Report, and that would be  
22 Bill Arnold.

23

#### 24 **FISHERY ECOSYSTEM PLAN STATUS REPORT**

25

26 **BILL ARNOLD:** At the last council meeting, we discussed this  
27 briefly, and this will be another brief discussion. The idea is  
28 that we -- National Marine Fisheries Service's policy for  
29 ecosystem-based fisheries management includes development of an  
30 umbrella document that they call a fishery ecosystem plan.

31

32 Our vision of this is something that provides information, feeds  
33 information, into our fishery management plans. It would not be  
34 regulatory. It's not a management plan, but it could guide  
35 decisions that are made regarding the management of these  
36 fisheries on each of the three islands. The Caribbean is  
37 uniquely set up for this kind of ecosystem-based approach, and  
38 so I just want to give you, as the title implies, a brief status  
39 update as to where we are on this.

40

41 This is an outline. This presentation was prepared by Dr. Cindy  
42 Meyer, and so I want to make sure that she gets her credit, and  
43 she's been working very hard on this, and I am lost without my  
44 slides. The first thing we'll do is give you an outline of what  
45 I'm going to talk about, theoretically.

46

47 First, what is a fishery ecosystem plan, and then we had a  
48 workshop, and I will give you a brief overview of that idea

1 exchange effort. The plan should go better than this, I hope.  
2 I'm kidding, Vivian. I'm just kidding. All the pressure is on  
3 her. Then we'll discuss the draft outline, which still has a  
4 lot of work to do, and talk about next steps.

5  
6 What is a fishery ecosystem plan? Well, there are multiple  
7 levels at which you can manage fisheries. You can do the one at  
8 the very bottom, single species, which is -- We're maybe a  
9 little bit beyond that, but not a lot beyond that in the U.S.  
10 Caribbean.

11  
12 Then there is the ecosystem approach to fisheries management,  
13 and so take parrotfish as an example. With parrotfish, we  
14 considered their impacts on Acropora corals and critical  
15 settlement substrate, and we adjusted harvest levels  
16 accordingly, and so that's an ecosystem approach to fisheries  
17 management.

18  
19 The next step up is an ecosystem-based fisheries management  
20 approach, where you really integrate ecosystems, and you have,  
21 as it says on the far right, a fishery ecosystem plan. Then,  
22 ultimately what you desire to do, which is sort of like Tier 1  
23 assessments. What we would desire is ecosystem-based  
24 management, where everything is being taken into account. As  
25 the graphic describes, it's all aspects of the ecosystem and how  
26 it operates.

27  
28 Again, what is a fishery ecosystem plan? It serves as a  
29 guidance document. It's scale-dependent and hierarchical, and,  
30 by scale-dependent, it can operate at the level of the  
31 individual island, at the U.S. Caribbean region, at the  
32 Caribbean basin/large marine ecosystem level, which is what we  
33 discussed at lunch today with Oriana, and it can operate at the  
34 global scale, and, to some degree, it needs to operate at all  
35 those scales, at least as it influences our preparation of  
36 fishery management plan documents.

37  
38 It includes ecosystem-scale information on structure and  
39 function, and it also includes biogeographic information and, as  
40 I've mentioned, spatial scales. It describes the relationships  
41 between living marine resources, and that's what LMR stands for,  
42 and we can't stand having a presentation without a couple of  
43 acronyms thrown in, and human uses of the resource and the  
44 activities affecting those living marine resources.

45  
46 Fishery ecosystem plans are already in place, in various forms,  
47 in other regions throughout the nation, and everybody has their  
48 own -- Each region has their own ideas of what a fishery

1 ecosystem plan should look like.

2  
3 We held a workshop, the goal of which was to hear information  
4 and viewpoints on fishery ecosystem plans and lessons learned on  
5 development of FEPs from the individual attendees, and this was  
6 a two-day workshop held on February 23 and 24.

7  
8 It included NMFS and council staff, including Graciela, and some  
9 additional attendees, like Tim Essington from the University of  
10 Washington, who is sort of a lead on ecosystem-based fisheries  
11 management and fishery ecosystem plan development, and also  
12 Angela Bednarek and Charlotte Hudson from the Lenfest Ocean  
13 Program, and Orian Tzadik was there from Pew, and so we had a  
14 good group of people talking about their viewpoints and the  
15 information they had, and it was just sort of getting this thing  
16 kicked off.

17  
18 The draft FEP outline includes six components. The first is to  
19 determine the initial goals and objectives, which is absolutely  
20 essential to the entire process. First, you need to develop and  
21 prioritize your goals and objectives, and you can imagine, when  
22 you're talking about a U.S. Caribbean ecosystem plan, that there  
23 is a million different ways that you can look at it and a  
24 million different pieces of information that you could bring in,  
25 but that's overwhelming, and so you really have to focus it.  
26 You have to develop strategic and operational objectives.

27  
28 Then it's the resource characterization. That is an inventory  
29 of historical and available data, and Graciela is working hard  
30 on that, along with Orian, and compile the data into a database  
31 and do a gap analysis to identify what needed data are missing  
32 and then pursue strategies for obtaining those data or getting  
33 around them and then potentially suggest ecological status  
34 indicators. Is there something you can look at that gives you a  
35 broader view of how things are going?

36  
37 Then process characterization. That is to develop a conceptual  
38 ecosystem model, and that's just a model that shows kind of how  
39 things flow. It's not quantitative, but it's more of a  
40 qualitative model, and develop a geospatial, geographic  
41 information system of just sort of how does it look on the map,  
42 a geospatial model, and determine the suitable resolution for  
43 data analysis. Do you want to do it by square meter or by  
44 square mile or by island or whatever spatial level you may  
45 operate at?

46  
47 Then inventory the ecosystem threats and issues, and threats are  
48 just things that can affect your decision-making process. You

1 do a risk analysis, and this is pretty far down the road.  
2 That's the feasibility of doing these things versus the  
3 applicability. Then, of course, prioritization by NMFS, and  
4 this is not being done in a vacuum, and then you might include  
5 some indicator modeling if you have identified ecosystem  
6 indicators.

7  
8 Then next is determine the relationship between the fishery  
9 ecosystem plan and the fishery management plans. This is  
10 absolutely essential, because the fishery ecosystem plan is not  
11 a regulatory document, and so performance or effectiveness  
12 measurements and stakeholder engagement activities. You have to  
13 have stakeholders involved. They are a critical component of  
14 the ecosystem, and so how do you get them engaged? How do you  
15 assess the effectiveness of current regulations and then what  
16 are your data and research needs?

17  
18 Finally, there's a guidance process. You need a protocol for  
19 utilizing your ecosystem plan to guide management decisions, and  
20 that can be a loaded question, and you need to provide a  
21 mechanism for the FEP to be dynamic and respond to a changing  
22 environment and for allowing the incorporation of new  
23 information.

24  
25 In summary, the concepts and aims of a fishery ecosystem plan is  
26 it would be a guidance document, and that's very important to  
27 keep in mind. It's a guidance document to aid in the refinement  
28 of fishery management plans. It is not a fishery management  
29 plan. It does not replace fishery management plans, but it does  
30 consider ecosystem relationships between species and their  
31 habitats, i.e., the concept of from ridge to reef. Everything  
32 at the top, everything coming down the mountain, is going to  
33 affect those reefs and the animals that live on those reefs.

34  
35 There are data challenges. Data mining is necessary to compile  
36 the data. Fortunately, we have Graciela on the job.  
37 Cooperation from other agencies is essential. We don't even  
38 know who the full team needs to be, but I would imagine that  
39 it's going to be bigger than the one we have put together right  
40 now.

41  
42 Then organizing the data and building a geospatial database.  
43 Data management can be one of the most difficult tasks.  
44 Efficient data management can be one of the most difficult tasks  
45 that you have to overcome. The next steps are we need to define  
46 a defined outline of where we're going with this. We want to  
47 develop a draft conceptual ecosystem model that we can use for  
48 guidance.

1  
2 We have to develop a strategy to facilitate partner and  
3 stakeholder engagement in the FEP development process. We don't  
4 want a riot. We don't want a rabble. We need to have an  
5 organized strategy, and then probably the primary focus right  
6 now, again, is data compilation and gap analysis.

7  
8 We need an inventory of data and any opportunities to acquire  
9 additional data and, again, the gap analysis and then data  
10 prioritization. It's not going to be all of equal importance,  
11 and I think that's it for the overview.

12  
13 Then, at the next council meeting -- Really, you can always  
14 contact me, but Cindy is the lead on this, and, at the next  
15 council meeting, I think we're going to be able to provide you  
16 with a little more blown-up idea of where we're headed with  
17 this, but I want to emphasize, for the sake of my boss and  
18 everybody else in here, that this is not going to interfere with  
19 the development of these fishery management plans, which are  
20 absolutely the number one priority we have, and so I don't  
21 anticipate this thing becoming really getting rolling until  
22 after those new FMPs are in place, and you know how I feel about  
23 that. We've got to get it done. Thanks, everybody.

24  
25 **CARLOS FARCHETTE:** Thank you, Bill. Miguel.

26  
27 **MIGUEL ROLON:** That's exactly it, that our priority is to get  
28 these FMPs done. Bill mentioned that there are a myriad of ways  
29 that you can implement this, and so probably, once these  
30 management plans are done, we can amend them to incorporate any  
31 ecosystem whatever we need to incorporate into the FMPs.

32  
33 The other thing is that part of this ecosystem approach touches  
34 on the coordination of meetings that the council has done  
35 through the years, the last four years, with the WCAFC groups in  
36 the Caribbean, and we are the conveners for the Queen Conch  
37 Working Group and the Snapper Grouper Spawning Complexes in the  
38 Caribbean.

39  
40 This year, if we ever get the money the way that we envision, we  
41 might be working with FAO and WCAFC to convene a meeting of the  
42 scientists and administrators that deal with the implementation  
43 of the queen conch FMP regional plan that we develop. Actually,  
44 we have Dr. Martha Prada and Dr. Richard Appeldoorn, who are  
45 instrumental in having this management plan in place.

46  
47 The reason why we have been involved for the last four years is,  
48 as mentioned by Bill, when you consider the ecosystem, we are

1 affected by whatever they do upstream on the queen conch, and  
2 the same is true for the lobster, but that's another story, and  
3 the spawning aggregations that we have, and it seems that the  
4 spawning aggregations are fed by floating larvae that settle in  
5 the different islands, and we need to connect them.

6  
7 Especially in the case of the Nassau grouper, it has been  
8 demonstrated that whatever we do with the Nassau grouper in  
9 Central America and the Lesser Antilles has some impact,  
10 directly or indirectly, with the Major Antilles where we are.

11  
12 Those two activities will conform with the idea of looking at  
13 the whole thing and using an ecosystem-based management approach  
14 to this, and this will be kind of an international approach, and  
15 we have been talking about the next steps at the Office of  
16 International Affairs in Washington, and they will be working on  
17 it, and I believe that our point of contact is Bill Arnold for  
18 the development of any strategy in the Caribbean, and so the  
19 council will be informed at all levels when we do anything, the  
20 same with the Regional Office. Thank you, Bill.

