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PAGE 111: Motion to accept the report from Dr. Alida Ortiz and Christina Olan and to support the proposals suggested for outreach and education with the participation of the U.S. Virgin Islands fishers and scientists, as well as those in Puerto Rico. The motion carried on page 111.

- - -

1 **CARIBBEAN FISHERY MANAGEMENT COUNCIL**
2 **172ND REGULAR COUNCIL MEETING**
3 **Webinar**

4
5 DECEMBER 8-9, 2020
6

7 The Caribbean Fishery Management Council convened via webinar on
8 Tuesday afternoon, December 8, 2020, and was called to order at
9 1:00 o'clock p.m. by Chairman Marcos Hanke.

10
11 **CALL TO ORDER AND ROLL CALL**
12

13 **MARCOS HANKE:** Good afternoon, everyone. It's 1:06 p.m., and we
14 are going to start the 172nd CFMC Virtual Meeting. Good morning,
15 and welcome, everyone. We're going to have a very productive
16 meeting at this time, and we're going to start with the roll call.
17 Today is December 8, 2020. Natalia, can you help me?
18

19 **NATALIA PERDOMO:** Yes. Please, if there's anyone that has their
20 number or their email or their name, and you can update it, so we
21 can call your name properly, that would be appreciated. I am going
22 to start with Miguel Rolon, Graciela-Garcia Moliner, Liajay
23 Rivera, Marco Hanke, Alida Ortiz, María de los Irizarry, Tony
24 Blanchard, Christina Olan, Diana Martino, Edwin Font, Guillermo
25 Cordera, Julian Magras, Hector Ruiz, Jesus Rivera, Jocelyn
26 D'Ambrosio, Katie Siegfried, Kevin McCarthy, Loren Remsberg,
27 Michelle Duval, Michelle Scharer, Nikita Charles, Orian Tzadik,
28 Richard Appeldoorn, Iris Oliveras, Adyan Rios, Wilson Santiago,
29 Vanessa Ramirez, Shannon Calay, Sarah Stephenson. If I missed
30 anyone, please identify yourself.
31

32 **NELSON CRESPO:** This is Nelson.
33

34 **NATALIA PERDOMO:** Thank you, Nelson.
35

36 **CARLOS FARCHETTE:** Carlos Farchette.
37

38 **NATALIA PERDOMO:** Thank you, Carlos.
39

40 **EDWARD SCHUSTER:** Edward Schuster here.
41

42 **MARCOS HANKE:** Do we have anybody else?
43

44 **NATALIA PERDOMO:** Nicole.
45

46 **NICOLE GREAUX:** Nicole Greaux.
47

48 **NATALIA PERDOMO:** Thank you, Nicole.

1
2 **EDWARD SCHUSTER:** Did you get me, Natalia? This is Edward
3 Schuster, St. Croix DAP Chair.
4
5 **NATALIA PERDOMO:** Yes. Thank you, Edward.
6
7 **EDWARD SCHUSTER:** Okay. Thanks.
8
9 **MIGUEL BORGES:** Miguel Borges, NOAA Fisheries Law Enforcement.
10
11 **MARCOS HANKE:** Anybody else that we didn't call that is present?
12
13 **ESTHER VELEZ:** Esther Velez, copywriter of Sea Grant Program.
14
15 **MARCOS HANKE:** Thank you, Esther. Anybody else? Hearing none, I
16 think we can proceed, and we will recognize the people as they
17 connect themselves to the meeting. Thank you, Natalia, for the
18 help. On the Adoption of the Agenda, I will pass the mic to
19 Graciela, and we have some last-minute changes to add, Graciela?

20 21 **ADOPTION OF AGENDA**

22
23 **GRACIELA GARCIA-MOLINER:** Good afternoon, everyone. We need to
24 include, under -- We have received Edwin Font's public comment,
25 and so that can be included either under the discussion of the
26 deepwater snapper here or under other comments.

27
28 We do have a short Ecosystem-Based Fishery Management Technical
29 Advisory Panel report, but, instead of Sennai Habtes, it would be
30 Orian Tzadik who would be presenting the review, and we are not
31 going to have the presentation by Raimundo Espinoza on the squid
32 fishing project. Then we won't have students presenting on the
33 assessment of COVID-19 impacts on commercial fishing associations
34 in Puerto Rico, and that will be Marcos Hanke.

35
36 Tomorrow, right before Enforcement, at 10:15, we will have a
37 presentation on the proposed rule to designate critical habitat
38 for threatened Caribbean Corals.

39
40 **MARCOS HANKE:** What time, Graciela, again?

41
42 **GRACIELA GARCIA-MOLINER:** That would be at 10:15 in the morning.
43 Mr. Chair, that's all I have as modifications to the agenda.

44
45 **MARCOS HANKE:** Thank you very much, Graciela. I need a motion to
46 adopt the agenda.

47
48 **CARLOS FARCHETTE:** I move to adopt the agenda as written.

1
2 **TONY BLANCHARD:** Second.
3
4 **MARCOS HANKE:** Thank you, Carlos Farchette, and thank you, Tony.
5
6 **GRACIELA GARCIA-MOLINER:** May I request the adoption of the agenda
7 as modified, as I read the changes to the agenda, please?
8
9 **MARCOS HANKE:** Do you agree, Carlos?
10
11 **CARLOS FARCHETTE:** Yes, I do. I need to add something for Other
12 Business. Is this the right time to do that?
13
14 **MARCOS HANKE:** Yes.
15
16 **CARLOS FARCHETTE:** I would like to add, to Other Business, maybe
17 either today, after Julian, or tomorrow sometime, but safe fishing
18 zone designation.
19
20 **MIGUEL ROLON:** Other Business is tomorrow.
21
22 **CARLOS FARCHETTE:** Okay.
23
24 **MARCOS HANKE:** Okay.
25
26 **MIGUEL ROLON:** Can you repeat what you want, Carlos, so Graciela
27 can add it to the agenda?
28
29 **GRACIELA GARCIA-MOLINER:** What's the name of the title for the
30 Other Business tomorrow?
31
32 **CARLOS FARCHETTE:** Designating a safe fishing zone area of Lang
33 Bank, St. Croix.
34
35 **GRACIELA GARCIA-MOLINER:** Thank you. You would be presenting that,
36 or who would be presenting that?
37
38 **CARLOS FARCHETTE:** I will present that. I sent Natalia one slide
39 on that, and it won't take very long.
40
41 **MARCOS HANKE:** Thank you, Carlos. Let's move on with the adoption
42 of the agenda. Carlos, can you restate your intention to adopt
43 the agenda as discussed?
44
45 **CARLOS FARCHETTE:** I move to adopt the agenda as modified.
46
47 **MARCOS HANKE:** Thank you. Tony.
48

1 **TONY BLANCHARD:** Second.

2
3 **MARCOS HANKE:** Thank you very much, Tony. The agenda is adopted.

4
5 **MIGUEL ROLON:** Marcos, if there is no opposition, then the agenda
6 is adopted, but you have to take a vote.

7
8 **MARCOS HANKE:** Any opposition to the adoption of the agenda?
9 Hearing none, the agenda is adopted. Thank you, Miguel. Now
10 Consideration of the Verbatim Transcription of the previous
11 meeting, the 171st. Any comments? We need a motion.

12
13 **CONSIDERATION OF 171ST COUNCIL MEETING VERBATIM TRANSCRIPTIONS**

14
15 **CARLOS FARCHETTE:** I move to accept the verbatim for the 171st, the
16 council verbatim minutes.

17
18 **MARCOS HANKE:** Thank you, Carlos. Is there a second?

19
20 **TONY BLANCHARD:** Second.

21
22 **MARCOS HANKE:** It's seconded by Tony Blanchard. Any opposition?
23 The verbatim transcription is adopted, and now we will go to the
24 Executive Director's Report. Miguel.

25
26 **EXECUTIVE DIRECTOR'S REPORT**

27
28 **MIGUEL ROLON:** Thank you, Mr. Chair. Very quick, just to mention
29 that the budget for 2021 is being prepared as we speak, and
30 probably they will let us know today, and Paul Doremus is going to
31 address that at the meeting with the Washington people.

32
33 We do not foresee any problems with the budget. It has been very
34 well received by all the councils. In the case of 2020, the monies
35 that we saved for not having in-person meetings will be used for
36 outreach and education, and so you will hear a little bit more
37 when we get to the report tomorrow by Dr. Alida Ortiz.

38
39 In addition, we have some funding that will be received from NOAA
40 Fisheries for international working groups that we coordinate and
41 co-host with the WECAFC secretariat, and those are the spawning
42 aggregation working group, the queen conch working group, and the
43 new dolphin wahoo working group, and that probably will be an in-
44 person meeting, if the people are allowed to travel, depending on
45 the COVID situation by the end of the third quarter of 2021.

46
47 In addition, we are going to have a presentation that you will
48 hear by Christina Olan, and the monies that were approved for the

1 coral reef and other species in the habitat section call for
2 outreach and education of the scientific work being done using
3 those funds, and so we have a proposal, and I would like to also
4 -- When we hear the proposal, I would like to have a motion from
5 the council approving the proposal, given the monies involved. It
6 will have three parts, and you will see that presentation.

7
8 We also have hired Dr. Diana Beltran, and she's going to be working
9 on the answer to the question that was posed by fishers, by Julian
10 and Tony, in the meeting that we held sometime ago, with Alida and
11 Ruth, which is what is happening in the marine reserves that we
12 have, and so we are going to have two parts.

13
14 The first one will be an outreach and education project with Sea
15 Grant and CARICOOS, and we are going to follow the recommendations
16 by the fishers, which is to have outreach and education materials
17 depicting the areas that we closed in the EEZ and why, when, the
18 species included, and, in addition, we will have some material to
19 identify the species that are underutilized and those species that
20 can be fished without any problems, regarding the not overfishing
21 and not overfished situation with any of them.

22
23 We also have then Dr. Beltran looking at that information, and so
24 will do literature research, and she's an expert on marine
25 reserves, and, actually, her dissertation was done in Puerto Rico
26 and the Virgin Islands, and that work will be done by the end of
27 March, and so it will be presented at the April meeting of 2021.

28
29 We also are involved with the NOAA Seafood Inspection and
30 International Fisheries in Washington and coordinating with them
31 on three projects, and one of them is the big fish communication
32 strategy, which was presented to you some ago, and the
33 communication strategy will have a group of people preparing videos
34 for the protection -- Calling for the protection of the spawning
35 aggregation of snappers and groupers. That will be done in 2021
36 too, and the first half of that already has been done, and
37 Christina Olan is working on the posting of those videos, and you
38 will see them on the YouTube channel in 2021.

39
40 The other thing that I was going to mention to you, and this is
41 the last part, is we are going to amend our SOPPs, if we ever get
42 them back, but I have been in conversation with Morgan Corey, and
43 she is the coordination for the regional fishery management
44 councils and National Marine Fisheries Service, and she suggested,
45 and that's what we are going to do, a memo to the record stating
46 that the council will be teleworking until the end of 2021.

47
48 Even though we may have people vaccinated and everything in 2021

1 against COVID, most people are not going to travel to meetings in
2 2021, and so we are going to do the teleworking, and the staff
3 will be going to the office once a week, at least, and they will
4 be continuing the operation of the council as of now.

5
6 Actually, my hats off to the staff people, because members that we
7 have of Natalia, Liajay, Luz, and Christina, they have been working
8 with us and doing more than they are supposed to by teleworking,
9 and so it works, and so, next year, we will continue teleworking
10 until the end of December, and it will be until December 31, and,
11 if we are going to have an in-person meeting, probably that will
12 be by the end of the year, at the December meeting. Thank you,
13 Mr. Chairman. If you have any questions, let me know.

14
15 **MARCOS HANKE:** I don't have any questions, Miguel. Thank you for
16 the report. Does anybody have a question for Miguel, very quick,
17 before we proceed? Hearing none, the next item on the agenda is
18 the Five-Year Strategic Plan Update and Michelle Duval. Welcome,
19 Michelle. The floor is yours.

20
21 **FIVE-YEAR STRATEGIC PLAN UPDATE**

22
23 **MICHELLE DUVAL:** Thank you, Mr. Chairman and council members, for
24 allowing me to be here today to give you an update on your strategic
25 planning process. Where are we? We've been at this for a while
26 now, and so we began our data-gathering phase in the spring, with
27 our reaching out to stakeholders to collect their feedback with
28 regard to priorities that they thought the council should consider
29 for development of its five-year strategic plan, and so, in the
30 spring, we launched an online survey, and I provided the DAPs and
31 the council, as well as the O&E AP, some updates on that in June.

32
33 Then we ran into a few challenges, one of those being COVID, and
34 then we also had some other procedural challenges, and so we had
35 to develop an alternative approach, and so we did that in July,
36 focusing on a virtual stakeholder input approach, and we
37 implemented that starting in August, and so we had the O&E AP, the
38 district advisory panels, and the council participate in virtual
39 input sessions, facilitated input sessions, that were focused on
40 four different theme areas with regard to future priority
41 development.

42
43 We also, for folks who were not able to attend one of these public
44 meetings, we also developed an online public comment form that
45 allowed participants to also provide input with regard to those
46 four theme areas as well, and I will talk about that a little bit
47 later, and then, in November, and just in the early part of this
48 month, I have completed the draft stakeholder input report, and

1 Miguel sent everybody a copy of the executive summary of that, and
2 so we're just finalizing a few last-minute edits on that.

3
4 Just as a reminder, these are the four public input discussion
5 themes that our alternative approach was focused on: resource
6 health, social and cultural and economic issues, management and
7 operational issues, and communication and outreach.

8
9 If you recall, we had a discussion, a review and discussion, brief
10 discussion, of the different issues or topics within each one of
11 these themes, and then we asked participants at the DAP meetings,
12 as well as council members, to provide sort of their top-five
13 priorities within each of the themes, with the exception of
14 communication and outreach. Because all of the communication and
15 outreach issues were considered to be important, we asked folks
16 for suggestions and recommendations for future consideration as
17 the council moves forward.

18
19 I just wanted to quickly review the issues, and so you all saw
20 these tables at your September council meeting, and so this is
21 just a list of the resource health issues that were discussed, and
22 the Xs represent the priorities that were selected by the different
23 groups, and the exception is now this table has a row for the
24 council.

25
26 All I wanted to do here was just highlight where sort of some of
27 the major overlaps are, and so you can see, the row that's
28 highlighted in yellow, this was a common priority among all four
29 groups, and that was enforcement, and then followed by the rows
30 that are highlighted in gray, and so this was a common priority
31 among three out of the four groups, and the first one of those was
32 erosion and sedimentation, and the next was habitat loss and
33 destruction and creation and rehabilitation.

34
35 Just moving on to the same table for the social, cultural, and
36 economic issues, again, these were the top-five priorities
37 selected by each one of the groups, and we have added the council
38 to this table.

39
40 Again, there were several more, a total of three common priorities
41 among all four groups, the first being the closed seasons and stock
42 assessments for affected species and evaluation of the council's
43 seasonal and area closures. Then illegal and unlicensed commercial
44 fishers and inadequate enforcement, and so all those highlighted
45 in yellow were common among all four groups. Then, just following-
46 up, lack of social and economic data and infrastructure needs were
47 common to three of the groups.

48

1 Moving on to management and operational issues, this was the list
2 of topics that was discussed, and, again, the two issues here that
3 were listed as priorities common to all four groups were accurate
4 and timely commercial and recreational data collection and
5 enforcement of existing regulations. Then highlighted in the gray,
6 following-up, these were issues that were common to at least three
7 of the four groups, and those were fisher involvement and data
8 collection and territorial licensing requirements.

9
10 Again, as I mentioned earlier, for communication and outreach,
11 only the O&E AP was asked to prioritize a list of what was
12 originally six issues. When the DAPs reviewed the list of six
13 communication and outreach issues, they also made some suggested
14 additions and edits, primarily expanding communications to other
15 groups as well as expanding the roles of fisheries liaisons, to
16 increase liaison understanding of issues, and so this list that
17 you see here on the screen is the communication and outreach
18 topics, as modified by the DAPs.

19
20 I just wanted to really highlight, I think, some of the topics
21 that were most discussed among all of the different groups
22 primarily, and all topics were important, and everyone agreed that,
23 in general, more communication and outreach is needed, both
24 generally as well as for specific groups or areas or for specific
25 issues.

26
27 Everyone also noted that the variety of communication tools is
28 really a constantly-evolving thing, depending on the audiences
29 that we're trying to reach, and that there should be consideration
30 of generational preferences in communication types. One of the
31 other major topics was improving general public awareness of
32 fisheries issues and that this is really important to help build
33 understanding of and support for local fisheries and fishing
34 communities, as well as just an increased knowledge of the
35 relationships between like non-fishing activities and the
36 resource.

37
38 Clarity and simplicity of presentations and communications was
39 really a big concern, and I think the DAP chairs really highlighted
40 that during your last meeting, that this is really critical to
41 engaging more fishers, as well as more members of the general
42 public, in the council process, and it can be intimidating
43 sometimes to come to a council meeting and not understand some of
44 the complex concepts that the council addresses.

45
46 Then, finally, there was a lot of discussion about additional in-
47 person outreach, and, clearly, that's been impacted by the pandemic
48 this year, as well as the expansion of the liaison roles and the

1 important roles that the liaisons play in terms of helping fishers
2 to understand issues under consideration and ensure that their
3 feedback is incorporated into the process.

4
5 Then I just wanted to talk briefly about the online public comment
6 form, and so, again, this was an additional opportunity for members
7 of the public to provide feedback to the council regarding what
8 they thought might be issues of importance under the four themes,
9 and so we had a series of open-ended questions that were phrased
10 as, given your experience and knowledge, what do you feel are the
11 most important issues impacting a particularly theme area, and
12 then we also had one final question at the end that allows folks
13 to provide any final thoughts on anything they thought the council
14 might want to consider.

15
16 The comment forms were in English and Spanish, and we had separate
17 forms for each of the islands, for each of the districts, and so
18 we had that available for five weeks, and we had a total of ten
19 respondents, and only the Puerto Rico form was used.

20
21 Just to quickly highlight some of the major responses that were
22 received under each of the areas, the little number in parentheses
23 just represents the number of people, or the number of respondents,
24 who provided that as a recommended priority, and so, under resource
25 health, most folks thought that coastal development, pollution,
26 and habitat loss and destruction were priorities that the council
27 should consider, but climate change, harvest of juvenile or
28 undersized fish, and the lack of enforcement presence were also
29 noted by a few folks, and then someone suggested also consideration
30 of -- Considering rotating the seasonal area closures.

31
32 Under the social, cultural, and economic concerns theme, we had
33 six individuals that cited illegal and unlicensed fishing as a
34 priority that needed to be considered, and one of those folks also
35 noted a failure of even licensed fishers to report at times. A
36 couple of folks noted that there was, in general, they felt a lack
37 of education and knowledge and that more education would be
38 helpful, both for the general public as well as fishers.

39
40 Then there were a few other issues, such as the rising costs of
41 seafood, lack of infrastructure, and aging of fishermen and a lack
42 of young entrants into the fishery who had a good conservation
43 ethic.

44
45 Moving on to management and operational issues, there were several
46 topics here that several folks mentioned, the first being
47 enforcement of existing regulations and having some regulatory
48 compatibility. The next was just having better education for

1 fishers and the public with regard to the rule, and the next was
2 -- Some folks noted difficulties and delays in the licensing
3 process, and I think that was really referring to the territorial
4 licensing process, which the council doesn't necessarily deal
5 with.

6
7 Then just other folks mentioned having limits on possession of
8 fish species, as well as limiting the allowable fishing areas and
9 then also having accurate commercial and recreational catch data,
10 and then, finally, with regard to communication and outreach,
11 several folks mentioned the need for and support of electronic
12 tools and social media, videos and webinars, but others also
13 emphasized the importance of having paper and traditional media,
14 like newspapers and television.

15
16 Folks supported in-person outreach, in the form of like
17 roundtables, and, also, there were suggestions for having like a
18 stakeholder orientation, where people could be made aware of the
19 different types of communication tools that were available, as
20 well as having sector-specific communication plans and education
21 materials that were boat-friendly, so that fishers could take these
22 materials on the boats and they wouldn't be ruined.

23
24 Then, finally, we also conducted some management partner outreach,
25 and so the council's management partners are the territorial
26 agencies, territorial governments, as well as NOAA Fisheries, and
27 so these are just categorized into a couple of different slides,
28 the first one being suggestions for priorities as well as mutual
29 objectives of things that are of interest to both the council and
30 the management partners.

31
32 One of those is continued support for improving data collection
33 and data management, and so not just the catch reporting, but also
34 social and economic data, continuing to strengthen relationships,
35 and so that includes stakeholder relationships. Community
36 involvement and outreach, as well as federal and territorial
37 partnerships, evaluating the effectiveness of existing management
38 approaches, to ensure that they're meeting the council's
39 management goals and objectives, continuing to move forward with
40 implementation of ecosystem-based approaches, as well as
41 collaborating on regulations and having regulatory collaboration
42 and consistency, and then increased support for scientific and
43 assessment capacity and resources.

44
45 Then there were just a few suggestions with regard to partnerships
46 and process, and so ensuring that the council's habitat protection
47 initiatives and the essential fish habitat designations and the
48 review process are aligned.

1
2 Then continuing to maintain the council's Caribbean-wide
3 partnerships, such as those with WECAFC, working towards enhancing
4 communication and information exchange across all partners, so
5 that everybody is aware of what's going on and who is doing what
6 in the U.S. Caribbean, and then also making sure that everyone has
7 consistent messaging among the management partners for these
8 issues of mutual importance, such as the importance of recreational
9 data collection.

10
11 Just in terms of next steps, all of this feedback that we've
12 collected will inform the development of the framework for the
13 council's strategic plan, and so that will start first thing in
14 2021, and Miguel and I were talking, and I think what I would like
15 to do is to be able to present the council with a draft framework,
16 where you all could see the structure of the plan, in terms of the
17 major goals for each of the different -- Each of the council's
18 different districts.

19
20 Then, once the council is satisfied with that, then we can move
21 forward with filling in the development of objectives and
22 strategies, and so hopefully we would have a draft strategic plan
23 by your April meeting, and that would be reviewed by you all, by
24 the council, by the district advisory panels, by the Outreach &
25 Education Advisory Panel, and that feedback would be used to modify
26 the plan as needed. Also, recommending that, once a draft has
27 been approved, that the council also have that plan available for
28 public comment.

29
30 Once that public comment has been received, we would present that
31 public comment to you all and make any modifications that the
32 council would like to see, and then, by late 2021, or late summer
33 of 2021, you would have a final strategic plan, and so, with that,
34 Mr. Chairman, I will -- I still have the presentation here, but
35 I'm happy to take any questions.

36
37 **MARCOS HANKE:** Thank you. Great presentation, Michelle. Thank
38 you very much. The floor is open for questions. Any questions?
39 Go ahead, Carlos.

40
41 **CARLOS FARCHETTE:** Thank you, Michelle. That was a good
42 presentation here, and my only question is, when it comes to the
43 area where it says coastal development and pollution, and also
44 lack of infrastructure, I think you are referring to like fish
45 markets and ramps, and all of that falls within the territorial
46 jurisdiction, and so that would be coordinated -- I guess the
47 responses to these questions will be coordinated through the
48 commissioner of DPNR, and is that what I am looking at in the

1 future?

2

3 **MICHELLE DUVAL:** Let me just go to the slide, and I think that --
4 I think this is where you're seeing this, this slide right here,
5 where we're talking about infrastructure needs, and is that what
6 you're referring to, Carlos?

7

8 **CARLOS FARCHETTE:** Yes, that's one of them.

9

10 **MICHELLE DUVAL:** As well as some of the comments that were received
11 with regard to the lack of infrastructure, I think, from the
12 comment form as well?

13

14 **CARLOS FARCHETTE:** Right.

15

16 **MICHELLE DUVAL:** So I do anticipate that that feedback -- As you
17 have pointed out, that's really more of a territorial issue, and
18 that those comments would certainly be provided to both the USVI
19 DPNR and well as the Puerto Rico DRNA, and certainly the council
20 can highlight the importance of that, or note the importance of
21 those, and provide support for the territorial governments, in
22 terms of encouragement, if this ends up being a priority that the
23 council chooses to move forward with in different regions.
24 Communicating that to the governments would be the way that I would
25 anticipate the council might consider moving forward.

26

27 **CARLOS FARCHETTE:** Okay. Just one more question, because I think
28 I had mentioned it before, but I don't see any Xs on forage fish,
29 and I don't know where that slide is, forage fish or --

30

31 **MICHELLE DUVAL:** Abundance of baitfish or forage.

32

33 **CARLOS FARCHETTE:** Right.

34

35 **MICHELLE DUVAL:** So I think one of the things, and I believe that
36 Miguel mentioned this, as we started all those virtual public
37 sessions, is that these were -- We did this to -- Because the
38 council can't work on every issue all at once, all at the same
39 time, this was a way to try to determine some priorities, and so,
40 just because there's not an X on abundance of baitfish and forage,
41 it doesn't mean that the council wouldn't necessarily work on those
42 things, and it doesn't mean that the council wouldn't -- That you
43 would cease any work that it is currently engaged in on those
44 activities, but we do have to have a way to try to prioritize the
45 council's resources. So it doesn't mean that this is not at all
46 important, but that it might not be one of the first things that
47 the council tackles.

48

1 **CARLOS FARCHETTE:** Okay. I'm good with that. I guess, at some
2 time in the future, because our St. Croix Fisheries Advisory
3 Committee has been discussing managing baitfish, flyingfish and
4 sprat, or whatever it's called, but we can work on something when
5 that comes up, and I guess we'll have something to discuss.

6
7 **MICHELLE DUVAL:** I agree, and that's also a topic that is likely
8 to be part of the council's ecosystem-based fisheries management
9 efforts, and it is being discussed under the development of the
10 council's fishery ecosystem plan, I would anticipate.

11
12 **CARLOS FARCHETTE:** Okay. Sounds good. Thanks.

13
14 **MICHELLE DUVAL:** Thank you, Carlos.

15
16 **MARCOS HANKE:** Any other questions?

17
18 **MIGUEL ROLON:** Marcos, you have Vanessa.

19
20 **VANESSA RAMIREZ:** Thank you, Marcos. Michelle, thank you for this
21 great report, and I had the opportunity to check it out, and I was
22 just thinking, and my question is about the participation on the
23 online, that we only obtained ten participants, and are you
24 planning, for the next steps, to use other kinds of -- Like sending
25 a link directly by email, because some of the fishermen, that I
26 see in their comments, when I put the online form, they were like
27 -- They don't want to answer.

28
29 They want to participate, but they don't want to answer, because
30 they don't know what it's going to be used for, and so, for the
31 next steps, and it's a just a comment, but maybe we can make like
32 a small introduction, in Spanish, of course, for these commercial
33 fishermen and that we can send it more directly by email or by a
34 WhatsApp link or something like that, that they feel comfortable
35 with that. Thank you, and I know that you have been doing a lot
36 of work with these reports and all these questions, and so,
37 anything you need, we are here for you. Thanks.

38
39 **MICHELLE DUVAL:** Thank you, Vanessa, and that's a great suggestion,
40 and I think I would be happy to work with you more directly and
41 figure out how we can try to use WhatsApp and other regular email
42 and other means of ensuring that fishermen who want to participate
43 are able to participate in this process, and so please let's
44 definitely keep in touch, so that we make sure that we get the
45 word out to everyone. Thank you very much for that.

46
47 **MARCOS HANKE:** Anybody else have a question?

48

1 **WILSON SANTIAGO:** I have a comment.
2
3 **MARCOS HANKE:** Go ahead, Wilson.
4
5 **WILSON SANTIAGO:** For Michelle, I have -- I am creating a database
6 of contacts of all the PEPCO participants, and I have emails and
7 telephone numbers, and so maybe we can use them to send out
8 messages to all the participants, so they can comment.
9
10 **MICHELLE DUVAL:** Thank you so much, Wilson. That would be so
11 helpful, and I am pretty sure I have your email information, and,
12 if not, I can get it from Miguel, just to make sure that we're
13 getting the word out to people in the way that they prefer to be
14 communicated with, and so thank you so much.
15
16 **WILSON SANTIAGO:** Just contact me, and we'll work something out.
17
18 **MICHELLE DUVAL:** Thank you.
19
20 **MARCOS HANKE:** Anybody else? Michelle, can you go back to Slide
21 7, please?
22
23 **MICHELLE DUVAL:** Yes.
24
25 **MARCOS HANKE:** I am just going to use this slide as trying to
26 follow-up with what Carlos said. If it's possible, in the future
27 discussion about the strategic plan, if there is any way that we
28 can highlight the things that we actually can decide and work
29 directly on the council, versus the things that we're going to
30 recommend other agencies, or there is indirect participation from
31 the council?
32
33 **MICHELLE DUVAL:** Yes, we absolutely should highlight those things
34 that are within the council's direct purview, or direct control,
35 versus those things that would need to be addressed by other
36 agencies, and I think that's very important, so that stakeholders
37 understand exactly what the council is able to do versus what the
38 council is able to communicate to other responsible agencies or
39 entities, absolutely.
40
41 **MARCOS HANKE:** I think that's very important. Thank you very much.
42 Would anybody else like to comment?
43
44 **WILSON SANTIAGO:** I would like to speak.
45
46 **MARCOS HANKE:** Go ahead, Wilson.
47
48 **WILSON SANTIAGO:** It was last time, when I told Michelle about the

1 contacts, and I already spoke.
2

3 **MICHELLE DUVAL:** I think Wilson is saying he already provided his
4 suggestion for how to contact fishers in his database.
5

6 **MARCOS HANKE:** Thank you. Hearing no more questions, I think it's
7 a great job, and do you have everything that you need from us,
8 Michelle?
9

10 **MICHELLE DUVAL:** I do, Mr. Chairman. Thank you all so much, and,
11 like I mentioned, Miguel and I are working on just a few last edits
12 to the full report, and that should be available soon. Thank you.
13

14 **MARCOS HANKE:** Thank you very much. Miguel, a question. In the
15 beginning, in your executive report, you mentioned something about
16 a motion that was needed, and it was now?
17

18 **MIGUEL ROLON:** No, not for this.
19

20 **MARCOS HANKE:** Okay. Perfect. I was a little confused.
21

22 **MIGUEL ROLON:** The last part, Michelle, that we want to emphasize
23 is that remember that, once this management plan is implemented,
24 or this strategic plan is implemented, then we will have to have
25 a sub-committee of council members and staff to go over the plan
26 and see what are the milestones for every year.
27

28 Then, each December, the council, as you are gathering here now,
29 has to review the progress made in the previous year, and also the
30 schedule for the next year, and so that's when we are going to
31 identify which action can be taken by the councils, as per the
32 Magnuson Act, and which other actions will be just recommendations
33 for the different agencies to undertake. Those two are really
34 important once the strategic plan is implemented, and I believe
35 that Michelle has said that a couple of times already in previous
36 meetings.
37

38 **MARCOS HANKE:** Thank you, Miguel. Thank you, Michelle, again. If
39 we are ready, let's go to the next item on the agenda, and the
40 next item is the Scientific and Statistical Committee Report.
41 Before you start, Richard, I would like to recognize people that
42 are connected since a little while ago. Please state your name,
43 people that were not on the roll call before.
44

45 **NICOLE ANGELI:** Nicole Angeli from the USVI DPNR.
46

47 **MARCOS HANKE:** Thank you, Nicole.
48

1 **DAMARIS DELGADO:** Damaris Delgado from DNER in Puerto Rico. Hello
2 to all.
3
4 **MARCOS HANKE:** Thank you, Damaris. Anybody else?
5
6 **JACK MCGOVERN:** Jack McGovern, NOAA Fisheries.
7
8 **MARCOS HANKE:** Thank you, Jack. Thank you very much. Welcome.
9
10 **AIDA ROSARIO:** Aida Rosario from Puerto Rico.
11
12 **MARCOS HANKE:** Welcome, Aida Rosario. Next person.
13
14 **MADELINE GUYANT:** This is Madeline Guyant with DPNR DFW.
15
16 **MARCOS HANKE:** Thank you.
17
18 **JANNETTE RAMOS-GARCIA:** This is Jannette Ramos-Garcia from the
19 Puerto Rico Sea Grant Program.
20
21 **MARCOS HANKE:** Thank you, Jannette. Is there somebody else?
22
23 **MATT WALIA:** This is Matt Walia from the NOAA Fisheries Office of
24 Law Enforcement.
25
26 **MARCOS HANKE:** Thank you very much. Welcome. The next person?
27
28 **MIGUEL BORGES:** Good afternoon. Miguel Borges, NOAA Fisheries Law
29 Enforcement.
30
31 **MARCOS HANKE:** Thank you, Miguel. Welcome. Next person?
32
33 **MANNY ANTONARAS:** Good afternoon. This is Manny Antonaras, NOAA
34 Office of Law Enforcement.
35
36 **MARCOS HANKE:** Thank you, Manny. Welcome. Next.
37
38 **DANIELLE OLIVE:** Good afternoon. This is Danielle Olive from the
39 USVI DPNR.
40
41 **MARCOS HANKE:** Thank you. Are we missing anybody else?
42
43 **JAMES BRUCE:** Good afternoon, everybody. This is Lieutenant James
44 Bruce with the United States Coast Guard.
45
46 **MARCOS HANKE:** Welcome. Thank you for attending the meeting.
47 Anybody else?
48

1 **JOHN WALTER:** Good afternoon, everyone. This is John Walter from
2 NOAA Fisheries in Miami, and I'm representing the Southeast
3 Fisheries Science Center. Thanks.

