

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL  
SUSTAINABLE FISHERIES COMMITTEE

Hyatt Regency Birmingham Birmingham, Alabama

April 3, 2017

**VOTING MEMBERS**

- David Walker.....Alabama
- Patrick Banks.....Louisiana
- Roy Crabtree.....NMFS, SERO, St. Petersburg, Florida
- Dale Diaz.....Mississippi
- Tom Frazer.....Florida
- John Sanchez.....Florida
- Greg Stunz.....Texas
- Ed Swindell.....Louisiana

**NON-VOTING MEMBERS**

- Kevin Anson.....Alabama
- Leann Bosarge.....Mississippi
- Doug Boyd.....Texas
- LCDR Leo Danaher.....USCG
- Dave Donaldson.....GSMFC
- John Greene.....Alabama
- Martha Guyas (designee for Nick Wiley).....Florida
- Kelly Lucas (designee for Jamie Miller).....Mississippi
- Campo Matens.....Louisiana
- Lance Robinson (designee for Robin Riechers).....Texas

**STAFF**

- Steven Atran.....Senior Fishery Biologist
- John Froeschke.....Fishery Biologist-Statistician
- Douglas Gregory.....Executive Director
- Karen Hoak.....Administrative & Financial Assistant
- Morgan Kilgour.....Fishery Biologist
- Ava Lasseter.....Anthropologist
- Mara Levy.....NOAA General Counsel
- Emily Muehlstein.....Public Information Officer
- Ryan Rindone.....Fishery Biologist/SEDAR Liaison
- Bernadine Roy.....Office Manager
- Camilla Shireman.....Administrative Assistant
- Carrie Simmons.....Deputy Director

**OTHER PARTICIPANTS**

- J.P. Brooker.....Ocean Conservancy
- Shane Cantrell.....CFA, Galveston, TX
- Chris Conklin.....SAFMC

1 Levi Denham.....USCG  
2 Tracy Floyd.....MDMR  
3 Susan Gerhart.....NMFS  
4 Ken Haddad.....ASA, FL  
5 Chad Hanson.....Pew  
6 Alison Johnson.....Oceana  
7 Bill Kelly.....FKCFA  
8 Amanda Nimbish.....CLS America  
9 Bart Niquet.....Panama City, FL  
10 Kirk Patterson.....CCA  
11 Rusty Pittman.....MDMR  
12 Clay Porch.....SEFSC  
13 Bob Zales, II.....Panama City, FL  
14  
15 - - -  
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[PAGE 36](#): Motion to instruct staff to develop an action to require either descending devices or venting tools on board vessels possessing reef fish in federal waters to reduce discard mortality. [The motion carried on page 40.](#)

- - -

1 The Sustainable Fisheries Committee of the Gulf of Mexico  
2 Fishery Management Council convened at the Hyatt Regency  
3 Birmingham, Birmingham, Alabama, Monday afternoon, April 3,  
4 2017, and was called to order by Chairman David Walker.

5  
6 **ADOPTION OF AGENDA**  
7 **APPROVAL OF MINUTES**  
8 **ACTION GUIDE AND NEXT STEPS**  
9

10 **CHAIRMAN DAVID WALKER:** I would like to call to order the  
11 Sustainable Fisheries Committee. The members are Greg Stunz as  
12 Vice Chair, Patrick Banks, Roy Crabtree, Dale Diaz, Tom Frazer,  
13 John Sanchez, and Ed Swindell.

14  
15 The first item of business is Adoption of the Agenda, which is  
16 Tab E, Number 1. Is there any changes or additions to the  
17 agenda? Seeing none, the agenda is approved. The next item of  
18 business is the Approval of the October 2015 Minutes, which is  
19 Tab E, Number 2. Any changes or revisions to the minutes? The  
20 minutes are approved. We are on to the Action Guide and Next  
21 Steps, Tab E, Number 3, and is that Mr. Atran?

22  
23 **MR. STEVEN ATRAN:** Thank you, Mr. Chairman. There is basically  
24 two actions in this committee. The first is to receive a  
25 presentation from Dr. Greg Stunz on the effectiveness of  
26 techniques to reduce barotrauma effects, and that doesn't  
27 require any action by the council, but, if you wish to begin  
28 action on some sort of a framework action to require devices,  
29 that would be the time to make that recommendation.

30  
31 Then the next item is I am going to review an options paper,  
32 really a very preliminary paper, on possible revisions to the  
33 ABC control rules. Then, if there is any other business, it  
34 would come up after that.

35  
36 **EXECUTIVE DIRECTOR DOUG GREGORY:** While they're getting ready, I  
37 just wanted to remind the council how this is going to feed into  
38 what we've done in the past and what I hope we do in the future.  
39 We had a venting tool requirement for reef fishes. The council  
40 had an amendment that all vessels fishing for reef fish had to  
41 have a venting tool onboard.

42  
43 When it was put into the regulations, it was changed to say that  
44 all reef fish that were captured had to be vented, and, because  
45 that preventing descending devices, that Greg is going to talk  
46 about, from being tested, we were asked to withdraw that  
47 regulation, and we did.

1 That created some confusion. Some people in the public thought  
2 that we did that because venting did not work, and that's not  
3 true, but we wanted to allow descending devices to be tested and  
4 used, and so what I would hope would come out of this, is, in  
5 some reef fish amendment, we would put back into place a  
6 requirement that anybody fishing for reef fish has to have,  
7 onboard their boat, and not necessarily use, but onboard their  
8 boat, a venting tool and/or descending devices. With that,  
9 Greg, thank you.