21  
22 **CARLOS FARCHETTE:** Any questions? Carlos.

23  
24 **CARLOS VELAZQUEZ:** Thank you. Bill, this workshop is just for  
25 the Science Center, this workshop, and not for the members of  
26 the council or anybody for these workshops?

27  
28 **BILL ARNOLD:** The one we had, Carlos, the one we already had  
29 that I talked about?

30  
31 **CARLOS VELAZQUEZ:** Yes.

32  
33 **BILL ARNOLD:** The one we convened previously was just really  
34 preliminary and let's talk about what an FEP even should be,  
35 because I mean we brought the Lenfest folks in because they do  
36 this. Actually, they're sort of designing for NOAA the concept  
37 of FEPs and EBFM, and so we wanted to learn from them, and so we  
38 wanted to get their perspectives and just discuss what  
39 information is available and how it should be organized and  
40 their ideas on it. It's really preliminary, and we're just  
41 getting started on this. There is a long way to go.

42  
43 **GRACIELA GARCIA-MOLINER:** In the development of the FEPs, we are  
44 counting on fishers who are there all the time to contribute  
45 with information that they have. One thing is to do the data  
46 mining and bring the information up in a map, and another thing  
47 is to validate it. In most cases, the only way to validate it  
48 is through the commercial fishers or the recreational fishers.



1  
2 **MIGUEL ROLON:** That won't happen soon. When we are ready, rest  
3 assured that we are going to bring the fishers into the  
4 equation.  
5  
6 **CARLOS FARCHETTE:** Any more questions for Bill?  
7  
8 **DAMARIS DELGADO:** You have funding to complete this plan for all  
9 these components?  
10  
11 **BILL ARNOLD:** Pardon me?  
12  
13 **DAMARIS DELGADO:** I just was wondering if you have all the  
14 funding to finish up all of those steps and when would you have  
15 the plan for our region.  
16  
17 **BILL ARNOLD:** This is a time scale of years and not months, and  
18 the money, no.  
19  
20 **ROY CRABTREE:** The money runs out on April 28, unless Congress  
21 does something.  
22  
23 **MIGUEL ROLON:** Actually, I said that before, and I was serious.  
24 If we don't get that continuing resolution or the new budget,  
25 the council will close doors for a while. We will have to go to  
26 the beach and visit Bill Arnold in Florida.  
27  
28 **GRACIELA GARCIA-MOLINER:** I am going to piggyback on what Bill  
29 just summarized, because this is -- You heard from us before  
30 regarding the GIS. We are trying to make a geographical  
31 information system with the historical data that the fishers  
32 have provided for a very long time.  
33  
34 We had started with Puerto Rico, because it had a fairly  
35 straightforward set of data. The Virgin Islands was a little  
36 bit more -- It was different, but we've been able to look at  
37 lobster, and this basically reflects not the places where they  
38 are landed, but actually the places where they are caught.  
39  
40 One of the things that we're doing is really looking at the  
41 database, to see what information is there that we can use that  
42 will give you some information on how changes have taken place  
43 over a very long period of time.  
44  
45 In this case, what you are looking at is the C1 through C5  
46 harvesting areas that St. Croix has. We still have to deal with  
47 the borders and how they divide those areas, but just, in  
48 general, you can see that Lang Bank, on the eastern side of St.

1 Croix, has the most lobster harvested from, and the idea is --  
2 You will see that it will report on the amount of pounds that  
3 have been harvested from that area. This is only 2010, and so  
4 it's only one year from that area, and it tells you the  
5 different gears that are available for that site.

6  
7 We are slowly working at gathering all of this information, and,  
8 in the next few months, we should have more of the information  
9 for the Virgin Islands. They have already looked at everything  
10 from the 1990s to the 2000s, and so we're working on that.  
11 Hopefully, by the next meeting, we will have a little bit more  
12 information for the Virgin Islands.

13  
14 This is important, because we also have habitat maps, and we  
15 have historical habitat maps, and the Pew foundation is working  
16 with us to look at the changes in habitat over time, through  
17 those maps that were scanned and georeferenced back in 2012, and  
18 so we have them waiting for someone to be able to do the  
19 analysis, and so we'll have habitat changes, and we will have  
20 changes in the reported landings by commercial fishers.

21  
22 **CARLOS FARCHETTE:** Marcos.

23  
24 **MARCOS HANKE:** One we finish the last year of SEAMAP, because we  
25 took images on each station that are well known, there is four  
26 students from the University of Puerto Rico that are taking a  
27 GIS course, and they're going to work with some data with Aida  
28 Rosario to get those images and process and do different works  
29 with them, and I am going to tell them to get in coordination  
30 with you, because maybe those images and information you can add  
31 to the job you are doing.

32  
33 **GRACIELA GARCIA-MOLINER:** Definitely. Thank you.

34  
35 **DAMARIS DELGADO:** Graciela, I also recommend you to touch base  
36 with some of our GIS specialists at DNER that could help you out  
37 with some of the data that you would need, like in the Coastal  
38 Zone Management Program Office, and also we have another person  
39 within our bureau that could help you out.

40  
41 **GRACIELA GARCIA-MOLINER:** Thank you for mentioning that, because  
42 Corrales specifically has been working with us. She was part of  
43 the original map mining group and the GIS things that we did.  
44 Daniel Matos has been extremely helpful in letting us know what  
45 the meaning of the column headings are and how things have  
46 changed over time, which is a problem, because, when you are  
47 trying to transfer all of that information to a map like this,  
48 you have to make sure that you know what the changes were in the

1 forms, so that you won't be reporting weird information.

2  
3 The same thing with the DPNR. We are counting on the local  
4 agencies that have the information to make sure that we portray  
5 the correct information, and, not only that, but this will be  
6 available to the general public, and the geodatabase will be  
7 available with the clean historical landings dataset to any  
8 scientist who wishes to download it. You can download, but you  
9 cannot upload. Hopefully, within the next year, the project  
10 will be finished.

11  
12 **CARLOS FARCHETTE:** Any more questions for Graciela? Okay.  
13 Thank you, Graciela. Now we have Enforcement Issues, Puerto  
14 Rico DNER.

15  
16 **ENFORCEMENT ISSUES**  
17 **PUERTO RICO DNER**  
18

19 **RICARDO LOPEZ:** Good afternoon again. I have to say that Iris,  
20 Garcia, and she's a Ranger from the Rangers Corps of DNER, and  
21 she helped me a lot in putting this data together. What you  
22 need to see is that most of the interventions are in the south  
23 of Puerto Rico for this period, and that is not including the  
24 Holy Week last week, which we had a lot of other interventions.

25  
26 In that picture, you can see -- That picture was taken from the  
27 airplane of DNER, and that is an intervention in federal waters.  
28 I think it was in Tourmaline.

29  
30 Here is the classical graph that we have put together since  
31 Miguel brought me here, which I would like to make it better,  
32 but I will need more input, probably from Bill, and so,  
33 eventually, I will talk to him.

34  
35 Those are more or less the federal interventions in federal  
36 waters on federal laws, and, over there, you can see a picture  
37 of the GPS of the airplane, which is in Tourmaline, and, again,  
38 another picture, on the top, of one of the boats trying to  
39 escape, but, at the end, he was caught.

40  
41 The new data is the dark blue, which is from January to March of  
42 2017, and that's the recent one, and, here, what I can say from  
43 this graph is that things like fishing in protected areas, we  
44 can see that that happened not as much as before, but lobsters  
45 are also in reduction. There is less lobster taken illegally,  
46 and queen conch also was taken very few times. Hopefully that  
47 is because the people are doing things the right way and not  
48 because there are less interventions. That is all the data that

1 I have. Any questions?  
2  
3 **CARLOS FARCHETTE:** Any questions for Ricardo?  
4  
5 **MIGUEL ROLON:** Ricardo, the queen conch in federal waters part -  
6 -  
7  
8 **RICARDO LOPEZ:** Yes, and that was in 2014 and 2015, but it's not  
9 happening anymore.  
10  
11 **MIGUEL ROLON:** That is mostly Mona Passage? Do you have any  
12 idea where?  
13  
14 **RICARDO LOPEZ:** It would have to be over there. Otherwise, it's  
15 very deep. It would have to be around there.  
16  
17 **CARLOS FARCHETTE:** Velazquez.  
18  
19 **CARLOS VELAZQUEZ:** Ricardo, all the interventions are for the  
20 commercial fishermen and not recreational? Is it all commercial  
21 fishermen?  
22  
23 **RICARDO LOPEZ:** Not necessarily. It's all the illegal things  
24 done in federal waters or federal laws. That's what I have in  
25 that graph. It's not necessarily commercial fishermen. The  
26 thing of the pictures is it's the first time that I have brought  
27 the pictures. I was in a meeting, an informal meeting, talking  
28 to one of my colleagues, and he had many pictures of those  
29 interventions, and he was telling me that, many times, they see  
30 these same boats, the same people.  
31  
32 We are seeing the same interventions, the same activity, again  
33 and again and again, and I don't know what's the end of it. I  
34 don't know if, at the end, they have a -- If they are in jail or  
35 what happens with them.  
36  
37 **MIGUEL ROLON:** You have to sink the boat. They keep coming. As  
38 long as they have a boat, they will do the same. That's one of  
39 the issues that we wanted to discuss in the enforcement workshop  
40 that we have. Also, when they say illegal gear, what are you  
41 referring to?  
42  
43 **RICARDO LOPEZ:** I guess some of the nets that are illegal. It's  
44 probably traps that doesn't have the size of the mesh or the  
45 door.  
46  
47 **CARLOS FARCHETTE:** Can you state your name and affiliation, for  
48 the record?

1  
2 **HILLARY LOMAN:** My name is Hillary Loman, and I'm a NOAA coral  
3 management fellow. I work at the East End Marine Park on St.  
4 Croix. My question is if this information, across the board,  
5 how much of it was based on regular enforcement activities and  
6 how much of it was opportunistic, to just get a better  
7 understanding of how opportunistic -- How many data points, how  
8 many times, was there a check for illegal gear that got these  
9 numbers, if you will?

10  
11 Some of them seem a bit more opportunistic to catch,  
12 understandably. To be able to compare these offenses against  
13 each other, I am wondering if they were opportunistically or  
14 regularly checked for.

15  
16 **RICARDO LOPEZ:** We have both. The DNR Rangers have to travel  
17 out of the nine miles from Puerto Rico to get to federal waters,  
18 and they have to do that very often. That is part of the  
19 experience, but they also have some opportunistic interventions,  
20 but I don't have them divided. I will have to ask them to  
21 provide them.

22  
23 **CARLOS FARCHETTE:** Thank you. Any more questions for Ricardo?  
24 Hearing none, thanks, Ricardo. I know we don't have a report  
25 from DPNR for this meeting, but, for August, we will. Coast  
26 Guard.