4
5 **MARCOS HANKE:** Thank you, John. Thank you very much for connecting
6 with the meeting. If we are missing anybody there, please send
7 your name via the chat to recognize your presence. Go ahead,
8 Richard. Thank you for your time.

9
10 **SCIENTIFIC AND STATISTICAL COMMITTEE REPORT**

11
12 **RICHARD APPELDOORN:** Thank you. This is the report from the SSC,
13 and we actually have three things, and one is our completed work
14 on the ecosystem conceptual model, the second is looking at the
15 spiny lobster constant OFL and ABC values, instead of the time-
16 varying ones, and a little bit about Executive Order 13921:
17 Promoting American Seafood Competitiveness and Economic Growth.

18
19 Our ecosystem conceptual model, I've shown you this before, and
20 this is kind of where we're working to, I think, and, as a way of
21 summary, remember that we have eight sub-models, and those sub-
22 models have varying numbers of components.

23
24 The sub-models are listed here, and the number of components are
25 in parentheses, and, all in all, this leads to a potential of
26 64,000 connections in the model, and we were struggling with a way
27 to deal with that kind of variability.

28
29 This is what the model looks like in a spreadsheet form, and I
30 showed this to you last time, and the boxes along the diagonal are
31 the sub-component models, and those that kind of have a peachy
32 color to them are connections within each sub-model, and so what
33 we are working toward now are the connections between the various
34 sub-models, and we had some ideas, from very early discussions,
35 about potential connections, and those were illustrated in green,
36 but we're really not going to deal with those anymore at the
37 moment.

38
39 Our priority was the connections between components within each
40 pair of sub-models, and we decided the first approach of this would
41 be to identify the three most important connections, their
42 direction, and that is to say is it a positive or negative
43 relationship, and their strength, ranked as low, medium, or high,
44 and we felt this was a way to start and focus the SSC as it
45 evaluates the potential of 64,000 component-to-component
46 connections, and it provides interim results for the council and
47 for the EBFM TAP. These could also be made available to other
48 interested groups, like the Lenfest project and the Center's

1 existing status report.
2
3 What we did is we worked through this sheet here, and, as you can
4 see, you have the eight models, sub-models, represented in both
5 the horizontal and vertical axes, and each member was asked to
6 then fill out what he thought the highest priority -- The three
7 highest-priority connections were, and so we might go to something
8 like here is socioeconomic and economic factors, and how do they
9 affect say habitat.
10
11 We would go over here and find the sub-component driver in the
12 socioeconomic model, and say, okay, what does it connect to, and
13 is that a positive or negative relationship, or is it going to go
14 both ways, and is it low, medium, or high in its strength, and so
15 each person had to fill out each one of these squares for
16 everything that is in white in this table.
17
18 There is fifty-six sets of comparisons that each member was asked
19 to make, and then we all brought that to the meeting and worked
20 our way through them.
21
22 As an example, and I actually showed this last time, but the three
23 most important component connections from say socioeconomic and
24 cultural drivers sub-model affecting fishing might be seafood
25 imports and exports affecting commercial catch, market demand
26 affecting commercial catch, and tourism affecting recreational
27 fishing catch. In this case, two of the driver components affect
28 the same target component, and that is commercial fishing catch.
29
30 If you list all of the components of the sub-models, this is what
31 that example would look like, with the arrows going from the
32 driving sub-models, the socioeconomic and cultural components, and
33 pointing to what sub-components in the fishing sub-model they are
34 reacting to, and, graphically, it would look like this, but I'm
35 not going to show any more of the connections in between the sub-
36 models, and so the connections within a sub-model are in blue, and
37 the two-sub-models are there, and those connections between the
38 sub-models are in yellow, going from the driving ones in red to
39 the targets in blue.
40
41 How we would fill this out in this form would be we have a driver
42 component in the SEC sub-model, and it's targeting a response
43 component. We have directions, and these are positive
44 relationships, whereas seafood imports and exports could go either
45 way, because imports and exports tend to act in opposite
46 directions, and then you might say one is medium and two are high,
47 and remember this is just an example, and that's not an actual
48 result.

1
2 This, however, is an actual result, and this is, again, just one
3 example out of the fifty-six sets that we looked at, and, in this
4 particular example, it's the competing uses of resources sub-
5 model, and we're looking at land-based uses, because that's the
6 target sub-model, and you have, across here, the scores of the
7 individual SSC members, and each one was asked to give their top
8 three, and so, in each column, you will see three scores, and the
9 numbers, 1, 2, and 3, are low, medium, and high, to give them a
10 numeric value, and here are the target ones that were identified,
11 and so, if you don't see anything here, there was no connection
12 between say artificial reefs and anything in land-based uses.

13
14 Here, there were ten connections that were given priority by at
15 least one SSC member, and those are the ones in blue here, and you
16 can see that industrial waste was highlighted twice, and we get a
17 number of different kinds of information that can be used by people
18 developing the larger model, and that's listed over here.

19
20 If you come across here, most of the SSC members identified a
21 connection between coastal development and urban runoff as being
22 important, and, if it's a strong relationship, they gave it a
23 three, and so seven of the members identified that, and so the
24 tally is how many members thought this was an important connection.

25
26 The mean is the mean score that those seven people gave it, and
27 there would also be a variance associated with that, and that's
28 not listed here, but that would be there, and, finally, there is
29 the sum, which is just the sum of the scores across, and so that's
30 the same as the tally multiplied by the mean, and so this is
31 another indicator, or a quantitative indicator, that can be used
32 in developing a model, in terms of what kind of variance there is
33 among the members in identifying these things and how important
34 they are.

35
36 This one in orange, again, is -- It has seven out of the eight
37 people identifying it, and they all gave it a three, and it had
38 the highest score of twenty-one. The next-most-important
39 component was marina activity affecting other non-point-source
40 discharges. Five of the SSC members gave this as one of their top
41 three, but they said it was a medium impact, and so the scores
42 were two across-the-board, for a sum of ten, and so, even though
43 only two less people thought this was an important component,
44 compared to the coastal development and urban runoff thing, the
45 score, the sum, is much less than -- It's less than half, because
46 the strength of that connection, two, was considered to be less
47 than the connection for the first one, which was three.

48

1 The only other -- If you wanted to come up with a third one, it
2 would be this one, with only three people picking that, and there
3 was some discrepancy about what the score would be, and so that's
4 an example, and, of course, we did this fifty-six times, and we
5 discussed each one of these, and people were allowed to change
6 their scores, because sometimes they would say there's a connection
7 between here, and someone else would say, no, that connection
8 actually runs through another sub-component before it interacts
9 with that one, and so you might want to change your score in light
10 of that, and so we had a lot of discussion for each one of these
11 fifty-six sets of comparisons that we did.

12
13 Overall, the result was that we identified 484 connections between
14 components across sub-models, and, if you counted the connections
15 within the sub-models, we've now accounted for 788 connections
16 within the conceptual model as a whole.

17
18 This is what it now looks like, and I have now taken out the peach
19 color for within the sub-models, and I have put red in the boxes
20 where there is at least one score for a connection between one
21 component in a sub-model and another one, and you can see there's
22 lots of red here, and so there's lots of connections, and you can
23 see places where you have a row of lots of red, which would be
24 indicating that the component here is something that lots of other
25 things target, whereas, if you come across, and here's an example
26 here, where you see lots of red going across, this is something
27 where a component is hitting lots of targets, and so this driver
28 is affecting a lot of things across-the-board, and I will identify
29 those in a minute.

30
31 There are thirty-six red boxes on this line, and this is natural
32 disturbances under abiotic factors, and so the members of the SSC
33 felt that natural disturbances were something that had a strong
34 impact across lots of things, and you can see habitat, water
35 quality, fishing, land-based uses, socioeconomic and cultural
36 drivers, and so it's one of the more -- It, in fact, was by far
37 the most important single driver.

38
39 The other two were much less, and there is only nineteen boxes for
40 those, and this one is coastal development, and this one is
41 regulatory structure, and that regulatory structure is non-
42 fisheries regulatory structure, and so things that might affect
43 land use and then affect erosion or something that, as opposed to
44 directly affecting fisheries, like gear restrictions or quotas or
45 closures, and so I think this emphasizes a point that's already
46 been made several times already this afternoon, that there's a lot
47 of things that are affecting fisheries that are outside the
48 specific realm of the fisheries agencies.

1
2 Looking the other way, there were four components that seemed to
3 be affected by a lot of different things, and so inshore forage
4 fishes were affected by nineteen sub-components in different
5 models. As you might expect, coral reefs and seagrass beds are
6 important habitats, and they were also affected by lots of
7 different things in other sub-models, and fishing grounds, which
8 is sort of a -- You can view it as sort of a habitat issue as well,
9 and that was also strongly impacted by quite a number of sub-
10 components in the other sub-models.

11
12 We started out with something like this, and now we have something
13 like this, and I think, if we gave this a brown background and
14 black-and-white colors, they would look fairly similar, and so I
15 think we've made a lot of progress, but you can see how complex
16 the system really is, and the nature of things might vary a little
17 bit from island to island, but I think the overall structure of
18 things is probably fairly standard across actually most fisheries,
19 and what you would be changing might be the habitats and whatnot,
20 but, for us, where we're really driving at coral reef fisheries,
21 this is going to be fairly standard.

22
23 That's where we are now, and this was done in September, and we're
24 going to, I think, wait to hear back on how far they would like us
25 to go in finishing. Remember that this is just what came out of
26 everybody's top-three, and this does not mean that there are not
27 more important connections to be made, but we just had to start
28 someplace.

29
30 The next topic was the spiny lobster three-year constant ABC, and
31 this was fairly simple for us to do, actually, and so the SSC
32 recommends that the approach to determining the three-year
33 constant ABC for spiny lobster is to determine a three-year
34 constant OFL and then to apply the constant buffer.

35
36 The constant OFL was determined by taking just the three-year
37 average of the OFL, and, when you do that, you get the following.
38 With the current data available, the resulting recommended values
39 for the years 2021, 2022, and 2023 constant OFLs are 420,000 pounds
40 for Puerto Rico, 170,000 pounds for St. Thomas, and 167,000 pounds
41 for St. Croix. For those same years, the constant ABCs would be
42 almost 371,000 for Puerto Rico, 150,000 for St. Thomas, and 148,000
43 for St. Croix, and these values may change as new data is entered
44 before this is actually implemented.

45
46 I would just like to say why we chose that approach. You get the
47 same answer if you take the -- These are the variable OFLs and
48 ABCs for each island platform that were presented at the last

1 meeting, and an approach was recommended by the Center to just
2 take the average of these, and you get the same answer as when you
3 take the average of the OFLs and get that and then derive the ABC
4 or if you just take the average of the ABCs, but there is a
5 difference, and the difference is that, if you keep this OFL at
6 406,000, and you make this 370,000, you are increasing this value,
7 and you are, therefore, reducing the space, if you will, between
8 the -- Between what was 358,000 and 406,000 is now 370,000 and
9 406,000, which gives you a risk of -- A greater risk of
10 overshooting your OFL, which you do not want to do.

11
12 By taking the average of the OFLs, that value is larger for that
13 year, and that gives you space between these two values, and so
14 there is less of a risk for overshooting the OFL, and so that's
15 why we recommended to first take the average of the OFL and then
16 apply the buffer to get to the ABC.

17
18 Lastly, we had some language for Executive Order 13921, and I think
19 the deadline for this, for the council to respond, has already
20 passed, but this is what we had recommended, and it had to do with
21 Section 2, Policy, and there were statements about providing good
22 stewardship of public funds and stakeholder time and resources and
23 safeguarding our communities and maintaining a healthy aquatic
24 environment, and so, in addressing those, we said the following,
25 or recommended.

26
27 In light of the Executive Order 13921, the SSC recommends to the
28 Caribbean Fishery Management Council that the necessary resources
29 be made available to conduct resource surveys to determine the
30 abundance of key marine resources in the U.S. Caribbean and to
31 conduct quantitative stock assessments that can provide guidance
32 on OFL limits, and that is to say Tiers 1, 2, and 3 of the ABC
33 Control Rule.

34
35 The gist behind this was, if we can reduce uncertainty, and we
36 know that there is room in the fishery, we can open up that fishery
37 for greater exploitation, with more certainty that things will be
38 okay, and so that was our statement for that, and I think that was
39 made available for the council, so they could respond to the
40 Executive Order, and I think that's it. If there are any
41 questions, I can --

42
43 **MARCOS HANKE:** Any questions?

44
45 **RICHARD APPELDOORN:** I wanted to point out that the lobster OFL
46 and ABC issue is going to be addressed in greater detail, I think
47 by Sarah in the next presentation.

48

1 **MARCOS HANKE:** Thank you. I don't hear any questions, and I think
2 we can keep going with the presentations, but, before I would like
3 to recognize the presence of Laura. Thank you very much for
4 attending our meeting, Laura.

5
6 **GRACIELA GARCIA-MOLINER:** Marcos, who are you addressing?

7
8 **MARCOS HANKE:** I am recognizing the presence of Laura.

9
10 **GRACIELA GARCIA-MOLINER:** Her microphone is not working, but she
11 is present.

12
13 **MARCOS HANKE:** Okay. Thank you very much. We will keep going on
14 the next presentation, please. I didn't have any questions for
15 Richard at this time. This will be the Ecosystem Conceptual Model
16 Presentation.

17
18 **GRACIELA GARCIA-MOLINER:** You jumped the spiny lobster and gear.
19 Check your agenda, and so, after Richard, we have the spiny lobster
20 framework amendment with Sarah Stephenson making the presentation.

21
22 **SPINY LOBSTER FRAMEWORK AMENDMENT**

23
24 **SARAH STEPHENSON:** This presentation will provide an overview of
25 the action and preliminary alternatives for updating management
26 reference points for spiny lobster following the accepted SEDAR 57
27 stock assessment, to be included in a framework amendment to each
28 of the island-based fishery management plans.

29
30 This is just a quick recap of major events, to-date, following the
31 SEDAR 57 stock assessment for the Puerto Rico, St. Thomas/St. John,
32 and St. Croix spiny lobster stocks. At the October 2019 SSC
33 meeting, the SSC determined that the SEDAR stock assessments were
34 suitable for management advice.

35
36 At the December 2019 council meeting, the SSC and the Science
37 Center presented how spiny lobster management reference points
38 would change following the change from a Tier 4 stock to a Tier 3
39 stock in the ABC Control Rule, and that is included in each of the
40 island-based FMPs. Just as a quick reminder, Tier 4 stocks are
41 considered to be data-limited with no accepted assessment, and
42 Tier 3 stocks are considered data-limited with an accepted
43 assessment.

44
45 At the June 2020 council meeting, the council accepted a P* of
46 0.45 for spiny lobster, and that's the risk of overfishing, for
47 each island for use in Tier 3 of the control rule, and, at the
48 August 2020 council meeting, the SSC presented ABC recommendations

1 for each year, for 2021 to 2026, and SERO staff presented options
2 for setting ACLs from those variable ABCs that the SSC recommended.

3
4 Following that options presentation, the council requested the SSC
5 coordinate with the Science Center to provide a constant ABC for
6 spiny lobster for each island group, based on SEDAR 57 and based
7 on the first three years of the OFL projections, which would be
8 2021 to 2023. It was the council's intent to request an interim
9 assessment be conducted in 2023 that would update the OFL
10 projections and get catch levels for 2024 and beyond. That brings
11 us up-to-date following the September SSC meeting that Richard
12 just summarized.

13
14 Following the outcomes of that September SSC meeting, the
15 interdisciplinary planning team, or the IPT, drafted a draft
16 framework amendment to the Puerto Rico, St. Thomas/St. John, and
17 St. Croix FMPs that would modify spiny lobster management reference
18 based on the SEDAR 57 stock assessment and Tier 3 of the ABC
19 Control Rule.

20
21 Through a framework amendment, the council can more expeditiously
22 adjust reference points and management measures in response to
23 changing fishery conditions, and the list of framework measures
24 that were included in the island-based FMPs include situations in
25 which a new stock assessment or other information indicates changes
26 should be made to the MSY, the OFL, the ABC, or other related
27 management reference points and status determination criteria.

28
29 A quick note that island-based FMPs would need to be implemented
30 before this framework amendment for spiny lobster could be
31 implemented, and the island-based FMPs are expected to be in place
32 in 2021.

33
34 For each island-based FMP, the amendment would update the maximum
35 sustainable yield at MSY, and the overfished criteria, which is
36 the MSST, and the overfishing criteria, which is the MFMT, based
37 on the SEDAR 57 stock assessments.

38
39 Two actions are included in the draft amendment. Action 1 would
40 update the spiny lobster OFL, ABC, and ACLs, using either a
41 constant catch or a variable catch approach, and Action 2 would
42 update accountability measures for spiny lobster.

43
44 For each action, the council could select a different alternative
45 for Puerto Rico, St. Thomas/St. John, or St. Croix, and, at this
46 time, the IPT will be looking for feedback on how the council would
47 like the alternatives to be developed for the amendment, and I
48 will ask for that at the end, or you can make comments at the end

1 of the presentation.

2
3 The SSC recommended both constant catch ABCs and variable catch
4 ABCs for spiny lobster for each island for 2021 to 2023 based on
5 the OFL projections during that same time period and using Tier 3
6 of the ABC control rule.

7
8 Through Action 1, the council would select the preferred approach,
9 either constant or variable, for specifying OFLs and ABCs and then
10 the process for determining ACLs from the ABCs. Under the variable
11 catch approach, ACLs would change from year to year for the 2021
12 to 2023 period. Under the constant catch approach, the ACL would
13 be the same each year, and so the ACL in 2021 would be the same in
14 2022 and the same in 2023.

15
16 Per council request, an interim assessment to update the OFL
17 projections would be conducted in 2023, and that would be used to
18 set catch levels for 2024 to 2026. Pending results from that
19 interim assessment, a subsequent framework amendment would be
20 developed at that time to update the spiny lobster OFLs, ABCs, and
21 ACLs. The interim assessment would not update the MSY or MSY
22 proxy, the MFMT, or the MSST specified in the SEDAR 57 stock
23 assessments. It is possible that this process may not be complete
24 and in place by 2024, and so you'll see some of the text that deals
25 with that in the next couple of slides.

26
27 For Action 1, Alternative 1, it would not change the OFL, the ABC,
28 or the ACL specified for spiny lobster under each island-based
29 FMP. However, those ACLs exceed the ABCs recommended by the SSC
30 following the SEDAR 57 stock assessments. The Magnuson-Stevens
31 Act specifies that catch levels cannot exceed the ABC recommended
32 by the council's SSC. Thus, Alternative 1 would not be valid under
33 the MSA. It's included in the draft document for NEPA analysis
34 purposes.

35
36 Under Alternative 2, the council would select the constant catch
37 approach for specifying OFL and ABC for spiny lobster and use the
38 constant catch ABC to derive the constant catch ACL, which would
39 be set equal to the optimum yield for each stock under one of these
40 following sub-alternatives.

41
42 Sub-Alternative 2a would set the ACL equal to the ABC, and it would
43 reflect no management uncertainty. Sub-Alternative 2b would apply
44 a 5 percent management uncertainty buffer, which would set the ACL
45 at 95 percent of the ABC, and Sub-Alternative 2c would apply a 10
46 percent management uncertainty buffer, which would set the ACL at
47 90 percent of the ABC.

48

1 Just as a reminder, management uncertainty refers to uncertainty
2 in the ability of managers to constrain catch so that the ACL is
3 not exceeded and the uncertainty in quantifying the true catch
4 amounts. Sources of management uncertainty could include late
5 reporting, misreporting, underreporting of catches, or lack of
6 sufficient in-season management. These management uncertainty
7 buffers here are similar to those used in setting ACLs under the
8 island-based FMPs.

9
10 Alternative 2 would set ACLs for that 2021 to 2013 period, and the
11 council could request the SSC discuss using the constant catch
12 ABCs that were recommended for 2021 to 2023 beyond that time
13 period, in the event that updated OFLs, ABCs, and ACLs for spiny
14 lobster are not in place by 2024.

15
16 For Action 1, Alternative 3 would select the variable catch
17 approach for specifying OFLs and ABCs for spiny lobster for the
18 2021 to 2023 period, based on the SEDAR 57 stock assessments, and
19 use the variable catch ABCs to derive the spiny lobster variable
20 catch ACLs, which, again, would be set equal to the optimum yield
21 for 2021 to 2023, under the sub-alternatives. Sub-Alternatives 3a
22 through 3c reflect the same level of management uncertainty as
23 Sub-Alternatives 2a through 2c.

24
25 Pending council and SSC review, Alternative 3 would include the
26 caveat that the variable catch OFL, ABC, and ACLs established for
27 2023 would be used for 2024 and beyond, until updated assessments
28 and subsequent rulemaking are available and completed.

29
30 Table 2.4 in the draft amendment document, which is on the
31 council's website, contains the preliminary constant catch ACLs
32 for spiny lobster for each island, based on the constant catch
33 ABCs recommended by the SSC, as reduced by the council's management
34 uncertainty buffers in Sub-Alternatives 2a through 2c, and so the
35 first column with numbers, with data, reflects that no management
36 uncertainty, where the ACL equals the ABC. The second column of
37 numbers is the ACL has a 5 percent reduction buffer for management
38 uncertainty, and the third column has the 10 percent reduction,
39 and there is one for each island.

40
41 These are preliminary numbers, because the OFL projections and
42 resultant ABC and ACL estimates could be updated using finalized
43 2019 landings data before the council takes final action on the
44 amendment, and I did verify with Richard Appeldoorn, and these
45 numbers match the numbers that he presented in his presentation.

46
47 Table 2.5 in the draft document contains the preliminary variable
48 catch ACLs for spiny lobster for each of the three years, 2021

1 through 2023, based on the variable catch ABCs recommended by the
2 SSC, reduced by those same management uncertainty buffers. Again,
3 these numbers could be updated and included, or would be updated
4 and included, in the final amendment.

5
6 Under each island-based FMP, spiny lobster is considered a Tier 4a
7 stock, and the OFL is defined, but it's not quantified. Instead,
8 a new reference point, the sustainable yield level, is quantified
9 and used as the OFL proxy, and so, as mentioned earlier, following
10 the SEDAR 57 stock assessments, spiny lobster stocks would be
11 considered a Tier 3 stock, and the OFLs would be quantified, and
12 so the language describing the overfishing determination process
13 was revised in the draft amendment as follows.

14
15 For both Alternative 2 and Alternative 3, in the years that spiny
16 lobster stock assessments are completed, overfishing would occur
17 if the fishing mortality rate, which is F , exceeds the MFMT. In
18 other words, if the ratio of F to MFMT is greater than one, then
19 the stock is undergoing overfishing. In years without a spiny
20 lobster stock assessment, overfishing would occur if the annual
21 harvest exceeds the OFL, and so, in other words, if the landings-
22 to-OFL ratio is greater than one, then the stock is undergoing
23 overfishing.

24
25 For Alternative 1, overfishing would be determined as described in
26 the FMPs, which you can find that description in Chapter 5, Section
27 5.13.4 in each of the island-based FMPs.

28
29 Through Action 2, the council would revise the years of landings
30 data that would be compared to the ACL for triggering an AM for
31 the spiny lobster stock under each FMP. At this time, Alternatives
32 included in the draft framework amendment include using a three-
33 year average or a single year of landings, which I will discuss
34 more on the next slide.

35
36 The goal of the AM trigger is to evaluate whether landings exceeded
37 the ACL that was in place and prevent exceedances going forward,
38 and so this can be complicated by the data lag. For instance, for
39 Caribbean stocks, complete landings data are generally available
40 two years later, and it can also be complicated when ACLs change,
41 as they will with this amendment.

42
43 For example, if the new spiny lobster ACLs are in place in 2021,
44 those landings data most likely will not be available until 2023,
45 and so we, as the IPT, would want to make sure that the alternatives
46 included in the amendment for revising the AM process take that
47 data lag and the changing ACLs into account. The IPT will continue
48 to work on this action and the effects analysis for the

1 alternatives.

2
3 This is just a quick comparison of those draft alternatives
4 included for the AM trigger, the three-year average or the single
5 year. Using a three-year average as the AM trigger would continue
6 the approach historically used for U.S. Caribbean stocks.
7 Averaging landings over a three-year period would be expected to
8 reduce the effects of variability in the landings data, which could
9 be due to either biological factors, such as variations in year
10 classes, or economic factors, such as changes in market demand.

11
12 This approach would be expected to trigger AMs less frequently if
13 the landings in one or more of the years were below, or well below,
14 the ACL, as the low years would even out a high year of landings.
15 However, when using averages, years with very high landings could
16 trigger AMs in consecutive years. For example, if landings in
17 2021 were greatly above the ACL, then those landings may result in
18 two or three years of consecutive AMs being triggered, because
19 that high year of landings is used in the averaging process.

20
21 On the other side, using a single year of landings to trigger an
22 AM could reduce the effects of a year with really high landings,
23 meaning that that year with high landings would only be used in
24 the trigger evaluation once, and then it wouldn't be used again.
25 This approach is simpler to use when ACLs change frequently, for
26 example following updated assessments, but this would be a change
27 in the process historically used to trigger AMs, and using a single
28 year only would not account for any of that variability in
29 landings.

30
31 Here's a brief look at some of the other text included in the draft
32 alternatives for triggering an AM, and that would be slightly
33 different from the text in the island-based FMPs. Alternative 2
34 would use a ramp-up process, meaning a single year of landings
35 followed by a two-year average followed by a three-year average,
36 and thereafter a running three-year average to trigger an AM. This
37 is similar, but it would not prescribe which years to use, as the
38 island-based FMPs did.

39
40 The alternative includes text that the ramp-up process would
41 restart whenever the ACLs are reset, and this could prevent this
42 AM process from needing to be revised again during a subsequent
43 amendment. The alternative would keep the condition that would
44 allow the RA, the Regional Administrator, in consultation with the
45 council, to deviate from the specific time sequences used to
46 trigger an AM, but it would modify the text from "based on data
47 availability" to "based on the best scientific information
48 available". This would allow for more flexibility in the clause.

1
2 For example, if the expansion factors used to adjust the Puerto
3 Rico commercial landings were determined to be too high or too
4 low, then that data may not be considered the best scientific
5 information available, and the RA and the council could use
6 alternative years.

7
8 Finally, this alternative would include options for using an
9 arithmetic mean or a geometric mean to calculate average landings.
10 The current process uses an arithmetic mean, and I will show you
11 a quick example of how these two approaches work on the next slide.

12
13 Then Alternative 3, which is that single year of landings, would
14 include that same condition that would allow the RA, in
15 consultation with the council, to deviate from the years used,
16 based on best scientific information available.

17
18 Here is the difference between a geometric mean and an arithmetic
19 mean. They are different in how they're calculated, and so
20 consider three years of landings data, 300,000 in year-one, 300,000
21 in year-two, and then 600,000 in year-three. The arithmetic mean
22 of these values would be 400,000, and so you add the three values
23 and divide by three, and you get 400,000. The geometric mean of
24 these values actually multiplies the values together, and so 300,000
25 times 300,000 times 600,000, and then it takes the cube root, and
26 it returns a slightly lower value, and so 377,976 pounds.

27
28 Using a geometric mean generally returns a more conservative
29 estimate, i.e. a lower number, and, as such, it may prevent an AM
30 from being triggered, when compared to using the arithmetic mean.

31
32 The South Atlantic Fishery Management Council is proposing using
33 a geometric mean for triggering an AM for post-season recreational
34 AMs for their snapper grouper fishery, because their recreational
35 landings data are highly variable. The Caribbean Council could
36 consider using this approach and if it's useful for considering
37 variability in spiny lobster landings.

38
39 Here are the next steps for development of the framework amendment
40 following the successful spiny lobster assessments. Again, this
41 amendment will not be able to be implemented until the island-
42 based FMPs are in place. The IPT would like council feedback on
43 these alternatives included, including if there's any that we
44 haven't thought of that you might like to see developed.

45
46 The council could request that the Science Center update the OFL
47 projections and the ABC estimates, using complete 2019 landings
48 data, when they are available. The council could request that, at

1 the February 2021 SSC meeting, the SSC review the updated OFL
2 projections and ABC estimates provided by the Science Center and
3 discuss the shelf life of using those 2021 to 2023 OFLs and ABCs.
4

5 The goal of the 2023 interim assessment would be to have those new
6 values in place by 2024, but being able to use the 2021 to 2023
7 values into 2024 would give us the flexibility in getting those
8 new numbers, including new ACLs, in place. The SSC could also
9 give feedback on the use of arithmetic versus geometric means for
10 ACL monitoring purposes.
11

12 The IPT will continue to work on the Action 2 alternatives for
13 revising the AM trigger, and it will prepare a more complete
14 framework amendment that includes analysis of effects for each
15 action and alternative, and staff will present that framework
16 amendment at the April 2021 meeting for council review. With that,
17 I will take any questions.
18

19 **MARCOS HANKE:** Thank you, Sarah, for a great presentation. Would
20 anybody like to make questions? Go ahead, Vanessa.
21

22 **VANESSA RAMIREZ:** I just wanted to make a comment about the
23 numbers. As I always say, we know that the data is not real, and
24 I will just put an example of two of the main fish markets that we
25 have in Cabo Rojo. Practically, between those two, they make more
26 than 1,000 weekly of pounds of fish, just between those two, and
27 we have ten in my town, and so, when we make the multiplication
28 for the six days that they work, the number, the real number, of
29 lobster that we are moving here is really high.
30

31 Considering that, I always ask please to go for the highest number,
32 because we know that we have a lot of commercial fishermen that
33 are not reporting, because of they don't complete the statistics,
34 or because they lose their license, or because they are different
35 kinds of situations with the license, and so how are we going to
36 work with that, because, if we put less pounds, we know that the
37 next year, 2021, 2022, and 2023, if they start reporting as they
38 supposed to, and we hope that they continue doing that, with the
39 new application and with the hope that all of them receive their
40 license for the next year, and how are we going to work with that,
41 if we put a less number?
42

43 **SARAH STEPHENSON:** Thank you, Vanessa. I didn't show it in this
44 presentation, but all of our alternatives for triggering an AM
45 would retain that clause that unless the NMFS Science Center
46 determines that an overage occurred because data collection or
47 monitoring improved, and so if we can look at the landings data
48 and see that the overage was because more people were reporting,

1 as opposed to maybe just that the catches were high, that we had
2 the same level of reporting and catches were higher, then the
3 Science Center, I think, could help inform us that that was the
4 case, and then that clause would kick in.

5
6 Even if the AM was triggered, it might not be applied, and so there
7 is that potential that I didn't show in this presentation, but
8 that would be included in the amendment, and it's included in the
9 island-based FMPs, if that helps.

10
11 **VANESSA RAMIREZ:** Okay. Thank you.

12
13 **MARCOS HANKE:** Anybody else from the Virgin Islands?

14
15 **NICOLE GREAUX:** My question was along the lines of Vanessa's also,
16 and so I do know that we are going to start getting more reporting,
17 as far as recreational catch is considered too, and, if the
18 geometric means is going to be used to do these product numbers
19 and then the square root after, how do we -- But we're not
20 separating the commercial catch from the recreational catch, but,
21 since this is going on until 2023, I do know that those numbers
22 are going to be a little bit skewed from the base, and do you all
23 have anything to use different variables, to make sure your numbers
24 are as close to accurate as possible?

25
26 **SARAH STEPHENSON:** Let me answer, I think, the commercial and
27 recreational part. The ACLs that are included in the island-based
28 FMPs and that would be in the spiny lobster amendment are only for
29 the commercial sector, although, in the USVI, they would govern
30 the recreational sector too, and that was because, when these were
31 being set up, we didn't really have any recreational landings data
32 for the USVI or for spiny lobster and Puerto Rico.

33
34 For spiny lobster, if it is determined that an AM needs to be
35 applied, I think it would be how it has been in the past and that
36 both sectors would be closed. Going forward, if we start getting
37 better information and better data, like especially from the
38 recreational sector, then that could go back to the SSC, or the
39 Science Center, and they could help establish ACLs for that sector,
40 and they could definitely include that data in the next round of
41 maybe the spiny lobster full SEDAR assessment, whenever that's
42 going to be planned.

43
44 Going forward, that data would be useful, and I'm just not quite
45 sure, at this time, how it might fit in with what's going to be
46 outlined in this amendment, and I don't know if that answered the
47 second part of your question.