10  
11 **CHAIRMAN WALKER:** Greg, you're going to begin with Tab B-4(a)?  
12 Is that correct?  
13

14 **EFFECTIVENESS OF TECHNIQUES TO REDUCE BAROTRAUMA EFFECTS**  
15

16 **DR. GREG STUNZ:** I provided this for everyone. Some of the  
17 videos, I thought that it was important that you guys see this  
18 in process, but those videos probably won't appear with what  
19 you've got on your tab, but they'll be on the screen.  
20

21 Maybe I can shed a little bit of light on what Doug was  
22 mentioning, and, first, I appreciate you guys hearing about some  
23 of the work we're doing. In fact, Dr. Curtis, who we were  
24 talking about earlier, is leading our research program as it  
25 comes to this barotrauma and discard mortality.  
26

27 Our primary goal was to estimate the mortality of discarded  
28 snapper, and I don't think, no matter what side of the fence,  
29 recreational or commercial or for-hire, nobody, any  
30 conservation-minded person, wants to leave a resource in the  
31 water that's not going to make it, and we wanted to account for  
32 how we could do that.  
33

34 Up until just really a few years ago, we didn't have the  
35 technology to really know, if you released a fish, does in fact  
36 that fish survive, but we do now, through acoustic telemetry,  
37 kind of what we call the silver bullets, and so that's what we  
38 are using to do some of this stuff.  
39

40 Also, during that time, we had this venting issue that Doug  
41 brought up. We also had these new descender devices coming out,  
42 a variety of them, and that was test those, to see if they  
43 really worked and if some worked better than others. Then the  
44 last was to look at what type of seasonal effects are  
45 influencing this mortality, and, of course, we all know, but  
46 also to really put some science to it of what's the real effects  
47 of depth and is there some type of depth and temperature  
48 interaction.

1  
2 We have been working on this now for nearly five years or so,  
3 and it was funded through Roy's shop and Bonnie, through MARFIN,  
4 and NOAA has a program called the Bycatch Reduction Engineering  
5 Program, or BREP, as well as the latest study by NFWF.

6  
7 What I am talking about today isn't particularly any one of  
8 those studies, but kind of the culmination of a whole bunch of  
9 studies together, and I'm trying to put it in a general story  
10 for you guys. Then probably the most important thing is, if we  
11 show this works or if it doesn't work, are the anglers going to  
12 use it, and assess that angler buy-in, and that was the purpose  
13 of our latest NFWF study and some partnerships that we made to  
14 assess that factor.

15  
16 When this really started out was when our first pilot of  
17 iSnapper, and one of the questions we would ask, other than the  
18 normal catch statistics that we want, was questions about  
19 discard rate, and we were very surprised to learn that, in fact,  
20 40 percent of the fish are discarded. Fortunately, only about 5  
21 percent of that are what the anglers would consider dead at the  
22 time, but then the real question was what happens to this other  
23 30 or 35 percent that are released alive? Is there ways to  
24 reduce mortality that we were sure that was associated with  
25 that? The good news is there is.

26  
27 To give you the punchline right off the bat, descender devices  
28 work. In fact, venting works very well, if done properly, and  
29 so hopefully this will spur some more discussion among us about  
30 how we can use this in the fishery as a tool to reduce some of  
31 the mortality, but just to step back just briefly, this is  
32 barotrauma. It's the bends.

33  
34 Fish are compressed with saturated gases in their bloodstreams  
35 and in their tissues when they are brought to the surface, just  
36 like if you took a balloon down diving, or a diver, for that  
37 matter. When you come back up to the surface, you've got to  
38 obey the laws of physics, and that gas has to expand. It has to  
39 go somewhere, and it creates all of these problems that you see  
40 up here, and I will be happy to talk to anyone about what all of  
41 this is, but surely that anyone that snapper fishes experiences  
42 barotrauma.

43  
44 To give you some examples of what we have or tools that we can  
45 utilize, they're these rapid recompression devices, and,  
46 typically, they are all coupled with a weight. You can put them  
47 in line with your fishing gear, or what most anglers do now is  
48 have a separate rod and reel, or in fact a line attached to a

1 heavy weight with some type of mechanism that connects the fish  
2 to your actual descender device to the weight, to send it back  
3 down to the bottom.

4  
5 What we discovered was that, in fact, if they have got the  
6 bends, coming up from the bottom, and all this barotrauma, you  
7 can rapidly recompress them and reverse some of those effects,  
8 and to give you an example of some of the things -- I've got  
9 some. You put a professor up here, and so I've got my show-and-  
10 tell. You should have seen me in the airport yesterday with  
11 some of this.

12  
13 This is the SeaQualizer, and we've talked about the SeaQualizer.  
14 It clips onto the lip. It's weighted to a heavy device, and it  
15 sends the fish back to the bottom. You can dial in the depth  
16 that you want it to open up at, in fifty-foot increments. When  
17 it reaches those depths, it opens up and releases the fish. I  
18 will show you an example of that in just a second.

19  
20 Here is the SeaQualizer in action, on the bottom right. You  
21 typically wouldn't have all that gear, because that is our  
22 cameras. You saw it open up, and the fish swims away, and I  
23 will show you some more examples.

24  
25 Another popular one is the Blacktip, which we don't -- We are  
26 not thrilled about the Blacktip, but the way it works -- It's  
27 the bottom left. It doesn't open up until the end hits the  
28 bottom and the pressure on the bottom causes it to open. Well,  
29 if you fish in this area, or regions in our area of the Gulf,  
30 the bottom is real silty, and it doesn't always open up. In  
31 fact, you can see it on this video. It's quite more of a  
32 contraption, and you can see the fish struggling to get off.  
33 Many times, we bring the fish back up on this device, but,  
34 nonetheless, it works, once the fish come off.

35  
36 These are sort of like the Cadillac options. They roughly cost  
37 fifty-dollars, which, in the scheme of an offshore trip, is not  
38 that expensive, and, by the way, they are reusable. You can use  
39 them over and over again, but there are cheaper options, such as  
40 this Shelton descender hook. The one on the left is kind of  
41 like a reverse safety pin.

42  
43 That is all we had when we first started doing these studies.  
44 The SeaQualizer and others weren't out, and the fish is weighted  
45 with a weight. It stays on the pin, and then you just lift up  
46 when it's at the bottom, and it comes right off, but they do  
47 come off, and so we don't like that. The SeaQualizer is what we  
48 recommend and we think is the best.



1  
2 Rockfish on the west coast, they even just use an upside-down  
3 milk crate that's weighted and put them in the milk crate and  
4 turn it upside down and send them back to the bottom, and so  
5 there is a lot of low-tech ways. I guess my point here is the  
6 cost should not be a preventative means of implementation.  
7 Obviously all of these successfully reduce discard mortality is  
8 the punchline.