27  
28 **U.S. COAST GUARD**

29  
30 **JEREMY MATOS:** I am going to first start off by saying that this  
31 is the last time that I will have the opportunity to represent  
32 Rear Admiral Buschman on the council. He is being relieved this  
33 summer by Rear Admiral Peter Brown, who we've got the luxury of  
34 being a District 7 veteran. He was the Response Chief, which is  
35 in charge of our Enforcement Branch, a couple of years ago, and  
36 so he will be taking over this June, and I'm very familiar with  
37 that, because I have the honor of being the Project Officer for  
38 that, and so if anybody would like an invitation to that  
39 ceremony, please let me know.

40  
41 Some unit updates, I know my predecessor reported that we've got  
42 six of our 154-foot fast-response cutters and one eighty-seven-  
43 foot patrol boat all home-ported out of San Juan. All of those  
44 boats are still up and running and still operating regularly in  
45 and around Puerto Rico and down through the Lesser Antilles  
46 Islands as well.

47  
48 Conveniently, for us, business is up in all regards. Our eleven

1 statutory missions, we complete ten of them. The only one we  
2 don't have to do down here in the Caribbean is break ice. It  
3 hasn't gotten that bad yet, and so we're actively engaged in all  
4 of our mission areas, including living marine resources  
5 enforcement.

6  
7 Over the last three months, I got from our enforcement guys down  
8 in San Juan that we've completed twenty-two boardings and two  
9 joint operations with the Rangers, most of which were focused on  
10 enforcing the closed areas, and, typically, they have found some  
11 undersized lobsters and illegal conch, but that's more  
12 historical and not indicative of anything that they've picked up  
13 recently, and I don't have accurate figures on that.

14  
15 They're looking to continue and he said, at a minimum,  
16 quarterly, and I said you can do better than that, and so  
17 they're looking to do even more joint patrols with the Rangers  
18 or just doing living marine resources enforcement patrols. Not  
19 just in the Mona Passage, but around the entire island, and  
20 including down into the U.S. Virgin Islands, to provide that  
21 presence.

22  
23 Some of the recent cases that we've got, we've got a very unique  
24 case that kind of applied to -- We were in a different mindset  
25 when we were carrying out this case, but we were patrolling down  
26 off of Antigua with an Antiguan-Barbuda ship rider, and we found  
27 a boat in the middle of the night with the lights out and going  
28 fast. That's very typical of what we see for a drug runner, and  
29 so we started employing our tactics. They were illegally  
30 smuggling conch, is what we found. Instead of finding bales of  
31 cocaine or marijuana, we found bags of conch, and they were  
32 taken into custody by Antigua and Barbuda, and the case was  
33 turned over to them, because it happened in their territorial  
34 waters.

35  
36 That's obviously not a case that happened in our EEZ, but that's  
37 an example of illegal fisheries smuggling and activities that  
38 can happen just about next to our EEZ, if not in our EEZ, and so  
39 it was a good lesson for us and a good kind of eye-opener of  
40 illicit traffic is illicit traffic, and it doesn't matter what  
41 it is.

42  
43 **MARCOS HANKE:** Just a clarification point. You guys saw them  
44 going into U.S. waters or leaving U.S. waters?

45  
46 **JEREMY MATOS:** No nexus to U.S. waters whatsoever. We were down  
47 doing an international engagement patrol with Antigua and  
48 Barbuda. Then the only other thing I can report is, as of

1 today, we had one voyage termination, off of Mayaguez, this  
2 morning. It was a vessel that was underway, and it was seven  
3 nautical miles west of Mayaguez and had no safety gear  
4 whatsoever onboard, and so they were escorted into the pier.  
5 They had no EPIRB and no radio and no safety equipment  
6 whatsoever.

7  
8 The question was asked earlier of whether or not our enforcement  
9 activities are opportunistic or they are regular, and I kind of  
10 jokingly said that the Coast Guard's enforcement activities in  
11 this area are regularly opportunistic.

12  
13 When we have an opportunity to, and when we've got some free  
14 time, where we don't have intelligence or activities going on in  
15 our other mission sets, we've got the opportunities, like today,  
16 where one of our Coast Guard cutters was out there and decided  
17 to put their boat in the water and go see what's going on with  
18 the local fishermen, and they found a boat that was out of  
19 compliance with the safety standards.

20  
21 **CARLOS FARCHETTE:** Crespo.

22  
23 **NELSON CRESPO:** Good afternoon. I just want to comment that I  
24 just talked with Officer Matos already at the coffee break, and,  
25 in the past month, the Coast Guard has interviewed with two  
26 commercial deepwater snapper fishermen in state waters and the  
27 officer in charge of the intervention said that they are only  
28 allowed to have five snapper in the boat per person, and the  
29 guys have a really hard time.

30  
31 They lose about three hours on each intervention, and that is  
32 money for us. Time is money on the water, and, actually, one of  
33 the interventions, one of the officers confused an amberjack  
34 with a tuna, with a yellowfin tuna, and this is just to bring to  
35 the table that -- He told me that he's going to take care of  
36 this, but I just wanted everybody to know about that.

37  
38 **JEREMY MATOS:** I do thank you for bringing that up. It's given  
39 me the opportunity to look into both of those cases and also  
40 discuss with my colleague in the back over there, who is from  
41 our Regional Fisheries Training Center that teaches all of our  
42 boarding officers how to do the boardings, and they also provide  
43 the resources that assist in completing those boardings in an  
44 expeditious manner and trying to get us on and inspect what we  
45 can and off of the boat without interrupting the voyage too much  
46 and also providing just the tools to make it easier, because  
47 this is difficult for some of our folks to learn, because there  
48 not always in this area. We rotate around regularly.

1  
2 We did find out, with both of those cases, that it was our  
3 boarding officers' error. One was the misidentification of the  
4 fish, and the other one was applying recreational regulations to  
5 a commercial fisherman. We're already taking steps right now to  
6 edit our -- We call it the boarding officer job aid, and so  
7 we're taking the time to make those changes, to make it easier  
8 for our law enforcement officers to do what they need to do out  
9 there, and I will be following up with both of the units, to  
10 make sure that they've got the appropriate training for their  
11 law enforcement team, so they don't make the same mistake twice.

12  
13 **CARLOS FARCHETTE:** Commissioner.

14  
15 **DAWN HENRY:** I would just like to comment, first on what you  
16 just said. I think, as humans, sometimes it's difficult for us  
17 to just flatly admit that we did something in error, and I  
18 really compliment you on that, and it serves as an encouragement  
19 for all of us here that we're not all perfect, and so I really  
20 appreciate your candidness in that response.

21  
22 For me, I just need to understand, and everybody else probably  
23 already knows this, but, when it comes to the U.S. Virgin  
24 Islands, within our three-mile limit, because one of the things  
25 that you commented -- It would make sense that the Coast Guard  
26 has a priority listing.

27  
28 I am not quite sure where fishery management comes along with  
29 that priority listing, and so are you aware if there are any  
30 plans or efforts underway to partner locally with DPNR's  
31 Enforcement Unit like you do in Puerto Rico now with assisting  
32 with fishery enforcement? Maybe it's going on now, but, if you  
33 could just explain for me a little bit about that, I would  
34 appreciate it.

35  
36 **JEREMY MATOS:** Absolutely. I think our interaction with our  
37 partners in Puerto Rico happens to be just opportunistic. We've  
38 got a much larger Coast Guard presence in Puerto Rico than we do  
39 in the Virgin Islands.

40  
41 I will go out there and say that we can't do the enforcement of  
42 these laws, the enforcement of the closed areas, and we can't do  
43 any of it by ourselves, and so it takes a partnership amongst  
44 everybody, and that's why we're here, to work together to  
45 achieve a collective goal.

46  
47 I personally am very interested in working with DPNR in the  
48 future, in any way, shape, or form that you guys would like to.



1 I will make sure that I give you all of my contact information,  
2 and we can definitely plan out something for the near or long  
3 term or whatever you would like.

4

5 **CARLOS FARCHETTE:** Marcos.

6

7 **MARCOS HANKE:** I want to put in perspective something that --  
8 Following up with the kindness and the clarity and how objective  
9 you are in your report about what was a misidentification. At  
10 the same time, there is no agency or body of law enforcement  
11 that does the effort that Coast Guard does on training the  
12 personnel to do the job correctly.

13

14 I am part of one of those efforts. Every year, we take fish to  
15 the station for them to identify, and I invite all the fishermen  
16 to be engaged in that matter, as requested by DPNR or anybody  
17 else, because it's going to be beneficial to all of us, and  
18 thank you.

19

20 **CARLOS FARCHETTE:** On the same subject about what the  
21 Commissioner was talking about, I do know, about maybe a year-  
22 and-a-half ago, I do know that some DPNR officers were onboard  
23 your cutter for joint missions.

24

25 However, since your cutters are based in San Juan, it's a lot  
26 easier for the DNER people to work, and, in our case, it would  
27 incur some overtime, which is a little difficult right now, and  
28 I'm not sure how we can resolve that, but I do know that, when I  
29 was in enforcement and I wanted to go on a cutter, they said,  
30 well, you can come with us, but we don't know when we're coming  
31 back, and I wanted to come back that afternoon.

32

33 Sometimes they go out for a few days, and that takes a toll on  
34 funding, but, since you were talking about regular  
35 opportunities, here's an opportunity that I need help with. We  
36 have a closed area south of St. Croix that got hit hard the last  
37 full moon, and so, if your cutter is in the area anywhere  
38 between now and the June full moon, if you can hit that mutton  
39 snapper closed area south of St. Croix, and, if they're in the  
40 area, they can check, and it's easy. It's almost like a city  
41 out there when they hit the place, with all the lights. Thank  
42 you for all the cooperation that you do and work with the whole  
43 U.S. Caribbean region. Damaris.

44

45 **DAMARIS DELGADO:** Thank you. I also want to congratulate you  
46 for your commitment with our area and your help with the  
47 Rangers. I really appreciate it, and we look forward to  
48 continuing working with you on enforcement issues in Puerto

1 Rico.

2  
3 I also wanted to take the advantage of this moment to share with  
4 you a worry or a concern that I have, and maybe also with Iris,  
5 with regards to extraction, excessive extraction, of sea  
6 cucumbers and sea urchins in Puerto Rico, especially in the  
7 southwest of Puerto Rico and in the south of Puerto Rico, around  
8 the Jobos Bay area and Salinas.

9  
10 We have had this issue, and it's happening in a very  
11 unsustainable way. People are taking just piles of these  
12 organisms, and it's unlawful. It's against our state law, and I  
13 know it's also a policy within the council, and so I urge your  
14 support. I know this is an international issue, because we are  
15 talking about Chinese people, mainly, and maybe other people  
16 that are being contracted by Chinese people to take those  
17 organisms out of the sea.

18  
19 If you have any idea on how to intervene with these people or if  
20 there is any way to get contact with the Chinese government  
21 about this, I would really like to hear about it.

22

23 **CARLOS FARCHETTE:** Tony.