48

1 **NICOLE GREAUX:** Yes, it does. Thank you, Sarah.
2
3 **MARCOS HANKE:** Questions? Go ahead, Carlos.
4
5 **CARLOS FARCHETTE:** I just wanted to know, and are we going to
6 decide here today what action and alternative each island-based
7 plan is going to decide on? Are we going to do that here today?
8
9 **SARAH STEPHENSON:** That wasn't our intent at this point, and we
10 were just looking for kind of your general feedback on do these
11 actions look okay. If you had a strong feeling one way or the
12 other on say the constant catch or the variable catch, the council
13 could make that known, but we're not looking for you to select
14 preferred alternatives at this point.
15
16 We just kind of wanted to prepare you for what's going to be coming
17 in the amendment in April, and probably, at that time, we would be
18 hoping that you would pick preferreds, but, if you have a
19 preference, or a general feel of how you think you would like, for
20 instance, St. Croix to be considered, I would definitely write
21 that down as part of the rationale at this time.
22
23 **CARLOS FARCHETTE:** Okay. I think, at the last meeting, I did
24 mention that I would prefer to see a constant ABC. One of the
25 things that is happening here on St. Croix is that -- I think it
26 happens every year, from November, December, and January, and conch
27 seasons opens on November 1, and so a lot of the fishermen move
28 from lobster diving to conch diving, because that's what the
29 consumer is waiting for, and so they kind of let up on the lobster
30 harvest, and I just wanted to make sure that we don't let that
31 slide by. I am looking at constant, and I don't know if there's
32 anybody else. Well, from the St. Croix District, it's only Edward
33 Schuster onboard here, and so --
34
35 **MIGUEL ROLON:** Marcos, if I may, a question for Sarah. Sarah, do
36 you think that this presentation could be given to the DAPs, let's
37 say in the first quarter of 2021, so that we have an input from
38 them before we --
39
40 **SARAH STEPHENSON:** Yes, we can definitely do that.
41
42 **MIGUEL ROLON:** In that case, Mr. Chairman, I suggest that -- Next
43 year, we are planning to have a meeting of the DAPs, to go over
44 the presentation that Richard just did, and Graciela, on the
45 models, and, if the plan is implemented by that time, also we would
46 address that, but I believe that the models and the spiny lobster
47 could be done in let's say a two-hour virtual meeting, or three,
48 and it would be a matter of coordinating with Sarah and the chairs

1 of the DAPs to have this meeting, hopefully maybe in late February
2 or the beginning of March, so that we will be ready to provide
3 input to the team that is working.

4

5 **MARCOS HANKE:** Thank you, Miguel. We have John Walter in the
6 queue.

7

8 **JOHN WALTER:** Thank you, Mr. Chair. One of the things that we do
9 need to separate here is the assessment, which right here is using
10 the best data that's available at the time of the assessment, and,
11 importantly, is raised to a higher tier than previous assessments,
12 and so we're getting something we haven't gotten before, which is
13 the status of the stock.

14

15 This is a big -- Actually, it's a fairly substantial improvement
16 here over our previous treatments for this species, and then what
17 we're all hearing, and have in the works, are a lot of improvements
18 in the basic data collection, and so we're going to be getting
19 better data, because we've put the processes in place.

20

21 What that means is that the assessment was using data that was
22 only from the commercial fishery, and the recreational fishery --
23 It was assumed that either part of that commercial fishery or some
24 unknown and constant baseline.

25

26 If that is growing in the future, we should be getting that
27 information and taking it into account, and then, if it does indeed
28 be proved that it's a constant say 10 percent of the commercial,
29 then it doesn't change the stock status. However, we would also
30 monitor the ACL by the data that goes into it, and I think that's
31 the question for how the ACL gets monitored. If there is an
32 additional set of landings that haven't been counted in the
33 assessment, how we treat them needs to be considered, and that, I
34 think, is a question that is still an open one. Thanks.

35

36 **MARCOS HANKE:** We have Roy. Thank you very much, John.

37

38 **ROY CRABTREE:** Thanks, Marcos. Thanks, Sarah, for the
39 presentation, and I think it was well done, and I just wanted to
40 say that I agree with Carlos. I think my preference is the constant
41 ACL, where it's averaged over a series of years, and I think, that
42 way, people know what's coming and what is expected, and then we
43 put that in place, and then hopefully, in a couple of years, we
44 get an update, or an interim, assessment of it, and then we can
45 come in and reset things based on that.

46

47 Maybe when we do the update, or the interim, assessment, whatever
48 comes next, it could better address some of these questions that

1 we have now with respect to landings and recreational landings and
2 things, but I think my preference will be towards the setting a
3 constant catch level. Thank you.

4
5 **MARCOS HANKE:** Thank you, Roy. Miguel, am I missing anybody on
6 the queue?

7
8 **MIGUEL ROLON:** Not that I can see here.

9
10 **MARCOS HANKE:** Are there any other questions?

11
12 **MIGUEL ROLON:** One question is if you would like to -- Even though
13 Sarah said that this is not the time for it, you can give the group
14 that is working an indication of the preference of the council,
15 and so if the council, for example, prefers to follow Roy's advice,
16 this is a good time to say it, and so they will look at it and
17 discuss the rationale. Then, when we present this to the DAPs
18 next year, they will have more information as to how to proceed.

19
20 **MARCOS HANKE:** Yes. We have Jocelyn requesting for a turn to
21 speak.

22
23 **JOCELYN D'AMBROSIO:** Thank you. Before we moved on, I just wanted
24 to circle back to something that John had mentioned about ACL
25 monitoring, and so, because this process -- We didn't have
26 recreational landings, and there were various assumptions, as John
27 indicated, how they would be included in the model, but we didn't
28 have numbers to plug in.

29
30 When we monitor the landings, we would be monitoring the commercial
31 landings and comparing those to the ACLs, and, as we got
32 recreational data, those would be next steps to reevaluate that
33 process, but, right now, this process would just involve looking
34 at those commercial landings and comparing them to the ACLs and
35 then making decisions about any accountability measures based on
36 that available information, and so I just wanted to clarify that
37 process.

38
39 **MARCOS HANKE:** Yes. Thank you very much, Jocelyn. We are all
40 aware, and I would like to make a comment that I was inclined,
41 since we started this discussion, to go with the constant numbers,
42 but, with this information and this presentation that Sarah just
43 gave, which is a great presentation, I think there is other
44 considerations that I need to analyze, in terms of geometric and
45 arithmetic effects on the formulas and so on, and I don't feel
46 strong on either way, either though, originally, I was inclined to
47 do the constant approach. Anybody else who would like to say
48 something?

1
2 **CARLOS FARCHETTE:** I just want to get a little clarity here. In
3 Table 2.3, constant catch OFL and ABC, St. Croix has the OFL of
4 167,897 pounds and an ABC of 148,071. That's a reduction of about
5 19,826 pounds, and is that for uncertainty? I think Richard had
6 mentioned something about that number, but I'm not sure what it
7 meant, if that's uncertainty or not, because they're still asking,
8 under proposed alternatives, for a 0.95 or a 0.90 or equal to, and
9 so, if you're already reducing by 19,000 pounds, and then you still
10 want to reduce again by 0.95, that's another uncertainty? I'm not
11 clear on that.

12
13 **SARAH STEPHENSON:** There were two instances where numbers were
14 reduced, and so the OFLs were reduced to the ABCs, and that
15 incorporated scientific uncertainty and the council's risk of
16 overfishing, and so that was one part. Then the second part
17 reduces the ABCs to the ACLs, and that accounts for management
18 uncertainty, and so those are the options that are included in the
19 amendment, either the no reduction, the 5 percent reduction, or
20 the 10 percent reduction. Those are for management uncertainty,
21 and that's what the council gets to decide.

22
23 Those other uncertainties, the scientific uncertainty and, of
24 course, the council's risk of overfishing, they were previously
25 decided and are now included in that Tier 3 of the control rule
26 process from estimating the ABCs from the OFLs, and so that part
27 is already done.

28
29 At this point, you have ABCs recommended from the SSC, either the
30 constant catch ones or the variable catch ones, and now the council
31 will decide, from either one of those buckets, how much they want
32 to reduce for management uncertainty to get to the ACLs. Does
33 that answer your question?

34
35 **CARLOS FARCHETTE:** Yes, it does, and so, in the end, each island
36 will be deciding what alternative they prefer, right, and it's not
37 going to be one for everybody?

38
39 **SARAH STEPHENSON:** That's correct.

40
41 **CARLOS FARCHETTE:** Okay. All right. That's cool. Thanks.

42
43 **MARCOS HANKE:** Thank you, Carlos. If I don't hear any other
44 questions, I think we are ready to move on, unless Sarah wants to
45 make any questions to the group of anything else that she needs to
46 hear from us.

47
48 **SARAH STEPHENSON:** So it sounds like that, for now, we'll stick

1 with maybe the council's initial preferred -- Not preferred
2 approach, but you preferred the constant catch over the variable
3 catch, and that's what was stated at the August meeting, and I've
4 heard that from Roy and Carlos at this meeting.

5
6 Obviously, the other approach, the variable catch approach, will
7 still be in the amendment, and you can still consider it at the
8 next council meeting, but, for now, we might go ahead and kind of
9 put that as preliminary preferred, just to give the IPT something
10 to really compare and maybe have a feel for how the council is
11 going to go. Is there a similar kind of feeling for using a single
12 year or landings or ramp-up to a three-year average, or do you
13 want to just wait and see the analysis in April? That's my question
14 to the council, please.

15
16 **MARCOS HANKE:** Anybody?

17
18 **CARLOS FARCHETTE:** I would prefer a three-year average, but I'm
19 open for discussion.

20
21 **MARCOS HANKE:** Anybody from St. Thomas?

22
23 **TONY BLANCHARD:** I would have to agree with Carlos. I would
24 probably prefer a three-year average and a constant, but I also
25 agree with Miguel that this should go to the DAP and hear what
26 comes out of that discussion.

27
28 **MIGUEL ROLON:** Marcos, I have Roy Crabtree asking for a turn, a
29 raised hand.

30
31 **MARCOS HANKE:** Yes. Go ahead, Roy.

32
33 **ROY CRABTREE:** I think I'm agreeing with Carlos and Tony. I think
34 we should use an average landings over some period of time, and so
35 I would ramp-up to probably three years, but, if not three, then
36 two years, but I think that helps smooth things out some, and it
37 also makes sense, to me, to -- I know this is getting in the weeds,
38 but, for staff purposes, the geometric means seems a better way to
39 go, to me, because it tends to smooth things out a little bit, and
40 it's less affected by -- If you do it for three years, it's less
41 affected by having one year real extreme compared to the other
42 two, and I know that's getting in the weeds a little bit, but it
43 does make sense to me to use an average, given all the uncertainty
44 we have about what's going on.

45
46 **MIGUEL ROLON:** Marcos, you have Nicole Angeli.

47
48 **NICOLE ANGELI:** The preliminary preference that we have is for

1 this to go through the DAP for the districts, but, for the
2 discussion today, a three-year, at least a three-year, geometric
3 mean and constant would be our preference. We anticipate ramping
4 up data collection over the next five years, and so, for now, I
5 think that should be the best option, but that also gives us a lot
6 of time to speak about this within our districts.

7

8 **MARCOS HANKE:** Thank you. Vanessa, would you like to have your
9 input in here?

10

11 **VANESSA RAMIREZ:** Yes. Thank you, Marcos. I am on the side of
12 Carlos and Tony. I prefer also for the three years. Thanks.

13

14 **MARCOS HANKE:** Any other council member who would like to speak?
15 I would like to say that I agree with the group, and I don't have
16 any objections to that, and the geometric -- Like Roy said, the
17 combination of the geometric approach seems to work better. For
18 me, it's the first time I've seen it, that approach, and, so far,
19 I agree with that. I need to analyze it a little more, even though
20 it makes sense. Do you need a motion from us, Sarah?

21

22 **MIGUEL ROLON:** Marcos, at this time, you can do it just by
23 consensus. What Sarah wanted was to have an indication of the
24 trend that you want to see, but the -- You should allow the DAP to
25 also look at this. Maybe they have an idea that we are not seeing
26 here, but, from previous meetings, and this meeting, the sense is
27 that the consensus would be to have the fixed ACL and the three-
28 year average for the spiny lobster, and I believe that Sarah can
29 take that, but I will ask Sarah if you want to have a stronger
30 indication from the council, and then a motion and a vote would do
31 it at this time.

32

33 **SARAH STEPHENSON:** I have captured everybody's rationale for their
34 preferred at this point in time, and I think that's good enough
35 for today. Thank you very much.

36

37 **MIGUEL ROLON:** Excellent.

38

39 **MARCOS HANKE:** Thank you, Sarah. Thank you very much. Let's go
40 for a break now, a five-minute break. It's 3:07, and we will come
41 back. Five-minute break.

42

43 (Whereupon, a brief recess was taken.)

44

45 **MARCOS HANKE:** Good afternoon, everyone. It's 3:09 p.m., and we
46 are ready to start the meeting again. The next item on the agenda
47 is the gear amendment, and the presentation will be done by Maria
48 Lopez.

1
2 **GEAR AMENDMENT TO THE ISLAND-BASED FMPS**
3 **DEEPWATER SNAPPER GEAR OPTIONS PAPER**
4

5 **MARIA LOPEZ:** Good afternoon, everybody. This is Maria Lopez with
6 NOAA Fisheries Southeast Regional Office, Caribbean Branch, and
7 I'm going to be talking to you about an options paper that we
8 submitted for the briefing book that is dealing with the
9 modifications to the buoy gear definition for the harvest of
10 managed reef fish in federal waters.

11
12 This came from a motion that was presented by the council at the
13 August meeting. This options paper is going to be addressing the
14 buoy gear definition for federal waters in Puerto Rico, St. Croix,
15 St. Thomas, and St. John, and so it will be an amendment to each
16 one of those fishery management plans, as the council decided last
17 time.

18
19 As an overview, in Puerto Rico and the USVI, fishermen harvesting
20 deepwater snappers, and I'm referring to queen and cardinal
21 snappers and other snappers that are in shallower waters, such as
22 silk, blackfin, and vermilion, they have traditionally used a gear
23 type locally known as cala con boya in Puerto Rico and as deep-
24 drop buoy gear in the U.S. Virgin Islands.

25
26 For example, this is a preferred gear type on the west coast of
27 Puerto Rico to fish for deepwater snapper, and it's a gear that is
28 used to fish between 100 and 250 fathoms. In Puerto Rico, there
29 could be up to approximately 200 fishers using this gear type,
30 commercial fishers, and, in the USVI, I do not have that
31 information of how many fishers are using this gear, but that will
32 be part of the information that we will be collecting as part of
33 this amendment.

34
35 Also, this locally-used commercial fishing gear type is very
36 similar to the buoy gear defined in federal regulations. As they
37 apply to Caribbean fisheries that I just described, it differs in
38 the number of hooks that are allowed to be used with the gear, and
39 this is a discussion that the council had during the August 2020
40 meeting, where the similarities and the differences between the
41 definition for buoy gear that is included in the federal
42 regulations were compared to how that gear is used locally in both
43 Puerto Rico and the USVI.

44
45 During that meeting, it was discussed with the council that the
46 use of any gear not listed as authorized for the fishery is
47 prohibited by federal regulations. Therefore, this gear type, as
48 currently used, cannot be used by fishermen participating in the

1 commercial reef fish fishery until it is added as an allowable
2 gear type under the island-based FMPs or until the definition of
3 buoy gear is revised, and so this is what we are here for right
4 now.

5
6 At the 170th Caribbean Council meeting, and this was in August, the
7 council requested staff to begin work on amending the island-based
8 FMPs to allow for the use of that specific hook-and-line gear.
9 The council also tasked us to consider in the amendment whether
10 gill and trammel nets, or any other applicable gear should be
11 included as authorized gear types when fishing for certain species
12 managed under each of the FMPs, and this was particularly due to
13 species that were recently added, for example some of the pelagic
14 species.

15
16 Since then, NMFS and council staff met and agreed to request the
17 council to look at these two items separately, to speed up the
18 process, so that the buoy gear issue can be addressed promptly,
19 and so staff prepared a draft options paper for your consideration
20 that addresses only the buoy gear definition at this time.

21
22 If the council agrees, we will discuss and move forward, and, when
23 I say move forward, we will be creating an interdisciplinary
24 planning team, which is composed of NMFS and council staff from
25 diverse fields that are responsible for drafting the amendments,
26 and then the IPT will draft an amendment that could be -- If the
27 IPT agrees, it could be brought to the April meeting.

28
29 This options paper, how I'm going to be presenting it here is only
30 going to address that buoy gear definition, and then, in a separate
31 amendment in the near future, that staff can start working with
32 immediately, other gear types will be addressed.

33
34 Just to provide an overview of what are the authorized gears for
35 the reef fish fishery, and this is something that was discussed at
36 the August council meeting by Jocelyn D'Ambrosio from General
37 Counsel, and this is included in the island-based FMPs, and it's
38 the same for the three plans. For the reef fish fishery, the
39 recreational fishery, the gear types that are included as allowed
40 types are dip net, handline, rod-and-reel, slurp gun, spear, and
41 trap and pot. The definitions for some of this are included in
42 the federal regulations, and we would be happy to provide those
43 definitions, if you would like to, later on.

44
45 For the commercial fishery, the commercial longline and hook-and-
46 line fishery particularly, there are two types of gears that are
47 included, the longline and the hook-and-line. This amendment would
48 only deal with the commercial longline hook-and-line fishery,

1 those gear types that are included within, and so, under the hook
2 and line component of the gear type, there are automatic reel,
3 bandit gear, buoy gear, handline, longline, and rod-and-reel.

4
5 This amendment would modify the definition of buoy gear that is
6 included under that fishery, and so this action would pertain only
7 to the commercial sector, because, as you can see from this table,
8 the buoy gear is an allowed gear for that sector only and not for
9 the recreational sector.

10
11 The definition for buoy gear is going to be in the next slide.
12 However, managed reef fish, what we're referring to as managed
13 reef fish, are included in Appendix A of each one of the island-
14 based FMPs, and it includes all deepwater snappers that are
15 included within each plan. At the end of this presentation, I
16 have included slides that list which ones of those species are in
17 each one of the plans.

18
19 This is the definition of buoy gear that is included in our federal
20 regulations, and I am not going to read the whole thing, because
21 this is something that was already discussed during the last
22 council meeting, and, based on testimony from council members and
23 participants, it was determined that the only difference between
24 the buoy gear that is listed in the regulations and the locally-
25 used buoy gear is in the number of hooks.

26
27 The buoy gear defined in the federal regulations, at 50 CFR Part
28 622, cannot contain more than ten hooks connected between the buoy
29 and the terminal end, while the local deepwater reef fish buoy
30 gear typically can contain up to twenty-five hooks, and that varies
31 by island, connected between the buoy and the terminal end.

32
33 Therefore, as I mentioned earlier, this gear type cannot be used
34 by fishermen participating in the commercial reef fish fishery
35 until it is added as an allowable gear type under the island-based
36 FMPs or until that definition of buoy gear is revised.

37
38 This is a comparison of the buoy gear in the federal regulations
39 versus local deepwater buoy gear, and, in the left column, you can
40 see all of the items that are included in that definition and then
41 what is in the regulations versus what it is used in Puerto Rico
42 and the U.S. Virgin Islands. The particularities of each one of
43 the islands is something that, when we do the amendment and we
44 describe these fisheries, we will include that information in
45 there.

46
47 However, from the discussion from the August council meeting, the
48 number of hooks that were -- The differences that I just listed,

1 Puerto Rico traditionally uses between fifteen and twenty-five
2 hooks. My understanding is that the configuration that is set up
3 to use more hooks is usually used to fish for, for example, queen
4 snapper or some of the deeper-water snappers.

5
6 From some of the testimony that we heard last time, the fishers
7 were saying that it was not practical to use more hooks, due to
8 the depth, and these are fisheries that are conducted with high
9 currents, and so there is a very specific way that the setups are
10 done, depending on the currents in the areas.

11
12 In terms of the weight on the terminal end, the federal regulations
13 say that you cannot have more than ten pounds. In Puerto Rico and
14 the USVI, fishers mentioned that they usually use between eight
15 and ten pounds, and some of the fishers may use variations of less
16 than that, but, typically, it's ten pounds.

17
18 In terms of the dropline construction, it needs to be rope or
19 monofilament, but it must not be cable or wire, and, in Puerto
20 Rico and the USVI, it's a similar construction, using usually
21 monofilament. The length of the dropline cannot be greater than
22 two-times the depth of the water being fished, and this is
23 something that is similar for both Puerto Rico and the USVI.

24
25 Hook placement, all hooks must be attached the dropline no more
26 than thirty feet from the weighted terminal end, and, in both of
27 the islands, this is similar, within the range. Some of the
28 comments were that, if there was too much space in between the
29 hooks, it became not effective fishing.

30
31 The hook connection to the dropline, hooks may be attached directly
32 to the dropline or attached as snoods, and there is some text in
33 there about the definition of each one of them, where each snood
34 has a single terminal hook, or as gangions, where each gangion has
35 a single terminal hook. Based on testimony from the council and
36 fishers, it's similar. Lastly, the gear connection, it cannot be
37 connected to other gear or to the vessel, and fishers and council
38 members indicated that this was similar. The gear is designed to
39 be released in the water and detached from the boat.

40
41 I took this from the Caribbean Council after-the-meeting
42 documents, and this was presented during the August meeting, and
43 this is a representation of the local buoy gear used in Puerto
44 Rico from Edwin Font, and I added the source here to the right, if
45 you would like to look at it and a description that was provided
46 by Mr. Font during the August council meeting, and you can go to
47 that website.

48

1 With that overview, we have done a draft purpose and need. This
2 is a draft purpose and need, because, obviously, it still needs
3 input from the interdisciplinary planning team that will be working
4 on the amendment, if we are going to move forward. However, we
5 wanted to put this in here to provide an idea of what the amendment
6 will address.

7
8 The potential purposes is to modify the definition of buoy gear as
9 it applies to the commercial sector of the longline and hook-and-
10 line fishery for managed reef fish in each of the island-based
11 FMPs to allow for the use of a specific buoy gear type
12 traditionally used in the U.S. Caribbean to fish for deepwater
13 fish, snappers.

14
15 What is the need? The need is to ensure that commercial fishermen
16 can use the gear traditionally used to harvest deepwater reef fish
17 in the U.S. Caribbean. Basically, what this amendment will do is
18 redefine that gear so that it can be used the way that it's
19 configured as of now.

20
21 Here are two potential options, and these are just options, and
22 these can change, obviously, based on input from the council, and
23 so the first option is what we traditionally include in amendments,
24 and it's the no action, and the no action is what is the current
25 situation, and what is out there without doing anything else, and
26 so the no action would be that the current gear types that are
27 authorized under the commercial longline hook-and-line fishery for
28 managed reef fish in the FMP, which are automatic reel, bandit
29 gear, buoy gear, handline, longline, and rod-and-reel, would
30 remain as specified in 50 CFR Part 622, which is the federal
31 regulations. The current definition of buoy gear would be
32 retained.

33
34 The next two bullets is describing what this means if you take no
35 action. It means that no changes would be made to the list of
36 allowable gear types or how they are defined under the commercial
37 hook-and-line fishery for managed reef fish, and that gear type
38 that is currently used in Puerto Rico and the USVI to fish for
39 deepwater reef fish would continue to not be allowed in federal
40 waters to harvest managed reef fish.

41
42 Then fishermen will need to make arrangements to fish under the
43 current definition, which would require them to reduce the number
44 of hooks used to ten, and so this is what is the current situation
45 if nothing else is done.

46
47 Then, to address this, as we discussed during the past August
48 meeting, the council is interested in allowing the buoy gear to be

1 part of the managed reef fish fishery, and Option 2 would be to
2 modify the definition of buoy gear as it applies to the longline
3 and hook-and-line fishery for managed reef fish, to allow the use
4 of up to twenty-five hooks connected between the buoy and the
5 terminal end.

6
7 This option, what it would do is to modify the definition for the
8 fishery so that it can include that configuration of the
9 traditionally-used buoy gear type from Puerto Rico and the USVI.
10 It will not change the list of allowable gear types, but it will
11 just change that definition, and that last item that I added in
12 there, in the future, if a federal permit is desired, the buoy
13 gear for managed Caribbean reef fish could be redefined to be
14 specific to deepwater snappers, and this is not done at this time,
15 because we don't have a federal permit, but this is something that,
16 if the council in the future would like to look at, and it has
17 been discussed in the past, then we can have a specific definition
18 for that.

19
20 Then there could be an Option 3, if needed, and it could include
21 a different number of hooks for evaluation purposes, but this is
22 something that, once the IPT meets and starts developing the
23 amendment, then it could be included then or not, but the bottom
24 line is that the council requested the use of up to twenty-five
25 hooks by motion, and this is included in these options.

26
27 The next steps will be for the council to decide if they want to
28 move forward with this action, as described in this presentation,
29 and so the way that we are envisioning this is to be a very short
30 one-action amendment that the team could put together so that it's
31 ready so that, by the time the island-based FMPs are implemented,
32 this amendment is very well advanced in its development, so it can
33 be put into place quickly, just kind of like the spiny lobster
34 amendment, where, even before the island-based FMPs are effective,
35 the teams are already working with it, so that it can be put in
36 place as soon as possible.

37
38 If the council decides to move forward, then, as I mentioned
39 earlier, an IPT will be formed to draft the amendment, and, if the
40 IPT agrees, and, obviously, it will depend on timing considerations
41 and workload, but that draft amendment could be presented for
42 council consideration at the spring 2021 meeting, and so this would
43 be an amendment to the three island-based FMPs, and, obviously,
44 each one of the island-based FMPs operates independently.

45
46 If there is something that any of the different islands would like
47 to consider, would like to choose differently, we will, obviously,
48 put that in the amendment. This is the last slide, and, if anybody

1 has any questions, I will take them now.

2
3 **MARCOS HANKE:** Thank you, Maria. That was a great presentation,
4 and thank you for hearing what the fishermen, especially Pauco and
5 others, brought to the table. Are there questions from the group?
6 I have, after everybody finishes, a few things to say.

7
8 **MIGUEL ROLON:** Marcos, I have one, before we go into the full
9 discussion, for Maria. Just for the record, Maria, this has to be
10 an amendment to the three island-based FMPs, or could it be an
11 amendment to the present regulations that we have defined for the
12 gear that are allowed?

13
14 **MARIA LOPEZ:** I believe that we discussed some of that last time,
15 and the advantages of doing it right now is we just get it done
16 through the island-based FMPs. I think, if it would have been the
17 difference in time between what we have right now and when the
18 island-based FMPs would be implemented, it would make more sense,
19 but remember that this is not something that will happen in one
20 month.

21
22 We still have to go through the regular amendment process, and
23 that takes some time, and so, by the time that this would be ready,
24 and this is why we're trying to start it as soon as possible, it's
25 very possible that the island-based FMPs are already going to be
26 effective, and so it will be better, in my opinion, just to go
27 ahead and do this for the island-based FMPs.

28
29 **MIGUEL ROLON:** Maria, would you need a motion indicating that the
30 council wishes at this meeting, or would you like for the IPT to
31 work on it?

32
33 **MARIA LOPEZ:** I don't think so. I think the council already had
34 a motion saying that they wanted to develop an amendment to address
35 this. The only difference in here is that staff agreed to separate
36 this into two amendments, just because this is a situation that
37 should be addressed as soon as possible, and having an amendment
38 with several actions could take, possibly, longer, and so that
39 would be the other thing.

40
41 Addressing the other gears is still in the works, and that's
42 something that we have talked about before, to bring something
43 during the spring council meeting, and so it will still happen,
44 but it's just not -- We would prefer if we can just kind of do
45 this short amendment right now, while we, in the background,
46 continue working on the other part, because that's going to need
47 a little bit more digging into, the historical use of gears, for
48 examples.

1
2 **MIGUEL ROLON:** Marcos, what Maria is saying is very important, in
3 terms of the timeframe that we have for 2021, because remember
4 this amendment has to be prepared and submitted to the council.
5 Once you agree that this is what you want, then it goes to public
6 hearings, and you come back from public hearings, and then you
7 have another meeting, and there you will finalize the whole
8 process, and so we are talking about, if you agree with what Maria
9 is proposing, we will have this amendment and present it to the
10 council at the April meeting, and they will go to public hearings
11 after that meeting. Then, maybe at the August meeting, we will be
12 able to have a final decision for implementation.

13
14 **MARCOS HANKE:** I am so happy to see this presentation and to see
15 this possibility coming up finally. Thank you, Maria. I would
16 like to hear from the council members if they are all in agreement
17 with the pathway that Maria just described to us. Go ahead,
18 Carlos.

19
20 **CARLOS FARCHETTE:** I went out, and I spoke to a few of the deep-
21 drop fishermen here on St. Croix, and they do agree that they want
22 to change the part -- To amend the part about the ten hooks to the
23 maximum twenty-two or twenty-five, and most of them are twenty-
24 two over here on St. Croix.

25
26 However, a big issue with the fishermen here that I interviewed is
27 regarding having the first hook thirty feet from the terminal
28 weighted end, and one of them used me as an example, and he said
29 go over there and stand thirty feet away from me, and, when I did
30 that, he said, okay, now pretend that I am holding a plate of fried
31 fish and rice and beans and now eat.

32
33 I started to laugh, because there's no way that I could reach that,
34 and he said that they fish a maximum of three feet from the terminal
35 end, where the first hook starts, and, if you fish at thirty feet
36 from the terminal end, what you really are going to be catching
37 are sharks and swordfish. You've got to remember that vermilion
38 and silk are caught in around 400 feet of water, while queen
39 snapper is caught anywhere from 800 down to 1,800 feet.

40
41 He fishes mostly at around 1,200 or 1,400 feet of water, and he
42 said that the fish will not go all the way up to thirty feet just
43 to grab a bait, and so I don't know if an amendment can be done to
44 that terminal end description of the first hook and the terminal
45 end, to include that in the amendment.

46
47 **MARCOS HANKE:** Carlos, Maria wants to talk to this part. Maria
48 and then Nelson.

1
2 **MARIA LOPEZ:** Carlos, I'm sorry, and I think that must be a
3 misinterpretation of what it says, and I apologize if, when you
4 and I talked, that's how it was understood. The regulations just
5 say that all hooks must be attached to the dropline no more than
6 thirty feet from the weighted terminal end, and it's not the last
7 hook, and I apologize for that, if it was misinterpreted. It's
8 not supposed to be like that.
9
10 It's as long as all the hooks are within thirty feet from the
11 weighted terminal end. I believe that's how it's done, currently,
12 and I don't know if any of the other fishermen -- Maybe Nelson can
13 corroborate that, because I talked to Nelson yesterday about that,
14 and I believe that's what you have told me in the past as well,
15 and so we'll make sure that, in the amendment, that it's clarified,
16 so that nobody has any confusion about how it's done.
17
18 **MARCOS HANKE:** Thank you, Maria. I'm pretty sure that you are
19 right. Nelson.
20
21 **NELSON CRESPO:** Maria, you are correct, and this is about thirty
22 feet from the end of the line to the weight, and this is a good
23 start, but I think we have to take into consideration -- Because
24 the recreational use electric reels for jigging, and sometimes for
25 fishing in deep waters, and we have to be specific when you are
26 going to evaluate the regulations, to be clear that this is going
27 to be a commercial fishing gear. I don't know how you're going to
28 address that, but it's only to make it clear for the consideration
29 of the recreational use of the electric fishing gears, too.
30
31 **MARCOS HANKE:** Nelson, we lost you.
32
33 **NELSON CRESPO:** I've got an internet problem here, but the
34 recreational use electric reels, and they use it for deep waters
35 too, and so I don't know how you are going to address that issue.
36
37 **MARCOS HANKE:** Yes, and may I, because I work with recreational
38 fishermen, and I have been involved in this discussion for a long
39 time, and I totally agree with Nelson that this should be a
40 commercial fishing gear, because they have other ways to fish
41 recreationally, but not with a buoy gear, and that's a commercial
42 fishing gear. Maria, you asked for a turn to speak?
43
44 **MARIA LOPEZ:** Thank you, Nelson and Marcos, for that comment. I
45 think I mentioned that in the beginning, but the buoy gear is an
46 allowed gear only for commercial, under federal regulations, and
47 my understanding is that, in territorial regulations from Puerto
48 Rico and the USVI, this is not a gear that is allowed for

1 recreational use either, and so that is why the scope of this
2 amendment is only dealing with the commercial sector, because, in
3 the regulations, it's not listed as an allowed gear, and so any
4 changes that we do for this gear will be applicable only to
5 whatever is allowed, and that's only for the commercial.

6
7 Now, if there is any possibility of confusion between this gear
8 and other gears that are being used, that's something that we can
9 definitely talk about, and we will have an enforcement component
10 in the IPT that should be able to provide more information about
11 how to deal with this. Does that kind of answer the question or
12 add a little bit to the comment?

13
14 **MARCOS HANKE:** Yes, and I think it was very clear on your statement.
15 Thank you, Maria. Vanessa.

16
17 **VANESSA RAMIREZ:** Thank you, Marcos. Thank you, Maria, for the
18 presentation. I think that this option that you presented, Option
19 2, practically involves all the efforts that Pauco has been making
20 for all these years. I remember that the first time that I heard
21 about the problem that he had was in 2016, and so I have to say
22 that we should move on this, and, also, thanks to Pauco, because
23 not many fishermen come up to here to present the problems and
24 make things change, and so thank you, Maria, and I hope that this
25 can be solved soon. Thanks.

26
27 **MARCOS HANKE:** Tony, go ahead.

28
29 **TONY BLANCHARD:** I think we should -- I agree with Vanessa, and we
30 should move forward with Alternative 2, Option 2, because this
31 gear is already being used, and I don't really see why, if it is
32 already being used, why we just can't adopt it. I think we should
33 move forward with the amendment.

34
35 **MARCOS HANKE:** Thank you, Tony. Thank you very much. I don't
36 know if Pauco is on the line. Pauco, are you there?

37
38 **GRACIELA GARCIA-MOLINER:** He is on the line.

39
40 **MIGUEL ROLON:** He has to unmute his mic.

41
42 **EDWIN FONT:** I have only one question, and, if it's possible, I
43 want the answer in Spanish. (The rest of Mr. Font's comments were
44 in Spanish and not transcribed.)

45
46 **MARIA LOPEZ:** (Ms. Lopez's response was in Spanish and not
47 transcribed.)