9  
10 When we started this study, the first thing that we wanted to do  
11 was go into the lab, because, as you know, in the field, there  
12 is all kinds of inherent variability that we've got to deal  
13 with, and so we can recreate this in the lab, through hyperbaric  
14 chambers. Essentially, you pressure up the fish and pop the  
15 valve. Then it comes back up and you can simulate barotrauma.

16  
17 We did that for a variety of trials, and, at that time, we were  
18 looking at venting and rapid recompression, and so the short  
19 story is what you see there on the figure. The fish on the left  
20 was vented or rapidly recompressed. We virtually had 100  
21 percent survivorship if you did that across a variety of depths.  
22 Then, if you didn't vent, or didn't recompress, it's the fish on  
23 the right that floated for a little while, which we assume those  
24 would probably have some type of mortality associated with them.

25  
26 When you really want to look at some of the science results, on  
27 the left axis there, that is survival. Across the bottom, the  
28 X-axis is the controls. We put the fish obviously in the --  
29 They had to stay in the chamber for several days to make this  
30 happen, and so we wanted to make sure that it wasn't some type  
31 of caging effect, but we saw no mortality in our controls. We  
32 saw 100 percent survivorship across all of our descended fish.

33  
34 When you looked at the vented fish, 100 percent survival at  
35 thirty and sixty-meter depths. Then, when you started looking  
36 at non-vented, you got about 25 percent mortality, and then  
37 about 75 percent mortality at thirty and sixty meters, and so  
38 there was a clear depth effect, but, as a scientist, this was  
39 great. You treat it with venting or recompression and it lives.  
40 If you don't, it dies, but thirty meters is not real deep.

41  
42 The symptoms were not near as bad at that depth, and so that's a  
43 little bit of good news, but the sixty-meter was somewhat of an  
44 issue, and, of course, the question is, well, what about deeper  
45 than that? That wasn't a component of this first study. We  
46 weren't thinking that far ahead.

47  
48 I can tell you that part of this is we also repeated these fish

1 over and over through this process, because, at the time, the  
2 fishery wasn't as good, and we thought what if they're rapidly  
3 caught and recompressed over and over or decompressed, and it  
4 turns out that you have ones that live or ones that die.

5  
6 We have several fish that we call the zombie fish that made it  
7 five times through this, and we finally said enough is enough,  
8 but it didn't seem to matter the number of times. It was just  
9 how severe is your barotrauma.

10  
11 Then, of course, the real question is what about in the field,  
12 and, of course, the field is obviously a lot more variable.  
13 You've got to deal with predators, and there is temperature, and  
14 even great depth effects than we could recreate in the field, in  
15 our hyperbaric chambers.

16  
17 Then there is something we haven't quite put our finger on yet,  
18 and that is there is something going on with the stress response  
19 of capture. Many times, you can go out there, if you're fishing  
20 snapper, if they come to the surface really quick, quicker than  
21 they could obey the laws of physics, and somehow, they are not  
22 affected by that. Once they are captured, they get barotrauma,  
23 and so there is something going on there, but in the lab, of  
24 course, we don't have that stress of capture, and, of course,  
25 the biggie is the predators that are associated when you release  
26 those fish.

27  
28 The solution was our magic bullets, and this is them. They're  
29 acoustic tags. Typically, what we would do is we would make an  
30 incision and insert this into an animal, and these are mainly  
31 for tracking, but, in this case, there is a special type of  
32 these acoustic tags that are accelerometers, and we can gauge  
33 their acceleration, their depth, and the temperature that the  
34 tag is at, and it's a proxy for whether they live or die and not  
35 so much where they migrated to.

36  
37 The problem is, like you see in the picture, is that we had to  
38 attach those to the back of the fish, kind of like mini scuba  
39 tanks, because, to make an incision and stitch it up, you vented  
40 the fish, and so that was a problem, but it turned out that it  
41 worked really well, and I will show you some examples of what  
42 the profiles look like here in just a second.

43  
44 Here is an example. We had to do some lab tests, and you can  
45 see the fish have the tag. Of course, we didn't want the tag to  
46 affect their mortality, or a whole variety of other tag effects  
47 that we care about as scientists. That is the black receiver  
48 that you see in the background that is listening.

1  
2 By the way, the receivers listen and gather this information  
3 generated from this tag that's produced about every minute or a  
4 minute-and-a-half. You can see they feed just fine, and this is  
5 literally a day or so after implementation and they're behaving  
6 normally again, and so we're confident that there wasn't this  
7 tag effect.

8  
9 Of course, the big problem here is what is the fate of the fish.  
10 A survivor would look something like this, kind of like a  
11 heartbeat. It's living and doing its thing. It's swimming and  
12 it's accelerating. A dead fish looks like that. We figured out  
13 that it takes about two days for the fish to die, if they don't  
14 die immediately, but, after seventy-two hours, if it's alive,  
15 they stay alive.

16  
17 It would do its thing for a little while and then it would flat-  
18 line, and then, of course, we've got -- The drawback of acoustic  
19 telemetry is they can leave your array, and that is always a  
20 problem when you implement a fish with a \$700 tag and it leaves  
21 your array. We have a replication issue, and that repeatability  
22 is always an issue in controlling our variance.

23  
24 That would be an emigration there that you see on the bottom.  
25 They're doing just fine, and then, all of a sudden, they just  
26 leave the array and it's gone. Unfortunately, that happens  
27 sometimes.

28  
29 I don't want to go into a bunch of science stuff, and you can  
30 read the papers that are included in the packet if you really  
31 want to know about all the different designs and how we approach  
32 the experimental design, but, essentially, you've got a seasonal  
33 treatment and you've got a depth treatment. Then you've also  
34 got vent and non-vent or control or descend.

35  
36 We would hold fish in captivity, in the lab. Those were our  
37 control fish. Then we take them back out, and you have to think  
38 about it. We had a little trouble of how do you get a control  
39 fish when you've got to catch it from depth, and so we had to  
40 catch them, let them heal up, and then take them back to the  
41 field as our control fish.

42  
43 Anyway, the story there is something like this. This is getting  
44 a little bit more confusing, but the bottom is winter, spring,  
45 and summer. The green dots are vent, the blue are descend, and  
46 the red are non-vent. What you see is we don't have nearly as  
47 much of a problem in the winter and spring, and that's the  
48 story.