24

25 **TONY IAROCCHI:** Thank you. To that point, my last trip to  
26 Nicaragua, along the Atlantic coast of Nicaragua, with the  
27 islands in the Keys there, there is Chinese buyers up and down  
28 that coast doing the same thing, and they are harvesting the sea  
29 cucumbers unsustainably, from the small ones to the big ones.  
30 They don't have a size limit, and so they don't have any concept  
31 of if there is going to be any kind of reproduction or anything  
32 like that, and so there are some people there, and I'll see if  
33 we can get some contact and some people dealing with that  
34 throughout the Caribbean.

35

36 **DAMARIS DELGADO:** Thank you.

37

38 **CARLOS FARCHETTE:** Any more questions for the Coast Guard?  
39 Thank you. I have the 1991 DNER/NMFS Memorandum of  
40 Understanding and the Coast Guard.

41

42 **JEREMY MATOS:** I will take the lead on this. This was not a  
43 surprise, but it took a little bit of homework. We were able to  
44 locate the actual MOU prior to -- I think I distributed it  
45 around a little bit yesterday, and I'm not sure who has it right  
46 now, but I know, at least Coast Guard-wise, the language that's  
47 in there basically lays out between the U.S. Coast Guard and the  
48 DNER our joint patrols and gives us permission to be doing that,

1 and we obviously have been doing that, and we look to continue  
2 to conduct those types of activities, and we have no interest in  
3 really changing any of the verbiage or any of the wording inside  
4 of the MOU at this time.

5

6 **CARLOS FARCHETTE:** Okay.

7

8 **MIGUEL ROLON:** Damaris, the perspective from DNR is to continue  
9 this with you, and, before you say anything, one of the  
10 important things about these MOUs is that not only the local  
11 government agents can patrol the waters onboard the Coast Guard  
12 and can get training. We have sent people to the Coast Guard,  
13 and the Coast Guard also has a once a year or every three years  
14 training, and they have special workshops addressing topics on,  
15 for example, boarding.

16

17 By the way, the fishermen believe that the Coast Guard are  
18 gentlemen and ladies when they board people. They know what  
19 they are doing, but other people are not as gentle, and so  
20 sometimes they don't know how to board the fishermen, and they  
21 always complain about it.

22

23 The other thing is, and this is a byproduct of this, but you may  
24 be able to get funding secured for the DNR to assist in any  
25 endeavor that is related to these MOUs. The MOUs include  
26 National Marine Fisheries Service, the Coast Guard, and the  
27 local government.

28

29 In the past, National Marine Fisheries Service has advised -- I  
30 was at the meeting at that time with the Secretary and the Coast  
31 Guard, and they were able to discuss the benefits of having  
32 these memorandums of understanding, but, at this time, number  
33 one, we need to know whether you would like to continue it.

34

35 The Coast Guard now, under the Homeland Security and  
36 Transportation, they have new rules and regulations, and we want  
37 to make sure that they are able to continue these type of  
38 arrangements. Indefinitely is not a word that we would like to  
39 use, and so the local government has to contact the Coast Guard,  
40 and that goes for the U.S. Virgin Islands as well as Puerto  
41 Rico.

42

43 In the case of the National Marine Fisheries Service, Lynn Rios  
44 informed us that they are part of this, and, as a matter of a  
45 fact, through Lynn, we have been able to identify species of  
46 fish that have been involved in cases with the Coast Guard.  
47 Actually, they used to call me when they had problems, and  
48 sometimes -- The Commissioner was talking about human error, and

1 these fellows, these Coast Guard guys, they come all the way  
2 from New England to the Gulf with thick manuals of fish and  
3 different regulations.

4  
5 In one case, the Coast Guard cutter stopped a poor fellow out of  
6 Vieques and gave him a ticket for fishing strawberry grouper,  
7 and we don't have strawberry grouper here. It was red hind, and  
8 so the guys had my number, and they called me, and I called  
9 their lieutenant at the Coast Guard, and we set a meeting with  
10 the Coast Guard in San Juan and the local government, and we  
11 were able to clear that up.

12  
13 Then the Coast Guard, at that time, and they don't still have  
14 it, but I remember you had a form, and, when a mistake was made  
15 and the fishermen were intervened, they had another one that  
16 this is not an intervention, and you can show that for the next  
17 time that you are stopped, and is that still one of the tools  
18 that you use?

19  
20 **JEREMY MATOS:** As far as issuing the 4100F form? Absolutely.  
21 In fact, that's what I was given for the two boardings that were  
22 discussed earlier, is the two 4100F forms that note the date and  
23 time and location and who was boarded, and there is even an  
24 option on there for no violations, and so, if there is no  
25 violations issued, that is what is circled, and that document is  
26 what we present to the operator of the vessel.

27  
28 Then that also -- I don't want to call it a get-out-of-jail-free  
29 card, but if they're then approached by the Coast Guard the next  
30 day and they say, hey, when was the last time you were boarded,  
31 and you say yesterday and hold up that form, and that's our  
32 proof that we conducted that boarding.

33  
34 **MIGUEL ROLON:** That was a recommendation in the 1980s and the  
35 1990s for the two local governments, and I don't know, Damaris,  
36 but there is still time for them to review that part or revisit  
37 it, because the complaints we have, and we have one specific  
38 workshop with the fishers and the Coast Guard and everybody has  
39 to do something with enforcement, and they were asking that the  
40 Vigilantes adopt the form that the Coast Guard has so they don't  
41 have to -- For example, a fisherman can be intervened three  
42 times a day, by three different agencies, Customs, the Coast  
43 Guard, and the Vigilantes. Sometimes it's two times a day by  
44 the same Vigilante guy.

45  
46 Anyway, that's enough to say, but it's an opportunity to  
47 harmonize the way that we enforce fishery laws and regulations  
48 in at least the U.S. Caribbean.

1  
2 **CARLOS FARCHETTE:** Velazquez.  
3  
4 **CARLOS VELAZQUEZ:** That's a very good point, Miguel, for the  
5 consideration of the training of the Coast Guard for the  
6 Vigilantes or Rangers and DNER in Puerto Rico. The Rangers need  
7 the training from the Coast Guard for the boarding boats.  
8 That's a very good point. Do I get a motion for this or no?  
9  
10 **MIGUEL ROLON:** No, you don't mess with the Coast Guard. The  
11 Coast Guard has a program by which they outreach and educate the  
12 agencies and the people and everything, and the point is that  
13 Damaris has taken note, because DNR is planning to do the same  
14 and follow suit. Actually, it's a manual that we pay for, and  
15 the National Marine Fisheries Service puts it together, Lisa  
16 Caruba, and there was an interagency collaboration, including  
17 the Coast Guard, and the boarding agents had that manual.  
18  
19 The manual mostly identifies that -- You've got two sections.  
20 One is boarding protocol and identification of species under  
21 management, and especially we have species that look similar,  
22 but they are different, at the same time, and that was --  
23 According to the enforcement agents who participated, they  
24 thought it was a good product that came out of that meeting.  
25  
26 Remember, we have, from Puerto Rico, the regular patrols of the  
27 unit of the Vigilantes, the Coast Guard, and the National Marine  
28 Fisheries, although the National Marine Fisheries Service  
29 doesn't have a boat here, and Lynn Rios don't have enough faith  
30 to walk on water, but he does participate with the Vigilantes in  
31 every at-sea operation that they have and with the Coast Guard.  
32  
33 **JEREMY MATOS:** I do have two points, and I was just reminded of  
34 one. Thank you very much, Amy. She, kind of as a follow-up a  
35 little bit, her training teams will be down into San Juan, I  
36 believe, this coming summer, in order to conduct training. This  
37 will be a good point that -- We'll be there primarily to conduct  
38 the training for our own law enforcement teams, but that might  
39 be a good opportunity to do some of our interagency work, in  
40 order to do some joint training together.  
41  
42 Maybe, in concert with that training, maybe we just kind of  
43 piggyback onto the end of it, or at the beginning of it, and  
44 then one other point that I wanted to bring up, and I know it  
45 was brought up earlier, about the lack of Coast Guard  
46 participation at the MREP, at the most recent MREP, out in  
47 Puerto Rico.  
48

1 I asked around today, via email, to try and find out where the  
2 communication disconnect was, in order to figure out why we  
3 didn't participate, and, again, just to be absolutely clear,  
4 that was something I would like to apologize for, that we were  
5 not there to be part of that law enforcement panel, and I can't  
6 outwardly pledge, because of things like the continuing  
7 resolution coming to an end on April 28 and unknowns, as far as  
8 how that's going to affect us if something doesn't get passed,  
9 but I would like to say that we will make all efforts.

10  
11 By we, I mean that I will make all efforts to ensure and  
12 maximize Coast Guard participation in all future endeavors, like  
13 MREP and anything else that there is Coast Guard participation  
14 needed for.

15  
16 If anybody has any ideas where the Coast Guard might be  
17 beneficial or needed or you just want my contact information,  
18 because, for some weird reason, you want my contact information,  
19 please see me after the meeting is over with. I've got enough  
20 cards that don't say anything important on it besides my email  
21 address and my phone number, and I would be happy to talk to  
22 anybody about anything that the Coast Guard can do to assist.

23  
24 **CARLOS FARCHETTE:** Damaris.

25  
26 **DAMARIS DELGADO:** Thank you very much. I definitely would like  
27 to continue our working relationship in helping each other, our  
28 collaboration. I was talking to Matos before that we finished  
29 an evaluation, an external evaluation, of our Rangers, as part  
30 of our efforts to improve their efficiency and effectiveness,  
31 and, also, we are almost done with a strategic plan that has  
32 that same goal, to improve their work.

33  
34 The need to support and strengthen the enforcement actions from  
35 our Rangers is documented, well documented, and different  
36 efforts like the strategic plan for coral reefs in Puerto Rico  
37 and the capacity assessment of coral reefs in Puerto Rico, and  
38 so, everywhere, you see that there is a gap of actions that we  
39 really would like to see in the Rangers of DNER.

40  
41 In that line, I already talked to Matos, and I will be sending  
42 him both documents, the evaluation, the external evaluation, on  
43 the Rangers that has several recommendations of actions,  
44 including mainly starting by training, and also the strategic  
45 plan has the same recommendations of training, among other  
46 things, and we are going to be starting on boarding protocols  
47 and identification of species.

48

1 Those are the priorities already identified by our agency, and  
2 hopefully that will be happening before September of this year,  
3 and so I hope that we could continue collaborating and  
4 coordinating, so the Coast Guard could be part of our resources  
5 that will train our Rangers in those two subjects in particular,  
6 and so definitely I will let you know of our advancements, but,  
7 if anybody else is interested in these documents, I will gladly  
8 share them with you.

9  
10 As I said, the evaluation is already done, like a year ago, and  
11 the strategic plan is being refined at this moment. We probably  
12 will have the final, final document by next week, and so you  
13 will see several actions that we need and that we are going to  
14 be pursuing in the next years, coming years, and you are all  
15 welcome to help us out to achieve the goals and milestones that  
16 are set in that document, and I definitely look forward to  
17 having the Coast Guard onboard in those efforts. Thanks.

18  
19 **CARLOS FARCHETTE:** Thank you. Thank you, Coast Guard. Okay.  
20 NOAA/NMFS, I believe that Enforcement is not here this time.  
21 Okay. That brings us to Meetings Attended by Council, and we  
22 don't have anything going on. Then we will do the five-minute  
23 public comment period. Tony.