48

1 **MIGUEL ROLON:** (Mr. Rolon's comment were in Spanish and not
2 transcribed.)
3

4 **MARCOS HANKE:** We finally are doing something officially, a remedy
5 or something, and we have a good rationale behind it, with the
6 input from the fishermen, to make it work, which was the historical
7 request from them, and we are on the right track, Pauco. Maria,
8 was there somebody else?
9

10 **MIGUEL ROLON:** Vanessa.
11

12 **VANESSA RAMIREZ:** Thank you, Miguel, but, practically, what I
13 wanted to say, you already said it in Spanish for Pauco, and so
14 thanks for that. It was just clarifying to him about the situation
15 that, right now, we are in the process, but he's not available to
16 fish in federal waters, not yet. Thanks.
17

18 **MARCOS HANKE:** Maria.
19

20 **MARIA LOPEZ:** If you want to use the gear in federal waters, you
21 can always use ten hooks, because that's pretty much the difference
22 in the definition. However, as everybody said, we're working on
23 that.
24

25 The other thing is that this second part of the amendment, where
26 we're going to be looking at the gears, it's very important,
27 because one of the exercises that our team is going to be doing is
28 actually looking at that historical use of the gears, the current
29 use of the gears, to make sure that something like this doesn't
30 happen, and so we want to make sure that the fisheries are defined
31 the way that they are really conducted in the Caribbean, and so
32 just bear with us for a little bit, and have a little patience,
33 and we will be contacting you to get some information, because you
34 are the persons that are using this gear, and have used this gear
35 traditionally, and you are the best persons to tell us what to
36 include and what to address and how this should go. I'm going to
37 say it in Spanish for Pauco. (The rest of Ms. Lopez's comments
38 were in Spanish and not transcribed.)
39

40 **MARCOS HANKE:** Gracias, Maria. Thank you to everybody. We are a
41 little behind schedule. Maria, do you need anything else from us,
42 or we are okay?
43

44 **MARIA LOPEZ:** I believe that all council members agree that we
45 move forward with this amendment as presented in here, and then I
46 don't need anything else, but you let me know.
47

48 **MARCOS HANKE:** Yes, I think you can proceed, and I think it's very

1 clear. Graciela.

2
3 **GRACIELA GARCIA-MOLINER:** One thing that we need to talk about, in
4 the very near future, is the lack of information that we have
5 regarding the way that most of the gears are fished, because there
6 has not been an update to the 1980s or early 1990s description of
7 the fishing gears, and so that is something that needs to be done
8 as soon as possible for each of the three islands. Thank you.

9
10 **MARCOS HANKE:** Maria, I just want to make a comment, following-up
11 on what you requested from us, bringing the discussion of the other
12 gears for the spring meeting, on the follow-up meetings, that is
13 appropriate, and I'm sure that the council has interest in keep
14 discussing and revising and discussing the rest of the gears after
15 this amendment, specifically for the deepwater snapper. We are
16 all set with this presentation, and thank you, Maria.

17
18 **MIGUEL ROLON:** Before you leave this, maybe make this very clear
19 for the record. What Maria is saying is that we will go ahead
20 with this proposal and finish it, and that will be in the spring.
21 Then, following that, we will go into the other gears, and that's
22 where Graciela's comment -- She mentioned that we need to update,
23 and we will proceed to do that, but, at this time, there is only
24 one thing that the council is going to do, and that's to add
25 fifteen more hooks to the line that is allowed to be used by
26 commercial fishermen in the EEZ.

27
28 **MARCOS HANKE:** Okay. Let's keep going. The next item on the
29 agenda is Ecosystem-Based Fishery Management Technical Advisory
30 Panel Report.

31
32 **MIGUEL ROLON:** Mr. Chairman, Orian Tzadik is going to give that
33 presentation on behalf of Sennai Habtes, because Dr. Habtes is now
34 finishing his semester at the university.

35
36 **GRACIELA GARCIA-MOLINER:** Orian, this is just going to be a brief
37 summary report, right?

38
39 **ECOSYSTEM-BASED FISHERY MANAGEMENT TECHNICAL ADVISORY PANEL**
40 **REPORT**

41
42 **ORIAN TZADIK:** Yes. I don't actually have a presentation. As
43 Graciela just said, this is going to be a very quick summary, and
44 so good afternoon, everyone. My name is Orian Tzadik, and I'm
45 presenting today, as Miguel just said, on behalf of the EBFM TAP
46 Chair, Sennai Habtes, who is unable to attend this meeting right
47 now.

48

1 I just wanted to start off by talking a little bit about the
2 Technical Advisory Panel activities recently. As you have seen
3 through the presentations from both the DAPs and the SSC, the EBFM
4 TAP is interested in the ecosystem models, the conceptual models,
5 that are being put together by these different stakeholder groups.
6

7 The process has started with the SSC and the DAPs, and the SSC, as
8 Richard presented earlier, is almost finished, and they are
9 planning to finish at their next meeting in early February, and
10 the DAPs have done their part to complete their ecosystem
11 conceptual models at this point. What's left to do is the analysis
12 of those models, and that's going to be a lot longer.
13

14 There is a meeting scheduled that is a joint SSC and EBFM TAP
15 meeting that's going take place from February 3 to February 5,
16 and, at that meeting, we're going to be listening to several other
17 researchers in the region that are doing ecosystem work as well,
18 and so we'll be getting updates.
19

20 The first of those updates will come from Miguel Figuerola, but
21 we'll also be hearing from Mandy Karnauskas and Kelly Montenero,
22 who are completing the ecosystem status report for the U.S.
23 Caribbean, and we'll also hear from J.J. Cruz-Motta, who will
24 update us on the Lenfest work and the SEAMAP work, and this will
25 be in an effort to try and bring all the different stakeholder
26 groups to the table, and, like I said, we've started with the SSC
27 and the DAP, and then the TAP will be hearing from these different
28 scientist groups, and we will also be interested to hear of any
29 other groups that are working on ecosystem work in the region.
30

31 Once all of that is completed, we're also going to reach out to
32 several other stakeholder groups, and I will mention that in just
33 a minute, and so, at that meeting in early February, Miguel
34 Figuerola will be presenting his work on the Puerto Rico CRIMP
35 dataset that he has analyzed, and the EBFM TAP and the SSC together
36 will discuss whether that information and those analyses can be
37 brought into the ecosystem conceptual modeling, and, more
38 importantly, potentially to the FEP.
39

40 As I understand it, Miguel is also organizing mesophotic data, and
41 he's been working, I believe, with DPNR to collect Virgin Islands
42 information as well. After we hear from the scientists working in
43 the region on ecosystem work, we are also going to solicit other
44 conceptual models, ecosystem conceptual models, from several
45 different stakeholder groups.
46

47 Those stakeholder groups are going to include coastal businesses,
48 fishermen who are outside of the DAPs, environmental NGOs, and

1 academics, and, for all four of those groups, we will solicit
2 ecosystem models on each of the three islands, and we will be
3 getting groups together to do the same kind of conceptual modeling
4 exercises that the DAPs and the SSC both did.

5
6 We hope, by doing all of this and including all these different
7 stakeholder groups, that we're going to be advocating an inclusive
8 approach, and we'll be able to have all these different viewpoints
9 represented in the eventual fishery ecosystem plan.

10
11 The last thing that I want to present to this group today is to do
12 with a project that is specific to the EBFM TAP and the FEP, and
13 it's going to be headed up by Liajay Rivera of the council staff,
14 and that is going to include cataloging all the different marine
15 managed areas outside of the council purview, and so, for example,
16 finding details of all the other areas under management in
17 different jurisdictions, jurisdictions such as the Coast Guard or
18 the Department of the Interior or things like that.

19
20 We're going to try and find those -- Or Liajay is going to try and
21 find those management plans, put them all together, and create
22 some sort of reference, so that we're dealing with the entire
23 ecosystem efforts that are under different jurisdictions.

24
25 That was the update that I had for everybody today, and I'm sorry
26 that I don't have a presentation, but I will be happy to answer
27 questions the best I can. Otherwise, I would encourage everybody
28 -- We should have more for you early in the meetings next year.

29
30 **MARCOS HANKE:** Thank you, Orian. Thank you for the update. We
31 have space for two questions, to keep on the schedule. Are there
32 any questions? Hearing none, thank you, Orian. We will keep
33 moving. The next presentation is the St. Croix Territory/Federal
34 Compatible Fishing Regulations and Carlos Farchette.

35
36 **ST. CROIX TERRITORY/FEDERAL COMPATIBLE FISHING REGULATIONS**

37
38 **CARLOS FARCHETTE:** Thank you, Mr. Chair, and thank you, Natalia,
39 and I will have you switch over the slides for me. I think it's
40 easier for me to do that. All right. I know, a couple of meetings
41 ago, I spoke about starting the discussion on compatible
42 regulations for the St. Croix Island-Based Fishery Management
43 Plan.

44
45 Some of the topics that I wanted to address, and I know there's a
46 lot, and, before I go any further, I want to again reiterate all
47 the help that Maria and Sarah have been giving me, and it's worth
48 repeating every time. They've done an excellent job of the table

1 that they worked on for me, and, for that, I thank them very much.
2
3 Some of the topics that I want to talk about is gear, fish, and
4 spiny lobster. We had a meeting, not too long ago, a virtual
5 meeting, with Maria and Sarah and Nicole Angeli, the Director of
6 Fish and Wildlife, and Madeline, who is a new employee, and I'm
7 sure that, maybe tomorrow, or today, Nicole will introduce her and
8 let you all know what her role is going to be in the division, and
9 it has to do with either policy coordinating or policy, one of
10 those things.

11
12 When it comes to the impact -- When we start to discuss compatible
13 regulations, there is going to be some kind of impact to the
14 fishermen, and a simple one that I can come up with is, right now,
15 if we overrun an ACL, that particular species that has been overrun
16 is closed for whatever duration of time is going to be required
17 for it to recover, but it will not affect territorial waters.

18
19 Take, for example, what happened years ago with spiny lobster. It
20 ended up being overrun on St. Croix, but the overrun was only ten
21 days, and the overrun only affected Lang Bank on St. Croix, because
22 that's the only area, federally, that you can dive for lobster on
23 St. Croix.

24
25 Things like that is going to impact the fishermen. Also, the
26 species. I think lane -- I would have to look in the handbook,
27 but lane and some other species that are closed for a certain
28 amount of time in federal waters is still open on St. Croix,
29 because the depth of water that they fish for them falls within
30 the territorial limits.

31
32 Then we have the significance of the difference with federal
33 regulations, and there is a lot of language that needs to be
34 addressed on both sides of the aisle, when it come to the
35 fishermen's handbook for the territory and also for the federal
36 side, and I don't want to take up too much time, but we're going
37 to be discussing this a little later on again.

38
39 Also, the type of policy change that's going to be needed, whether
40 or not it's something that can be easily signed-off on by
41 Commissioner Oriol or whether or not it's something in there that
42 has to go through the legislature for approval.

43
44 Here are some of the examples here. Fish trap construction and
45 mesh size, when it comes to the mesh size of fish traps, in St.
46 Croix, it says that -- The regulations booklet states that all
47 traps must have a minimum of 1.5 hexagonal mesh as the smallest
48 mesh on two sides of the fish trap, but it also states that all

1 fish traps and mesh size of at least two inches square or a hex
2 two inches between opposite sides of the hexagon is the smallest
3 mesh size, and so, in the federal side, it explains it a little
4 differently.

5
6 We have a document here signed by Governor de Jongh where it
7 explains about all traps would meet -- In 2000, all traps would
8 meet the two-inch minimum size, but, if you measure a hexagonal
9 inch-and-a-half wire at its widest point, it's like two-and-a-
10 sixteenth of an inch, and so, although it meets the criteria, I
11 think the wording is where the issue is.

12
13 Also, when it comes to buoy markings and trap lines. In federal
14 waters, if you have a string of traps, you need two buoys, one at
15 the front and one at the end. While in territorial waters, you're
16 only required to have one buoy, and that's also language stuff
17 that we can probably take a look at and change.

18
19 The escape panels, I think we need a little clarity on the design
20 of the panels. I know, in federal waters, it's eight-inch-by-
21 eight-inch, and I believe it's also in territorial waters. I lost
22 the -- I hope I didn't lose everybody, but I lost the screen.

23
24 **MARCOS HANKE:** I can hear you, Carlos, but I don't see the screen.

25
26 **CARLOS FARCHETTE:** Okay. Well, anyway, I'm going to continue,
27 because this is going to take a lot more discussion than today,
28 and it's going to take quite a few years to bring this all to
29 fruition.

30
31 **MARCOS HANKE:** Go ahead, Carlos.

32
33 **CARLOS FARCHETTE:** We also have the issue with the spiny lobster
34 tail weight, where, in the Virgin Islands, there's a six-ounce
35 minimum, but, in federal waters, it's 5.926 ounces, and that's
36 also a language -- Something in the language that can be fixed
37 pretty easily, and I don't think anybody would have an issue with
38 coming down to whatever point, but we also have issues with using
39 spiny lobsters as attractants.

40
41 I don't think the federal -- The CFR does not talk about spiny
42 lobster juveniles or being used as a attractants in the fish traps.
43 However, in the territorial waters, they're allowed to be retained
44 in a fish trap as an attractant, and that's something that we need
45 to take a look at.

46
47 Size limit, when it comes to fish, yellowtail snapper. I've been
48 speaking to quite a bit of fishermen, and they do agree that a

1 twelve-inch snapper is not an issue that they would have a problem
2 with adjusting, because most of their yellowtails are way past the
3 twelve-inch minimum size, since it's tail length and not fork
4 length.

5
6 **MIGUEL ROLON:** Carlos, we are back on the screen. Natalia lost
7 her connection, but Liajay is switching over. Can you see the
8 screen?

9
10 **CARLOS FARCHETTE:** Yes, you're on the screen.

11
12 **MIGUEL ROLON:** Okay. Just tell Liajay to go ahead for the next
13 slides. Sorry for that.

14
15 **CARLOS FARCHETTE:** Okay. On the parrotfish, I know that we agreed
16 in federal waters that the redband would have a minimum size of
17 eight inches, and all other parrotfish would be nine inches, and
18 the fishermen also agree that they don't have a problem with that
19 either, and so I think that that would be an easy fix, when it
20 comes to compatibility.

21
22 The prohibited species, the midnight, blue, and rainbow, we agreed,
23 at a council meeting, to prohibit the harvest of those species.
24 However, at that time, and I don't even remember who the
25 commissioner was at the time, but we did not approve that for
26 territorial waters, and that's also an easy fix. I think everybody
27 is in agreement that those three species should be protected.

28
29 I did speak about the spiny lobster and the tail weight and the
30 egg-bearing or undersized being used as attractants, and I'm not
31 sure how much of that would be accepted in federal waters, but we
32 will work on that. Then, for the recreational bag limit for spiny
33 lobster, we don't have that yet, but we're working on a
34 recreational license program which would address bag limits of
35 species. That might be it. It seems like that's it.

36
37 Anyhow, I would like to know if the council wishes to move forward
38 with discussing compatibility on the regulations, and I know that
39 in the handbook, there are things like, on the territorial size,
40 the use of hookah gear is prohibited to harvest fishery resources.
41 However, on the federal side -- They don't call it hookah gear,
42 and they call it continuous air supply from the surface, which is
43 a hookah gear, and so maybe those wordings can be addressed
44 somehow, but it's only -- In the federal waters, it's only for
45 queen conch that they're prohibited to use a hookah, and I think
46 that all species should be prohibited from being caught with a
47 hookah, hookah gear.

48

1 I have a couple of things here that I marked off. We also
2 discussed, and I was looking everywhere in that table that Maria
3 and Sarah developed for me, when it came to coral, and, in the
4 handbook -- In the CFR, it protects coral. However, on the
5 territorial side, I did not see anything referencing coral, but,
6 in the VI Code, it's referenced in the Coastal Zone Management
7 Act, where Title 12, Section 906 states that, to this end, sand,
8 rock, mineral, marine growth, and coral, including black coral,
9 natural material, or other natural products of the sea, excepting
10 fish and wildlife, shall not be taken from the shorelines without
11 first obtaining a coastal zone permit.

12
13 That really doesn't clarify much, because that says "shoreline",
14 and so that's something that washed up, and I think, at one time,
15 it said dead or alive, but I don't see that language in there
16 anymore.

17
18 Things like that are what we need to work on, and I would be happy
19 to send this out, but I think that the very important people that
20 need to be making these decisions is Director Angeli and the
21 council staff. I think they need to meet and discuss all these
22 issues, to see how we can start the discussion.

23
24 I also think that, eventually, when everything is said and done,
25 the district advisory panels need to meet and see what they think
26 about what has been proposed, and this is -- I know I'm talking
27 about the St. Croix land-based plan, but Puerto Rico or St. Thomas
28 can also jump on this at the same time, or wait until we finish
29 ours and see what happens, and I'm not sure, but that's all I have,
30 Mr. Chair.

31
32 **MARCOS HANKE:** Thank you very much, Carlos. We need to move along
33 a little quicker, and I need to hear from -- Go ahead, Miguel.

34
35 **MIGUEL ROLON:** Marcos, just let Puerto Rico and St. Thomas/St.
36 John think about this and come back to us at some other time, if
37 they want to, and I believe this is a lot of work, like Carlos
38 says, and our proposal is for us, Graciela and I, to meet with
39 Carlos and Dr. Angeli at the beginning of 2021 and see what is
40 needed to be done, because there's a lot.

41
42 Remember that some of these things will require amendments to the
43 law in the U.S. Virgin Islands, and others would require maybe --
44 I don't know, and we would have to see, but maybe amendments to
45 the island-based FMPs, because remember that all of this is
46 predicted on the implementation of the island-based FMPs, and they
47 have been approved, and we're just waiting for the implementation
48 that should occur in 2021.

1
2 Then, if Puerto Rico or St. Thomas would like to -- If St.
3 Thomas/St. John would like to start considering this, they can let
4 us know right now, or later, via an email, because, again, Dr.
5 Angeli will be representing both St. Thomas/St. John and St. Croix,
6 from the point of view of the government, and then we -- If somebody
7 from St. Thomas would like to do the same thing that Carlos is
8 doing, for example Tony, the council member, we can go ahead and
9 have that committee. When it comes to Puerto Rico, we need to
10 hear from Damaris if they would like to do such a thing, and then
11 we can have let's say three stages.

12
13 The first one will be St. Croix, followed by St. Thomas/St. John,
14 and then Puerto Rico. They could be one after the other or parallel
15 to each other, because remember that all of this is a lot of work
16 underneath that we need to do, the staff, and, also, we need to
17 consult with the Regional Office on the different aspects of this.

18
19 For example, if we are going to talk about a permit, there are
20 some requirements about a permit, et cetera, et cetera, and so, in
21 essence, our proposal, Mr. Chairman, is to -- The top priority is
22 to continue the work with Dr. Angeli and Carlos in St. Croix, and
23 then, from here, let's hear from Puerto Rico and the Virgin Islands
24 if they would like to follow suit on this one at this time or
25 later, or if they prefer to wait and see what happens with St.
26 Croix.

27
28 **MARCOS HANKE:** That was my question to Puerto Rico and to St.
29 Thomas/St. John, if they want to pursue this now or they want to
30 do it later.

31
32 **JULIAN MAGRAS:** I think -- You know, it's something that we've
33 been discussing for a few years, and it's good to start discussion.
34 The only problem, in St. Thomas/St. John, is we don't have a
35 working fishery advisory committee, as St. Croix does. If we can
36 get a fishery advisory committee up and running, that's one of the
37 items that I would like to see, is to start the discussion with
38 that committee, because you need that full involvement from that
39 committee, which represents the territorial sector.

40
41 Of course, then we can have the discussions with Maria Lopez and
42 Sarah Stephenson for the federal side and move forward from there,
43 and we are very interested, but, until we can get that committee
44 up and running, I think our hands are tied.

45
46 Through members of the Fishermen's Association, we have had a lot
47 of discussions about it, and I've had discussions with Mr.
48 Blanchard, and we have some ideas and stuff that we would like to

1 very quickly move forward, similar to what Carlos Farchette said,
2 and so we are interested, and, if we can get the FAC up and running,
3 and maybe some members from the DAP and some members from the
4 Fishermen's Association are open to sit down and have some
5 discussions, and so that's where I stand with moving forward with
6 this project.

7

8 **MARCOS HANKE:** Thank you, Julian. From Puerto Rico? Tony, go
9 ahead.

10

11 **TONY BLANCHARD:** I have to agree with Mr. Magras. I think the FAC
12 should be up and running, seeing that they are the local fishery
13 advisory committee, for their input and not just up to the Director
14 of Fish and Wildlife and maybe a handful of other people. I think
15 the job is to come up with ways of managing the territorial waters,
16 and I don't really believe that, in my opinion, that the territory
17 should necessarily fall 100 percent compatible with the federal
18 regulations. I think somewhere in between there it has to be on,
19 a case-by-case decision that needs to be made.

20

21 The reason is just like anything else. If you look at the federal
22 laws in the states, and the state laws, they are separate for
23 certain reasons, and I think it should be kept the same way, and
24 I think decisions need to be made, which some should be compatible
25 and others should not. Once again, I think the FAC needs to be up
26 and running for their input, as well as the DAPs.

27

28 **MIGUEL ROLON:** Marcos.

29

30 **MARCOS HANKE:** Go ahead, Miguel. We are a little late on the
31 schedule.

32

33 **MIGUEL ROLON:** Yes, I know, but I wanted just to finish this part.
34 I believe that the council can go ahead and start working with St.
35 Croix first, and then, following Julian's and Tony's intervention,
36 we should wait until they have the FAC first meetings, and then we
37 can put together -- We can help put together a meeting, first
38 meeting, with St. Thomas/St. John to discuss this, and then, from
39 the point of view of the council, Tony as the Vice Chair, and
40 Julian as Chairman of the DAP, can join in with the staff of the
41 division and the staff of the council, but we should wait until
42 that time.

43

44 Then Puerto Rico, if Damaris would like to do the same thing, we
45 need to hear from her when and all that. In the case of Puerto
46 Rico, we are waiting for the new government to be in place, and
47 that will happen in January of 2021, and so, until that time,
48 probably we need to wait a little bit, but maybe Damaris has an

1 idea of how to proceed. Damaris, are you with us?
2
3 **MARCOS HANKE:** I think she is having problems with communication,
4 Miguel.
5
6 **VANESSA RAMIREZ:** Marcos, could I have a turn, please?
7
8 **MARCOS HANKE:** Go ahead, Vanessa.
9
10 **VANESSA RAMIREZ:** I was making the comment that, if Damaris doesn't
11 talk, I just wanted to put on the record that already in Puerto
12 Rico the commercial fishermen have been asking for the lobster --
13 For example, that it's three in federal and 3.5 in state waters,
14 and so those are already --
15
16 **MIGUEL ROLON:** Vanessa, before you continue, spiny lobster is the
17 only one that is the same across the jurisdictions, and so the
18 spiny lobster is 3.5 everywhere.
19
20 **VANESSA RAMIREZ:** I think that Damaris will be bringing something
21 to the next meeting.
22
23 **MIGUEL ROLON:** Exactly, and so that's -- Following Vanessa's
24 intervention, Marcos, and because of the time, probably we can go
25 ahead and move forward with the St. Croix proposal and wait until
26 the FAC meets in St. Thomas, and then we will talk to Damaris in
27 the first quarter of 2021, to see how it goes, and I believe that,
28 the same that we have done in the Virgin Islands, Vanessa could be
29 a member of that committee that is going to be formed, if ever, to
30 have compatible regulations.
31
32 Puerto Rico fishers have been asking for compatible regulations
33 for a long time, and we have talked and talked about it, but
34 nothing has happened. For example, if you go to Bajo de Sico and
35 Tourmaline, you have two areas where the local government and the
36 federal government have regulations, and you can put a boat there,
37 and the frontend of the boat will be in one regulation and the
38 back of the boat will be in another set of regulations. Let's see
39 what happens next year, but this is something that should be a
40 priority in the council's schedule for 2021.
41
42 **MARCOS HANKE:** Thank you, Miguel. We are ready for the next
43 presentation. Graciela, can you put up on the screen the
44 presentation? The presentation is a project made by the students
45 of Humacao, in collaboration with many collaborators and
46 scientists and those students are students from the University of
47 Humacao, UPR Humacao.
48

1 I'm glad to present two of the presenters, and that will be Kiara
2 Torres and Paola Sotomayor, and Kiara is going to start the
3 presentation, and Paola is going to follow-up. We also want to
4 acknowledge that this presentation was prepared by Eva Collazo and
5 Gabriela Hernandez, two other students that collaborated very much
6 on this project, but they couldn't be available to present or to
7 be on the meeting at this time. Let's start with Kiara. Go ahead,
8 Kiara.

9
10 **UNIVERSITY OF HUMACAO PRESENTATION**

11
12 **KIARA TORRES:** (Ms. Torres' presentation was in Spanish and was
13 not transcribed.)

14
15 **PAOLA SOTOMAYOR:** (Ms. Sotomayor's presentation was in Spanish and
16 was not transcribed.)

17
18 **MARCOS HANKE:** We are ready for the next item on the agenda.

19
20 **GRACIELA GARCIA-MOLINER:** You have Jocelyn D'Ambrosio with the
21 Update on the Queen Conch Rebuilding Plan.

22
23 **MARCOS HANKE:** Jocelyn.

24
25 **UPDATE ON THE QUEEN CONCH REBUILDING PLAN**

26
27 **JOCELYN D'AMBROSIO:** Thank you. I'm just going to give a brief
28 update, and I will actually start with the process that's going on
29 with queen conch and the Endangered Species Act. We've talked
30 about this before, and, in 2014, the agency had made a
31 determination not to list queen conch under the Endangered Species
32 Act.

33
34 The agency then petitioned to list queen conch and made that
35 determination following the status review, and that decision was
36 challenged, and, last year, a District Court vacated NMFS'
37 decision, and so they remanded that to the agency to reconsider,
38 and so, in light of that ruling, NMFS has been reevaluating the
39 status of queen conch, and again is going to make a determination
40 about whether or not to list the species under the Endangered
41 Species Act.

42
43 Within the U.S. Caribbean, queen conch had been under a rebuilding
44 plan, and that was a fifteen-year rebuilding plan that the council
45 put in place, and that time period is ending this year, and so the
46 agency also will begin the process to evaluate whether queen conch
47 is rebuilt, and it was in a rebuilding plan because it had been
48 determined to be overfished, and so that would be another

1 evaluation of the stock status, but within the U.S. Caribbean, and
2 so the agency is going to be looking into that and making sure
3 that those processes are working together, to make sure that we're
4 sharing information among the different prongs here and evaluating
5 the queen conch status.

6
7 We don't really have an update on the status, and this is just
8 about the processes that are ongoing, and we expect to have further
9 updates as we have more information, as the status reviews unfold,
10 and I'm happy to answer any questions that anyone might have about
11 next steps or about these processes.

12
13 **MARCOS HANKE:** Go ahead, Carlos.

14
15 **CARLOS FARCHETTE:** Thank you, Jocelyn. If the rebuilding plan is
16 about to expire, and you make a determination that it has not been
17 rebuilt, and so I guess we would go back and extend the rebuilding
18 period?

19
20 **JOCELYN D'AMBROSIO:** I think that's right, and so we might need to
21 develop another amendment to just confirm that and make sure that
22 that's all written up, but, yes, we would probably just extend it,
23 if it wasn't rebuilt. The regulations, or the guidelines rather,
24 talk about maintaining the fishing rate at the current level, if
25 you determine it's not rebuilt, and so we would have to evaluate
26 that process, if that was the determination.

27
28 **ROY CRABTREE:** What we're recommending is that we let the status
29 review process work through and let the agency make a decision
30 about listing or not listing. Obviously, if the decision was to
31 list queen conch as endangered or threatened, that would change
32 the whole scenario, but, if the decision is that listing is not
33 warranted, then I think we could come in with queen conch and re-
34 look at it to determine whether we ought to switch the status to
35 unknown, which is what most of our stocks are, and then we would
36 just have management in place, or whether we would come in and set
37 up a new rebuilding plan.

38
39 I don't know what the answer to that is, and I think, at some
40 point, we'll want to have a discussion with the Science Center
41 about how we might look at it and reference points and things like
42 that, but it's hard to really do anything or know how to proceed
43 until we work through the status review and until there's a
44 decision made about listing.

45
46 **CARLOS FARCHETTE:** Okay. Thanks, Roy. Thanks, Jocelyn.

47
48 **GRACIELA GARCIA-MOLINER:** Marcos, you have Richard asking for a

1 turn to speak.

2

3 **MARCOS HANKE:** Go ahead, Richard. I have a little problem with my
4 audio, and I'm sorry, everyone. Go ahead, Richard.

5

6 **RICHARD APPELDOORN:** As everybody knows, the primary data input
7 for the consideration of the status of the conch are the SEAMAP
8 surveys, and these are now -- They have already been delayed for
9 several years, most recently due to COVID, but they are scheduled
10 to occur as soon as health conditions, I guess, allow resumption
11 of those field surveys, both in the Virgin Islands and in Puerto
12 Rico, and so we haven't had a formal survey in something like seven
13 or eight years.

14

15 There has been, however, interim work done by Ron Hill and his
16 colleagues in St. Croix, and there was a student who did a master's
17 thesis looking at technologies for doing surveys, but, in the
18 process, did a whole bunch of transects, and both of those showed
19 fairly high conch densities, and so there is some room for optimism
20 about the status, but we will actually be able to confirm where we
21 are once we can get those SEAMAP surveys underway, and so that's
22 my comment.

23

24 **MARCOS HANKE:** Any other comments?

25

26 **GRACIELA GARCIA-MOLINER:** I mean, to continue with Richard's
27 comments, there is also the data from the mesophotic reefs that
28 actually also show high densities of conch in the mesophotic areas
29 off the west coast of Puerto Rico, an area that has been closed
30 for a number of years, because, really, the only area that is open
31 in the EEZ is the Lang Bank, and so it definitely affects most
32 directly the St. Croix fishers. When we would have information
33 what data are being analyzed and the report that's been written,
34 Jocelyn?

35

36 **JOCELYN D'AMBROSIO:** Right now, we have a status review team that
37 NMFS has compiled that is evaluating the status of queen conch
38 throughout its range, and I think they're working on putting
39 together that status review report.

40

41 I think the expectation is to have that sometime next year, the
42 middle of next year, maybe around May, and so, as we get more
43 information on how that's proceeding, we can share that, and then,
44 as Roy mentioned, letting that ESA process play out a little bit
45 more, so we understand how that's going to unfold and then next
46 steps with the status within the U.S. Caribbean, but the short
47 answer is the status review team is evaluating the status, and
48 they are expecting to have a report.

1
2 Then, from there, the agency would move forward with making the
3 determination about listing. We reported earlier that they were
4 soliciting comments for the status review, and that period had
5 ended, but that process is still going forward.
6

7 **ROY CRABTREE:** I think the agency could probably update you at
8 future meetings about where all of this stands. Just bear in mind
9 that the status review and the listing decision will be for the
10 entire Caribbean Basin, and so this will include Florida and the
11 Bahamas and all of it, and so the U.S. Caribbean is really just a
12 very small area, when you look at it in terms of the entire
13 Caribbean.
14

15 **CARLOS FARCHETTE:** Right, and, to that point, that would mean that,
16 if other countries are decimating the conch population, and they
17 determine that it is going to be listed, even if we're doing the
18 right thing, we still pay the price, right?
19

20 **ROY CRABTREE:** If it's listed, that will create some issues for
21 you. If it was listed as endangered, which -- It would prohibit
22 all take everywhere. If it was listed as threatened, it wouldn't
23 necessarily prohibit all take, but I think even a threatened status
24 would be difficult to justify a directed harvest.
25

26 The ESA regulations, I mean, the U.S. would put in place would
27 affect the Florida fishery and the U.S. Caribbean, and it wouldn't
28 necessarily affect the other countries, because, really, they're
29 not under U.S. jurisdiction, but one thing that the U.S. might
30 look at, and could look at, would be a prohibition on the
31 importation of conch as well, and so there are lots of things that
32 could happen, and it's just got to play through, but, clearly, if
33 the decision was reached to list queen conch, either as threatened
34 or endangered, it will have a big impact on fisheries in U.S.
35 waters.
36

37 **CARLOS FARCHETTE:** Right. Okay. Thanks.
38

39 **MARCOS HANKE:** Anybody else?
40

41 **GRACIELA GARCIA-MOLINER:** One more question, Roy. There is a
42 hatchery that is being developed in Naguabo as we speak, and, I
43 mean, they are collecting queen conch to have it grown in situ and
44 then to replenish the nearshore habitats, and how would an ESA
45 listing impact a hatchery that is already creating jobs, et cetera?
46

47 **ROY CRABTREE:** Where did you say it was?
48

1 **GRACIELA GARCIA-MOLINER:** In Naguabo, and it's on the east coast
2 of Puerto Rico.

3
4 **ROY CRABTREE:** They would have to look at it. It wouldn't
5 necessarily preclude something like that, particularly a
6 threatened listing. For example, many of the coral species, the
7 staghorn and elkhorn coral, there are quite a lot of those in
8 captivity, and we do culture operations and then replant corals
9 and reestablish them, and so this is kind of like that, and so
10 they would potentially have to get permits, under the ESA, but it
11 wouldn't necessarily preclude it.

12
13 Generally, with a threatened listing, for some things at least,
14 and I think we did this for some of the corals, it excluded
15 scientific work and takes for research purposes, which might cover
16 a hatchery, and so it's difficult to say, but it certainly wouldn't
17 necessarily preclude it.

18
19 **GRACIELA GARCIA-MOLINER:** Thank you. Marcos, you have Vanessa
20 asking for a turn to speak.

21
22 **MARCOS HANKE:** Vanessa, go ahead.