1  
2 There is a big seasonal effect. This decompression is not  
3 nearly as much of a problem when you have cooler water  
4 temperatures, but, in the summer, if you don't vent, you have a  
5 big problem. You see that 80 percent mortality, a little over  
6 there, and these are fish from fifty meters, and this would be  
7 the same for thirty, sixty, and above. There seems to be a very  
8 strong seasonal component to this barotrauma. We can get by  
9 without doing anything in the cooler months, but, in the  
10 summertime, in fact many times, from some of our non-vent  
11 treatments, the fish just would never leave the surface.

12  
13 Why is that? Obviously, if you look at the top graph, this is  
14 the temperature in the summer, and this is in Celsius, but the  
15 blue and the red lines are running from about seventy-degrees to  
16 about ninety-degrees Fahrenheit. Obviously summer is warmer  
17 temperature, and the spring and winter have much cooler  
18 temperatures, but what I want to draw your attention to is that  
19 bottom graph with the red line. That is the summer.

20  
21 You are bringing fish from at depth, from seventy degrees,  
22 rapidly all the way to the surface, almost up to ninety degrees,  
23 and that's the problem with the summer. It's crossing those  
24 temperature barriers. One reason we like descender devices is  
25 because, unlike venting, you get them back down to those cooler  
26 temperatures as fast as you can.

27  
28 Here is the no-brainer, depth versus mortality. At greater  
29 depths, you have much higher mortality, but there is something  
30 very interesting that we are just recently discovering, and  
31 something we set out to discover was where is that magic depth,  
32 because obviously that has a lot of management implications.

33  
34 Is there a tipping point to where it really matters, and there  
35 certainly is, and you will see some other figures in just a  
36 second, but, if you look at the middle depths there, about sixty  
37 meters, this sort of 180 to 200-foot realm is where you really  
38 start seeing what we call catastrophic decompression. That is  
39 where, no matter what you're going to do, the fish probably  
40 isn't going to make it. We see well over 80 percent mortality,  
41 and that's pretty much right at the 200-foot mark. Certainly  
42 that has some management implications, that the devices work,  
43 but they don't always work beyond a certain depth.

44  
45 I also want to just mention one thing, before I forget. That  
46 is, in these trials, you saw that venting did very well, and it  
47 turns out that we don't see a significant difference between  
48 venting or rapid recompression, although we recommend rapid

1 recompression, for those reasons that I pointed out, and it's  
2 much easier to do, but here is the standard venting tool, the  
3 one that we like. There is a giant needle. They didn't like me  
4 on the plane with this either. I had to put all of the safety  
5 devices on it.

6  
7 There is a giant needle that comes out, and you stick this into  
8 the fish. As you saw probably from other studies, most people  
9 don't know where to put this needle. This is vital organs,  
10 obviously, and they want to poke the stomach that is coming out  
11 of the mouth, which is certainly not what you want to do. You  
12 actually vent it behind the pectoral fin.

13  
14 It works really well if it's done properly, but it doesn't  
15 always work on big fish, because there is air pockets, and even  
16 though you can try to massage the air out, we highly recommend  
17 these descending devices for that, because you get rid of all  
18 the air by recompressing it. You move them through these  
19 predation zones, which are high in the water column, and then  
20 you get them back down to cooler temperatures.

21  
22 At \$700 a fish, you can imagine this gets expensive, and it's a  
23 budget-blower to do the replication we needed, and so we were  
24 like, well, what if we can have impairment scores, and actually,  
25 Matt Campbell with NOAA did some of this early work on this, and  
26 he did a great job, and we have since expanded that to meet our  
27 studies.

28  
29 We found very clearly what we can do, particularly as you see  
30 with depth here, and we can develop an impairment score by  
31 looking at certain reactions. Are the scales hissing with air  
32 coming out, for example? Are its eyes protruding? That and  
33 other responses of the fish, we can predict that mortality very  
34 well.

35  
36 We can use that to increase our sample size, but what we  
37 discovered was that, while our barotrauma scores work perfectly  
38 until you get to about sixty-meters, this 200 or 190-foot realm,  
39 and that's when we discovered that, well, this is catastrophic  
40 decompression, where they vent -- Everything blows when you're  
41 coming from that deep.

42  
43 When they're at the surface, they look good. They look like  
44 they don't have much barotrauma, but it's because all the air  
45 has escaped, and probably there is issues with brain  
46 hemorrhaging and vital organ damage and that kind of thing, and,  
47 generally, those fish don't make it beyond that sort of gray box  
48 region that you see there.

1  
2 Then the last brief study I want to tell you about is we were  
3 funded recently by NFWF, and this is still to the -- The BREP  
4 and NFWF are still ongoing, and it's trying to refine this. We  
5 said, okay, can we really refine that depth, and that's part of  
6 the graph that I just showed you, but also we got a lot of  
7 feedback from anglers of, hey, do we really have to descend  
8 these fish to the bottom? What is the best way to do this?

9  
10 We already had shown that it worked, and so we had a whole  
11 variety of new depth trials, but, also, this is really where we  
12 were testing the different devices. Then, also, do you need to  
13 go back to the bottom? It turns out that you don't. You just  
14 need to get that fish past that huge predator field that often  
15 occurs, but not that often, at the surface.

16  
17 They can recompress enough that they can swim the rest of the  
18 way on their own, and that's good news, because imagine you're  
19 on a headboat and you're having to release these fish rapidly.  
20 You don't have time to go all the way back down to the bottom.  
21 In fact, those guys have gotten creative and rigged five and six  
22 SeaQualizers in a row and are sending a whole bunch of fish back  
23 down at once, and so that's good news as well, as well as  
24 refined some of these depth effects as well.

25  
26 To do that, I am going to show you a series of videos, and I  
27 will show you some of the challenges in how this works. This is  
28 what we call the crossbow, and it actually stands for something,  
29 and you can read it, but, anyway, it's our catch and release  
30 scoring system for barotrauma, but everything nowadays that we  
31 put in the water has a GoPro camera on it, including fish, and  
32 so we can monitor the fish from every direction, to see how it  
33 swims off, to also increase our replication size.

34  
35 Here is one with a SeaQualizer, and I guess I want to point out,  
36 under a normal circumstance, you would just have a line or a rod  
37 with a weight rigged up. You wouldn't have all this camera  
38 contraption. It's very simple and easy to use, and that's one  
39 with the Blacktip, which we're not necessarily recommending,  
40 because it's quite a contraption to use, and it doesn't always  
41 release the fish.