24  
25 **PUBLIC COMMENT PERIOD**

26  
27 **TONY IAROCCI:** Real quick, Mr. Chairman. I would be remiss not  
28 to acknowledge that Tom Daley is here, one of my first mentors  
29 when I came to the Caribbean, and we have been talking about  
30 especially the plan today about the cooperative research with  
31 spiny lobster.

32  
33 Tom has been one, since day one, talking about Lang Bank and the  
34 closed areas, and hopefully some day we can do some kind of  
35 cooperative research with the fishermen, who have the knowledge  
36 and the know-how and the gear to do some kind of studies on a  
37 few of these closed areas, whether it be here in St. Croix or  
38 Puerto Rico or St. Thomas or wherever. Thank you. Hopefully we  
39 can consider that.

40  
41 **CARLOS FARCHETTE:** Well, on the subject of closed areas, I would  
42 like to see something be done about lionfish in those closed  
43 areas, because, if there is no take and no fishing, those  
44 lionfish are just having a grand time. Next on the agenda is  
45 Appointments to the SSC and the DAPs. We have one more comment,  
46 sorry.

47  
48 **TOM DALEY:** I'm Tom Daley, and most of you know me as a

1 fisherman, and I think most of you have known me for all these  
2 years, and so no stranger. Just briefly as I could make it,  
3 lionfish and fishermen both bite into the aggregate. The only  
4 difference is that the fishermen waits until the fish grows and  
5 then he takes. That is regulated, and can be regulated, because  
6 that's the reason why we are here.

7  
8 The lionfish takes out of the aggregate before they grow up, and  
9 that cannot be regulated, and I am saying here that it's very,  
10 very, very important that we do something about the Lang Bank  
11 area. By closing that area, knowing that it's the most  
12 important area of fishery that you could check on our charts, it  
13 tells you that -- It breaks in bad weather, and you could check  
14 the charts on that, but, not only that, all the fishermen now in  
15 the available area are fishing together.

16  
17 You have divers and trap fishermen and line fishermen and all.  
18 If a diver goes down and meets fish, whatever they are looking  
19 for, into a trap, they are not going to leave it, and so that is  
20 a big problem.

21  
22 The other problem is because of the shelf. St. Croix is a sea  
23 mountain, and it comes up to about thirty-five feet of water.  
24 In the daylight, now that the sun is hot, it takes the heat in.  
25 At night, it lets it out, and so, at night, the water becomes  
26 warm. The fish on the shelf does not stay there, because the  
27 water is too warm. It goes to the edge, and we have a history  
28 of it. You know why the parrotfish and the gillnetters were so  
29 successful. They take the path and it goes.

30  
31 I am saying here that it's about time, with ACLs and everything  
32 in place, it's about time that we look at the closed areas. The  
33 amount of closed areas that we have around St. Croix, three  
34 miles from the Coast Guard, and we have seventeen miles of reef  
35 protected with the marine park, and we have Salt River, and we  
36 have that big monument, the federal monument, off of Buck  
37 Island. It's really too much. Everything is in place now to  
38 have Lang Bank be open to fishing, and I am hoping that the  
39 council will look at it that way.

40  
41 **CARLOS FARCHETTE:** Thank you, Daley. Graciela, you have a  
42 couple of presentations by Pollock?

43  
44 **GRACIELA GARCIA-MOLINER:** Yes, and, in fact, I am glad that Tom  
45 was just talking about that, because --

46  
47 **CARLOS FARCHETTE:** Before we do that, we're going to do the  
48 appointments.



1  
2 **SSC AND DAP APPOINTMENTS**  
3

4 **DIANA MARTINO:** The council held a closed session to revise the  
5 memberships of the panels, and they decided to reappoint  
6 Churchill Grimes to the SSC. For the SSC, to reappoint  
7 Churchill Grimes for two more years, and we need a motion.

8  
9 **MARCOS HANKE:** So moved.

10  
11 **CARLOS FARCHETTE:** I am looking for a second.

12  
13 **CARLOS VELAZQUEZ:** Second.

14  
15 **CARLOS FARCHETTE:** All in favor, say aye; any nays; any  
16 abstentions. We have two abstentions. The motion carries.

17  
18 **DIANA MARTINO:** To reappoint Vilmarie Roman and Elliette  
19 Hernandez to the O&E AP.

20  
21 **MARCOS HANKE:** So moved.

22  
23 **CARLOS FARCHETTE:** I am looking for a second.

24  
25 **CARLOS VELAZQUEZ:** Second.

26  
27 **CARLOS FARCHETTE:** All in favor, say aye; any abstentions, one;  
28 any nays. Hearing none, the motion carries.

29  
30 **DIANA MARTINO:** To appoint Raimundo Espinoza from Conservación  
31 ConCiencia to the DAP of Puerto Rico. He will replace TNC, who  
32 has not been attending the last three meetings of the DAP.

33  
34 **CARLOS VELAZQUEZ:** I move.

35  
36 **TONY BLANCHARD:** Second.

37  
38 **CARLOS FARCHETTE:** Any abstentions, one; any nays; all in favor.  
39 With one abstention, the motion carries.

40  
41 **DIANA MARTINO:** Okay. To remove Raymond Campbell and Stewart  
42 Loveland from the St. Thomas DAP and appoint Lee Steiner and  
43 Colin Butler to fill these two vacancies.

44  
45 **MARCOS HANKE:** So moved.

46  
47 **TONY BLANCHARD:** Second.

48

1 **CARLOS FARCHETTE:** All in favor, say aye; any abstentions, one;  
2 any nays. Hearing none, the motion carries.

3  
4 **DIANA MARTINO:** To remove Luis Viera and Larry Angus from the  
5 DAP of St. Croix and appoint Aaron Abel and Marcia Taylor to  
6 fill those two vacancies.

7  
8 **MARCOS HANKE:** So moved.

9  
10 **TONY BLANCHARD:** Second.

11  
12 **CARLOS FARCHETTE:** All in favor say aye; any nays; any  
13 abstentions, one. The motion carries.

14  
15 **DIANA MARTINO:** The last thing, that I don't think needs a  
16 motion, is that John Hoenig will be contacted to see if he would  
17 like to keep his membership on the SSC and if he will be able to  
18 attend meetings. Also, the other thing is that Ruth will be  
19 providing names for the O&E AP fishers for the next meeting.

20  
21 **MIGUEL ROLON:** For the record, the O&E AP needs two fishers, one  
22 from St. Croix and one from St. Thomas. Yesterday, Ruth offered  
23 to search the group of fishers of these two islands, and she  
24 will send us the candidates for the membership. Then, at the  
25 August meeting, the council can go over it and decide to appoint  
26 them.

27  
28 It's important to have, and we have one from Puerto Rico, the  
29 fishers at the Outreach and Education AP, because, many times,  
30 we have ideas of how to reach the fishers and we are wrong, and  
31 so Ruth will do that for us at the August meeting.

32  
33 **CARLOS FARCHETTE:** Now Graciela.

34  
35 **OTHER BUSINESS**

36  
37 **GRACIELA GARCIA-MOLINER:** As Tom was mentioning, we need to look  
38 and assess the many reserved areas that we have in the U.S.  
39 Caribbean, and there was a workshop of telemetry and fish  
40 movement in Florida, and Clayton Pollock from the National Park  
41 Service was at the meeting.

42  
43 He's going to present to us the work that is being done  
44 collaboratively in St. Croix, including the Buck Island, the  
45 East End Marine Park, and the Lang Bank. He also has  
46 information on other areas, but that is what he will be focusing  
47 on at this time.

48



1 To do that, we started off with this tool, acoustic telemetry,  
2 and, as Rick mentioned before, the idea of the concept behind  
3 acoustic telemetry is that you have these small tags that you  
4 either surgically implant in the animals or you affix to their  
5 carapace or shell. Then you have a group of receivers that are  
6 around that listen for those unique code frequencies that each  
7 tag has.

8  
9 When that tag comes within a certain distance away from that  
10 receiver, it records that information and gives it a time stamp,  
11 and so that was the method that we were using as a complement to  
12 some of the other traditional methods, and so we started off in  
13 September of 2011 with four of these receivers. Through  
14 collaboration, we now have well over 150 around St. Croix.

15  
16 The bulk of them are in the monument, but there is also  
17 receivers that are in the East End Marine Park, the Teague Bay  
18 area, and there is others that are out at Lang Bank and Salt  
19 River, as well as the mutton snapper aggregation to the  
20 southwest.

21  
22 It's a big effort to maintain this array, and so I just wanted  
23 to touch on that. We do a bi-annual download and maintenance  
24 regime, to make sure that the equipment is functioning. We  
25 change out batteries and make sure that there's not too much  
26 growth on the receivers.

27  
28 We've got a big database that I will sort of touch on here that  
29 tracks receiver history and maintenance schedules and where the  
30 receiver is and the kind of habitat that it's in and those sort  
31 of things. There is a lot of data. We have over fifty-million  
32 lines of detection.

33  
34 Some of those are from sentinel tags or these range-testing  
35 tags, and so part of what we do is we go out and determine how  
36 far around that receiver station that we're able to pick up  
37 detections, and that does fluctuate, depending on environmental  
38 parameters, like turbidity and currents and things like that,  
39 and so that will change from time to time, but we're trying to  
40 get a good idea of exactly how far around that station that  
41 we're able to pick up detections.

42  
43 In terms of the data management, we're also working in  
44 conjunction with other networks, and so there's a variety of  
45 acoustic telemetry networks in the area, and so there's a couple  
46 of big ones stateside that are near to us or that we may see  
47 animals move up into. The big one is called the FACT Network,  
48 and there's also iTag, and they are mostly in the Gulf, and

1 there is some up in the New England area called the ATN, and so  
2 there's a variety of these networks.

3  
4 What we would like to see is some continuity across the data  
5 collection and data management, and so we're working in  
6 conjunction with several of these networks to pool data. If,  
7 for instance, your tag -- Say we tag a shark or something that  
8 was over at Lang Bank and it shows up in Florida, we're all  
9 sharing data collectively to make those connections, and so  
10 that's the idea of working outside of our local partnerships.

11  
12 We've got a great number of transmitters that have been deployed  
13 on animals, and this is just a brief overview of those  
14 transmitters. A number of them are still active. This has been  
15 an ongoing study, and so some of the tags, which are smaller,  
16 are only good for maybe a year, and some of the larger tags can  
17 be good for up to ten years, depending on how you set the  
18 frequency of the ping, as Rick was talking about earlier.

19  
20 This is just a breakdown of the different species that we have  
21 tagged. This project also is a platform for other interesting  
22 research and things that the park is tasked with gathering  
23 information on, and so what you see up in the upper-left-hand  
24 corner is an acoustic hydrophone that is capable of recording  
25 whales, and so we're monitoring for those animals.

26  
27 We will be doing the first download of that instrument this May,  
28 and so we really have no idea. We have observations and  
29 sightings of whales around St. Croix, and we're hoping to be  
30 able to record them and pick up the timing and duration that  
31 these animals spend around St. Croix, and so that's pretty  
32 interesting.