23
24 **VANESSA RAMIREZ:** Thank you, Marcos. I just wanted to make a
25 comment, and I already texted Graciela about this, but I think
26 this is the time that we should start looking at the consideration
27 of the queen conch, and it's been, from my experience -- (Part of
28 Ms. Ramirez's comment is not audible on the recording.)

29
30 **GRACIELA GARCIA-MOLINER:** I don't know if it's me or everyone else
31 is having a hard time listening to Vanessa.

32
33 **MARCOS HANKE:** We are having a hard time to listen to her.

34
35 **ALIDA ORTIZ:** I can't listen to her either.

36
37 **GRACIELA GARCIA-MOLINER:** Let me -- I think I can provide you with
38 some information. She was just saying that she had texted me the
39 fact that there have been incredible landings of queen conch. I
40 think that, after the 2017 hurricane, it took a while for queen
41 conch to, quote, unquote, come back, but they are reporting 500 to
42 600 pounds daily, and that's only in Cabo Rojo, in Puerto Real,
43 one of the fishing villages on the west coast.

44
45 I believe that she was talking about the fact that it's being found
46 in very shallow waters, in ten to thirty feet of water, and they
47 are actually seeing conch reproducing, and so egg masses have been
48 found in the shallower areas. Let me see. I am reading through

1 what she sent me.

2
3 It would be a good time to put divers in the waters, in some kind
4 of cooperative research, to collect the data on what they are
5 actually seeing. I think that I covered pretty much what Vanessa
6 -- Okay. She agrees.

7
8 **MARCOS HANKE:** Thank you, Graciela, and thank you, Vanessa.
9 Anybody else have any comments? Otherwise, we're going to go to
10 the next item on the agenda, which will be the Public Comment.
11 Let's go to the public comment, and I think we have Pauco that
12 requested time for public comment. Graciela, do you have the
13 letter that Pauco sent to put on the screen?

14
15 **GRACIELA GARCIA-MOLINER:** I think that it's Liajay that is driving
16 now, and so here is the letter.

17
18 **PUBLIC COMMENT PERIOD**

19
20 **EDWIN FONT:** (Mr. Font's comments were in Spanish and were not
21 transcribed.)

22
23 **MARCOS HANKE:** Thank you, Pauco. Nelson Crespo.

24
25 **NELSON CRESPO:** (Mr. Crespo's comments were in Spanish and were
26 not transcribed.)

27
28 **VANESSA RAMIREZ:** Marcos, just for the record, I am also suggesting
29 that, given the importance to Pauco's letter and continuing with
30 this in the next meeting, checking the necessary things, or
31 checking out letters, and since 2019 he has sent those, and so I
32 think he deserves that we check on that. Thanks.

33
34 **MARCOS HANKE:** Gracias, Vanessa. Maria.

35
36 **MARIA LOPEZ:** I want to thank Pauco for his presentation and his
37 comments, and we're very happy to assist you and Nelson, and so we
38 have the information that you provided, and we have letters, both
39 in Spanish and in English, and the information that you have
40 previously presented, and, at this time, if the council would like
41 to request staff to look into this action in some way, they can
42 definitely request that from the staff, and we will be happy to do
43 that. Thanks.

44
45 **MARCOS HANKE:** This is what I am hearing from the representatives
46 of Puerto Rico, where Bajo de Sico is, and I agree with them, and
47 I think we should visit and discuss this again. Other members of
48 the council, last words? Hearing none, Maria, you don't need a

1 motion, correct?

2

3 **MARIA LOPEZ:** If you have a direction, if the council has a
4 direction, that they would like to take regarding this, I believe
5 a motion would be a good way of doing that.

6

7 **MARCOS HANKE:** Can we use Pauco' request and explore other
8 alternatives for the place, to create a comment?

9

10 **MIGUEL ROLON:** I am in the other meeting too, and one ear for one
11 and one for the other, but you need to decide really what you want
12 to do, and this meeting is not the place to do anything. What we
13 should do is to allow the staff, Graciela and Maria, to put this
14 in -- To order this, and then, for the next meeting in April, come
15 with some ideas of what can be done.

16

17 The thing that he is doing, Puerto Rico has to say something, and
18 Puerto Rico has to work on it, and I have a message from Puerto
19 Rico that Damaris has a problem with connections, but she knows
20 what we want to do, which is ask her for compatible regulation
21 negotiations or meetings, and they will start that next year, but
22 Wilson is going to talk to her, and probably, tomorrow morning,
23 she will say something to that point.

24

25 **GRACIELA GARCIA-MOLINER:** Marcos, you have Roy Crabtree also
26 waiting to speak.

27

28 **MARCOS HANKE:** Yes. Roy, go ahead.

29

30 **ROY CRABTREE:** Well, it seems to me that, every time we go into
31 Bajo de Sico, it really is opening a can of worms, and it has been
32 very controversial, on occasions. The most people I have ever
33 seen turn out for public comment at a Caribbean Council meeting
34 was in western Puerto Rico, due to some of these issues, and so I
35 won't be around, and so it's up to you guys, but, for what it's
36 worth, this is not something that I would encourage you to open up
37 or to go into again, but it's your call.

38

39 **MARCOS HANKE:** Thank you, Roy. Actually, I want to make a question
40 to you. Are you going to be with us tomorrow, on the tomorrow
41 meeting?

42

43 **ROY CRABTREE:** I cannot. I have a South Atlantic Council meeting
44 that's going on at the same time, and so I'm just here with you
45 today, and that's it, and then I am retiring at the end of the
46 month, and then I expect that the Deputy, Andy Strelcheck, will
47 become the Acting Regional Administrator for a while, and then
48 he'll have to make new designations and things for the next

1 meeting.

2
3 **MARCOS HANKE:** The reason for my question is to say, again, of my
4 gratitude, and I'm so honored to work with you, and I know that
5 the council expressed to you our gratitude for all the effort and
6 the patience and the knowledge and the support that you gave to
7 the Caribbean region. Thank you very much, Roy. In my opinion,
8 and I know that the council agrees with that, you made a big
9 difference in our region, and thank you very much.

10
11 **ROY CRABTREE:** Thank you, Marcos. I appreciate those kind words.

12
13 **MARCOS HANKE:** In terms of the --

14
15 **MIGUEL ROLON:** Would anybody like to say something to Roy, any
16 other council member? I, for one, would like to say, again, that
17 Roy probably has been one of the best, if not the best, Regional
18 Administrators that we've had in a long time, and I wish him the
19 best in his new endeavor, and just to let him know that he has
20 some friends here, and so, if you're ever in Puerto Rico after
21 COVID and want some coffee, let us know. We have some places that
22 we can take you. Thank you, Roy, for all these years.

23
24 **ROY CRABTREE:** Thank you, Miguel. Thanks to all of you. You've
25 been a great group, and I've really enjoyed my times in the
26 Caribbean, and hopefully, when we get through COVID and all this,
27 I'll be back down there sometime.

28
29 **MARCOS HANKE:** We have Nicole Angeli also sending a message to
30 you, Roy, on the chat. It says thank you for your support and
31 help, Roy. I am sorry to interrupt the discussion before, but
32 this is important, to recognize all the help and the support that
33 Roy gave to our region. Maria, like Miguel says, we're going to
34 let the staff work with this letter, and with the possibility for
35 maybe a presentation at the next meeting, to follow-up on the Bajo
36 de Sico thing, and then we will decide what to do.

37
38 **MARIA LOPEZ:** Noted. Sounds good.

39
40 **MARCOS HANKE:** Thank you very much. Any other --

41
42 **GRACIELA GARCIA-MOLINER:** Mr. Chair, I would encourage everyone to
43 go to our website and look under Library, to the technical reports
44 on what has been found at Bajo de Sico, and so it's not only the
45 shallower part of Bajo de Sico, but it's also the mesophotic reefs,
46 and it's also the deeper water around Bajo de Sico, and so I will
47 encourage everyone to go look at that and look at the AUV work and
48 the ROV work that's been done in the area, so that you see what

1 other resources you are protecting, and you have been protecting,
2 in and around Bajo de Sico. Thank you.

3

4 **MARCOS HANKE:** Thank you, Graciela. We all need to read, again,
5 and make sure that we have the best information to follow-up on
6 this issue, because Bajo de Sico is very important to everybody.
7 It's conflictive, but it's important, but we need to discuss it a
8 little more. Is there anybody else from the public? Wilson.

9

10 **WILSON SANTIAGO:** For the record, I just want to say that Damaris,
11 like Miguel said, had a problem, connection problem, and I
12 addressed the matter that you asked for feedback from her, and
13 maybe tomorrow she will have her answer for Miguel, for the
14 council.

15

16 **MARCOS HANKE:** Okay. Thank you very much. Hearing that we don't
17 have anybody else from the public, I am ready to adjourn the
18 meeting. Thank you to everybody, and I think it was a little
19 longer than expected, and thank you for your patience, but we had
20 the opportunity to hear from the fishermen, and I'm sorry about
21 the problems in the translation. If there is any missing
22 information, any help needed, we are able to help. Thank you.
23 The meeting is adjourned.

24

25 (Whereupon, the meeting recessed on December 8, 2020.)

26

27

- - -

28

29

DECEMBER 9, 2020

30

31

WEDNESDAY MORNING SESSION

32

33

- - -

34

35 The Caribbean Fishery Management Council reconvened via webinar on
36 Wednesday morning, December 9, 2020, and was called to order at
37 9:00 o'clock a.m. by Chairman Marcos Hanke.

38

39 **MARCOS HANKE:** Good morning, everyone. It's 9:05 a.m. We are
40 ready to start the meeting, and today is December 9, at 9:05 a.m.
41 This is the 172nd Virtual Council Meeting, and we're going to start
42 with the roll call. Natalia, can you help me?

43

44 **NATALIA PERDOMO:** I am going to start the roll call with Miguel
45 Rolon, Graciela Garcia-Moliner, Liajay Rivera, Marcos Hanke,
46 Virginia Shervette, Adyan Rios, Alida Ortiz, Angie de los Irizarry,
47 Christina Olan, Damaris Delgado, David Ortiz, Guillermo Cordero,
48 Julian Magras, Jack McGovern, Jannette Ramos, Jocelyn D'Ambrosio,

1 John Walter, Katie Siegfried, Loren Remsberg, Manny Antonaras,
2 Maria Lopez, Michelle Scharer, Nelson Crespo, Nicole Greaux,
3 Nikita Charles, Carlos Farchette, Richard Appeldoorn, Sarah
4 Stephenson, Shannon Calay, Vanessa Ramirez, and Wilson Santiago.
5 If I missed anybody, please identify yourself. I have an iPad
6 here.

7

8 **EDWARD SCHUSTER:** Edward Schuster.

9

10 **NATALIA PERDOMO:** Thank you, Edward.

11

12 **MIGUEL BORGES:** Miguel Borges, NOAA Law Enforcement.

13

14 **TONY BLANCHARD:** Tony Blanchard, good morning.

15

16 **MARCOS HANKE:** Anybody else missing? Hearing none, we are going
17 to start with the first presentation. Today, we have a list of
18 very important presentations, very interesting, and let's try to
19 make the best of our time. The first presentation is Deepwater
20 Snapper and Reef Fishes in the U.S. Caribbean: Aging Validation
21 Using Bomb Radiocarbon and Preliminary Longevity Estimates by
22 Virginia Shervette. Welcome, Virginia. Thank you very much, and
23 go ahead.

24

25 **DEEPWATER SNAPPERS AND REEF FISHES IN THE U.S. CARIBBEAN: AGING**
26 **VALIDATION USING BOMB RADIOCARBON AND PRELIMINARY LONGEVITY**
27 **ESTIMATES**

28

29 **VIRGINIA SHERVETTE:** Thank you for letting me talk about some of
30 the work that we've been doing since about 2013 on reef fish and
31 the deepwater snapper species. Estimating ages and documenting
32 longevity for fisheries species is a fundamental step in our
33 ability to sustainably manage fisheries.

34

35 Information that we focus on doing, research-wise, is we do life
36 history work, age, growth, and reproductive biology for Caribbean
37 species. These data are then used by fisheries scientists for
38 some of the modeling work that they do as part of the assessment
39 process, and, in order to do those models, you've got to have at
40 least a -- Well, you've got to have age data, and age data should
41 be accurate. Otherwise, the models won't perform, and they won't
42 give you factual information, and that will make management
43 difficult.

44

45 The tropical fisheries species that we work are a little bit
46 different from what a lot of other fishery biologists work with in
47 the Southeast and the Gulf of Mexico. I have often actually heard
48 multiple people from those areas that doing this kind of work isn't

1 rocket science, and I think one of the reasons why they say that,
2 and they think it's so easy, is because the species that they work
3 with in those more temperate areas have really clear, opaque zones
4 on the otoliths that are easy to see and easy to count. That is
5 not so for tropical fishes though, the ones that we work with at
6 least.

7
8 Those residing along the shallower shelf habitats and the deepwater
9 slope species actually do not have otoliths with opaque zones that
10 present super clear, and so it might not be rocket science, working
11 with fish ageing, but it does take skill and experience, and it's
12 naïve of a responsible scientist that oversees research projects
13 that include fish ageing as one of their study goals to assume
14 that it's going to be easy to age their fish samples without the
15 collaboration of experienced scientists.

16
17 Many of the species that I'm going to talk about today have
18 actually been inaccurately, or incorrectly, aged in past research.
19 It takes a lot of meticulous effort and a large amount of work to
20 ensure that age data for these species are accurate and provide
21 useful information for the populations.

22
23 For those studies that have been published previously, obtaining
24 and publishing inaccurate, or incorrect, age and growth data for
25 fisheries species can have detrimental consequences, and so here
26 is just some examples of the deepwater species that we're currently
27 working with and just some of their otoliths, and these are all at
28 the same scale.

29
30 Just to give you an idea, wenchman have pretty big otoliths
31 compared to queen snapper and vermilion snapper, for example, and
32 all of them are really cool, but it just takes a lot of work trying
33 to figure out what we should be counting and the methodology for
34 ageing fishes.

35
36 That is why we have focused on validating age estimation for as
37 many of the fish species as we can, to ensure that we have an
38 ageing method that is actually providing the true age of our
39 samples, of our fish samples, and so we're doing this through
40 application of the bomb radiocarbon chronometer, and so that's
41 $\Delta^{14}\text{C}$, and it was introduced into the atmosphere through nuclear
42 bomb testing, starting in the 1950s, up through until the 1970s,
43 and so, basically, it's this atmospheric $\Delta^{14}\text{C}$ that wasn't there
44 before, and we've got some really high concentrations, relative to
45 not being there before.

46
47 It dissolves into ocean carbon dioxide, and then it gets
48 incorporated into the aragonite skeletons, which is that calcium

1 carbonate, biogenic calcium carbonate, material that we see as
2 part of the skeletons of hermatypic corals, which are shallow-
3 water corals, stony corals, and carbonate-based shells of things
4 like mollusks, and then also aragonite, or calcium-carbonate-based
5 structures, of fishes.

6
7 The time-specific bomb radiocarbon aragonite record provides
8 basically regional reference chronologies that we can then use to
9 evaluate fish age estimates through comparing measurements from
10 the core, the otolith core, of the fish or the eye lens core of a
11 fish, which basically recorded the level of $\Delta^{14}\text{C}$ that first year
12 of life for that fish.

13
14 We can take that and plot it against a regional record for our
15 reference, and that will give us an idea if we line up with the
16 actual trend of the $\Delta^{14}\text{C}$, and so what I have here is I have plotted
17 the coral record of $\Delta^{14}\text{C}$ from southwest Puerto Rico and from south
18 Florida, and this is just to show you there is regional differences
19 in this record, and it's a little bit different from when your
20 objectives are looking at $\Delta^{14}\text{C}$ in coral versus using it to age
21 fish.

22
23 What we actually had to do was to establish our own regional record
24 to use for the validation purposes, and we were able to do that
25 with using known age otoliths from red hind that were collected in
26 the early 1980s all the way through 2020, and so we analyzed those
27 red hind otoliths, and we knew their ages. That made it so that
28 we could plot what the $\Delta^{14}\text{C}$ level was on our graph here, versus
29 the year that that otolith material was formed, or the birth year,
30 and so all these Xs are the ones that -- They're the data that
31 we've added to this record, and this is the tool that we now can
32 use to validate age estimation methods for Caribbean species.

33
34 I'm going to give you some examples of some species that we've
35 done this with, and so this is blackfin snapper. This is an
36 otolith section from a fish that was actually caught by the
37 Department of Wildlife and Fisheries with VI DPNR, as part of their
38 deepwater snapper collections, fishery-independent collections.

39
40 This actually ended up being the oldest blackfin snapper, that has
41 ever been analyzed at least. The previous maximum age estimate
42 for blackfish snapper came from a Florida fish, and that was
43 twenty-seven, and so we have increased the longevity, the known
44 longevity, of this species to forty-five.

45
46 This is basically the tool that we're using in order to validate
47 our ages, and, like I said, what we do is we take material from
48 the otolith core that formed during that first year of life from

1 the fish, and we analyze that for the $\Delta^{14}\text{C}$ level, and then we count
2 all the increments on the otolith section.
3
4 That gives us an estimated age, and we take the date of collection
5 and subtract that estimated age, and so something like that this
6 guy was caught in 2020, and it was thirty-five years old, and it
7 ended up having an estimated birth year of 1985, and so we plotted
8 its $\Delta^{14}\text{C}$ level right here.
9
10 Then its estimated birth year of 1985, and it was right in the
11 middle, and so we actually used statistical methods to analyze if
12 our age estimate birth years are lining up with the reference
13 series from the red hind, and so, for all the species that I am
14 showing you today, with the analyses that we've done, we are
15 statistically demonstrating that our age estimates are accurate.
16
17 Real quickly, for blackfin snapper, work was done for fish from
18 Florida, North Carolina, Georgia, and South Carolina, and they had
19 a few Caribbean species, and this was published a few years ago,
20 and the growth curve that they got was very different from our
21 growth curve that we've gotten from our preliminary samples right
22 here, and I have plotted the validated ages for our blackfin
23 snapper versus the size, and then I've plotted the growth curve,
24 and so that's it with our observed data.
25
26 This is just to show you that, if we hadn't done this research and
27 validated our ages, and knew that our ages were accurate, then,
28 when a stock assessment is done, they tend to use data -- If we
29 don't have it from local populations, then data from other
30 populations, like from Florida, will be used for the growth
31 parameters.
32
33 If that was done, using the data from the study that was done a
34 couple of years ago by Burton et al., then that data would not be
35 actually representing what we see in the U.S. Caribbean. Again,
36 it's important to do this work.
37
38 This is just some other results for some other species that we're
39 working with, and I will just real quickly go through it, and Kate
40 is going to talk to you more about queen snapper and tell you a
41 little bit about some of the age work, but the maximum age for
42 queen snapper that we have validated so far is over forty-five
43 years old.
44
45 We have actually only analyzed about ten -- Well, we have estimated
46 the age for about twenty cardinal snapper, and then, of those, we
47 selected five to validate ages for, and the maximum age that we've
48 gotten so far is seventeen years, which they actually probably get

1 a lot older, but we just don't have a lot of samples to pull from
2 yet.

3
4 Another example of that is the black snapper, and we've got ten
5 blackfin snapper samples so far, and, of those ten, one of them
6 had an age of twenty years, and, again, that's a validated age.

7
8 With some of the species that we're looking at, their otoliths are
9 teeny, teeny, tiny. This is a coney otolith on a quarter, just to
10 show you how small they are, and these are the otolith sections
11 for coney and graysby, and so we use the eye lens core instead,
12 because, with really small otoliths, you can't get enough material
13 from the core to do the analysis for the radiocarbon level, and so
14 we actually use the eye lens, and this is showing you the eye lens,
15 and you can see these circles, and the eye lens core is what forms
16 in that first year of life, and so we extract that eye lens core
17 and we analyze that. For these species, and then for all the other
18 species that I am going to talk about after this, we used the eye
19 lens core.

20
21 The maximum age for coney so far, for the Caribbean, is about
22 thirty, and the maximum age for graysby is also up in the thirties,
23 and those are validated ages. Another species that we've been
24 working extensively with, and Jesus is going to tell you more
25 about, is queen triggerfish.

26
27 Previous work on queen triggerfish used the dorsal spine to
28 estimate ages, because the otoliths are teeny, teeny, tiny.
29 There's an example right there. They're a weird shape, and they're
30 really hard to get out without breaking, and so people are using
31 the dorsal spine as an alternative ageing structure. The maximum
32 age that was documented for queen triggerfish in the U.S. Caribbean
33 was done by Manooch in the late 1970s and early 1980s, and he
34 calculated the maximum age as seven, using the dorsal spine.

35
36 We did the same thing and used dorsal spines and otoliths to
37 estimate age, and we plotted both results here on our radiocarbon
38 chronometer, and, as you can see, the dorsal spines do not appear
39 to provide accurate age estimates. The otoliths do, and the
40 maximum age that we've found so far is twenty-one years for this
41 species, and so that basically has tripled the longevity, our
42 understanding of longevity, in queen triggerfish.

43
44 We're also investigating parrotfish species, seven or eight of the
45 parrotfish species that occur in the U.S. Caribbean, and these
46 guys also have teeny, tiny otoliths. These are the sparisoma
47 species, and it was previously thought, by Choat and Robertson,
48 that parrotfish in the U.S. Caribbean do not live nearly as long

1 as parrotfish do in the Pacific, and so the previously-estimated
2 maximum ages we have actually doubled or tripled, depending on
3 which one, but stoplight, you can see, has a maximum age that we
4 found of sixteen years, for example. Redband, redtail, and
5 yellowtail all have maximum ages that are much higher than was
6 previously documented, or thought.

7
8 For the *Scarus* parrotfish species, so far, we've found a maximum
9 age of twenty years, and that's for queen parrotfish. Striped
10 parrotfish, we only have a few samples, and so they probably get
11 much older than seven years, but we just need to continue to sample
12 them and read otoliths and analyze a few more, to get a better
13 handle on their maximum age.

14
15 Then we recently wrapped up a project with hogfish, in
16 collaboration with commercial fishers in the U.S. Caribbean, and
17 I just submitted the report for this, and this is just some of the
18 results from it, just to kind of show you how we've applied this
19 for a species.

20
21 The maximum age that we've found for hogfish is twenty years in
22 the U.S. Caribbean, and that was similar to what's been reported
23 for Florida, and our biggest recommendation with the hogfish is
24 that we really need some fishery-independent samples to further
25 understand what's going on across the populations, just because
26 we've got very different fishing methods among the islands for
27 hogfish, for triggerfish, for most species, and so fishery-
28 dependent samples are great for getting some basic understanding
29 of what's going on, but further research needs to be done for all
30 the species with fishery-independent samples as well.

31
32 That's all the species I'm going to tell you about right now.
33 We're doing this for a ton more species though. We've got data
34 for a ton more species, and these are just some of them, including
35 all the boxfish species, which are pretty awesome, and unexpectedly
36 get pretty old, and that is really all that I have for you today.
37 Thank you to all the fishers that have helped us. We couldn't do
38 this without you, and thanks to the natural resource managers
39 across the U.S. Caribbean. You've helped us tremendously as well,
40 and thank you for listening to the talk.

41
42 **MARCOS HANKE:** Thank you, Virginia. That was a great presentation.
43 I hope we will have much time to talk it over and for questions,
44 but let's open for two questions to follow-up with the other
45 presentations. Are there questions? Richard.

46
47 **RICHARD APPELDOORN:** Good morning. That was really stunning,
48 Virginia, and thank you very much for sharing all of that. Can

1 you put on one of your early slides that had the growth curve for
2 the deepwater snapper?

3

4 My question is not your ageing, and I think that's really solid
5 and incredibly significant. However, I am looking at the growth
6 curve and seeing how quickly it flattens, basically being driven
7 by that one last point, where you have that other one that's way
8 above it, the second-to-last point, and so I'm just questioning
9 the variability on the growth curve that comes out of that, given
10 that those two points are so variable, and I guess emphasizing the
11 need to try to get a lot more of those bigger fish, so you can
12 really pin down what that L infinity value is.

13

14 **VIRGINIA SHERVETTE:** Right, and so this actually was research that
15 we were just doing opportunistically. We're trying to get funding
16 to actually do a full-blown study for age and growth of blackfin
17 and some of the other species of deepwater snapper, but this is
18 just stuff that we pulled together ourselves, and we cobbled
19 together money to purchase fish to look at this initially, so we
20 would have data, but you're right that we don't have a lot of large
21 samples. We need those larger samples in order to get a better
22 understanding of what's going on in that region.

23

24 **RICHARD APPELDOORN:** But, to some extent, documenting the age is
25 perhaps even more important than documenting what the L infinity
26 value is at that age, and so, again, I congratulate you on these
27 results, and they're really going to make a difference in how we
28 think about our fisheries, and I certainly hope that you can use
29 this to get the funding that you need to do more.

30

31 **VIRGINIA SHERVETTE:** Thank you.

32

33 **MARCOS HANKE:** Thank you, Richard. We have John Walter next.

34

35 **JOHN WALTER:** Thank you, Chair. Dr. Shervette, this is really
36 groundbreaking work, and the Center is really excited to see this
37 work for a lot of these species, because they've been super
38 challenging for a long time, and, specifically, we've got a queen
39 triggerfish assessment coming up, and I think everyone involved
40 with the fishery would really like to see the best data used. Do
41 you think it will be available early in 2021, for the upcoming
42 assessment?

43

44 **VIRGINIA SHERVETTE:** I think, and I don't know how politically
45 savvy it is to say this, but all of our triggerfish samples are
46 fishery-dependent, and there are major differences among the
47 islands in the years that are used, and so, from our data, it looks
48 like there is way different things going on with the populations,

1 but it's probably just an artifact of gear selectivity, and so
2 we've actually submitted a proposal to I think it was S-K.

3
4 Last year, we submitted a proposal to CRP, so we could get more
5 data for fishery-independent work on queen triggerfish, because
6 that's what we need now. We need samples from across all three
7 islands that are fishery-independently collected in a well-
8 designed way, in order to be able to really understand what's going
9 on with the background population.

10
11 In saying all of that, yes, we can have data ready from our fishery-
12 dependent samples, but the assessment will not be complete, maybe,
13 without having fishery-independent samples, for age estimates at
14 least.

15
16 **JOHN WALTER:** Well, in actuality, we use fishery-dependent data
17 all the time in our assessment models, and the models can handle
18 that difference in selectivity between fishery-dependent, and even
19 fishery-independent data still comes from gear that has
20 selectivity, if not availability, and so the data scoping webinar
21 is January 11, and I really would invite your students and lab
22 members and you to get involved in it, because I think it's going
23 to really open the door for this assessment, to getting the most
24 recent and relevant information in.

25
26 **VIRGINIA SHERVETTE:** Yes, absolutely.

27
28 **MARCOS HANKE:** Thank you, Virginia. Thank you, John Walter. I
29 have Julian and Vanessa. Please be very brief for us, and I want
30 to hear what -- Because Julian was involved in this project, and
31 briefly your comments to move on, because we are a little late on
32 the schedule. Go ahead, Julian.

33
34 **JULIAN MAGRAS:** Good morning. Excellent, excellent presentation,
35 Virginia. I know we did a lot of work in trying to get this kicked
36 off, and I know there's a lot more work to be done, and, with that
37 said, I have the powers-that-be at the table, or on the conference
38 here today, and, because we had some delays in getting funding,
39 and this goes out to Miguel and Marcos, but, if we put together a
40 proposal, we are wondering if the council would support us with
41 some funding to continue doing some assessments and collecting
42 samples to keep this project moving forward, both for the deepwater
43 snappers and for the queen triggerfish.

44
45 I'm throwing that out there, and I know that there seems to be
46 some extra monies floating around, because of not having the
47 meetings the way we normally have them, and I would like to have
48 some discussion, or you guys can have some discussion, and being

1 willing to help us fund this project, so we can continue. Thank
2 you.

3

4 **VIRGINIA SHERVETTE:** Thank you, Julian.

5

6 **MARCOS HANKE:** Thank you, Julian. Vanessa, very quick, please.

7

8 **VANESSA RAMIREZ:** Thank you, Virginia, for this presentation, and
9 I just wanted to comment that I hear that you need more samples
10 for the triggerfish and hogfish. On the west side, we get a lot
11 of hogfish weekly, and so I just wanted to tell you that, if you
12 need more samples, just contact me, and I'm going to make that
13 work for you. Thanks.

14

15 **VIRGINIA SHERVETTE:** Absolutely. Wilson is the one that helps us
16 tremendously in coordinating getting samples, and so I'm sure that
17 all of us will be in contact soon.

18

19 **MARCOS HANKE:** Thank you very much, Virginia. The next
20 presentation is Kate Overly and research on queen snapper. Go
21 ahead.

22

23

RESEARCH ON QUEEN SNAPPER IN PUERTO RICO

24

25 **KATE OVERLY:** Good morning, everyone. Thank you to the Caribbean
26 Fishery Management Council for inviting me to talk about my
27 research this morning. My name is Kate Overly, and I'm from the
28 NOAA Panama City Lab in Florida.

29

30 Today, I'm going to talk about three projects, fairly quickly,
31 that I am leading in the Caribbean, specifically Puerto Rico, with
32 a focus towards queen snapper, with the overarching idea of the
33 development and implementation of a deepwater fishery-independent
34 survey that targets the deepwater snapper grouper complex.

35

36 The first project listed here is a habitat classification in Puerto
37 Rico's deep-drop fishery. Just below the title there are a few
38 images taken from our deepwater videos. Those ones, in particular,
39 range from depths from 250 to about 370 meters on the west coast.

40

41 This project actually originated as a pilot study which utilized
42 a fishery-independent hook-and-line survey designed by Steve Smith
43 and Jerry Ault out of the University of Miami Rasmus, and so we
44 constructed a video camera system that was deployed on the
45 commercial fishermen's deep-drop fishing gear while they were
46 fishing, in order to evaluate the use of low-cost cameras to better
47 inform the CFMC on fish-habitat relationships going forward in the
48 future.

1
2 The system worked great, with the exception of the depth component,
3 and so we observed essentially that, at depths greater than 250
4 meters, they really require some sort of auxiliary lighting, and
5 so ambient light was just not enough beyond 250.

6
7 Given the focus of our project, and they range down to 500 meters
8 and greater, we have discovered, and we ended up developing a two-
9 year project, beginning in the fall of 2018, that utilized Jerry
10 and Steve's fishery-independent hook-and-line sampling frame and
11 added the component of a deepwater camera and LED light system, in
12 order to observe the benthic habitats and the fish communities.

13
14 To the right there, you'll see a diagram of the system we
15 developed. Just in a nutshell, you have the example of the
16 fisherman's vertical longline, with hooks and a weight attached,
17 and then what differs, obviously, is the camera system, and so the
18 camera system is attached to the fishermen's main line by two
19 gangions, and then the system itself --

20
21 The base of it is just constructed out of PVC board, and that kind
22 of cream-colored rectangle on top there is just subsea foam, and
23 so that will keep the system pretty neutrally buoyant in the water,
24 and so it won't float too far up off the seafloor, and it won't
25 hopefully crash into the seafloor, and it keeps it at about a
26 forty-five-degree angle, give or take, and so, that way, we're
27 getting a view of the habitat and the seafloor, but we're also
28 seeing the fish, and not just from a top-down angle, because that
29 can be tricky to ID.

30
31 This system is deployable from center-console vessels, tethered,
32 obviously, to the commercial deep-drop fishing gear, and we used
33 it in the west, northwest, northeast, and southeast regions of
34 Puerto Rico, from a range of depths from 100 to 500 meters, just
35 to cover that, at the time, known depth range of queen snapper and
36 other species in the deepwater snapper grouper complex.

37
38 The overall objectives for our specific research questions was to
39 describe habitat utilization of queen snapper, using both the video
40 and hook-and-line fishing data, in addition to generating length
41 and weight and collecting biological samples for age, growth, and
42 reproductive studies on queen snapper and other target species, as
43 a collaboration with Dr. Virginia Shervette out of the University
44 of South Carolina Aiken.

45
46 Our survey resulted in 471 videos documenting habitat and deepwater
47 invertebrates over the course of two years. In the bottom-right
48 there, you will see some spatial coverage of our video and hook-

1 and-line stations on that map, and the red dots are our year-one
2 samples and our stations, and the yellow are our year-two, and so
3 that gives you kind of an idea of where we were sampling.

4
5 These are the first stationary videos that we know of utilizing
6 local commercial fishermen in Puerto Rico to document habitat,
7 fish diversity, and benthic invertebrates of these poorly-studies
8 deepwater reefs.

9
10 We are currently finalizing our video analysis, and so all videos
11 are read for habitat classification, fish and invertebrate
12 identification, to their lowest taxon possible, and we generate
13 minimum counts, which is just the maximum number of fish observed
14 in a single frame for each species, which, obviously, also results
15 in the presence or absence for each species, and then, finally, we
16 generate the percentage of bottom covered by specific biotic and
17 abiotic features, such as corals or rock, using a computer software
18 program.

19
20 This video data will be used to estimate factors affecting queen
21 snapper distributions and abundance, in addition to generating
22 data on species richness and a diversity index for these sampled
23 sites, and so the video data will also allow us to document
24 patterns in observed fish communities, both on the hook-and-line
25 and video, and just some examples of some of the video clips, and
26 those are just still images up at the top there, but you see some
27 wenchman snapper, and you see some silk snapper, there is sargassum
28 and triggerfish in that top-left, and so we see quite a range of
29 fish from the deepwater communities.