42  
43 If you watch this, that's the four cameras. It's the same  
44 thing, and so if you pick maybe the top left or the bottom  
45 right, it's an easy one to follow. It's being released from the  
46 surface, and I have sped this up a little bit, so we don't have  
47 to watch the whole thing, but, if you pay attention to its  
48 stomach in just a minute, you can see it visually recompress,

1 and I have slowed it down here just a little bit in a second,  
2 and you will see that that fish is going back, a lot of other  
3 snapper and blue runners and other things.

4  
5 It is recompressed, and it will release there in just a second.  
6 Then, because we have cameras in all directions, you can see  
7 them. In that case, it's swimming back to an artificial reef  
8 that you see there.

9  
10 Here is another quick one, just about to release. If you look  
11 on the top left there, you can really see him swimming back  
12 down. That was a very shallow release, and you can see you just  
13 got him down and he swam the rest of the way. I want to point  
14 out though that these definitely do work, but it's not all  
15 roses.

16  
17 Here is a fish that died from deep depth. The predators know  
18 when these fish aren't alive. I can't even explain how they  
19 know it, but the barracuda definitely know it. You've got a  
20 predation field that, especially there's something about these  
21 fish kind of going through their death throes that draw in the  
22 predators.

23  
24 The good news is, when we're on a spot, sometimes there is a lot  
25 of predators, but, most of the time, this doesn't occur. It  
26 seems to be very patchy. When you get predators, you get more  
27 than one. This fish was just released, and, if you notice, a  
28 dolphin is coming around. Then you will see, if the dolphin  
29 doesn't get him, you've got a sandbar shark that is swimming  
30 through that photo there. You've still got to deal with the  
31 predator field in this, and we have ways, in our acoustics, to  
32 tell whether it's been eaten by a predator or it has died and  
33 that sort of thing from the barotrauma.

34  
35 Anyway, I think that getting it back to its habitat, versus  
36 releasing it at the surface through venting, even though that  
37 you're going to deal with predators either way, there is still  
38 some benefit there.

39  
40 I want to bring up one thing, just real quickly. There is ways  
41 we have to control predators, and we were experimenting with a  
42 study on vessels of opportunity. That means we go on a ride  
43 with a charter captain or a headboat or something, and we are  
44 experimenting with these devices.

45  
46 This is one of them called an acoustic deterrent device, an ADD.  
47 This is what I couldn't get on the plane with. They finally let  
48 me. It's on right now. All you do is put that on a line and

1 drop it in the water, and it scares away dolphin. It's a  
2 deterrent device. It doesn't harm the animal. In fact, they  
3 are required, in gillnet fisheries, to be on a gillnet to  
4 prevent the dolphin from entangling in the gillnet as it's  
5 picking off fish.

6  
7 If you have ever turned on your car and had the speakers turned  
8 up and it's real loud and it startles you, that's exactly what  
9 it does to the dolphin. If you look at our graph, we had  
10 students go out, and we didn't tell them whether it was on or  
11 off. It's on right now, but you just can't tell it.

12  
13 When it was inactive, the dolphins never left, and this was only  
14 when dolphins were present. When you turned it on, they left.  
15 In fact, they would tail-slap and leave immediately, and so we  
16 thought we were onto something and now we need to do the  
17 scientific work that we need to do to keep them away from --  
18 Because, as you know, if you've ever done it and dolphin come  
19 around, every snapper is not going to make it, and they have  
20 learned very well.

21  
22 Unfortunately, I have to put Roy on the spot here. We said,  
23 well, you can't do the science, because that's going to be Class  
24 A harassment and we can't get the permits to test it, and so I'm  
25 working closely with Roy's office to see if there is some way,  
26 because they are really showing promise. Going on vessels of  
27 opportunity doesn't allow us to do the randomization that we  
28 need to do to experimentally test these, but, in fact, they work  
29 and they are required in fisheries, and so there is some option  
30 there to reduce mortality, particularly when dolphin become a  
31 problem.

32  
33 The issue there was that they said it would create a dinner-bell  
34 effect. You put these in, because it doesn't hurt them, and  
35 then they learn, after a while, that -- It maybe would call  
36 dolphins from around that wouldn't otherwise have been there,  
37 from this dinner-bell effect.

38  
39 I was joking and said, well, the dinner-bell effect is diesel  
40 engines going into neutral, if you've ever been out there, but  
41 that didn't make my case. Anyway, maybe, Roy, you can help me  
42 with that, if somebody considers the ADDs in the fishery, but I  
43 really think, for us at least, that's enough of a rare  
44 occurrence that you're not seeing that dolphin depredation, is  
45 what we call it, as much.

46  
47 Then the last thing to draw your attention to from the last  
48 study is we did a whole bunch of things, like fight time and



1 depth and how much time it was on the deck and all of that and  
2 then what level you released it, a third of the water column,  
3 two-thirds, or at the bottom, and none of that really mattered.  
4 I would just draw your attention here to the bottom with that  
5 study, and we're learning as we go too how to better utilize  
6 these.

7  
8 I also want to make one other quick point. Remember that these  
9 fish have cameras attached to them, and there is tags. They  
10 have been really handled, and so you're seeing very high  
11 mortality rates. You wouldn't have near the handling under a  
12 normal fishing process, but you can see, if you go along the  
13 top, those are the depths. The bottom is overall survival, and  
14 you see that inflection point at sixty meters, where, at eighty  
15 meters, you have dropped substantially down to barely not even  
16 60 percent of your fish are dying.

17  
18 Anyway, that is the big results. The question, obviously, to  
19 end on here is, is it going to work? All of our research  
20 studies had some outreach component, but we got smart, and we  
21 got together with other groups, particularly the ASA, and if you  
22 know Andy Loftis and his FishSmart group, and we have done some  
23 buy-in-type studies all along the Atlantic and Gulf coast, where  
24 we have distributed SeaQualizers and done ride-along trips. To  
25 give you an idea, I asked Andy if he would please provide some  
26 slides, and so we've distributed now 1,100 SeaQualizers across  
27 the South Atlantic and Gulf.