33  
34 The other things that we kind of want to touch on and do a  
35 better job of, with the array, is monitoring some of the  
36 oceanographic variables and some of the abiotic stuff, and so we  
37 kind of have an idea of where animals are going and when they do  
38 that, but we don't really understand why, and so is it related  
39 to temperature or is it related to -- I think somebody touched  
40 on Ridge to Reef, and so, if there is these large plumes that  
41 come down after a big rain, does that displace animals? Is that  
42 why we're seeing some of these movements? We're trying to tie  
43 in together some of the physical and abiotic sort of  
44 environmental factors with the movements, and so we're doing  
45 that.

46  
47 Then we also have a new technology that we're trying to utilize,  
48 which is called a transceiver, and that's an instrument that you

1 could place on a larger animal, like a shark or maybe a sea  
2 turtle, and the transceiver acts as both the tag and the  
3 receiver, and so they would almost act, in some ways, as a  
4 roving receiver, and so, if you want some more information about  
5 that, I can go into detail about that, but, anyway, I just  
6 wanted to sort of touch on the opportunities that arise from  
7 this project.

8  
9 I talked a little bit about range testing, and so this is what a  
10 range testing map might look like. The cooler colors, the green  
11 colors, are areas, receivers, that have a larger detection  
12 range, and the red colors are areas where we have a low-  
13 detection range, and you can see that not all spaces or  
14 locations are equal, and that has a lot to do with rugosity, and  
15 so the structure of the reef.

16  
17 These receivers have a difficult time detecting things behind  
18 walls and reefs and things like that, and so we take steps to  
19 try and orient them. I think Rick was talking about placing the  
20 receiver, for instance, on the edge of the bank, so that it was  
21 able to detect things below, and so we kind of play around with  
22 the orientation and the location of these instruments, to try  
23 and get the most coverage we can.

24  
25 I am going to try and just use a couple of examples to highlight  
26 some of the results. A lot of the collaborators are working on  
27 the datasets. Like I mentioned, it's a very large dataset, and  
28 there is lots of different analyses that are being done, and so  
29 the example here is you have -- These receivers on the left-hand  
30 side are oriented so that the receivers at the bottom are  
31 located within the monument, and the receivers up towards the  
32 top are outside the monument, out at Lang Bank.

33  
34 Queen triggers, we are noticing a pattern, that they are  
35 occupying, or spending a bunch of their time within the park,  
36 and then they're making spawning migrations, we think, we  
37 assume, out to Lang Bank, around the full moon. They are  
38 spending four to eight days out at Lang Bank, and then they're  
39 making trips back into the monument, and so it's a demonstrated  
40 connectivity between those two closures and areas, and so we're  
41 excited about that.

42  
43 Another way that some of the researchers are looking at the data  
44 is this analysis called a network analysis, and so each of these  
45 receiver stations are considered a data node, and the network  
46 analysis shows how strong the connections are between those data  
47 nodes, and it highlights the importance of certain receiver  
48 stations or areas over others, and so this is for a couple of

1 examples of sharks that we have.

2  
3 This one on the top-left corner is an example of a tiger shark  
4 that was tagged, and you can sort of tell that that animal goes  
5 everywhere. It's on all the receivers, from eight feet of water  
6 out to some of the receivers that we have at 130 feet.

7  
8 I should point out that these locations out here represent the  
9 receivers at Lang Bank, and this cluster around here would be  
10 the receivers within the monument, and so you can tell that this  
11 animal is making trips out to Lang Bank, and we have to do some  
12 more research to see if it's correlated between the spawning  
13 aggregation times that we might see with the other species, if  
14 they're going out there around the time when red hind are out  
15 there or the queen triggers are out there.

16  
17 This is for -- This is one of our nurse sharks, I believe, and  
18 we have a lemon shark down here, and so some of the movements  
19 are a little bit different, and then this is a Caribbean reef  
20 shark, which does not seem to make a trip out to Lang Bank, and  
21 so there's a lot of different things going on.

22  
23 I touched on one of the objectives earlier of connectivity, and  
24 I think we talked about it a little bit earlier. We have seen  
25 some connection between the mutton snapper aggregation and Buck  
26 Island, and so that was really exciting for us. It didn't  
27 appear like that was a predation event, as Rick sort of talked  
28 about.

29  
30 We have also been seeing the connections between Lang Bank and  
31 Buck Island, as I talked about before, with a variety of  
32 species, like yellowtail snapper, and some of the turtles go  
33 back and forth. Horse-eye jacks and other species are going out  
34 there as well.

35  
36 I think this was just another map that we were using to kind of  
37 talk about connectivity. There are plans to do some work in  
38 Salt River, and so we're hoping to see some additional  
39 connections.

40  
41 One of the kind of interesting connections is between Buck  
42 Island and Teague Bay, the East End Marine Park. We have  
43 actually seen some conch that are traveling south and east, and  
44 some of the smaller juveniles are making their way to the  
45 northwest, and so, when I think of conch, I don't think of them  
46 -- Maybe others don't think of them moving around that much, but  
47 they're actually moving around more than we anticipated, and so  
48 it's been pretty interesting.

1  
2 This slide shows some of the other acoustic arrays that are  
3 present in the USVI and Puerto Rico, and we just wanted to  
4 highlight that. For the group in Florida, they're talking about  
5 sustaining this effort, and they wanted to know where they could  
6 maybe allocate some of their resources and time, and so wanted  
7 to make them aware of all the research and all the great work  
8 that's going on down here and talk about the network.

9  
10 We haven't seen a lot of connection between St. Croix and St.  
11 Thomas. St. Croix seems to be an island with a small shelf, and  
12 things seem restricted to that shelf edge, other than some of  
13 the large species that we've tagged, and so some of the sharks,  
14 and we've been tagging sea turtles with satellite tags, and  
15 those animals travel throughout the Caribbean.

16  
17 Some of the sea turtles are down in Nicaragua and Belize, and  
18 they've gone up to the Bahamas. Others are over in St. Kitts  
19 and Nevis, and some of them stick around. They wind up over in  
20 Puerto Rico, and they don't go that far. They're on the south  
21 side of the island and that sort of thing. Anyway, this slide  
22 was just to sort of comment on the capacity that we have down  
23 here and to highlight some of the arrays that are up.

24  
25 They asked us, at this meeting, to talk about what we would  
26 want, or what we might envision, if money was no object, which  
27 wasn't a realistic kind of question these days, but they were  
28 sort of asking us where we might go and take this, and one of  
29 the ideas, and I wish Rick was here to talk about it a little  
30 bit more, but it was to kind of get a larger array in some of  
31 these key areas where we have the spawning aggregation sites and  
32 really start to use the Puerto Rican shelf as a case study and  
33 do some more work up there. Anyway, that's what this slide was  
34 for.

35  
36 That was the end of the presentation, and so thank you. I've  
37 got slides that show where the location of the receivers are in  
38 more detail, if you're interested in that, and, if you're  
39 interested in some of the people, some of the collaborators,  
40 that we're working with, I've got a few slides on them as well,  
41 and so I'm happy to open it up for questions now at this point.

42  
43 **CARLOS FARCHETTE:** Miguel.

44  
45 **MIGUEL ROLON:** Do you have a webpage that we can link to our  
46 webpage that people can see the results of these studies or you,  
47 for example, can look at the movements of these different  
48 animals in and out of parks, et cetera?



1  
2 **CLAYTON POLLOCK:** Great question. That is actually one of the  
3 areas where we're lacking, and we do not have a website  
4 dedicated to this project. It's something that we need to do.  
5 We need to do a better job of letting the public know about this  
6 project and where the animals are moving. It doesn't really  
7 help anybody out to have it on a shelf somewhere.

8  
9 That is something that is in the works. Like I mentioned, a lot  
10 of analysis is still ongoing, and I think one of the products  
11 will be some sort of outreach and education. If that turns into  
12 a website, I don't know, but the Parks Service is -- We do have  
13 limitations. Like some of the other larger parks, stateside, do  
14 have the capacity to have a webpage that they have someone who  
15 is dedicated to that sort of thing, and we just don't have that  
16 right now.

17  
18 **CARLOS FARCHETTE:** Marcos and then Blanchard.

19  
20 **MARCOS HANKE:** Right now, we are visiting, through the HMS AP,  
21 the permit for the Caribbean Small Boat Permit, and my duty,  
22 part of it, as a member is to collect the shark data for the  
23 U.S. Caribbean area, and you guys have very valuable data for  
24 this effort, and I need from you guys, and I'm going to do it on  
25 the record, and, later, we can get together and see which way we  
26 can transfer this information to the HMS office, which is the  
27 list of species that you guys tagged or record or confirm the  
28 presence on those sites.

29  
30 **CLAYTON POLLOCK:** Sure.

31  
32 **MARCOS HANKE:** Also, the movement of each species that you are  
33 already presenting there in regard to the area, and not just the  
34 monument, but the animal and where he went and how far and so  
35 on, how resident they are, and this is very valuable right now,  
36 and let's talk later.

37  
38 **CLAYTON POLLOCK:** Sure, and so I can certainly help you out with  
39 the species list and animals that we have encountered. That is  
40 simple enough. Then, in terms of the movement data, the way  
41 that this project was formed is through the collaborations, and  
42 each partner are responsible for, to some degree, the analysis  
43 of the shark data, and so what I could do is offer up the  
44 contact information and try and facilitate that discussion about  
45 where they go and how far and that sort of thing, but I  
46 personally wouldn't be able to give you that, but we can link  
47 up, yes.

48

1 **CARLOS FARCHETTE:** Blanchard and then Schuster.  
2  
3 **TONY BLANCHARD:** I've got a question on the previous slide where  
4 you just had it. The first picture to the top there with the  
5 grouper, where was the picture taken?  
6  
7 **CLAYTON POLLOCK:** I think that's actually from the Pacific, and  
8 so Rick is fortunate enough to be able to do work in a variety  
9 of places, and I think that might be from the Pacific. That's  
10 actually just a stock photo that I took from his webpage at UVI,  
11 and so I don't believe that represents a location here.  
12  
13 **TONY BLANCHARD:** Okay.  
14  
15 **CARLOS FARCHETTE:** Schuster.  
16  
17 **EDWARD SCHUSTER:** You say that you're a biologist and you work  
18 for the Parks Service?  
19  
20 **CLAYTON POLLOCK:** Yes, the National Park Service.  
21  
22 **EDWARD SCHUSTER:** Okay. Within this grant, was it a grant that  
23 you did this study for?  
24  
25 **CLAYTON POLLOCK:** We applied for project funds internally, and  
26 it was awarded. It was a funded project, a three-year project,  
27 from 2014 through 2016.  
28  
29 **EDWARD SCHUSTER:** So whose idea -- Who was the leader in picking  
30 the species within the Buck Island Monument?  
31  
32 **CLAYTON POLLOCK:** Great question. It's been a pretty organic  
33 and ongoing process. Some of the people that were involved with  
34 the decision came from the Parks Service, and some of them were  
35 from the collaborators and who were available, and so some of  
36 the goals of the park are a little bit different than maybe some  
37 of the stock assessments.  
38  
39 The park was interested in sea turtles and those species, and  
40 sharks, because we had a relationship with Greg, and some of the  
41 reef fish species were various other collaborative groups that  
42 came in, and the idea was to sort of get a bunch of information  
43 about the ecosystem, the sort of fish community within the park,  
44 but, in terms of like who was the grand master that said we were  
45 going to tag parrotfish and barracuda over some other species,  
46 there wasn't really some master architect or anything like that.  
47 It was kind of based upon availability and what we could do and  
48 what was of interest to some of the researchers.