30
31 I mentioned that, in addition to our video data, that we also
32 generate catch data from our survey, and so we generate fish ID in
33 measurements, and that is recorded for everything that comes
34 onboard, and then we take the addition of sex and fin clips for
35 deepwater shark species, and then weight and sex are also recorded
36 for our target snapper species.

37
38 For our target snapper species, we have queen snapper, blackfin
39 snapper, and black snapper. We collect biological samples,
40 specifically otoliths and gonads, for all three of those whenever
41 we catch them, and the biological samples collected, like I said,
42 are being utilized in age and growth studies, as a part of our
43 collaborative work with Dr. Shervette and her team, which is
44 essentially to help us fill the large data gaps for the species in
45 the deepwater snapper grouper complex.

46
47 One of the most important aspects to our catch data is that all of
48 it is co-registered with the multibeam bathymetry data, and so our

1 mapping data, our video data, and therefore habitat, and, of
2 course, we have depth and coordinates for all of our stations as
3 well.

4
5 Some preliminary results, and this project was also funded by the
6 Southeast Deep Coral Initiative, in addition to the cooperative
7 research program, and so we did have a focus on looking at habitat
8 and deepwater corals around Puerto Rico, and so, as this specific
9 project is wrapping up and we're closing in on our analyses, our
10 preliminary results identified seventy-seven fish species on video
11 and twenty-two different species caught on hook-and-line.

12
13 In addition to that, we have identified over 100 invertebrate taxa,
14 both sessile and mobile, throughout all three regions, and so
15 several locations on the west coast exhibited a high diversity of
16 invertebrates and we feel represent areas that may potentially be
17 included in management decisions in the future.

18
19 Our preliminary analysis for year-one of field work shows that the
20 western region of Puerto Rico contained the most diverse sponge
21 communities in the largest numbers, with fifteen different orders
22 identified, which was followed closely by the southeast, with an
23 N of ten, and, lastly, the northeast, with an N of five. Off to
24 the right there, you will see those are images from four west coast
25 sites, and those are just kind of a range of the corals we see at
26 a variety of depths.

27
28 Then, if you look at the bottom-left-hand side, you will see a pie
29 chart, and those are taxa documented in year-one, and it yielded
30 a total of 1,200 individual coral and sponges, which made up a
31 total of six classes, and so we have a lot of diversity that we're
32 seeing.

33
34 We are currently wrapping up the processing of our year-two videos,
35 and we're expecting preliminary results by the end of this month,
36 and so these data will be further explored, to assist with
37 describing habitat utilization and linkages between queen snapper
38 and deepwater coral communities around Puerto Rico, in addition to
39 exploring habitat associations with other species as well. As I
40 said, our focus is, obviously, on queen snapper for this project,
41 but we do generate data on species such as silk snapper, blackfin
42 snapper, any of the pristipomoides genus, and so on and so forth.

43
44 Into our second project that involves queen snapper, and so, as we
45 wrap-up our analyses for the original two-year video project, we
46 basically took what we learned to develop a more comprehensive
47 U.S. Caribbean fishery-independent survey utilizing stereo video
48 and hook-and-line methods, to assess the deepwater snapper grouper

1 complex in Puerto Rico, specifically the west coast.
2
3 Like I said, this project focuses on that development and
4 implementation of a deepwater fishery-independent stereo video
5 survey on the west coast, and we are utilizing multibeam mapping
6 data for our survey design, and, obviously, we have this emphasis
7 on targeting the deepwater snapper grouper fisheries, and, in this
8 survey, we did extend the maximum depth range, and we have
9 developed new gear that does go beyond 500 meters, and so we have
10 extended it to 650, to try and get what we think might be the top
11 end of some of these fishes' range, such as queen snapper, to try
12 and incorporate that full depth.
13
14 The field component, which is currently slated to begin in January
15 of 2021, will consist of the deployment and the retrieval of a
16 stationary, baited, stereo remote underwater video system, and so,
17 for short, that's an S-BRUV, and that is attached to deep-drop
18 fishing gear, and it can also be utilized off of commercial fishing
19 vessels, and we'll record imagery of benthic habitats and fish
20 assemblages where it is deployed.
21
22 The S-BRUV will have the capability of generating optical imagery
23 using paired deepwater stereo video cameras, which essentially
24 allows for non-invasive methods to gather size composition and
25 abundance data from both exploited and non-target species that are
26 either not typically caught using the traditional hook-and-line
27 methods, are wary of the fishing line, or are restricted, due to
28 various fishing regulations.
29
30 In addition to the stereo video, the system will also have
31 wavelength-modified LED lights, and so, instead of just having
32 your white LEDs, we are actually utilizing red, orange, and amber,
33 and that is to reduce the bias in video sampling for fish that are
34 wary of light at deeper depths, and so, for instance, queen
35 snapper, cardinal snapper, and wenchman snapper do tend to kind of
36 hang out on the outskirts of the lights on all of our videos and
37 our gear, one so we can still see them, but they don't come into
38 the field of view, and so we're trying to reduce that bias for
39 this survey.
40
41 In addition to visual imagery, we are also deploying two fishing
42 lines at each station, in order to collect biological samples
43 following the retrieval of the S-BRUV system, and so these samples,
44 again, will be going towards collaborative age and growth and
45 reproductive studies with Dr. Shervette and her team at the
46 university.
47
48 Then, by deploying two separate fishing lines, we're hoping to be

1 able to test bait preference of species as well, and so, for
2 instance, baiting with tuna on one line and baiting with squid on
3 the other line, to see if there's any sort of difference in
4 preference of snapper species, grouper species, and so on.

5
6 Then, to the right there, you'll just see an example of what our
7 S-BRUV looks like, and it's kind of just a diagram. The little
8 red rectangles are the stereo cameras, and this is a side view,
9 just so you get the full idea of the system, but, from the back,
10 those are actually paired and set a distance apart, so we can
11 actually achieve stereo, and so you can't see it in this photo,
12 but there are two there for the paired system.

13
14 As for our expected outcomes, this project works to develop the
15 necessary steps required to collect appropriate data to assess
16 species in the deepwater snapper grouper complex, hopefully
17 throughout the U.S. Caribbean, and so this will be achieved through
18 the development and the build of this deepwater S-BRUV system,
19 combined with the wavelength-modified LED lights, which, as I said,
20 will provide a non-destructive for measuring that fish length for
21 species which avoid and are difficult to catch by hook-and-line
22 methods.

23
24 Then the survey itself will provide an unbiased georeferenced
25 estimate of relative abundance for fish species and sizes of
26 exploited and unexploited fishes for the west coast of Puerto Rico.

27
28 Then, overall, this project provides technology that will be
29 directly transferable to other SEFSC regions, where it can be
30 reproduced at a low cost to gather data on distribution, abundance,
31 length composition, and so on for species of interest, and this
32 can also be given to other organizations, and other organizations
33 can definitely use this technology as well.

34
35 Then, lastly, on to our third and last project that I will be
36 discussing with you all, and it's age and growth of queen snapper.
37 Virginia went over a little bit of this, thankfully, and so you
38 have kind of the background of the bomb radiocarbon chronometer,
39 and just the age and growth for this species in general, but
40 pictured here is a queen snapper otolith for a fish with a fork
41 length of 708 millimeters, and you can kind of see, just by looking
42 at it, that the opaque zones are very difficult to discern. You
43 can kind of get an idea of how difficult this species can be to
44 age.

45
46 Essentially, the objectives for this project were to age archived
47 and contemporary otoliths from the U.S. Caribbean and the U.S.
48 Gulf of Mexico, and so we're able to do a comparison between the

1 two regions, to see if there's any growth differences, and so we
2 have a lot of otoliths at our lab in Panama City. We have a lot
3 of archived queen snapper otoliths, and so we basically took a
4 sub-sample of across three decades, ranging from 1991 to 2019.

5
6 We took a sub-sample of 300, and then, in the U.S. Caribbean, we
7 have over 800 otoliths that come from varying sources from the
8 Puerto Rico DNER and commercial fishermen and Dr. Shervette and
9 her team, and then, obviously, our project, Steve Smith and Jerry
10 Ault's projects, and we have a lot of sources giving otoliths and
11 contributing to this project. Those range in date from about 2005
12 to 2020, with a few gaps in between there in the early years.

13
14 Given the difficulties in sectioning and ageing queen snapper, we
15 are validating the accuracy of our age estimation via application
16 of bomb radiocarbon chronometer, using both otolith and eye lens
17 cores, which Virginia went over a little bit in her presentation,
18 and so the bomb radiocarbon chronometer -- We're essentially using
19 it because the ageing error in tropical, as well as deepwater,
20 species can be exasperated, due to the environmental consistency
21 that provides very little seasonal variability to drive that
22 distinct opaque zone formation that makes it easy to count opaque
23 zones.

24
25 Queen snapper are absolutely no exception to this, and they're
26 very difficult to age, as a result. It took us a while to nail
27 down a sectioning protocol, for the thickness of the otoliths and
28 so on, and so, because of this, we determined that age validation
29 would need to be employed to accurately age this species, and
30 therefore prevent ageing error and validate accuracy of our age
31 estimation.

32
33 The pictures on the right-hand side here, real quick, we have our
34 IsoMet saw, and that is what we use to section the embedded
35 otoliths, and we take three sections of each queen snapper otolith.
36 The top image there just shows how small and fragile these otoliths
37 are in comparison to a penny, and so those are queen snapper
38 otoliths.

39
40 Then the bottom two images there are eyes from queen snapper, and
41 so the one on the left, that larger eye, came from a fish with a
42 fork length of 708 millimeters, and so much larger, and the one on
43 the right came from a fish with a fork length of 178 millimeters,
44 and so our smallest sample, actually, and that's a very small fish,
45 and you can see the difference in eye size there.

46
47 Then the image at the bottom there is just an eye lens extracted
48 out of the eyeball, and it's just in a gloved hand, and so we

1 actually peel the layers back and get to the eye lens core, and
2 that is what we use in our validation.

3
4 Our expected outcomes, and so we are wrapping this up as well right
5 now, and we're hoping to get out a few publications to disseminate
6 our results, but, essentially, this project, age, growth, and
7 mortality parameters are the essential first steps to being able
8 to compute that quantitative assessment on queen snapper in the
9 U.S. Caribbean.

10
11 This project is providing critical information on queen snapper
12 life history, including validated age composition estimates for
13 those U.S. Caribbean queen snapper, and we actually have a total
14 of about twenty-one eye lens cores and five otolith cores from
15 queen snapper that we used in our validation.

16
17 Size distributions for the U.S. Caribbean and the Gulf of Mexico,
18 so we can do comparisons between the two, and then something that
19 was very exciting was extending the longevity estimates for queen
20 snapper, and so our previous maximum age, in the last SEDAR that
21 was conducted on queen snapper, was eight years old.

22
23 Since then, with our results, our preliminary results that we have
24 received, our youngest fish, and our smallest sample, at a fork
25 length of 179 millimeters, has been validated at an age of five,
26 and one of our largest, at a fork length of 708 millimeters, and
27 so those two eyes on the last page belong to these two fish, that
28 has been validated to an age of forty-six years old, which
29 absolutely dramatically increases our estimates of longevity for
30 this species.

31
32 You can see those results plotted on the graph to the right as
33 part of that linear declined with the coral and known age otoliths,
34 and you can also see that the red circles are all of the eye lens
35 samples that we sent in for validation, so you can get an idea of
36 the spread of our data. In addition to all of that, we are also
37 computing growth functions and estimates of natural mortality for
38 queen snapper.

39
40 Really quick, I just wanted to acknowledge a few of the
41 collaborators that I have been fortunate enough to work with, and,
42 also, I'm going to see if this video plays, so we can do that while
43 I'm talking.

44
45 There is quite a bit of distance, obviously, between Florida and
46 Puerto Rico, and so there are a lot of folks that have helped to
47 ensure the success of this project, and my direct collaborators
48 are Andy David, Steve Smith, and Ryan Caillouet with NOAA Fisheries

1 have assisted with the video work and the sampling frame of this
2 survey, in addition to Dr. Shervette of the University of South
3 Carolina Aiken, who has contributed funding and a bunch of
4 assistance to actually process all of our age validation samples,
5 and she's been invaluable to the age and growth project.

6
7 Of course, last, but absolutely not least, the commercial
8 fishermen, all of our observers, and the team at HJR Reefscaping,
9 who was our contracting company on the ground. In Puerto Rico
10 specifically, Michelle Scharer and Hector Ruiz. Without that field
11 team on the ground in Puerto Rico, we would not have been able to
12 complete this field sampling and data collection, and so a huge
13 thank you to everyone there, and that's just my email address at
14 the top there, and so, if anyone has questions that they don't
15 want to ask now, or that they think of later, feel free to reach
16 out to me at that email, and I think that's all I have.

17
18 **MARCOS HANKE:** Thank you, Kate. Great presentation. We are really
19 behind schedule, and I have one question for Kate, or two, and
20 then we'll move along, please. Please send the questions to her
21 email, like she posted, and we can follow-up on that. I wish we
22 had a little more time. I have Stacy.

23
24 **STACY --:** Kate, that was a great presentation, and I just have a
25 couple of questions. How many habitats did you identify during
26 your study, and did you see any patterns in habitat preference of
27 queen snapper between like sex or size composition in your study?

28
29 **KATE OVERLY:** We have video for 471 stations, and so all of those
30 have varying degrees of habitat, and so I can absolutely chat with
31 you more about that. We basically classified our habitat according
32 to the CMECS standard, or the Coastal and Marine Ecological
33 Classification Standard, and so I have all of that data in general
34 classification, but, since we sampled so many videos, it probably
35 wouldn't be great for me to sit and list them all out right now.

36
37 In addition to that, we're also doing our analyses right now, and
38 so I don't want to say too much, and there's a lot on kind of that
39 first slide that I showed, with that kind of rocky sponge habitat,
40 and we see a lot on that lower reef rocky sponge, but we also see,
41 especially in the northeast, a lot around sand, and I don't know
42 if that's due to foraging and that sort of thing, which it probably
43 is, and so we're going to try and be digging into that, once we
44 finish basically our habitat classification and our percent bottom
45 coverage for year-two. We're just about done with that, and so we
46 should have results for all of that very, very soon.

47
48 **MARCOS HANKE:** Thank you, Kate. We're going to pass to the next

1 presentation, because we are very much behind schedule, and we
2 need to gain some time, and we have the Queen Triggerfish
3 Reproductive Biology in the U.S. Caribbean by Jesus Rivera.

4
5 **MIGUEL ROLON:** Marcos, we have a person that has a presentation at
6 10:15, and so what we propose to do, and I just talked to Graciela,
7 is that, right after Jesus Rivera's presentation at 10:15, and we
8 will play with the time, because, right now, it's about 10:00. At
9 10:15, we will have the presentation on coral reef, and then Alida
10 Ortiz will follow with her presentation at 10:30, and so right
11 after the presentation of the coral.

12
13 **MARCOS HANKE:** Okay. Let's start with Jesus. Jesus, welcome. Go
14 ahead.

15 16 **QUEEN TRIGGERFISH REPRODUCTIVE BIOLOGY IN THE U.S. CARIBBEAN**

17
18 **JESUS RIVERA:** My name is Jesus Rivera, and I'm going to talk about
19 my presentation of reproductive biology of queen triggerfish in
20 the U.S. Caribbean waters, specifically in St. Thomas, in
21 collaboration with Dr. Shervette and Julian Magras.

22
23 Effective fisheries management requires a detailed understanding
24 of the life history strategies of managed species. Queen
25 triggerfish is one of the most productive fisheries in the U.S.
26 Caribbean waters, but the lack of current species-specific life
27 history information in the 2013 SEDAR -- They cannot make a
28 prediction for the future of the stock, and so we are trying to
29 address the reproductive biology of the fish, and also age. Dr.
30 Shervette talked a little bit about our age work.

31
32 Some previous studies related to reproductive biology of queen
33 triggerfish are data from Jamaica, from Aiken in 1983; Puerto Rico
34 and St. Thomas from Manooch and Drennon in 1987; Puerto Rico and
35 St. Croix, and that was part of my thesis in 2018; and in St. Croix
36 with Bryan et al. in 2019, that publication. Also, we have Brazil,
37 with Ferreira de Menezes in 1979.

38
39 For Aiken, they just found, in Jamaica, that the queen triggerfish
40 season goes from January through March and then May and then July
41 to December. Manooch and Drennon also showed some -- They had
42 some problem in the collection of those spawning capable fish, and
43 we are going to look at that in a bit, and they also reported --
44 We have more publications on triggerfish, but they are not related
45 to reproductive biology, and so I didn't include it, and that's
46 mostly for diet stuff.

47
48 Queen triggerfish, we have a picture here from St. Croix, and we

1 have a triggerfish in the habitat, but, also, in this fishery, we
2 have something that looks at the nest of the queen triggerfish,
3 and that is kind of similar to other triggerfish species, like a
4 gray triggerfish, and they have a nest, and they take care of the
5 nest, both of the sexes, and that is just something that we don't
6 address, because we didn't propose to do that in our plan, but we
7 also -- We tried to get samples on kind of areas where the fishermen
8 said they saw a nest, but we -- Fishermen say that they see
9 something similar, but we don't have any kind of specific data of
10 where is the nest or a spawning ground, in this particular case.
11 The other 2019 work on St. Croix, they have presented areas of
12 nesting, but it's in the closed area. This is just to show how
13 they try to clean the nest, and then the females select it.

14
15 Our study objectives are to determine and compare the size
16 structure and the sex ratios, to determine a size at sexual
17 maturity, if we can, determine a spawning seasonality.

18
19 We have the three islands of the U.S. Caribbean, and there is
20 Puerto Rico, St. Thomas, and St. Croix, and something really
21 important that you have to understand is that the three islands
22 use different gears, and Puerto Rico is the one that has the most
23 gears to catch triggerfish, and they are multispecies, and so one
24 gear can catch more than one species, and St. Thomas/St. Croix are
25 different, and we're going to show a table later, and, again,
26 preference in the islands for the fish are different. They are
27 close, but they are really different in what the people like to
28 get from the fisheries, at least in terms of reef fish.

29
30 What we did is we just propose to target sixteen samples per month,
31 and we're trying to cover all the size classes per month, and so
32 we just get the fishermen and the information and the gear that
33 they use, and we measure the fish, and we weigh the fish, and then
34 we remove the gonad, and, also, the age structure and other stuff
35 that are not related to this presentation.

36
37 We assess the sex by histology, and not all the people do
38 histology, and they just open the fish and see if it's male or
39 female and that's it, and so, quickly, because we want to stay on
40 schedule, that is the process. We get the fish, and we extract
41 the gonad, and we use three different processes, depending on the
42 situation.

43
44 Then the reproductive criteria that we use is in that way for both
45 sexes, and immature, developing fish, spawning capable, and that
46 is where we just see whether the fish is spawning or not, and they
47 have a classification that is actively spawning that we can talk
48 about later if you want, and then regressing, which is after they

1 spawn, and then regenerating and just preparing again to go to
2 developing, and it's like a cycle, and so you don't go back to
3 immature, but you just go back to developing and continue the loop.

4
5 Our results, I will be presenting the summary of sample
6 collections. In the top, in red, that is St. Thomas. That is the
7 purpose of this presentation, and the other two, in orange, are
8 the Puerto Rico and St. Croix data that are already published, and
9 so we have 690 samples in total, and seven are fishery-independent,
10 and then 683 are fishery-dependent.

11
12 As Dr. Shervette explained, that's a problem for some of the
13 analysis, but, also, hearing the explanation of the guy that made
14 the question, we probably need more data, because that is a data-
15 limited species, and so we still need more data, and we will
16 explain why in a bit.

17
18 Also, here are more specific results of the fish collection, and
19 we have the depth range, and we have the total number of fish, the
20 percentage of male and female, per island, and then the mean size
21 overall over male and female and the unknown fish, which are fish
22 that are just gutted, or they are just smaller, or we just missed
23 the slide and we just tried to figure it out and do it again, and
24 so it's pretty low.

25
26 Now I will show you -- On the left side, I just show you the
27 distribution of combined sexes for the three islands, just for an
28 overview, and red is Puerto Rico, green is St. Thomas, and that is
29 purpose of this presentation, and blue is St. Croix. Then, on the
30 right, we see the weight versus length plots for males and females
31 of queen triggerfish in St. Thomas.

32
33 I think that you can't see it so well, the equation, but the
34 equation looks kind of similar to the one that we just published
35 through the other islands.

36
37 For size structure and sex ratios, all three islands, the size
38 frequency distribution of male and female were significantly
39 different, meaning that males are larger than females in the
40 distribution. For sex ratio, the chi-square analysis showed that
41 Puerto Rico was the only difference from the one-to-one expected
42 ratio, and, in St. Thomas and St. Croix, the sex ratio was
43 expected, and so there's no differing in the distribution of male
44 and females in St. Croix and St. Thomas, but it was different in
45 Puerto Rico, having more males than females, I think, if I remember
46 it well.

47
48 That is the length frequency analysis from St. Thomas, and the

1 other two are published already, and we can see the size class of
2 350, and then the males start -- The males are in blue, and they
3 start getting in a bigger proportion, and then just females start
4 to decay with length, the frequency.

5
6 Most of the questions that we have from fishermen is what we do
7 with the fish, and we have a queen triggerfish gonad, male gonad,
8 and that is a gonad, and it's really weird to find that big gonad
9 in triggerfish. On this side, we have the histology of the gonad,
10 and that is from an immature fish, and now we have the -- On the
11 left, we have the -- The purple, or blue, is the sperm, and, on
12 the right-side, the right-picture, is the gonad.

13
14 The results for seasonality for the males of queen triggerfish for
15 Puerto Rico and St. Thomas, we are focusing on the red part, and
16 that is the spawning capable criteria, and they just show that we
17 have spawning capable males around the year, and so it's not too
18 different, and we are not surprised at that, and we see that the
19 males in most of the species are in that kind of way.

20
21 For this presentation, in St. Thomas, we are looking also at the
22 red one, and this is, again, all year. We have spawning capable
23 males around the year, and so that will not help us to see if there
24 is any seasonality on the species, and so we will look at females.
25 Also, on the right side of the screen, I will show you the size-
26 at-maturity for males.

27
28 The percentage of L 50, and that is the point where the length --
29 Where the fish -- At least 50 percent of the fish that will be
30 that length will be mature, and so it's a 50 percent chance that
31 it's sexually mature. For this particular case, it's 156, and I
32 just put a circle at their value of where I was looking with Dr.
33 Shervette, but, because I don't have access to the campus, we
34 cannot -- We have only one immature male, and that is that value.
35 The analysis for the L 50 doesn't work really here, because we
36 have a lot of mature males before that value of immature, and so
37 we are comparing one immature against three-hundred-and-forty-
38 something fish species, and then the size overlaps.

39
40 Now we go with the females, and the females are more interesting.
41 We have a big gonad for a queen triggerfish in the upper picture,
42 and the picture below is a developing female, just by experience,
43 but I don't have any idea -- It's really hard to address,
44 microscopically, a gonad for a fish.

45
46 Then this is a representation of how we look at an immature female
47 for queen triggerfish, and all these purple dots are just primary
48 oocytes, and so really immature, for sure, for the picture. Now

1 I am showing you a developing female, and we have a different sized
2 oocyte, and we still have primary growth, but we have a bigger
3 oocyte, and then we have a spawning-capable female, and that is
4 what it looks like. The histology will help us to confirm the
5 seasonality plots.

6
7 Again, this is Puerto Rico and St. Croix, and it's already
8 published, and now we have a different -- We're looking for the
9 red, and so we see the red starts in December, and then it continues
10 in January. In February, we have -- Then March through August,
11 and so, also, in St. Croix, it's the same. The season starts in
12 December and then goes through August. For St. Thomas, they are
13 not yet reported.

14
15 We find the same, and it's just only one change. We used spawning
16 capable and actively spawning, and this is a sub-division of
17 spawning capable, but it's still the same. We have actively
18 spawning females starting in December and continuing through
19 August.

20
21 Then we measure the gonad and then divide it by the weight and
22 multiply it by 100, and that gives us an index. The peak in St.
23 Croix was February, and the peak in Puerto Rico was December and
24 January, and the peaks for females was also January.

25
26 The L 50 of female, the size at maturity, the L 50, result from
27 St. Thomas females was 240 millimeters, the fork length. Again,
28 it's a 50 percent chance, at 240, that the triggerfish that you
29 catch, if it's a female, can be 50 percent mature or immature.

30
31 For the results of all this stuff, the maturity -- At the end of
32 this presentation, we just have, again, in yellow the data, and
33 that is the one that hasn't been published yet, and then, for
34 Puerto Rico and St. Croix, we have the L 50, the L 50 with their
35 confidence intervals, and, again, we have also -- In the immature
36 column, we just include the N is number of immature fish that we
37 have.

38
39 In St. Thomas, the males, we only have one, but we have to double-
40 check if that is an immature male or not. If it's not, I will
41 just remove that value, and I will run the equation and the
42 analysis, and it doesn't give me a value, because I don't have any
43 immature, and so they cannot compare. There cannot be a
44 proportion.

45
46 With this graph, I just want to show that we need just more data.
47 I mean, it's a really data-limited species, but, still, we need
48 more small class-size fish, and, also, St. Croix also has like a

1 plate-size preference fish, and so we also need the bigger ones
2 and the smaller ones to try to complete the pictures for all the
3 three islands, and I don't have anything more to say, but just
4 thanks to the people like Rick Nemeth, Dr. Hoenig, Sara Thomas in
5 the USVI, Dr. Shervette and her lab, all the people in the
6 Fisheries Research Lab in DNR, the Nature Conservancy in St. Croix,
7 Dr. Brendan Turley at the University of Miami and Nitin
8 Ravikanthachari from USC, who helped me with the R codes.

9
10 Then the Puerto Rico and St. Croix fishermen, and, also, in the
11 presentation is Julian, and that is what was really helpful.
12 Without him, we could not finish this sampling. Then the people
13 of MARMAP and NOAA funding. Any questions?

14
15 **MARCOS HANKE:** Thank you, Jesus. Jesus, we're going to save the
16 questions and to do it through the chat. Please pay attention in
17 the chat, to answer the questions, because we are really tight on
18 schedule.

19
20 **JESUS RIVERA:** Okay. Cool.

21
22 **MARCOS HANKE:** Thank you very much. The presentation was great.
23 Graciela, you have somebody to present? Can you help me?

24
25 **GRACIELA GARCIA-MOLINER:** I think we have Jenny Moore online to
26 talk about the critical habitat designation for corals and the
27 coral-reef-forming basis of the fisheries here. Jen, are you
28 online?

29
30 **JENNIFER MOORE:** I am.

31
32 **GRACIELA GARCIA-MOLINER:** Perfect.

33
34 **PROPOSED CRITICAL HABITAT FOR FIVE CARIBBEAN CORALS**

35
36 **JENNIFER MOORE:** Thank you for squeezing me in. This is kind of
37 a surprise for us, that the rule published when it did, and so
38 sorry that we didn't give you much more of a heads-up that this
39 was coming.

40
41 My name is Jennifer Moore, and I work with NOAA Fisheries in the
42 Southeast Regional Office, in the Protected Resources Division,
43 and I've been working on this proposed critical habitat for five
44 Caribbean corals for about six years.

45
46 If you remember, it was 2014 that we listed five Caribbean corals
47 as threatened, and we proposed this critical habitat on November
48 27 of this year, and we have a sixty-day public comment period

1 that is open, and it will close on January 26. Then, based on our
2 statute, we should have a final critical habitat one year from the
3 date we proposed it, and so that would be November 27, 2021.

4
5 Just to take you through kind of how we designate critical habitat,
6 critical habitat is required by the Endangered Species Act for all
7 listed species, unless it wouldn't actually aid in their recovery,
8 and so we go through this step-wise approach, and the first step
9 we do is we identify the geographical areas that are occupied by
10 the species at the time that they were listed. Then, within that
11 area, we identify physical and biological features that are
12 essential to their conservation, what are the things that the
13 species need to support all of their life history, so that we can
14 recover the species, and we protect those features within the
15 habitat.

16
17 We also have to determine whether those features actually require
18 special management, and there might be things that are part of the
19 habitat, but that there are no activities that would adversely
20 affect them, and so they don't actually require any special
21 management, and then, based on those things, we identify the
22 specific areas that contain those physical and biological
23 features, and we map them.

24
25 To start off, we look at the geographic area occupied by the
26 species, and these species are present throughout the wider
27 Caribbean, and so basically anywhere there is a coral reef in the
28 Caribbean is where the species occur, and that is the geographic
29 area occupied. It's not every single location under which the
30 coral actually resides, but, basically, geographic area occupied
31 means the range of the species.

32
33 However, critical habitat is a U.S. regulation, and it only can be
34 designated in the United States, and so, while the species are
35 present throughout the wider Caribbean and in the thirty or so
36 nations of the Caribbean, we can only designate critical habitat
37 within the jurisdiction of the United States.

38
39 The real meat of critical habitat is the physical and biological
40 features, and, in this case, we have identified that the main
41 recovery goal for these species is facilitating reproduction and
42 then supporting their survival and growth after reproduction, and
43 so we have identified the physical and biological feature as
44 reproductive, recruitment, growth, and maturation habitat, and
45 there's a lot of words here on this screen, but, basically, what
46 it boils down to is the hard substrate that the corals need to
47 attach to to grow and live out their lives and then the associated
48 water column over the top of those areas of hard substrate.

1
2 Then we further describe those features by identifying these kind
3 of attributes that increase the conservation value, and it's
4 basically what are the qualities of that habitat, that hard
5 substrate in the water column, that make a good habitat for corals
6 to grow and survive, and so, in terms of the substrate, we're
7 looking for things that would promote successful recruitment of
8 the coral larvae, and so crevices and presence of crustose
9 coralline algae. Also, those reefscape have to be where the coral
10 is actually going to be attaching and growing.

11
12 They need to be relatively free of sediment and macroalgae, and,
13 also, the waters have to have certain characteristics of ranges of
14 temperature, aragonite saturation, which is related to how much
15 calcium carbonate is in the water, levels of nutrients, and, you
16 know, corals thrive in relatively low-nutrient waters, and, also,
17 they have to have relatively clear water, and so those are the
18 things in the water column that basically support corals, and then,
19 in the absence of contaminants, and we know that there are lots of
20 contaminants that affect the corals' ability to grow and reproduce,
21 and so waters that lack those things are what are going to actually
22 support recovery.

23
24 This is really the meat of critical habitat, is defining this
25 biological and -- The physical and biological features of the
26 habitat, and this is what we look at when we look at what the
27 impact of critical habitat is, is what might adversely affect these
28 things.

29
30 We define where this is, the feature that we want to protect
31 through critical habitat designation, and then we go on to identify
32 the specific areas that might contain those essential features.
33 What you may be familiar with is the Acropora critical habitat
34 designation, and that critical habitat designation is still valid,
35 and nothing changes with that designation with the new proposed
36 critical habitat.

37
38 In that designation, we have one critical habitat unit that is for
39 both of the species, for both elkhorn and staghorn coral, whereas,
40 in this new proposed critical habitat rule, we are actually
41 identifying twenty-eight individual units, and that's basically
42 one for each of the five species in the locations that they occur.

43
44 For example, pillar coral only occurs from about one to twenty-
45 five meters depth, and so the boundaries are really -- One of the
46 set of boundaries of critical habitat are those depth contours,
47 and then we look at the U.S. geographic distribution. They don't
48 occur north of Lake Worth Inlet in Palm Beach County, Florida, and

1 so that's the northernmost boundary, and they do go all the way
2 out to the Dry Tortugas, and they are common within all of the
3 waters of Puerto Rico, the USVI, and Navassa, and so, in those
4 depths, from one to twenty-five meters, it's where critical habitat
5 is designated for pillar coral.

6
7 You can see that each of the individual other corals have their
8 own depth distributions and particular geographic distributions,
9 mostly that vary in Florida, and they don't really -- The
10 geographic distribution doesn't really vary in the Caribbean, and,
11 really, in Florida, it's just about how far north they occur along
12 the southeast Florida coast.

13
14 I'm just going to run through the maps real quick, and this shows
15 you the maximum extent of the new critical habitat designation,
16 and, basically, this is for our corals that occur from half a meter
17 out to ninety meters depth, and that's a couple of the *Orbicella*
18 species and *Mycetophyllia ferox*.

19
20 This is the maximum extent for Florida, and this is the maximum
21 extent for Puerto Rico. In St. Thomas and St. John, you can see
22 here that this is a single unit for these two islands, because of
23 those depth contours. However, if you were to look at the map for
24 pillar coral, for example, you would see that there would be a
25 break in the units between St. Thomas and St. John, because of the
26 deeper depths between those islands.

27
28 Here's the maximum extent for St. Croix, and then I apologize for
29 the poor GIS data, but this is the maximum extent for Navassa
30 Island, and this is the Flower Garden Banks, which are off of the
31 coast of Texas.

32
33 This is something you probably are more interested in, is what is
34 the difference between the existing *Acropora* critical habitat,
35 which is from zero to thirty meters, and the maximum extent of
36 this proposed critical habitat, which is out to ninety meters
37 depth, and so you can see that there are some areas that are new,
38 as compared to *Acropora* critical habitat, but what is not new is
39 the fact that, basically, we are designating the ranges of these
40 species, and so, basically, anywhere that the species occur, we
41 have been having to consider them in our federal Section 7
42 consultations since the time of listing, and so, really, there
43 isn't that much new that we have to really think about in a new
44 consultation, because we would have to consider the species that
45 were listed in these areas outside of *Acropora* critical habitat
46 all along.