28  
29 These are some of the preliminary results. On average, they  
30 used them for eight months. Every person that used it released  
31 seventy-five fish, on average. 72 percent of the people that  
32 got them weren't even aware that this technology existed, and so  
33 that's a good thing. 67 percent felt that they improved  
34 releasing their fish by using these devices, and, by the way,  
35 this is just our early results. The surveys are still out, in  
36 fact.

37  
38 76 percent of people changed their behavior, in terms of they  
39 are more likely to use these descender devices. They definitely  
40 preferred this over venting, which is a good thing, for the  
41 reasons we described, and it improved perceptions with the use  
42 of these, but probably, most importantly, is that 95 percent  
43 talked to their -- Word of mouth is how I think these will  
44 spread and they will say, hey, these are good things and you  
45 should be using it. We've got a lot more work to do in this  
46 realm and partnering with different groups on the outreach side  
47 of this.

48

1 What are the take-home messages? Descender devices and venting  
2 works, if it's done properly, in terms of venting. There are  
3 strong seasonal effects on mortality, which certainly has  
4 management implications. Depth, obviously, is an important  
5 factor, but, more importantly, are these sort of tipping points  
6 around this 180 to 200-foot realm.

7  
8 I don't know why it's not numbered, but Number 5 there is angler  
9 acceptance, and the fishing community is willing to accept these  
10 into practice. I just want to end that there is others around  
11 the Gulf doing this with other species. I am talking about red  
12 snapper here. There is Will Patterson's group, and I know Deb  
13 Murie with amberjack. Will is working on triggerfish, and a  
14 bunch of others are working and seeing similar results along  
15 these lines, and so maybe we would want to look up some of their  
16 studies.

17  
18 We have several papers in review right now, and at least several  
19 that are part of our packet, if you want to really get into the  
20 science, and, of course, this was -- Judd Curtis leads this work  
21 for us, and, of course, NFWF and NOAA. We are a NOAA  
22 Environmental Cooperative Science Center that funded a lot of  
23 this work of involving underrepresented students in this  
24 science, and, of course, our AgriLIFE research that allows us to  
25 do this barotrauma work in the lab, which isn't easy with red  
26 snapper.

27  
28 Several of these guys -- This was Karen's thesis, and Alex is  
29 working on the NFWF now, and Matt Streich has also done a bunch  
30 of work for his dissertation, and so, anyway, Mr. Chair, that is  
31 my presentation. Hopefully I didn't take up too much time, and  
32 I will be happy to answer any questions.

33  
34 **CHAIRMAN WALKER:** Thank you, Dr. Stunz. I'm sure there's going  
35 to be a lot of comments and questions, and so, if anybody has  
36 comments or questions, go ahead. Leann.

37  
38 **MS. LEANN BOSARGE:** I thought it was really interesting, because  
39 I think I was the one that asked for this presentation. I  
40 forget from meeting to meeting, but I loved it, and I can't  
41 believe you managed to get on a plane with all of these things,  
42 and so thanks. That's probably why people told me that you were  
43 running late and they weren't sure if you were going to make it  
44 or not. Now I understand. You got on a plane with needles and  
45 all sorts of things, and so thank you.

46  
47 **CHAIRMAN WALKER:** Johnny.  
48

1 **MR. JOHNNY GREENE:** Thank you, Dr. Stunz. I have pretty active  
2 with a lot of this type of stuff, and I am real familiar with a  
3 lot of it. One of the things that we talk to customers about  
4 daily is letting snapper go, because we always get beat up about  
5 snapper seasons and why we can't keep them, and so we always try  
6 to educate them, and we actually get people now to where we just  
7 tie them on a fishing pole, and we always have that one guy that  
8 wants to hold his beer and drop them back down. Of course, he  
9 doesn't always want to reel the lead weight back up, but it does  
10 work very effectively, and using multiple SeaQualizers in one  
11 drop absolutely works pretty well.

12  
13 One of the things I have noticed is it seems like some of the  
14 marine mammal interactions seem like they have picked up on that  
15 pretty quickly, and I always wonder, when I release a fish and  
16 he goes back out there and a marine mammal happens to find his  
17 way and all, how does that account?

18  
19 When you're putting your study together and you're looking at  
20 the success of it, a fish that swims back down to the reef is  
21 considered one thing. A fish that has a predator issue is  
22 another, and how does that fit in the whole scheme of things?

23  
24 **DR. STUNZ:** That's a great point, Johnny, and you're right that  
25 they get them. There is no question, and, at least in our area,  
26 it's that patchiness and it's not always, and so you can move is  
27 an option. I hope, one day, we'll be able to drop an ADD in the  
28 water and move them outside of that, but we can account for that  
29 acoustically.

30  
31 We can oftentimes tell that that fish was eaten. It exhibits  
32 very erratic behavior, and it typically leaves the array really  
33 quickly, but that would be counted as -- It would just be part  
34 of normal discard mortality, and so it's not directly the  
35 effects of barotrauma, but it's an indirect effect, and I sort  
36 of think that -- At least our data is showing that they stand a  
37 higher chance than floating on the surface, than if you weren't  
38 venting or doing something like that, and so it's just that  
39 you're going to lose some to depredation, is what we call it.  
40 Barracuda, by the way, in our area, are probably, in my opinion,  
41 worse than the dolphin.

42  
43 **CHAIRMAN WALKER:** Go ahead, Johnny.