1  
2 **EDWARD SCHUSTER:** The reason I'm asking you these questions is  
3 leading up to a different set of questions.

4  
5 **CLAYTON POLLOCK:** Sure.

6  
7 **EDWARD SCHUSTER:** Although the species that you gave us  
8 information on in your presentation was well put together, as a  
9 member of the FAC and as a member of the DAP, we have ACLs and  
10 we have important species that are very important staple foods  
11 within our community, one being the parrotfish.

12  
13 The fishermen have taken a drastic cut on some of these staple  
14 foods because of their biological importance to the reef. As a  
15 member of the FAC, the Buck Island Monument has been implemented  
16 from 2000, and it's now seventeen years. It used to be a  
17 primary fishing ground for fishermen for traps and nets  
18 especially.

19  
20 Every time we ask a question from the Parks Service and other  
21 agencies within that circle, there is no fish. The population  
22 has never gone up. If you have a closed area for seventeen  
23 years and the population has not grown or filtered out to the  
24 outside of the park, something is wrong.

25  
26 They sent a bunch of kids down here from some Texas A&M school  
27 or something, and they never asked the questions of when the  
28 fish transit and whatever, and I would like to see some research  
29 done on things like surgeonfish, the parrotfish, that were  
30 removed in large schools from these areas and nobody has been  
31 fishing in there now for seventeen years.

32  
33 You should have an average size of a redfin parrotfish weighing  
34 five pounds or more, and, I mean, they have a life cycle, but  
35 it's just amazing that you picked conch and you picked sharks  
36 and you picked turtles, although, like I said, they are  
37 important to our ecosystem, but some of the information, and it  
38 seems like it's top-secret research within the National Park  
39 that you can never get any information, nothing at all.

40  
41 I mean, the fish in there, the fishermen that fished those areas  
42 for years, know when the fish transit, and, if you send folks to  
43 do studies, it would be nice to have a fisherman, at least, with  
44 their knowledge or their experience of that area, so they can  
45 guide folks that are doing research within there, because, if  
46 you go a certain time in the day, the reef is going to be like  
47 it's deserted, but, if you go at a certain time within the  
48 evening, when the fish are using a bridge or a highway, like the

1 fishermen call it, you will see an abundance of fish.

2  
3 I mean, it's interesting to know that so much research is being  
4 done in close proximity to our island, and it has been expanding  
5 for 18,000 sea acres, and not even within any presentation, not  
6 only yours, but that I have seen within the Buck Island, there  
7 is no fishermen, not even offered to them as a guide.

8  
9 To go a little bit further, there is Todd Gedamke that did a  
10 study here in St. Croix, and we were treated like we were third-  
11 world citizens. We could not get a permit to drop a trap, not  
12 even to allow the fishermen to go in the park with a catch-and-  
13 release. We just wanted to do a fish count and throw the fish  
14 right back. It was a twenty-four-hour soak, and that  
15 information was public knowledge.

16  
17 To hear now that there is a presentation being made here and not  
18 even to have some sort of an input to say, well, would you guys  
19 mind doing a fish count or something on the parrotfish or the  
20 surgeonfish and those biologically-important species that the  
21 fishermen have taken a -- In your notes somewhere, I would like  
22 that you would at least jot it down, and, maybe the next  
23 allotment of money, if you get it, to do some sort of a study on  
24 the parrotfish, because we have heard some information here that  
25 the fish spawn, and that was from Rick Nemeth.

26  
27 We heard there is different schools that spawn every day, and  
28 some spawn every month, and some spawn every lunar cycle, and so  
29 that would be interesting to know. In 18,000 sea acres, what  
30 goes on in there with the parrotfish and the surgeonfish? Thank  
31 you.

32  
33 **CLAYTON POLLOCK:** Sure. Let me just start off by saying that I  
34 am actually really humbled to be here with you guys. You know  
35 far more about the fish and what they do than I do. Not that  
36 that's saying much. That's a pretty low bar for me, but there  
37 is a lot there that you touched on. I am trying to break it  
38 down a little bit.

39  
40 The idea that this study would be able to tell you all of that  
41 information -- This is only one part of the number of tools that  
42 we're trying to help use and tell that story about how effective  
43 the park is, and so there is the National Coral Reef Monitoring  
44 Program, and there is also the Territorial Coral Reef Monitoring  
45 Program that have sites that are inside and outside the park.

46  
47 Through that, they use visual census to try and gather that  
48 data. Now, it's not perfect. Like you said, there is certain

1 times when fish are moving along these bridges or seasonality to  
2 it, but that's the best way that -- That is currently what's in  
3 place, in terms of datasets that would help you look at  
4 abundance, and so you're talking about abundance inside and  
5 outside of the park.

6  
7 The other consideration that came in, and I can't go back now  
8 and try and change the species, but what I can say is there is  
9 only so much I can do. I just kind of got involved with this a  
10 couple of years ago, and some of this was already moving in a  
11 direction.

12  
13 I think there is a lot of opportunity to build better  
14 relationships with the community here and get more input, and so  
15 thank you for offering it. In terms of why those different  
16 species were tagged, some of it has to do with the size of the  
17 tags and things like that, and so you mentioned surgeonfish and  
18 things like that. Those would require a very small tag that  
19 have a very short life.

20  
21 You have to take into consideration the design of the array, and  
22 so, in doing some of that, those animals weren't prioritized.  
23 The people that were running it didn't prioritize it, but it's  
24 good to know that you're interested in that sort of thing, and,  
25 if we can keep the project going, that's a direction that we  
26 could certainly move in.

27  
28 **EDWARD SCHUSTER:** On another note, if you need any information  
29 about tagging lobster, you have some fishermen in here that are  
30 very experienced in tagging lobster and have been involved with  
31 the lobster tagging program that was done from St. Thomas by Dr.  
32 Olsen, and I still have the tags, some of the tags, that were  
33 left over and some of the guns. Yes, the lobster molts, but  
34 there is a place where you place the tag and the lobster molts  
35 and the tag still stays there.

36  
37 **CLAYTON POLLOCK:** Cool.

38  
39 **EDWARD SCHUSTER:** That information, we would share it with you  
40 guys, because it all has to do with the color of the tag. The  
41 lobster, when they congregate, they eat the tag, because of the  
42 color, and so we found that out through research, and so it's  
43 good to share your knowledge, but also to include us, because we  
44 have the knowledge also.

45  
46 **CLAYTON POLLOCK:** That's great. I would like to follow up with  
47 you on that. In terms of fishing in the park and whatnot, I  
48 think it was -- There was concern that there would appear to be

1 favoritism if only some people were allowed to fish in the park  
2 and help with the coloration and others weren't. I think it's a  
3 very delicate balance and fine line that the superintendent is  
4 walking.

5  
6 You probably know Joel, and he and his family have fished there,  
7 or maybe not, from your expression, and so some of this stuff is  
8 out of my hands. I am just trying to present on the study and  
9 whatnot, but I am happy to take input and whatnot and try and  
10 make it better.

11  
12 **MIGUEL ROLON:** Thank you for that presentation. I believe that  
13 we didn't ask you to come here to ambush you.

14  
15 **CLAYTON POLLOCK:** It's all right. It's actually a healthy  
16 discussion, and I don't mind it at all.

17  
18 **MIGUEL ROLON:** I believe that the people around here, and you  
19 can talk outside of this meeting, and we will also invite you to  
20 -- We will keep in contact with you through Graciela, and so, in  
21 the future, if we have something to share, we will invite you,  
22 and not at the end of the meeting, but at the beginning of the  
23 meeting, because this is one of the things that the fishermen  
24 really want to know, what is it that is happening with the  
25 fisheries and what is happening with the species that we have  
26 closed in these areas.

27  
28 **CARLOS FARCHETTE:** Real quick, Blanchard, because we have one  
29 more person, and time is running out.

30  
31 **TONY BLANCHARD:** I've just got one quick question, again. The  
32 same picture, where did you say this picture was taken?

33  
34 **CLAYTON POLLOCK:** I am not sure. I really don't know. The one  
35 with all of the grouper?

36  
37 **TONY BLANCHARD:** Yes. But it wasn't taken in the Pacific. They  
38 don't occur in the Pacific.

39  
40 **CLAYTON POLLOCK:** Sorry.

41  
42 **CARLOS FARCHETTE:** Okay. Thank you.

43  
44 **GRACIELA GARCIA-MOLINER:** We do have one more presentation, and  
45 so we have Daniel Wagner online. He is going to give a brief  
46 presentation on the Southeast Deep Coral Initiative. He is with  
47 the Southeast Deep Coral Initiative in Charleston, and so he is  
48 the Coordinator. Daniel, can you hear us?

1  
2 **DANIEL WAGNER:** Yes.

3  
4 **GRACIELA GARCIA-MOLINER:** Great. Okay.

5  
6 **SOUTHEAST DEEP CORAL INITIATIVE**

7  
8 **DANIEL WAGNER:** Thank you so much for giving me an invitation to  
9 present on a very exciting program that is just going to start.  
10 We're about a year from work to start in the Caribbean, but I  
11 just wanted to share some of this exciting research that's about  
12 to start.

13  
14 As Graciela mentioned, I am the Research Coordinator for the  
15 Southeast Deep Coral Initiative. This is a NOAA initiative that  
16 includes work by three line offices. This initiative is funded  
17 by the NOAA Deep-Sea Coral Research and Technology Program.  
18 That has been in existence for a little under ten years, and the  
19 purpose of this program is to support science that addresses  
20 fishing and other threats to deep-sea corals, and deep-sea  
21 corals are defined by the program as corals that are found below  
22 fifteen meters, and they azooxanthellate, and so they don't  
23 contain these photosynthetic algae that you find in shallow-  
24 water corals.

25  
26 In general, these corals are pretty slow-growing and long-lived.  
27 That picture there on the bottom right is a species that was  
28 actually taken in the Caribbean. Some individuals of that  
29 species have been dated to be over 1,000 years. On the other  
30 end of the spectrum, you have somewhat faster-growing species  
31 that are also deep-sea corals. That picture on top, that's a  
32 species that we have in the Gulf. That can grow up to several  
33 decades.

34  
35 In general, they are somewhat slow-growing and long-lived, and,  
36 as a result, there is some concern, if you were to impact these  
37 deep-sea corals, because it takes a long time for them to  
38 recover, and so this program basically tries to look at science  
39 that can help mitigate potential threats, and it does so by  
40 providing funding for studies and fieldwork initiatives.