47
48 That takes us to kind of what I have been alluding to, is what is

1 the effect of critical habitat? When you have a listing, there
2 are individual prohibitions against doing things to the actual
3 species, and so, since the corals have been listed in 2014, there
4 are things that can and cannot be done with regard to the corals
5 that might affect private citizens.

6
7 However, critical habitat's only affect is via that ESA Section 7
8 interagency consultation with other federal agencies for their
9 activities that may affect the proposed critical habitat, and so,
10 in looking at those physical and biological features that we
11 identified, we then consider, well, what are the federal activities
12 that are either funded, authorized, or carried out by a federal
13 agency that might affect the critical habitat, and so here's a
14 list of the activities that we have identified that may be
15 authorized, funded, or carried out by a federal agency that may
16 affect the critical habitat.

17
18 However, when we look at the impact of critical habitat, we have
19 to consider what might be an incremental impact above and beyond
20 the baseline, and so, again, as I alluded to before, the ESA
21 requires Section 7 consultation on federal activities that may
22 affect the species.

23
24 Well, because the species occur throughout their range, we have
25 been having to consult on the impacts to the species since they
26 were listed, and, basically, because corals themselves are their
27 own habitat, in many regards, the same activities that affect the
28 corals would also potentially affect their proposed critical
29 habitat, and so many of these things would not -- We would not
30 require a federal agency to change their activities based on the
31 new proposed critical habitat designation, because of the fact
32 that the species occur in those same geographic areas.

33
34 Also, we do have a substantial overlap of the new proposed critical
35 habitat with the Acropora critical habitat, and there is a general
36 agreement between the essential features, and so, again, those
37 things that we might ask federal agencies to do differently because
38 of the proposed critical habitat, we would have already asked them
39 to do differently, because of the listing of the corals and because
40 of the Acropora critical habitat.

41
42 In kind of going through that thought process, we identified that
43 protected area management, fisheries management, and aquaculture
44 would be -- There would be no new consultations that would be
45 triggered solely on the basis of this proposed critical habitat,
46 and that's not to say that you wouldn't have to consult on this
47 proposed critical habitat, but these particular categories of
48 activities all would have to have considered the species, Acropora

1 critical habitat, and those project modifications that we would
2 ask federal agencies to do -- That would stem from, likely, the
3 listing and the existing critical habitat and not solely from the
4 proposed critical habitat.

5
6 That's really how critical habitat rules impact the public, is via
7 those Section 7 consultations, and how we might ask a federal
8 agency to change their activities that they either fund, authorize,
9 or carry out because of the critical habitat designation.

10
11 I slipped over a slide here, but I wanted to also explain to you
12 that there are some parts within those big maps that are not
13 critical habitat, and so I know those boundaries can scare people,
14 because they're really, really large geographic areas, but we don't
15 have the data to map exactly those essential features that I
16 described very, very precisely to inform the public exactly where
17 they are, and so, unfortunately, we have to draw the maps with
18 these large areas, but, within those areas, the only thing that is
19 critical habitat is where those essential features exist.

20
21 For example, if you have a large seagrass bed, that is not critical
22 habitat, because you don't have hard substrate, and so basically,
23 what is not critical habitat is where the essential feature is not
24 present, and so that's the one thing that you do when you kind of
25 look at the map and you kind of subtract out what is not critical
26 habitat.

27
28 Also, because we have a provision in the ESA that says we cannot
29 designate critical habitat when there is an integrated natural
30 resource management plan at military installations, that would
31 provide for the conservation of species. If the things that they
32 are doing to take care of their facility have benefits to the
33 listed species, we are not able to designate critical habitat
34 there, and so we have one military installation, at the Naval Air
35 Station Key West, that is not designated as critical habitat.

36
37 Additionally, we basically want to only designate critical habitat
38 for those things that are going to support the conservation of the
39 corals, and so managed areas, things that are like dredge
40 navigation channels, shipping basins, vessel berths, anchorages,
41 things that are constantly disturbed and would not provide good
42 habitat, are not part of the designation.

43
44 Similarly, artificial substrates, like aids to navigation,
45 seawalls, boat ramps, and you get the idea, these things do not
46 provide the features that we need for the coral, and so those
47 things are not part of the designation, and, lastly, we have one
48 exclusion on the basis of national security impacts, and that's

1 the South Florida Measuring Facility, which is near Fort
2 Lauderdale, and it's a small area that is carved out of critical
3 habitat that is not designated as critical habitat.

4
5 If you have an activity that either falls solely within one of
6 these areas or is only affecting one of these types of substrates,
7 and like if you were say putting in a new mooring ball, or you
8 were maintaining a mooring ball, then that activity would not have
9 any impacts to critical habitat, because it's actually not critical
10 habitat, and so we wouldn't have to have you change your activity
11 at all, because there wouldn't be effects to the essential feature,
12 and so that basically takes me through things that are and are not
13 critical habitat and how it may impact the public.

14
15 Obviously, we are accepting public comment through January 26, and
16 the docket number is there, and so, if you go to regulations.gov,
17 you can submit your comment using that docket number, and, if
18 anybody has any questions, my email address is there on the screen.

19
20 **MARCOS HANKE:** Thank you very much for the presentation. Graciela.

21
22 **MIGUEL ROLON:** Marcos, because of the time, the questions can be
23 addressed to her at the email that she has there or in the chat.

24
25 **MARCOS HANKE:** Yes. We are going to move along, and thank you
26 very much. Pay attention on the chat, Jennifer, for any questions
27 that people might have.

28
29 **JENNIFER MOORE:** Okay. Thank you very much.

30
31 **MIGUEL ROLON:** How about a five-minute break, and then we can go
32 to Alida's report?

33
34 **MARCOS HANKE:** A five-minute break, and we will come back at 10:41.

35
36 (Whereupon, a brief recess was taken.)

37
38 **MARCOS HANKE:** We are going to start with the presentation of Alida
39 Ortiz and the Outreach & Education Advisory Panel. Alida, go
40 ahead.

41
42 **OUTREACH & EDUCATION ADVISORY PANEL REPORT**

43
44 **ALIDA ORTIZ:** Good morning, everyone. Before anything, I want to
45 wish you happy holidays and a happy new year, and the next year
46 may be a little bit different from what we have right now, and I
47 will try to go through my presentation on the Outreach & Education
48 Advisory Panel as fast as I can, but we have a lot of information

1 to give you.

2

3 There were a lot of meetings that we attended as part of the
4 Outreach & Education Advisory Panel, and it was from September
5 through November, and we had meetings for webinars, and we had
6 another Outreach & Education meeting, and then we had a meeting
7 with the DAPs, with the liaisons, and then we had meetings with
8 UPR Sea Grant, to develop materials, and we also discussed
9 stakeholder engagement with the Lenfest group and the Pew
10 Charitable Trusts. Then we had also a meeting with Wilson and
11 Christina, and, also, we worked with a webinar for tourism with
12 the Puerto Rico Tourism Company.

13

14 I would like to just make an update on where we are with the
15 Sustainable Seafood Consumption Campaign, which I think it's
16 probably the widest, and even the more aggressive, campaign that
17 we have ever had.

18

19 First of all, the calendar of 2021 is in the -- It's also in the
20 direction of how to promote the underutilized species, and we did
21 that with the 2020 and then the 2021, and we also are working on
22 the recipe book that I gave some information in the previous
23 meeting, and we are already working with the recipes and the
24 introduction and the catalog of the fishes that are used in the
25 recipes, and I think this is going to be probably one of the most
26 important products that we will have for sustainable seafood.

27

28 The webinar that we gave for the Tourism Company, to me, it was
29 very important, because it is bringing the sustainable seafood
30 campaign to the wider people, because the tourists guide, or the
31 tourism guides, for the people to take to the tourists at the
32 restaurants, and to the places where they sell fish, and so they
33 have to know about this campaign, and they were very interested.
34 Marcos Hanke and myself made the presentation, and, from that
35 presentation, a group has been formed, a working group, with the
36 tourism company, where we are going to develop other activities
37 and see different ways of reaching all the audiences that we can.

38

39 We are also working on short videos that Jannette Ramos and
40 Christina Olan are producing, and probably Christina will speak a
41 little bit on them in her presentation of the social media, but
42 this has videos directed to the consumer, to the person that cooks
43 in the house, and they are very simple and very easy to follow and
44 very attractive.

45

46 Then we would like also to develop a guide to analyze those
47 underutilized species and how can we use them in educational
48 products and how we can have people learn about those species that

1 are available and that are edible and that are easy to cook and
2 would take a little bit of pressure from those species that we use
3 historically all the time.

4
5 We are also working with materials for the marine fisheries
6 ecosystem of Puerto Rico and the Virgin Islands, so we can make a
7 wider distribution of that, and one of them is a new short video,
8 a one-shot video, of the habitat of particular concern, utilizing
9 the information that we have already on the essential fish
10 habitats, and this is just to bring to the public the importance
11 of knowing what they are doing on the coast or in the mountains
12 that will affect those essential fish habitats.

13
14 These videos are being produced, and they will be available in the
15 social media as Christina receives them, and then we -- I am trying
16 to work on a request that I had from Nelson Crespo, which I am
17 very, very grateful, about how can we produce the materials from
18 the book for the 4-H groups, and so I'm working on a slide
19 presentation on the basic concepts that we discuss in that book,
20 so that the 4-H groups that are still meeting virtually can use
21 them.

22
23 The other project that we are working on now in Outreach &
24 Education is a series of posters, and the first one is a review of
25 the poster on the life cycle of the queen conch, and you have it
26 right here, what it consists of, and the text has been reviewed
27 and updated, and also the art, and this is just about to be
28 finished, and we are very grateful for the support that we have
29 received from Dr. Richard Appeldoorn and Graciela Garcia-Moliner
30 and from Miguel Rolon and from the people that have seen it, that
31 have seen the text, and they have sent us their recommendations.
32 This one, we will send it to Miguel for printing early in December.

33
34 The other posters that we are working on are posters probably in
35 the similar approach that we have for Nassau grouper and for mutton
36 snapper, with a Spanish, English, and French versions, because
37 they are going to go to the international campaigns, where the
38 U.S. Caribbean Council has -- The Caribbean Council is working,
39 and it will have the biological aspects, like life cycle and prey
40 and predators and spawning aggregation seasons, and all this will
41 be in a very good illustration with very easy-to-understand
42 language that the fishers and the consumers can get the
43 information.

44
45 We are working also on outreach materials and protecting marine
46 areas in the USVI, and this is in response to a meeting, a very,
47 very important meeting, that we had with the DAPs and with the
48 local government and with the liaisons in the Virgin Islands, so

1 that the marine protected areas, like the Grammanik Bank and the
2 MCD, and probably the parks and monuments, all those areas that
3 are protected for the fishes and for the species that live there,
4 we can have information in the form of fact sheets and posters and
5 stickers and wallet cards and short videos for social media, so
6 that they -- The tourists and all the people that go to this area
7 recognize the importance of following the regulations or
8 respecting the habitat that is there, and that is very sensitive,
9 but it's also very, very important for the entire fisheries in the
10 Virgin Islands.

11
12 At some time, we may do the same thing for the Puerto Rico areas
13 in the Bajo de Sico and those areas where there are regulations
14 for fishing. We would like to open it now for Christina to give
15 us the information on the social media, please.

16
17 **MIGUEL ROLON:** Christina, before you go on, the last slide that
18 was presented by Alida responds to a request by fishers from St.
19 Thomas, Julian and Tony Blanchard and Ruth Gomez, and so, once we
20 have these materials, we want them to check what we produced, just
21 to make sure that we covered the items that were of interest to
22 them, and then we will go ahead and make it a final product, and
23 this is proposed between Sea Grant and the CFMC, with the
24 collaboration of Dr. Alida Ortiz and others, and it will go through
25 CARICOOS, which is the entity that will be allowed to manage these
26 proposals and the proposals for St. Croix. Thank you.

27
28 **ALIDA ORTIZ:** Actually, we have a meeting with them next week, and
29 we will discuss the proposal.

30
31 **MIGUEL ROLON:** Okay. Sorry, Christina. Thank you.

32
33 **CHRISTINA OLAN:** Thank you. Good morning. My name is Christina,
34 and I work for the Caribbean Fishery Management Council, as the
35 Social Media Content Developer. Thank you for the opportunity of
36 presenting what we are doing for social media.

37
38 We continue publishing information on seasonal closures,
39 announcements of webinars offered by other agencies and
40 organizations, NOAA bulletins, and announcements of our meetings.
41 For species, we have been producing slide shows about species that
42 have seasonal closures. We also publish information related to
43 essential fish habitats. We also share the administrative orders
44 from the DNR and also communications from the DPNR, especially
45 during the pandemic.

46
47 We have been sharing AmandOceano Facebook lives, especially the
48 ones related to fish identification and lionfish, and, also, we

1 want to -- Especially, I want to thank all the persons that are
2 always sharing the information and providing their input for our
3 posts, especially to the CFMC staff, fishers, scientists,
4 agencies, and stakeholders.
5

6 A couple of months ago, in September and October, we broadcasted
7 two Facebook lives, where we explained the use of the boating app
8 developed by CARICOOS, and it was an effort among CARICOOS, Puerto
9 Rico Sea Grant, and the Caribbean Fishery Management Council.

10
11 In YouTube, we have now the recordings of the DAP meetings and the
12 regular meetings, and we also have a video on ocean acidification
13 that was funded by the NOAA Ocean Acidification Program, and, also,
14 we have the recording of the Responsible Seafood Consumption
15 webinar sponsored by the Puerto Rico Tourism Company, where Alida
16 and Marcos were the presenters.
17

18 We have also been producing a monthly bulletin, and we published
19 it in November and December, and the bulletin includes information
20 regarding CFMC meetings, underutilized species, fishers,
21 sustainability, and information in our social media platforms.
22 The bulletin is available through Facebook, the CFMC webpage, and
23 email.
24

25 If you have questions, please let me know, and I am thankful for
26 all the recommendations and suggestions that our stakeholders and
27 fishers and agencies and other persons are always sharing with me
28 to improve the content that we share to our social media platforms.
29

30 **MARCOS HANKE:** Thank you very much, Christina. Next.
31

32 **CHRISTINA OLAN:** I also want to mention that, in October, that was
33 the seafood month, and we also published a couple of recipes that
34 were provided by Jannette Ramos, and it was a collaborative effort
35 between Jannette, and also Michelle Scharer, that sent us
36 scientific information about the triggerfish, and so we published
37 two recipes, and, also, we shared information related to seafood
38 consumption. Thank you.
39

40 **ALIDA ORTIZ:** Thank you, Christina. Great work. As
41 recommendations to the council that we have now, these outreach
42 initiatives to educate the public on the values and importance of
43 the MPAs for a sustainable fishery is very important. We recommend
44 that the council consider support for all the initiatives that we
45 are taking now in the USVI and to promote an extension of those
46 same type of materials for the Puerto Rico protected areas. They
47 are needed. People have to know where are the areas protected and
48 why are they protected.

1
2 With the responsible consumer and sustainable fishery outreach
3 initiative, to us, it is very important, because it involves the
4 consumer in the fisheries protection. The protection of that
5 resource is not just the responsibility of the fisher or the
6 managers, but it's the responsibility of us as consumers, and so
7 we would like to extend this initiative that we are doing in Puerto
8 Rico to the USVI, and we request the support of the council for
9 these projects.

10
11 As we decided in the meetings that we had with the liaisons last
12 month, I think it is important each one of the liaisons -- These
13 are the people that connect outreach and education with the fishers
14 and with the community where they live, and so we have Wilson
15 Santiago from Puerto Rico, and, next, we will have Nikita Charles
16 from St. Croix, and, after that, we will have Nicole Greaux from
17 St. Thomas/St. John. Wilson.

18
19 **WILSON SANTIAGO:** Good morning to everyone. This is Wilson
20 Santiago here, the Liaison Office for Puerto Rico. The 2020
21 liaison participation, I have been coordinating the PEPCO program
22 resources and presentations, and I think I'm going to finish
23 everything on the PEPCO program in December, and I am planning to
24 start in the end of January of 2021.

25
26 The other thing is I support Christina Olan with the new posts of
27 the CFMC social media regarding closures and DNER administrative
28 orders for Puerto Rico fishers, and I have participated in
29 different workshops regarding fisheries education. I have started
30 making a database of the participants of the PEPCO program, where
31 there are telephone numbers and emails, and so I haven't finished
32 that. Right now, I have around 430 contacts, and so I will work
33 towards that.

34
35 This database that I was talking about, it will work with the
36 outreach of the council and the outreach of the DNER and any other
37 agency that needs that database, and so, when it's finished, I
38 will send it to the CFMC and to the DNER, so we can use it.

39
40 In this database, I started making it because of the -- In the
41 last meeting, one of my proposals was making like a identification
42 message, and so we can weekly or monthly send notifications
43 regarding education to all the fishers and fishing community about
44 closures and everything regarding the fisheries, and so I am
45 planning to, in 2021, so we can start these push notifications.

46
47 Also, I have been supporting the CFMC and finding pictures and
48 area of catch per species for the 2021 CFMC calendar. I have been

1 supporting fishers with issues and information of the DNER state
2 and federal closures, and I have been giving educational materials
3 to the fishers, educational materials from the CFMC.

4
5 As the liaison officer of Puerto Rico, one of my responsibilities
6 are taking the issues regarding the fishers in Puerto Rico and
7 like, right now, in the pandemic, the majority issue within the
8 fishers in Puerto Rico has been the licensing and permitting
9 procedures of the DNER. I have been working with the DNER Office
10 of Permits, so I can be updated weekly. When the fishers call me,
11 I can tell them in what stage is the permit or the license, and
12 that is like the most issues right now in the pandemic for the
13 fishers.

14
15 I also help the new fishers, and so, right now, the DNER has around
16 2,000 fishing permits, and they are new, and there is a lot of
17 misinformation about the fishing closures and statistics and
18 reports and licenses and permits for state and federal waters in
19 Puerto Rico, and so I think we can outreach those fishers and
20 educate them with the PEPCO program, and so that is one of the
21 tasks that we have with the PEPCO program.

22
23 The other issue that fishers in Puerto Rico have shown, and we
24 have this issue like every year, is the law enforcement to watch
25 the closures and illegal commercial fishing in state and federal
26 waters, and so that is all for me, and, if you have any questions,
27 you can send them via the chat. Thank you.

28
29 **MARCOS HANKE:** Thank you, Wilson. Nikita.

30
31 **NIKITA CHARLES:** Good morning. First, I would like to thank
32 everyone for having me. My name is Nikita Charles, and I'm the
33 CFMC Liaison for St. Croix. As you know, right now, we're working
34 on the Reef Responsible Sustainable Seafood Initiative, and we've
35 been dedicated to having the program up and running again at full
36 capacity by the beginning of the year, and our goal for the
37 initiative is to promote the Virgin Islanders to catch, purchase,
38 serve, and consume locally-harvested seafood. Reef Responsible
39 wants to work with the community, through engagement and education
40 of commercial fishers and restaurants, to make better choices in
41 seafood consumption.

42
43 In terms of education and material, we've recently gotten our
44 posters and brochures, and we've worked with the Department of
45 Fish and Wildlife to get the educational materials printed out for
46 like the Fish Fact Book and whatnot, and, with that, we're going
47 to be dispersing and promoting and educating the community about
48 the program.

1
2 In terms of social media, as a team, we've established
3 incorporating weekly polls on social media outlets, such as
4 Facebook and Instagram, to help promote and bring awareness to our
5 mission, and a shoutout to Danielle from St. Thomas for helping us
6 add items such as Trivia Tuesday and Fish Spotlight Friday to our
7 pages, promoting the educational materials, such as the Fish Fact
8 Books.

9
10 For commercial fishers, it's actually this coming Friday, and we'll
11 be welcoming fishers at the reopening of the La Reine Fish Market
12 and giving them the opportunity to learn more about how we can
13 help them and how they can sign up for the initiative. Here, we'll
14 also establish a voluntary list for them to be able to have a list
15 of licensed commercial fishers that we can share with the
16 restaurants in the future.

17
18 In terms of restaurant training now, we've added more restaurants
19 to the list of Reef Responsible Restaurants for outreach, and we're
20 currently scheduling restaurant trainings for the month of
21 December. We've also been working on establishing monthly Zoom
22 trainings for them during COVID, and we're trying to add a
23 presentation that works actively virtually with individuals, so we
24 can ask them questions and they can participate better.

25
26 We have our Reef Responsible Advisory Council that we've been
27 utilizing, and we've got input on the presentation. Just to give
28 you an idea of what are the rest of the training materials for the
29 restaurant trainings and Zoom fishing trainings, we decided to add
30 things like the stony coral tissue loss disease and exhibiting
31 ways to properly measure legal sizing for purchasing specific types
32 of catch, that being how to measure and better visually explain
33 the carapace length and fork length, how to get a better idea of
34 telling if a fish is fresh, if you're getting fresh fish, making
35 sure you're purchasing from licensed commercial fishers, because
36 I know that's a big deal for a lot of people, and how to check for
37 that. Then there's discussing the high risk of ciguatera, and I
38 think that's all I have for you guys today. Thank you.

39
40 **ALIDA ORTIZ:** Nicole.

41
42 **NICOLE GREAUX:** Good morning to everyone. Thank you so much for
43 allowing me to do my presentation at the fishery management
44 council. My name is Nicole Greaux, and I am the liaison for St.
45 Thomas/St. John.

46
47 First off, I would like to start with saying that we've had some
48 challenges over here on St. Thomas. I lost the expertise of Alexis

1 Sabine, upon her resignation, and so we've really had to start off
2 fresh over here, as far as obtaining information and getting things
3 like fishery contacts and those kind of items.

4
5 We're starting off with the fishing vending areas. One of the
6 issues that I have come across, speaking to fishermen at our seven
7 vending sites, believe it or not, is that they really would like
8 to know a timeline for repairs and improvements on a lot of the
9 fish vending areas.

10
11 Only two of the fish vending areas that we have here belong to
12 Fish and Wildlife, or DPNR. The others are more traditional than
13 designated, and that is going to be a discussion I know that's
14 going to be soon-coming. I do believe that Julian Magras, at the
15 DAP meeting, had spoken about getting in contact with some of the
16 owners of the properties that are now traditional vending sites.

17
18 Representation in events for the fisheries, I have noticed that we
19 have not had a very strong representation for our local fishers
20 here, the commercial fishers in the Virgin Islands.

21
22 We are hoping, through the Reef Responsible Program, to have more
23 of our local commercial fishers out and about, so that people can
24 know the key parts that they play in our fisheries, and also in
25 helping to get information to the public, as far as the different
26 species of fish are concerned and also what species of fish are
27 considered the most desirable. They are also the ones that have
28 the most information on things like fish growth, fish availability,
29 and also as far as the ciguatera areas are concerned.

30
31 As far as the liaison and fisher discussions go, we have yet to
32 have a full meeting, and, obviously, COVID has put a damper on a
33 lot of our meeting capabilities, and, as far as virtual meetings
34 go, some of the fishers are not very much into having virtual
35 meetings, and so that's going to be put on hold until we feel more
36 comfortable meeting in public.

37
38 I mentioned earlier that I went to seven of the fish vending areas,
39 and I have been visiting the fishermen and their helpers, and they
40 are quite an amazing group of people, and they have so much
41 resilience, and I'm very proud of our local commercial fishers,
42 both here on St. Thomas and in St. John.

43
44 Another thing that has come to my attention, while I was going out
45 to meet the fishers, is that there's not very much information
46 that is out for them right now as far as their hurricane relief
47 funding is concerned, and I am going to ask, since I know that Dr.
48 Angeli is here on this call, if there can be something that you

1 and I can discuss, as far as putting together information that I
2 can go ahead and hand out to the fishers, or that we can get
3 together and speak to them about, so they can have those questions
4 answered.

5
6 The Reef Responsible Initiative that Nikita was talking about is
7 going to be our main platform for the responsible consumer
8 campaign, and I'm very proud to be a part of that particular
9 initiative, because not only is it going to help people learn more
10 about what sustainable seafood is, but it's also going to give a
11 better scope of the fishers available to not only our restaurants,
12 but also to our local consumers of different fish, and that's all
13 I have for now. Thank you.

14
15 **ALIDA ORTIZ:** Thank you so much, especially to the liaisons. I
16 think the work is magnificent, and I ask you to keep in contact
17 with us, not just for the meeting that the council has, but, every
18 time that you have an activity, send it to Christina, or send it
19 to me, so that we can share how these connections with the fishers
20 is working, and so thank you. Thank you so much, and so this is
21 all our presentation. If there are any questions related to the
22 Outreach and Education Panel --

23
24 **MIGUEL ROLON:** (Mr. Rolon's comment is not audible on the
25 recording.)

26
27 **CHRISTINA OLAN:** The title of this proposal is "From Fishers'
28 Knowledge to Scientific Language: Understanding Essential Fish
29 Habitat of the Deep Water Snapper Fishery". The objectives of
30 this effort is the following. It will be to document what fishers
31 do in this fishery and how they contribute to science, to create
32 awareness about the deepwater snapper fishery and essential fish
33 habitat associated with it, increase the understanding of this
34 fishery, and inspire stakeholders to support management measures
35 to protect the fishery and promote sustainability.

36
37 This proposal has three phases. The first one is that we will be
38 recording virtual interviews with scientists that are working with
39 the deepwater snapper fishery, and we will be producing short
40 videos. The second one will be interviews to fishers that are
41 collaborating with research, to highlight the importance of their
42 contribution and their knowledge of science. Those videos will be
43 published on YouTube, and, also, we will be working on soundbites
44 for Facebook and Instagram.

45
46 In this part, we are hopefully going to be interviewing fishers
47 in-person, instead of doing virtual interviews, and then we are
48 going to produce a video of deepwater snapper fishing, or, in

1 Spanish, cala. That is my presentation.

2
3 **MIGUEL ROLON:** The other thing that we have here is that the money
4 for the presentation, I mean for this proposal, comes from the
5 funds that were approved by the habitat group and the reef fish
6 group from NOAA that Graciela monitors, and this money has been
7 approved already, and it will cover, of course, the three islands,
8 and remember that we have the island-based FMPs, and they will be
9 implemented accordingly in 2021.

10
11 However, this effort will include all fishers from St. Thomas/St.
12 John, from St. Croix, and from Puerto Rico, of course. The
13 scientists that we are going to interview include the three
14 presenters today, and all the presenters, really, that have
15 anything ongoing, in terms of research, or have done research in
16 the Virgin Islands and Puerto Rico, that will be of interest to
17 the fishers of this area.

18
19 The interviews in the field will depend on the COVID guidelines,
20 and, as they told us yesterday, National Marine Fisheries Service
21 is still on Phase Zero, until the end of the year, and they have
22 several phases, but they -- We envision that, probably by the end
23 of the third quarter of 2021, we will be able to have the vaccine
24 and allow people to go in the field. The proposal will cover
25 probably 2021 and 2022, depending on this COVID thing, and, also,
26 the timing of interviews with fishers and so forth.

27
28 The last part of the proposal includes a video on how to fish
29 deepwater snappers and groupers, and this idea came from a
30 conversation with fishermen in the U.S. Virgin Islands and Puerto
31 Rico, and it will be a fisher-to-fisher talking, and we have, for
32 example, ex-fishermen from Puerto Rico explaining how he or she
33 fishes for deepwater snappers and groupers, experience and all
34 that, and then we will move to the Virgin Islands and see who in
35 the Virgin Islands fishes for deepwater snappers and groupers, and
36 that will be posted and available on Facebook for any fisher that
37 would like to venture into deepwater fishing.

38
39 It's not an easy fish to do, easy fishing to do. Otherwise,
40 everybody would be doing it, but we believe that this is an answer
41 to many fishers who have requested more information on how they
42 can go into deepwater fishing, and this is a commitment that we
43 made at the beginning of the year with fishers, and, this way, we
44 will be able to fulfill that. Alida, do you have anything else
45 that you want to add?

46
47 **GRACIELA GARCIA-MOLINER:** If I may, Miguel, before you --

48

1 **MIGUEL ROLON:** Go ahead, Graciela.
2

3 **GRACIELA GARCIA-MOLINER:** So the government conservation program
4 provided the funds to the council to actually follow the fishers
5 as they do their fishing and to answer specific questions regarding
6 temperature at-depth, the water masses where they are fishing, and
7 so it's not only the component of how they fish and the knowledge
8 that they have in selecting the areas and the depths for the size
9 of fish that they are targeting, but it's also the oceanography of
10 that data, to bring their knowledge into the science realm.
11

12 I just saw, in a text that Jesus gave, and Virginia, that they
13 would be very happy to be interviewed, and we have sent some emails
14 around, to make sure that we encompass both the scientific efforts
15 that are being conducted and the actual description and
16 characterization of that fishery as they prosecute that fishery,
17 and so the key feature is their knowledge being translated into
18 scientific language and to answer specific questions that they
19 have regarding the changes that they have noticed in their fishery,
20 for example temperature.
21

22 We are using a CTD at the same time that they are fishing, to get
23 environmental data and to look at the parameters that might be
24 impacting the size of the fish and the changes that they notice
25 when they go to the same area over time, and so this is really
26 exciting that everyone is working at the same time to include life
27 history information and actual data from the fishers, to really
28 characterize this deepwater fishery, and so thank you to everyone
29 who is participating.
30

31 **MIGUEL ROLON:** Thank you, Graciela.
32

33 **ALIDA ORTIZ:** Miguel, I don't really have anything else to add,
34 but just to say thank you to all the collaboration of the Outreach
35 & Education Advisory Panel, that they keep us in touch, and we
36 will work closer with the liaisons, and it is important, this
37 production that is being done for the social media, because we
38 have to reach the people from every possible way that is available.
39 Thank you so much.
40

41 **MARCOS HANKE:** Thank you very much, Alida. Miguel, do you need
42 anything from the council, or just the presentation?
43

44 **MIGUEL ROLON:** No. In the case of the presentation by Christina,
45 we wanted to -- If everybody agrees, we will continue with the
46 presentation, and we have the funding and the proposal that was
47 approved and monitored by Graciela, and it calls for the social
48 media person to be involved, and that's Christina.

1
2 Given that the monies are what we have in the purchase order, we
3 just wanted to make sure that the council understands that this I
4 what is going to be done, and, if there is no opposition, we can
5 continue with the project, or you can have a motion to continue
6 with this effort, and also to keep collaborating, as suggested by
7 Dr. Alida Ortiz, to move forward with the project that we have in
8 Puerto Rico into the U.S. Virgin Islands. That is more or less
9 what we wanted, and so, either way you do it, it will be fine. If
10 you want to have a proposal, or a motion, to make it stronger,
11 that would be up to the Chair.

12
13 **MARCOS HANKE:** Can you help me with the language of the motion?

14
15 **MIGUEL ROLON:** The motion will be to accept the report from Dr.
16 Alida Ortiz and Christina Olan and to support the proposals
17 suggested for outreach and education with the participation of the
18 U.S. Virgin Islands fishers and scientists, as well as those in
19 Puerto Rico.

20
21 **MARCOS HANKE:** Would any of the council members like to present
22 that motion?

23
24 **MIGUEL ROLON:** Just say so I move and second.

25
26 **NICOLE ANGELI:** I so move.

27
28 **MARCOS HANKE:** Motion by Nicole. A second then?

29
30 **CARLOS FARCHETTE:** Second.

31
32 **MARCOS HANKE:** Is there any opposition? Hearing no opposition,
33 the motion carries. Thank you very much, Miguel. We will move
34 on.

35
36 **MIGUEL ROLON:** Thank you very much, Mr. Chairman.

37
38 **MARCOS HANKE:** The next presentation will be the Enforcement.

39
40 **MIGUEL ROLON:** The first one is from Puerto Rico. Damaris, are
41 you going to do the presentation?

42
43 **ENFORCEMENT**
44 **PUERTO RICO DNER**

45
46 **DAMARIS DELGADO:** Yes. Good morning. For Puerto Rico, as you
47 know, we have been -- The Rangers have been aiding with the affairs
48 related to COVID, but, besides that, they still have been

1 intervening with the regulations, environmental regulations,
2 associated to fisheries, and we have thirty-five cases of nets,
3 cast nets and trammel nets and crab traps, in the Humacao region,
4 and this information that I am sharing with you is from January to
5 November. I couldn't get information from the last time that we
6 reported, but this is aggregated data on the interventions from
7 the Rangers from January to November.

8
9 We have twenty-three cases of cast nets in the region, in the
10 Humacao region, five cases of trammel nets, and seven cases for
11 crab traps in that region. Besides that, there were several cases
12 of beach seine, the chinchorro, and so, in regard to the
13 chinchorro, we had four cases of that.

14
15 In the south region, there were a lot of interventions in the south
16 region, including one with the beach seine in the river mouth of
17 Nigua River in Salinas, and there were nineteen cases of
18 interventions of hook-and-line in that same region, the south
19 region and the southeast.

20
21 We had one case of handline in Salinas, five cases of lobster pots
22 in the south region, several cases of lobsters, because of not
23 fulfilling the size, the required size, and we had three cases of
24 interventions for not having licenses or permits, including
25 expired licenses, but mainly because they didn't have licenses or
26 permits.

27
28 There was also two interventions for people violating the ban on
29 crabs, one intervention for the closure of the wahoo species in
30 Cabo Rojo, two cases that included two divers, and that's pretty
31 much the summary of the interventions. If you require the details,
32 I have the report that was provided by the Rangers with the exact
33 cases and the number of the cases and the places where they were
34 made, and so that's pretty much the information that I have.

35
36 Some of the interventions that the Rangers are doing are being
37 posted in our mass media, including one recent case of illegal
38 fishing in Humacao, and so that's pretty much the information.