44  
45 **MR. GREENE:** We are dealing with it, even offshore, a hundred  
46 miles offshore, around some of the deep-water rigs, and it's  
47 coming. It's coming your way, I'm sure. When you talk about  
48 the depth that you captured the fish for the initial study -- In

1 other words, when the fish were caught in 190 feet of water,  
2 there seemed to be a little bit more issue with those fish and  
3 the survival situation. When you mention 190 feet, is that the  
4 depth of the water from the surface to the bottom or is that  
5 where the fish were actually hooked and brought up?  
6

7 **DR. STUNZ:** That's a great question. We had to control for  
8 that, scientifically. In this study, we fished on the bottom,  
9 and so that is bottom depth, but the physics work the same no  
10 matter what. Whatever the depth that it's coming from is the  
11 relationship of how much compressed gas will be in its body and  
12 released, but we got our baits to the bottom with heavy weights  
13 as fast as we could, to avoid catching fish in the upper water  
14 column.  
15

16 **MR. GREENE:** One more follow-up, and then I will hush. In the  
17 days since the venting was not required, one of the things that  
18 I have asked my mates to do is that, at any point possible, if  
19 they can lean over the side and unhook the fish without taking  
20 them out of the water any further than they have to -- In other  
21 words, most of the time, they can reach over pretty close, to  
22 just six or eight inches out of the water, and it has seemed to  
23 help, to a degree.  
24

25 There's something about pulling that fish up over the side of  
26 the boat and everything else that goes along. That seems to  
27 play into that, and I know you spoke earlier about something  
28 about how the fish can come to the top and it doesn't bother  
29 them, but it's just something for you to think about in your  
30 studies, because something about releasing that fish right at  
31 the surface does seem to make a little bit of a difference.  
32

33 **DR. STUNZ:** You're exactly right, Johnny. The stress plays a  
34 big role in mortality, and any way to minimize the stress is  
35 better. The good news is snapper are pretty hearty. I mean,  
36 they handle this pretty well, especially if you get them back  
37 down quickly, but, in summer months, coming across the --  
38 Imagine that you're jerked from sixty or seventy-degree water up  
39 to 100-degree air temperature and ninety-degree water, and  
40 that's a drastic difference, and so that's -- To your point, I  
41 just wanted to clarify that this has been a big deal.  
42

43 A lot of charter captains tell us that they love this, because  
44 this gives their clients a different interaction than just  
45 catching the fish and throwing them in the ice chest. There is  
46 a learning experience, but also they feel good about doing this  
47 kind of thing, and so there is other advantages just from simply  
48 releasing the fish.

1  
2 **CHAIRMAN WALKER:** Kevin.  
3  
4 **MR. KEVIN ANSON:** Thank you, Mr. Chair. I'm not on your  
5 committee. Thank you, Greg, for the presentation. I noticed  
6 there was a dial there in one of the frames, the camera frames.  
7 Is that a pressure depth gauge, basically, that you can  
8 determine when the fish was actually released?  
9  
10 **DR. STUNZ:** That's exactly right. The SeaQualizers, we put them  
11 on our dive vests, and they're popping off at forty and thirty.  
12 They don't come off exactly at fifty feet or whatever, and so we  
13 want to know -- You can't tell, from the video, how deep you  
14 are, most of the time, and so that would not -- Normally, you  
15 would just have the SeaQualizer and a line and a weight. It  
16 would be very simple, but we want to know at what depth it came  
17 off.  
18  
19 **MR. ANSON:** I mean, use of the SeaQualizer itself seems to be a  
20 big improvement, but I'm just wondering if that information is  
21 passed on to the manufacturer, so maybe they can fine-tune that  
22 adjustment, if it's needed? It doesn't appear to be needed, but  
23 I was just wondering if there is any communication with the  
24 manufacturer for that.  
25  
26 **DR. STUNZ:** They have been very responsive, and I don't want to  
27 plug just SeaQualizer, because there's a lot of stuff out there,  
28 but we've used a lot of them, and they work well. In fact, we  
29 had them build a bigger one, because, for grouper and big  
30 snapper, the normal SeaQualizer that I passed around won't get  
31 around their lips, and so they built a bigger one, ones that go  
32 deeper, but the fortunate news from our latest NFWF study has  
33 shown that, if you just get them past one atmosphere, getting  
34 down below just the surface pressure almost, it's beneficial,  
35 and so that's good, and so it doesn't really matter, but, from a  
36 scientific standpoint, we want to know if we're releasing it at  
37 thirty feet or sixty feet, for example.  
38  
39 **MR. ANSON:** Just one question, but there are kind of two  
40 questions wrapped into one, but, relative to outreach and  
41 getting more buy-in and such from the anglers, I am wondering,  
42 Dr. Porch, if the information that was provided on one of the  
43 last slides there, relative to the survival -- I mean, there is  
44 a formula, if you will, or some ratio of mortality at a certain  
45 depth, I think, in the assessment model.  
46  
47 Do you recall what that is and those numbers that Greg provided?  
48 It seemed to be quite different, at least for the deeper depths,

1 as I recall, the mortality for those fish. I think it was over  
2 a hundred feet or 120 feet.

3  
4 **DR. CLAY PORCH:** I don't remember what the exact numbers are.  
5 They changed with the last assessment. Do you remember, Greg,  
6 what they were before?

7  
8 **DR. STUNZ:** I don't remember off the top of my head, but Matt  
9 Campbell did a really nice meta-analysis study. Now, he didn't  
10 incorporate all this new stuff, because it didn't exist at the  
11 time, and it's pretty clear. You've got to remember, in some of  
12 his meta-analysis, there is temperature -- Now we're discussing  
13 temperature, these big seasonal effects, and so this is going to  
14 change as we go, because we're getting better information, but I  
15 don't recall offhand, Kevin. I think it might actually be in --  
16 If not, I can send you that meta-analysis paper.

17  
18 **CHAIRMAN WALKER:** Mr. Gregory.

19  
20 **EXECUTIVE DIRECTOR GREGORY:** Our next meeting is going to be in  
21 Naples, and Florida Sea Grant has done a lot of work with  
22 outreach, at least in the Florida area. We could probably get a  
23 presentation from them about their outreach. In fact, we funded  
24 a small project with them a couple of years ago to look at the  
25 barriers that charter boat captains have toward using these  
26 products, and so, if we want to do that, I can bring some of  
27 them, or one of the agents, or Kai Lorenzen, who is on our SSC,  
28 to come and give a presentation in Naples.

29  
30 **DR. STUNZ:** One barrier, Doug, that we really haven't discussed  
31 is this is used in rockfish, and they're seeing very positive  
32 results at much greater depths, but it's a very different  
33 species. In Alaska and other areas, there is discussions about  
34 credits to those fisheries using these devices that reduce  
35 discard mortality by a certain amount, and that is obviously a  
36 way to do that.

37  
38 Ken Haddad gave a presentation on that summary, I guess, at our  
39 last meeting or whenever, and that's what he was leading to from  
40 that recreational workgroup. I'm sure you're going to hear it  
41 coming from them. If this is used more, you're going to get  
42 some credits. That plays right back into the outreach. In  
43 other words, what are you getting for using these devices? Now,  
44 where we want to go with that is a different story, but that is  
45 happening around other councils, as we speak.