41  
42 These fieldwork initiatives are three to four-year efforts that  
43 focus on particular regions, and they provide funding for  
44 research expeditions, and so on NOAA ships, as well as money for  
45 processing of data and samples.

46  
47 Since the program started in 2009, it has basically moved around  
48 to the entire country, starting in the Southeast U.S. in 2009

1 and then moving across multiple coasts. It was most recently in  
2 the U.S. Pacific Islands.

3  
4 This next fieldwork initiative, in 2016 to 2019, we're focusing  
5 on the larger Southeast U.S., and so that includes the entire  
6 U.S. South Atlantic Bight, from North Carolina to the Florida  
7 Straits, the Gulf of Mexico, and the U.S. Caribbean.

8  
9 This is a very large area. It's also very heterogeneous. It  
10 includes places like the Gulf, where we have extensive impacts  
11 on deep-sea corals, like trawling for shrimp and the oil and gas  
12 exploration. Then also places like your area, where we have  
13 much less impacts on deep-sea corals. We don't really know what  
14 the impacts are. The only potential impacts are from submarine  
15 cables, which are extensive in the area, and potentially from  
16 the deepwater snapper fishery, but we don't really understand  
17 these.

18  
19 In order to prioritize what we want to do with this initiative,  
20 we've actually been working, for the last couple of years, and  
21 we've had several workshops, where we have brought together  
22 experts to try to ask questions about what are the most  
23 important areas to be targeting to this research, what are the  
24 most important research questions, and we had several online  
25 surveys and phone interviews and a literature search. We've  
26 really tried to do an extensive review.

27  
28 We believe that we really need to focus on reviewing past  
29 research before we can start our collection of data, and that's  
30 what we're going to start on this year. We feel like that's not  
31 just the end. Unfortunately, like with a lot of research, it  
32 ends with collection of data. We feel that it's important to  
33 not just collect it, but also communicate it.

34  
35 This is a -- For our purpose, for this project, we want to make  
36 sure that all the data we collect is publicly available, and so,  
37 on the left top slide there, we have a cover of our science plan  
38 that has now just been published. That is, anyone can take a  
39 look at it. There's an open-book policy. It provides all of  
40 our projects and objectives.

41  
42 We also have cruise reports that are published of all of our  
43 research expeditions and then all the mapping data that will  
44 come out of this project is also housed in public repositories.  
45 Anyone can go ahead and download those. When we spot corals and  
46 sponges, that is uploaded also into another database, where  
47 anyone can go ahead and download those.

48



1 The specimens that we collect are going to be housed at a public  
2 museum, the Smithsonian Institution, and so anyone with  
3 expertise can go ahead and follow up on research, and this is  
4 something that we feel very strongly about, is that we want to  
5 make sure that the data is available to the broader community,  
6 and we feel like that's not just -- That is really needed so  
7 that we can make a contribution there.

8  
9 We want to make sure that, at the end of this effort, that we  
10 make some specific management recommendations. We really want  
11 to have research that helps management. I talked about the  
12 science plan, and you can just Google it and then pull it up,  
13 or, if not, I can also send a link to the group, if people are  
14 interested.

15  
16 There, we talk about some of the most important management  
17 issues, some of the most important research questions, and some  
18 of the expeditions and projects that will be involved in the  
19 Caribbean.

20  
21 These are some of the priority areas there were identified by a  
22 group of experts a couple of years ago, in terms of what are  
23 some of the most important areas for deep-sea research in the  
24 U.S. Caribbean. We realize that this is dynamic and changes  
25 over time, and, in fact, I was just out in Puerto Rico last week  
26 to talk to some researchers and managers.

27  
28 What I heard there is that some of the most important places to  
29 target for research is to look at some of the MPAs and, in  
30 particular, those MPAs that go deep, because, in many cases, we  
31 know -- We have surveyed these areas with scuba or snorkeling in  
32 shallow water, but we know virtually nothing about what is found  
33 at the deeper depths. That is hopefully something that we'll be  
34 able to target with this research.

35  
36 This is just to show some of the priority research questions for  
37 the Caribbean. Most of the questions that have been identified  
38 by experts are really basic in nature, in terms of what species  
39 we have, where are these ecosystems found, and what are the  
40 potential impacts.

41  
42 The strategy for this whole campaign is to make sure that  
43 everything we do has management relevance and that it addresses  
44 the priority research questions of the area and that it's also  
45 achievable. We realize that we only have three years of funding  
46 for this, and so we want to make sure that everything that we  
47 can do that we can complete in three years.

48

1 There is some research projects that we have identified for the  
2 next year or so. All of these have components in the Caribbean.  
3 One is we're doing some extensive data mining, and so reviewing  
4 previous expeditions in the Caribbean that have targeted some of  
5 these deepwater ecosystems and going and reviewing those videos  
6 and annotating them whenever a deepwater coral or sponge is  
7 identified and then uploading that into this publicly-available  
8 database, and so there is three potential datasets that we have  
9 identified and we are working on already, and that's the Okeanos  
10 Explorer Expedition, the Nautilus, and NCOS.

11  
12 We are also working on this deep-sea species guide for shallow-  
13 water species as well as terrestrial. There is many guides that  
14 help people identify for the deep-sea, but we don't have that  
15 yet, and so we're working, in partnership with several  
16 institutes, to develop this website and an app that works with  
17 your iPhone and computer and iPad, and so, anytime we have a  
18 good photo, something that we are identifying, that is uploaded  
19 there, and it's available to anyone.

20  
21 We're also working on this geodatabase, and so we have reviewed  
22 a whole bunch of information about past research in the area and  
23 putting it all together in a GIS database that will be available  
24 online to anyone, and I'm just showing some of the layers, and  
25 that includes the existing and proposed protected areas and  
26 previous submersible dives and where specimens have been  
27 collected, where we have mapping data, as well as a few other  
28 layers, and so this should be available at the end of year,  
29 online, to everyone.

30  
31 Habitat suitability models, for a lot of places in the U.S., we  
32 now have these models, basically, that are based on where corals  
33 and sponges have been observed, and then they correlate that to  
34 a bunch of other environmental parameters, like temperature,  
35 salinity, depth, currents, a whole bunch of other things. For  
36 the Caribbean, we don't yet have that, and, through this  
37 project, we will build these.

38  
39 That hopefully will help us predict where we find these  
40 ecosystems, and we also have this fishery citizen science  
41 project that is about to start next month, and so that's led by  
42 Steve Smith at the University of Miami, who will be deploying a  
43 series of GoPro cameras, in collaboration with fishers,  
44 attaching that to fishing gear, to take a look at what kind of  
45 ecosystems are found in places where snappers are fished, and  
46 this is very valuable information. This is really just a pilot  
47 study that we're starting this year, and then we hope to expand  
48 it in coming years.

1  
2 We are also going to be deploying temperature loggers on several  
3 expeditions and collecting water samples to do some  
4 environmental monitoring.

5  
6 This year, we have a bunch of fieldwork expeditions planned.  
7 You will notice there that we don't have one for the Caribbean,  
8 and this was an unfortunate turn of events. We had one planned,  
9 but there were engine problems with one of the ships, and so,  
10 this year, there won't be any fieldwork in the Caribbean, but  
11 that hopefully will change next year.

12  
13 We have multiple proposals to bring both the Okeanos Explorer  
14 and the Nancy Foster down to the Caribbean, and it's really  
15 fortunate, to some extent, in that we have about a year to  
16 prepare for this field work, and so I am really pleased that I  
17 am invited to talk to you folks, because I would like these  
18 conversations to be ongoing.

19  
20 We would like to hear from the community, in terms of what some  
21 of the most important parts to research are, what are the most  
22 important questions. A big part of what we do or hope to  
23 achieve is also to provide education and outreach, and so I  
24 talked about the Okeanos Explorer.

25  
26 For those folks who are not familiar with that ship, they have a  
27 deepwater submersible, and, every time that submersible is in  
28 the water, the live video footage of those dives is broadcast in  
29 real time over the internet, and anyone is able to see, and so  
30 we hope to work with local partners down there in the Caribbean  
31 to make sure that that information is disseminated as widely as  
32 possible.

33  
34 Then, just on the bottom there, we do work also -- We will  
35 provide opportunities for students and teachers to participate  
36 on some of our cruises, and that is just what I had. I just  
37 want to point out that this is a large collaboration with many  
38 partners, and this is not a closed club.

39  
40 We really want this to be a collaborative team effort, and, if  
41 anyone has potential ideas for other questions or partnerships,  
42 we would love to hear that. On that last slide there, I did put  
43 my email contact information, and so I am more than happy to  
44 answer any questions now or via email later, but I really just  
45 wanted you all to be aware of this project that's about to start  
46 next year in full effect down in the Caribbean, and thank you so  
47 much for the invitation, and so I will stop there.

48

1 **GRACIELA GARCIA-MOLINER:** Thank you, Daniel. We are basically  
2 at the end of our meeting, but we have the people here that are  
3 going to be collaborating for the planning of the cruises in  
4 2018. We have already been talking to Jen Schull at the Science  
5 Center and requesting the information that we talked about at  
6 the meeting in the council office, and you also have fishermen  
7 here that do deepwater snapper fishing who are also  
8 collaborating with us on other projects. We are really looking  
9 forward to the 2018 and 2019 expeditions of the Okeanos Explorer  
10 and Nancy Foster in the area.

11  
12 **DANIEL WAGNER:** Thank you, Graciela.

13  
14 **BONNIE PONWITH:** Hi, Daniel. This is Bonnie Ponwith, the  
15 Science Director of the Southeast Fisheries Science Center, and  
16 I just want to thank you again for making the time to give this  
17 presentation. These systems are so important, and difficult to  
18 study. I think a project like this goes a long, long way to  
19 help us understand the connection of habitat and the species  
20 that are so cherished here in this region.

21  
22 I just want everybody to know just how very special this project  
23 is. It's rotating around the country in three-year terms, and  
24 it is a remarkable opportunity to get some focused effort on  
25 that deepwater system in the region, and so I am very excited  
26 about this partnership, and thank you again for the  
27 presentation.

28  
29 **DANIEL WAGNER:** Thank you, Bonnie, and you pointed out something  
30 very important there, in that the Caribbean, in many ways, is  
31 the most understudied part, really, in the U.S. waters, and so  
32 being able to go there in the next couple of years, I'm sure  
33 we'll come across some really remarkable discoveries, because  
34 it's really understudied in general, but in particular in the  
35 Caribbean, and so I'm sure we'll come across some really  
36 exciting things.

37  
38 **CARLOS FARCHETTE:** Thank you. I also am very excited to see the  
39 results of what comes out of this expedition. Thank you so  
40 much. Okay. We are at the end of our meeting, and the next  
41 meeting is August 15 and 16. Mark it on your calendar. It will  
42 be in Puerto Rico at the Courtyard Marriott. This meeting is  
43 adjourned. It's 5:15 p.m. on April 19. Thank you so much to  
44 everyone for the participation.

45  
46 (Whereupon, the meeting adjourned on April 19, 2017.)

47  
48 - - -