39
40 **MIGUEL ROLON:** Thank you, Damaris. Can you send us an email with
41 an attachment, so we can put it in our records?

42
43 **DAMARIS DELGADO:** Sure. I will do that. I will send it to you.

44
45 **MIGUEL ROLON:** One clarification. Most of these interventions are
46 because they are in violation of Puerto Rico fishery laws and
47 regulations.

48

1 **DAMARIS DELGADO:** Right, and so that's Law 278 and Regulation 7949.
2 Thank you very much.

3
4 **MARCOS HANKE:** Thank you, Damaris. We will go now with the Coast
5 Guard.

6
7 **U.S. COAST GUARD**
8

9 **JAMES BRUCE:** Good morning, everybody. This is Lieutenant James
10 Bruce with the U.S. Coast Guard. Thank you very much for the
11 opportunity to speak, and I will be brief. It's been a great two
12 days. Some of the presentations from everyone have been really
13 interesting, and I don't have a presentation, especially after how
14 professional the other ones are. I wouldn't dream of bringing one
15 to compete.

16
17 The only thing that I would submit is the U.S. Coast Guard is
18 continuing to work with our partners and agencies from Puerto Rico
19 and the area of USVI and state and federal partners, and we're
20 continuing to conduct enforcement patrols to enforce federal
21 fisheries and federal regulations.

22
23 COVID has definitely been an interesting year, and it has presented
24 some operational challenges for us, to make sure that we are able
25 to protect the people that we interact with, as best as reasonable
26 and possible, and also protect our crews while still conducting
27 this mission.

28
29 Other than that, I don't have a lot else to report. The U.S. Coast
30 Guard, I mean, we stand ready to support the communities that we're
31 involved in, and we'll also try and help level the playing field
32 in the commercial fisheries, and so I will stand by, if there's
33 any questions, but that concludes my remarks. Thank you.

34
35 **MARCOS HANKE:** Thank you very much. I skipped, accidentally, the
36 USVI report.

37
38 **USVI DPNR**
39

40 **NICOLE ANGELI:** Thank you, Mr. Chairman. This Nicole Angeli,
41 reporting for Enforcement for the Department of Planning and
42 Natural Resources. Our officers are currently pulled to the Virgin
43 Islands Police Department, in order to enforce and ensure the
44 health and safety of our citizens during the COVID-19 pandemic,
45 including enforcement for boating restrictions.

46
47 The fisheries enforcement has no update. However, we do have good
48 news, in that we have managed to hire two new candidates for the

1 police academy this year, and that concludes our report. If you
2 have more specific questions, please let me know in the chat or
3 email later.

4
5 **MARCOS HANKE:** Thank you very much for your report. The next
6 report for enforcement is the NOAA Fisheries Office of Law
7 Enforcement.

8
9 **NOAA FISHERIES OFFICE OF LAW ENFORCEMENT**

10
11 **MIGUEL BORGES:** I think Manny Antonaras was going to speak, but he
12 might be dealing with another thing, and so I could give a couple
13 of updates, at least since the last council meeting in September.
14 We have had several interdictions and trainings since then, and
15 specifically, training-wise, we provided training for the DNER
16 officers of the west coast of Puerto Rico. The training was
17 regarding case package requirements and federal regulations and
18 implementation of the closed areas on the west coast of Puerto
19 Rico.

20
21 We also had a meeting with the Secretary of DNER and the
22 commissioner of DNER to implement the strategies for future
23 collaborations coming up, and, for enforcement actions, we've had
24 several interdictions that have been in collaboration with DNER
25 officers that have resulted in enforcement action, and those have
26 been regarding highly migratory species, specifically billfish.

27
28 We also had an enforcement action concerning dolphin harassment on
29 the east coast of Puerto Rico, and that also resulted in
30 enforcement action for us, and we are also working, continue
31 working, with the Coast Guard and DNER for future operations.

32
33 We are also working four long-term investigations that are still
34 ongoing, and, lastly, we are focusing our enforcement efforts
35 toward port state measures and IUU fishing, and so that's
36 unreported illegal fishing.

37
38 That's done through seaport importation, through the ports, mainly
39 the San Juan port, and the same thing for the USVI, in St. Thomas,
40 for all the regulations to import seafood from other countries and
41 the programs they have to abide by, and so that's in Puerto Rico
42 being done, and that concludes our report for this time. Thank
43 you.

44
45 **MARCOS HANKE:** Thank you, Miguel. Thank you for your report. We
46 are going to Other Business now, and I believe we have a
47 presentation from Carlos Farchette on designating fishing safe
48 zones.

1
2 **OTHER BUSINESS**
3 **DESIGNATION OF FISHING SAFE ZONES**
4

5 **CARLOS FARCHETTE:** Thank you, Mr. Chair. I think Natalia has a
6 slide for me. Thanks. For years, fishermen have been complaining
7 about cargo vessels taking shortcuts over the shallow waters of
8 Lang Bank on their way to the port authority container port on the
9 south shore of St. Croix.

10
11 These container and cargo vessels, while underway, have traversed
12 through Lang Bank at water depths of forty to sixty feet, and,
13 while doing so, they have entangled fish trap lines, dragging them
14 and destroying many fish traps, causing economic hardship to the
15 fishers who have had to replace quite a bit of lost traps
16 throughout the years. Who knows what damage to the habitat these
17 traps have caused when being dragged by these ships down the road?
18

19 In the 1980s and 1990s, fishermen have taken shipping companies to
20 court, and a couple have been compensated by the company, when
21 fishers have identified their buoy colors. However, most of the
22 fishers do not have the financial backing to hire attorneys to
23 fight their case, compared to the legal defense that a
24 multimillion-dollar company can afford, and so, really, all the
25 fishers can do is complain to the DPNR.
26

27 This problem occurs predominantly on the south shore of St. Croix,
28 when ships are traveling from the southwest cape of Sandy Point to
29 the container port. In the past, there has been a notice to
30 mariners on the coast pilot for cargo and container vessels to
31 stay outside of the hundred-fathom curve while approaching the
32 container port. This notice was removed in 1995. However, I am
33 not sure why, and I couldn't find the reason why it was removed.
34

35 I am aware that the area of the south shore is in territorial
36 waters, because the hundred-fathom curve falls within state
37 waters, but I believe it's an important issue that not only occurs
38 in Lang Bank. However, being the council, and we only regulate
39 federal waters, that's why I am specifically speaking to the area
40 that you see on the screen.
41

42 When it comes to the south shore of St. Croix, the fishermen met
43 in October with the Governor of the Virgin Islands, and he said
44 that he would be consulting with the port authority to discuss
45 what can be done about designating a safe fishing zone on the south
46 shore of St. Croix.
47

48 These incidents also create a safety-at-sea issue, particularly at

1 night when fishers are line fishing and while at anchor, and they
2 have had to cut their anchor line to escape being run over by these
3 large vessels. This safety-at-sea issue also occurs at Lang Bank,
4 and I believe that some type of protection should be afforded to
5 the fishermen who use this area to make their livelihood.

6
7 Speaking to one of our DAP members, Dave Gubser, which is also a
8 member of our FAC, he brought up what happened in San Francisco
9 Bay while he was a tugboat operator, and they had designated
10 shipping lanes to avoid this problem.

11
12 All that being said, I would like to get some advice from the
13 council, maybe from Jocelyn or maybe the U.S. Coast Guard, on how
14 we can designate the area of Lang Bank seen on the slide as a safe
15 fishing zone by maintaining vessels outside of the hundred-fathom
16 curve while navigating around Lang Bank, St. Croix. Some of these
17 vessels are either out of Puerto Rico or somewhere in the U.S., or
18 even down island. I believe a rule of law could be what the
19 fishers are asking for, because placing a notice to mariners in
20 the coast pilot as a courtesy, as it once was, is not good enough,
21 and it's usually ignored.

22
23 If there is a way to have language, such as a vessel measuring X,
24 or weighing X metric tons, must, or shall, keep within X, Y, Z
25 lines, as necessary language. If this request for assistance by
26 the council is beyond its jurisdiction, I would like someone to
27 maybe point me in the direction that I can follow through with it.
28 Thank you, Mr. Chair.

29
30 **MARCOS HANKE:** Thank you, Carlos. Your request for input, if it's
31 possible, from the Coast Guard and from Jocelyn, and let's start
32 with the Coast Guard, if there is any input or any way that you
33 can help here.

34
35 **JAMES BRUCE:** This, in particular, is not my area of expertise.
36 What I did is put my email address in the comments. If you would
37 be so kind to just give a quick recap, and, if you want to send me
38 the issue at-hand, I can absolutely get you to the right office
39 that would be able to speak to this with more authority and
40 precision, and so I hesitate to comment too much on it, because,
41 again, it's not my particular area of expertise.

42
43 However, the process of these types of designations is something
44 that the Coast Guard does participate in, along with several other
45 federal agencies, and so I will pause right there and just make
46 sure that that got through, because I know we're on a virtual
47 meeting.

1 **CARLOS FARCHETTE:** Thank you. Tonight, we have a fisheries
2 advisory committee meeting, and I will bring up this point that
3 you just brought up, and we'll send you an email. We have a member
4 named Toby Tobias, or William Tobias, that has a long history with
5 what's been going on out there, and so he can assist me in writing
6 this request to you.
7
8 **JAMES BRUCE:** It doesn't have to be anything very official. What
9 I'm more speaking to is just to get you on the right path and get
10 you connected with the right people, and so I just want to make
11 sure that I'm communicating that clearly.
12
13 **MIGUEL ROLON:** Carlos, probably you should do two things. You
14 should follow the Coast Guard's suggestion, and that's just to get
15 the names of the person that you should address this request, and
16 then put together a request, because I worked with this before in
17 San Juan, for another reason, and, in the request, usually what
18 they want is the why, where, the rationale, et cetera, and then
19 they point to the other agencies, because this has to be done by
20 the action agency, and you have to include a lot of considerations
21 for this. I guess that this is the best way to start.
22
23 Then the National Marine Fisheries Service intervenes with
24 comments, regarding whether any of these actions have any effects
25 on the fishery management plan and so forth, and so we should send
26 a copy to Jocelyn, just to make sure that they are abreast of these
27 developments.
28
29 **CARLOS FARCHETTE:** Okay. Will do.
30
31 **MARCOS HANKE:** Thank you, Carlos. I think that satisfies what
32 your intention is so far, and you're done?
33
34 **CARLOS FARCHETTE:** Yes, it does, to start.
35
36 **MARCOS HANKE:** Thank you. The next is I think we have -- Under
37 Other Business, that's it, correct, Miguel?
38
39 **MIGUEL ROLON:** We have the public comment period, and I believe
40 that Dr. Michelle Scharer wanted to address the group.
41
42 **MARCOS HANKE:** Yes. We are going now to the public comment period.
43 Michelle.
44
45 **TONY BLANCHARD:** Marcos, I would like to make a comment on the
46 public comment, when she is finished.
47
48 **MARCOS HANKE:** That's correct. Thank you. No problem.

1
2 **PUBLIC COMMENT**
3

4 **MICHELLE SCHARER:** Hi, everyone. Thanks again for the opportunity.
5 I believe there is a short presentation that I sent to Liajay and
6 Graciela.
7

8 **LIAJAY RIVERA:** Yes, you did. Hold on just a second, because your
9 PowerPoint just froze, and so give me a second to reopen it.
10

11 **MICHELLE SCHARER:** Basically, I just wanted to reiterate what
12 various scientists shared this morning, that we need data from our
13 local area to be able to adjust our management of our fisheries,
14 since a lot of the information wasn't available previously, for
15 example these age validations and differences in the behavior of
16 species due to our environmental patterns in the Caribbean being
17 different from the U.S.
18

19 Basically, I wanted to bring to light something that I have shared
20 previously with different agencies and persons regarding the
21 variability in the formation of the spawning aggregations we have
22 locally, and so this is preliminary data from our passive acoustic
23 monitoring of red hind off the west coast of Puerto Rico.
24

25 Red hind off of western Puerto Rico are known to aggregate to spawn
26 during one to three lunar cycles after the full moon of the winter
27 solstice, and so, right now, today, December 9, the fish are
28 starting to migrate to their aggregation, but, this year, the full
29 moon is the 29th of December, and so it's not until after that that
30 we will actually see the aggregations.
31

32 We also know, from work done here and in the U.S. Virgin Islands,
33 that the males and the larger females, which will be next year's
34 males, because remember that they change sex as they get bigger,
35 they remain until the end of each aggregation every year, and this
36 is important to understand how the behavior is affecting the
37 aggregations.
38

39 We also know that one of the cues for spawning is the water
40 temperature. It needs to drop below 26.5 degrees Centigrade for
41 them to actually have that cue to spawn. During the reproductive
42 behaviors, red hinds produce sounds that we can detect remotely by
43 passive acoustic monitoring, and we've been doing that since 2007
44 at Abrir la Sierra.
45

46 If the aggregation extends past February 28 in the EEZ of western
47 Puerto Rico, the reproduction is disrupted, and, because of their
48 behavior, the larger males and females will be more vulnerable to

1 fishing after the closed season ends.
2
3 This happened three times in the past ten years that we've been
4 monitoring. If you go to the next slide, I can show you an example
5 of what this data actually look like, and so the orange bars are
6 the acoustic signals that are produced by the red hind when they
7 are aggregated.
8
9 On the top, you will see the full moons of that season, and you
10 will also see dotted blue is the minimum water temperature at depth
11 at this aggregation site, and so, basically, that first peak in
12 sound production coincides with that first dip in water temperature
13 below 26.5 degrees, and then we see another peak in sound
14 production that also comes after another dip in temperature, and
15 that red-dotted line is February 28. We have been able to
16 document, three times in the past ten years, that the aggregation
17 continues past February 28.
18
19 We can see that the aggregation is well protected during the first
20 two cycles, but it's not always protected when the full moon is
21 late and the temperatures don't peak down into the colder areas
22 that they need to spawn.
23
24 Why is this important? Preliminarily, we've been collecting red
25 hind from commercial fishers in different parts of the island, and
26 this is a project in conjunction with Rick Nemeth and Virginia
27 Shervette funded by MARFIN. When we look at the sex ratios, or
28 the proportion of males to females, off of western Puerto Rico,
29 throughout the fishing areas, we see about an eighty-to-twenty
30 ratio.
31
32 On the east of Puerto Rico, it's a little more males to females,
33 but, during the aggregation site that we have been monitoring off
34 of western Puerto Rico, we had a scarcity of males, and I don't
35 need to explain much how you need sperm to fertilize all of these
36 eggs, but this is something that is concerning for the productivity
37 of the red hind fishery off of western Puerto Rico.
38
39 The variability in the lunar cycle, and so this is when the fish
40 actually aggregate, compared to the regulations that end on
41 February 28, based on preliminary data, we could see this happen
42 up to eight times in the next ten years, but it's not sure how
43 climate change and seawater temperatures will affect these
44 patterns.
45
46 The suggestion is to go to the CFR Sub-Part S, Section 622.435,
47 and revise the end date of the red hind closed season, if the
48 rationale is to protect the aggregations. The future aggregations

1 would be better protected by a more in-depth analysis of our
2 passive acoustic monitoring data, a continued active passive
3 acoustic monitoring, and year-round seawater temperature
4 recordings at different aggregation sites, so that we can address
5 how widespread this problem may be.

6
7 Variability in the formation of the spawning aggregations has also
8 been noted for other species that aggregate to spawn in the U.S.
9 Caribbean, and we have the data available for the groupers that
10 produce sound.

11
12 Finally, next year, on February 28, we expect the fish to still be
13 aggregated after the closure of the red hind season, and we suggest
14 that the council consider an emergency rule so that this
15 aggregation is not disrupted in the near future, and that's it.
16 Thank you very much.

17
18 **MARCOS HANKE:** Any questions from the council? I think it's very
19 important information, and it's relevant to all the regions of the
20 U.S. Caribbean, and are there any comments or any questions?

21
22 **MIGUEL ROLON:** Marcos, I believe that what Dr. Scharer presented
23 today is new information, or let's say presented in a different
24 context, and I believe that Graciela and I can take a look at this,
25 and, in 2021, start consulting with the Regional Office and the
26 people to see how to incorporate any of this into the decision-
27 making process that we have.

28
29 Regarding emergency action, in the federal government, emergency
30 action is when a plane crashes, and that's what I was told in
31 Washington at a meeting when we requested an emergency action,
32 meaning that probably we won't have time to have an emergency
33 action by February 28, 2021, because emergency action has to go by
34 the action agency, in this case National Marine Fisheries Service.

35
36 The important part here, Mr. Chairman, is to take this information
37 and keep consulting with Dr. Scharer, and Dr. Scharer is a member
38 of the SSC, and we should take this information to continue the
39 process that we have.

40
41 By the way, Dr. Scharer is also helping us on the international
42 level with the protection of spawning aggregations of species that
43 use this strategy in their life history for those species, and so
44 it is important that we consider this information and add any
45 actions in 2021 and 2022 for the protection of these species.

46
47 Just remember that any action that we have has to be in
48 consideration with the socioeconomics of the area, and so all of

1 that will be in play by the time that we put something together to
2 address this issue.
3
4 **MARCOS HANKE:** I understand that, and I just would like to give
5 the opportunity to the council members to express themselves, and
6 I have a question on the slide.
7
8 **MIGUEL ROLON:** Marcos, go ahead and ask you question, and maybe
9 that will entice some discussion, because it's 12:00 already.
10
11 **MARCOS HANKE:** Okay. For me, it's very interesting, because, on
12 the east coast of Puerto Rico, it's different than the west coast,
13 the fishing grounds and the way that people behave, in terms of
14 fishing, and the commercial fishermen on the east coast don't
15 target specifically red hind, like other areas of Puerto Rico,
16 and, more than that, there is not a specific area that is protected
17 or is identified to go for the red hind like the west coast. Maybe
18 that is the reason why we have that ratio that's different than
19 the west, and that's a possibility, Michelle? Am I reading this
20 right? Can you make a comment on that?
21
22 **MICHELLE SCHARER:** Absolutely. I think that is part of the reason,
23 I think, that there is this different sex ratio, but, also, the
24 fishing methods used in the east versus the west, from which these
25 samples were collected, is also different, and so most of the east
26 coast red hind came from traps, and most of the west coast came
27 from spearfishing, and so that may also be a reason why there is
28 this difference, but the most concerning one is what's happening
29 at the aggregation site.
30
31 **MARCOS HANKE:** Vanessa.
32
33 **VANESSA RAMIREZ:** Just to make a small comment, it's also, as you
34 say, that in the west that we have a lot of the -- We have 300
35 divers, and this species is really well known in the area, and
36 many people look for them, and so all the fish markets pay
37 practically \$3.00 or \$3.50 per pound, and divers are looking for
38 it, also. Thanks.
39
40 **MARCOS HANKE:** Okay. As the Chairman, I would really like to have
41 a discussion on this in the future and to explore which way we can
42 address and learn about this new information, like Miguel said,
43 and we're going to get this information and see what can be done
44 or which way we can accommodate a deeper discussion of this issue.
45 Thank you very much for your presentation, Michelle.
46
47 **EDWARD SCHUSTER:** I had a question, Marcos. My hand was up in the
48 chat.

1
2 **MARCOS HANKE:** Go ahead. I'm sorry, Ed. Go ahead.
3
4 **EDWARD SCHUSTER:** Okay. Excellent information. This is why it's
5 so important to go into these closed areas for reevaluation. Now
6 that this study has been done, are you saying that the larger fish
7 remain even after the closures there, and so, with the emergency
8 closure that you're proposing, you're saying that you want to
9 extend the closed area longer?
10
11 **MARCOS HANKE:** Michelle.
12
13 **MICHELLE SCHARER:** Part of the recommendation we have made
14 previously, for the west coast of Puerto Rico, in the EEZ, was to
15 shift, and not extend, the closed season, to be able to protect
16 that last peak in the aggregation, and so, instead of 1 December
17 to 28 February, we have proposed, in the past, 15 December to 15
18 March.
19
20 **MARCOS HANKE:** Thank you, Michelle.
21
22 **EDWARD SCHUSTER:** Okay. It makes sense now. You're not extending
23 it, but you're just moving the peak time of the closed areas,
24 because now you know exactly when the bigger fish are there and
25 they're doing their stuff.
26
27 **MARCOS HANKE:** Michelle.
28
29 **MICHELLE SCHARER:** Correct.
30
31 **EDWARD SCHUSTER:** Okay. Thank you. Excellent information and
32 presentation.
33
34 **MIGUEL ROLON:** Marcos, we have Richard and Vanessa.
35
36 **MARCOS HANKE:** Richard.
37
38 **RICHARD APPELDOORN:** I just wanted to reemphasize why this is
39 really an issue now, and it's because, of course, that the lunar
40 cycles do not follow the solar calendar, and, while our initial
41 decade of monitoring showed this problem to occur periodically,
42 that's just how the moon happened to fall during that decade of
43 work, and the decade coming up is going to be one where this is
44 going to be a problem. As she said, it will occur 80 percent of
45 the time, and so it's really trying to point out that this is
46 something that we need to address, and address soon, because it's
47 going to be with us for a while.
48

1 The only other solution would be to change to the Mayan lunar
2 calendar, and that would solve all of our problems, because
3 everything would be aligned, but, then again, the world would have
4 ended in 2012, and so there's a downside. Thank you.

5

6 **MARCOS HANKE:** Vanessa.

7

8 **VANESSA RAMIREZ:** Marcos, thank you. I just wanted to tell
9 Michelle that I totally agree with -- The calendar is by the lunar
10 cycle, and so this not only the red hind species, but there is
11 also another species that are doing the same for the last three
12 years, and so we need to work on this, and for the health of the
13 fisheries, and to instruct the fishermen also of the importance to
14 maintain that calendar update. Thanks.

15

16 **MARCOS HANKE:** Graciela.

17

18 **GRACIELA GARCIA-MOLINER:** I just have one question regarding
19 enforcement, and so the seasonal closure for red hind extends from
20 the shoreline to the 200 nautical miles. Do we have any
21 information on the success of enforcement during that time of the
22 year that we have now and how that might have contributed to the
23 changes that we see in the population? The question probably will
24 bounce back to the enforcement officers and to the commercial
25 fishers.

26

27 **MARCOS HANKE:** Your question is directed to whom?

28

29 **GRACIELA GARCIA-MOLINER:** Well, if Michelle has the answer, it
30 would be great, but, if not, to the enforcement agents and to the
31 local government, and to the commercial fishers.

32

33 **MARCOS HANKE:** Michelle.

34

35 **MICHELLE SCHARER:** I don't have any information on actual
36 interventions, but, when we've been sampling during the closed
37 season, we have seen boats actively fishing for red hind at the
38 aggregation site.

39

40 **MARCOS HANKE:** Anybody else have information about enforcement on
41 this issue?

42

43 **DAMARIS DELGADO:** I know Yamitza Rodriguez is on the line, if she
44 can share some information, because I know she monitors the
45 interventions. Right now, I don't have that type of information
46 here, and I would ask my fellow colleagues within DNER after the
47 meeting, and I can provide information later on.

48

1 **MIGUEL ROLON:** Marcos, the important part is not the enforcement
2 at this time, and it's just the presentation that Dr. Scharer is
3 bringing to the attention of the group, which is that new
4 information regarding the size and also a request for changing the
5 range of the closure that we have here, to make sure that we cover
6 the peak spawning time for the species.

7
8 **MARCOS HANKE:** Yes, Miguel, and I would like to ask -- I see
9 interest from Vanessa and from Eddie and from a few of the council
10 members, recognizing this important information, and which is the
11 -- The question is to Jocelyn, but which is the best way we can
12 address this as quick as possible, the discussion? Thank you,
13 Jocelyn.

14
15 **JOCELYN D'AMBROSIO:** Thank you, Marcos. One of the things that I
16 just wanted to circle back to that Graciela had said was just about
17 the scope of the closure, and so the federal regulations -- We're
18 talking about closed areas in federal waters in particular time
19 periods, and I can't speak to any of the closures in the
20 territorial waters, but we have, on the books, some closed areas
21 and closed seasons to account for red hind spawning.

22
23 Then I think the question is do we need to adjust those time
24 periods to account for different information, and so we can look
25 into the process for doing that and putting forward an amendment
26 to revise some of the closed seasons, or the closed areas, to
27 account for that information, and so that's something that the
28 council could request staff to look into.

29
30 In terms of an emergency rule, I would have to do some additional
31 looking at the scope of that, but I think Miguel mentioned that
32 there are very narrow circumstances where we could have an
33 emergency, and so it doesn't initially seem like that would be
34 appropriate, but we might -- It would be appropriate to reevaluate
35 the management measures on the books, to make sure that they're
36 matching the best scientific information that we have.

37
38 **MARCOS HANKE:** I guess that's the best route, and we need guidance
39 from you guys to make sure we follow the science. Yamitza
40 Rodriguez is

41
42 **YAMITZA RODRIGUEZ:** Yes. Hi. Regarding what Damaris mentioned,
43 we can provide information regarding the interventions that the
44 Rangers have done. With red hind, what we do is, most of the time
45 that they intervene on the water, the Rangers come to the Fisheries
46 Lab, and we do the certification and measurements that are required
47 of the fish, for the law purposes or anything, and we have all
48 that information, I think since 2005 to 2019, and it is mostly up-

1 to-date. We can give you information regarding how many
2 interventions of red hind have been done during the seasonal
3 closure.

4
5 One thing to keep in mind is that most of the interventions that
6 we receive are from the west coast, and, since 2010, when the
7 fishing regulations were amended, the seasonal closure applies
8 island-wide, and so we can try to collect if there are other
9 interventions of red hind in the seasonal closure for other parts
10 of the island, and we can provide how many interventions that the
11 Rangers have done in this period.

12
13 **MARCOS HANKE:** Thank you. Once you have that document, can you
14 please send it to the council, for us to have it and to distribute?

15
16 **YAMITZA RODRIGUEZ:** Sure.

17
18 **MARCOS HANKE:** Thank you very much, Yamitza. We have Graciela.

19
20 **GRACIELA GARCIA-MOLINER:** Yes, please. Michelle, if it's Abrir la
21 Sierra only, that's completely within federal waters, and so that's
22 one thing, and so would you suggest to begin with something like
23 that, or would it be better to look at the complete seasonal
24 closure, so that the government of Puerto Rico and the federal
25 government moved from December 1 to December 15 to March 15 the
26 seasonal closure for everywhere?

27
28 **MIGUEL ROLON:** Marcos, if I may, we are not going to solve this
29 here, and so now you have received a proposal from Dr. Scharer,
30 and so I suggest that we allow the staff to meet with SERO and
31 Jocelyn and the local government and Dr. Michelle Scharer and then
32 come to you with something that could be worked with.

33
34 **MARCOS HANKE:** I think that would be more productive. Thank you,
35 Miguel. We can do that, and just the last question that Graciela
36 asked to Michelle, and then we will close the discussion.

37
38 **MICHELLE SCHARER:** It's very simple. We have monitoring stations
39 in other sites that are in federal waters, and we're seeing the
40 same pattern. We do not have localized red hind sites in Puerto
41 Rico jurisdictional waters yet that we can monitor and see if the
42 same thing is happening there.

43
44 **MARCOS HANKE:** Thank you, Michelle. Is there anybody else for
45 public comment?

46
47 **MIGUEL ROLON:** You have Tony waiting.

48

1 **MARCOS HANKE:** I am sorry, Tony. Go ahead.
2
3 **TONY BLANCHARD:** I would just like to touch base on something that
4 really kind of bothered me today about this meeting, and it was
5 almost like we were trying to rush through an agenda, and I think
6 not a lot of time for questions, and trying to keep up with a time
7 period, to keep the meeting within, and I could understand that,
8 to a certain degree, but it's almost like we were running a race,
9 and I'm pretty sure there are other members out there that shared
10 the same thoughts that I share.
11
12 Something that has nothing to do with this is Mr. Magras was trying
13 to log onto the meeting, and I don't know how he got kicked off,
14 and he told me that he could not get back on the meeting, for
15 whatever the reason was, but he was trying to log on, and he just
16 couldn't get back on, and so I just had to bring that to your
17 attention. I don't know if we were running short on time or we
18 had too much of a loaded agenda to deal with for the timeframe,
19 but I think we need to do a better job the next time.
20
21 **MARCOS HANKE:** Thank you for your input, Tony. I agree with you
22 that it was a tight agenda, and I share your opinion, and we're
23 going to keep working to make the meetings the best we can, with
24 the best information we can. Thank you very much for your input.
25 If we don't have anybody else, we are ready to adjourn the meeting.
26
27 **GRACIELA GARCIA-MOLINER:** One moment, Mr. Chair. We do have the
28 SEDAR 80, queen triggerfish, appointments, and so we have
29 requested, from the local governments, their input, in terms of
30 the appointees, people who are experts on queen trigger and
31 commercial or recreational fishers, and so we are expecting their
32 prompt response, and we have already confirmed the participation
33 of Virginia and Jesus for the SEDAR 80 and collaboration with the
34 Science Center and the SEDAR group to provide us with a successful
35 assessment, and so thank you. You will be appointing the CFMC
36 appointees very soon.
37
38 **MARCOS HANKE:** Thank you, Graciela. I am not missing anything
39 else?
40
41 **GRACIELA GARCIA-MOLINER:** No, and I think that Miguel has just
42 dropped the signal, and so I don't know he's on.
43
44 **MARCOS HANKE:** Go ahead, John.
45
46 **JOHN WALTER:** One thing is I just want to commend the science that
47 we've seen today, and it's been fascinating, and I really think
48 that a lot of great work is going on. One thing that might be

1 useful is, if this science has not gone through the SSC, to bring
2 it to the SSC, because that's where there is time for some more
3 evaluation of it, from the scientific perspective, and I think
4 that could help the council then get that science distilled into
5 some concrete management actions, and it seems like that process
6 might be an effective way to make sure that the science gets to
7 become actionable on a management level. Thanks.

8
9 **MARCOS HANKE:** Great input. Thank you very much, and we are going
10 to -- I am going to work directly with the chairman of the SSC to
11 make sure this information can be presented or arranged to inform
12 the SSC. Thank you very much. I don't think we have anything
13 else, anybody else on the list. Thank you for your patience, and
14 thank you for participating. Miguel.

15
16 **MIGUEL ROLON:** I just want to thank everybody, and, actually, I am
17 taking note of Tony's concern, and certainly some people have
18 problems in and out of the meeting, and so they have to -- Because
19 of problems in their section, of where they are, and so we are
20 constantly admitting people to the meeting, and they send me the
21 reason why they are in and out of the meeting.

22
23 The last thing that I was going to say is this is our last meeting
24 of the year, and hopefully we will not have another year like this
25 one, unless we have COVID 2020 next year, but I want to thank
26 everybody for their participation and patience during all this
27 interesting time, all the council members and all the chairs of
28 our committees and all the panels that we have.

29
30 I want to mention the ladies who work with us through the year,
31 and, thanks to them, the council has been able to continue working
32 during all this time, and I just wanted to mention, for the record,
33 in the order that they sit at the council office: Angie, Graciela,
34 Luz, Natalia, Iris, Diana, Liajay, and Christina.

35
36 These ladies have done more than they were supposed to do in their
37 position descriptions, and they are always willing and able to
38 help us, and so, like this meeting, for example, we have the
39 teamwork with Liajay and Natalia and Graciela and everybody
40 involved. For that, we are very grateful, and I wish you all happy
41 holidays and a better 2021. I will see you guys in 2021. Thank
42 you, Mr. Chairman.

43
44 **GRACIELA GARCIA-MOLINER:** Mr. Chairman, you have Manny who wants
45 to make an announcement.

46
47 **MARCOS HANKE:** Go ahead, Manny.
48

1 **MANNY ANTONARAS:** Thank you, Marcos. I wanted to share with the
2 council that our office selected the new enforcement officer.
3 During the last meeting, I had briefed that we were working through
4 the hiring process, and so we have selected an officer for the
5 USVI, Mr. Alex Terrero, and he's currently at the Federal Law
6 Enforcement Training Center and completing his basic training.

7
8 Alex comes to us with a great deal of experience, and he's got
9 thirteen years working with the Florida Fish and Wildlife
10 Conservation Commission, and we're very happy to have him onboard.
11 I hope that, maybe during the next meeting, we could do an
12 introduction and have him speak with the council.

13
14 Then the other thing I wanted to share was Matt Walia was selected
15 as OLE's new Compliance and Council Liaison, and so Matt will be
16 working directly with industry and the councils to address any
17 concerns that may come up. Matt is on -- He's participating on
18 this call as well, and, Matt, I'm not sure if you want to -- Is
19 there anything you want to share to the group?

20
21 **MATT WALIA:** I would just introduce myself, and so I'm here and
22 available to help as needed, and so, if there are any law
23 enforcement concerns, and we talked about some of the red hind and
24 the EEZ closure areas, and please direct them my way, or Manny's
25 way, and we'll do what we can to help address that. Those were
26 great presentations by the outreach liaisons, and I plan on
27 reaching contact with you guys as well, and I look forward to, in
28 the future, where we can work with you on a more island-to-island
29 level, and so that's all, and I look forward to working with you
30 guys. Thank you.

31
32 **MANNY ANTONARAS:** Thank you.

33
34 **MARCOS HANKE:** Thank you very much, and thank you to all. Merry
35 Christmas and Happy New Year. I hope that everybody stays safe
36 and healthy, and thank you for your support, and now we are ready
37 to adjourn the meeting. Thank you very much.

38
39 (Whereupon, the meeting adjourned on December 9, 2020.)

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41 - - -
42