46  
47 **CHAIRMAN WALKER:** Mr. Boyd.

48

1 **MR. DOUG BOYD:** Thank you, Mr. Chairman. Greg, did you all see  
2 any change in the mortality rate for larger, older fish, or did  
3 you just study the younger, smaller fish?  
4

5 **DR. STUNZ:** Yes, we had size treatments built in. We don't see  
6 a big size effect, is the thing, Doug. Now, with venting, we do  
7 see a size effect, because you can't always vent those big  
8 fishes well, and so there's a lot more to it than what I put up  
9 here, but that's one reason we like the SeaQualizer, or these  
10 descender devices, the best.  
11

12 Independent of size, it's getting them back down where they can  
13 recompress, but there is some size effect to it. Bigger fish  
14 suffer more of the trauma, but we just haven't quite zoned in on  
15 what that effect is, but they do survive. The big ones do  
16 survive, very well in fact, and so I don't have a good, concrete  
17 answer about is there a size effect, is there certain mortality.  
18 What overrides everything is depth and season, the temperature  
19 of that upper water column.  
20

21 **CHAIRMAN WALKER:** Chris.  
22

23 **MR. CHRIS CONKLIN:** Thanks. I wish they would have brought the  
24 popcorn out a little sooner for the presentation. That's great,  
25 and, by the way, it's very good, if you want to try it. Are you  
26 aware of the research going on in the South Atlantic by Dr. Jeff  
27 Buckel from North Carolina State University? He's been doing  
28 some deepwater species, snowy grouper, and he has had success  
29 rates that are pretty good, and so we just got a similar  
30 presentation, but it was on deepwater species, and are you --  
31

32 **DR. STUNZ:** I am very familiar. I know he's done work on black  
33 sea bass as well and other things, and so I guess I would  
34 generally say that the benefits of descending the fish are  
35 showing great promise across all fisheries. Not all fisheries,  
36 but many fisheries, to where these are becoming viable  
37 management tools.  
38

39 **CHAIRMAN WALKER:** Okay. Dr. Stunz, we appreciate that. We  
40 enjoyed that very much, and we need to move on now to the  
41 Options Paper on ABC Control Rule Revisions and Mr. Atran.  
42

#### 43 **OPTIONS PAPER ON ABC CONTROL RULE REVISIONS**

44

45 **MR. STEVEN ATRAN:** Thank you, Mr. Chairman. First of all, let  
46 me say that this options paper was supposed to have been  
47 reviewed by the SSC at their meeting last week. We ran out of  
48 time, and so they didn't get to it. They will review it at

1 their next SSC meeting. Because we're short on time and because  
2 the SSC didn't review it, I am going to try to go through the  
3 presentation very quickly.

4  
5 Just as a reminder as to why we're doing this, our current  
6 control rule, ABC control rule, was finalized in 2012 as part of  
7 the ACL/AM, the generic amendment for that, and, really, no  
8 sooner had we put the current ABC control rule into place, then  
9 we found out that it was developing ABCs that were very close to  
10 OFLs. In many cases, it's just 2 percent to 4 percent below the  
11 OFL, and that was creating a problem.

12  
13 On the scientific side, the SSC felt that it wasn't adequately  
14 accounting for sources of scientific uncertainty. On the  
15 management side, it was producing ABCs so close to OFL that they  
16 weren't really very useful for keeping the stock from entering  
17 an overfishing stage, and so we barely started using it when the  
18 council instructed staff and the SSC to start working on some  
19 revisions to provide what we felt would be more appropriate  
20 levels of ABC.

21  
22 From 2012 to 2014, the SSC looked at a number of factors. We  
23 also had a working group composed of a subset of the SSC  
24 members, along with some council and Science Center staff, and  
25 they had gone to a point where they were about ready to  
26 recommend a couple of possible alternatives to our current ABC  
27 control rule. At that point, I tried to put it on the agenda  
28 for the council to review. It was a low-priority item, and we  
29 started getting caught up on some higher-priority items, and so  
30 it ended up being put on the back burner since 2014.

31  
32 Now, since that time, we have been finding more and more that  
33 the SSC has been bypassing the ABC control rule to use some  
34 alternative method of setting ABC, usually setting it at the  
35 yield when fishing at 75 percent of FMSY, which they're allowed  
36 to do. They are allowed to deviate from the ABC control rule,  
37 as long as they explain their reasoning. Really, when the  
38 control rule becomes the exception rather than the rule, we  
39 clearly have a problem.

40  
41 Then, last January, I believe it was, the council and the SSC  
42 both received a presentation on the new National Standard 1  
43 Guidelines, which they didn't so much change things as  
44 highlighted some things that we're able to do with the control  
45 rule, such as carryover provisions for underharvest and a couple  
46 of other items.

47  
48 We decided to bring the control rule back to see if we can get



1 started working on it again, and the SSC asked for a review of  
2 what we had done so far, and I put this together to try to get  
3 things started, and it's basically what they looked at before,  
4 plus a couple of additional items, as a result of the new,  
5 revised Guidelines.

6  
7 Now, part of what is in here are some options related to the  
8 carryover of underharvested red snapper. That portion is being  
9 written by Ryan Rindone, and, after I go through my  
10 presentation, he is on the webinar, and he will come up and talk  
11 more in-depth about that section, but I'm just going to try to  
12 go very quickly through what I have in here. We really don't  
13 have time to go into depth on all of these alternatives.

14  
15 What I did was I divided the ABC control rule into three  
16 sections. The first is the risk policy. That is how do we go  
17 about setting the  $P^*$  or some other adjustment to the ABC. Then  
18 there is the core of the rule, the actual calculation itself,  
19 and then what I'm calling the add-ons, things such as the  
20 carryover provision.

21  
22 I think you already know this, but some basic policies about the  
23 ABC control rule, the most important being that ABC cannot  
24 exceed OFL. Now, a lot of our ABC control rule, at least Tier 1  
25 and Tier 2, is based upon coming up with a probability of  
26 overfishing called  $P^*$ , and Tier 1, in particular, is rather  
27 complex, and I will get into that in a second, but the bottom  
28 line is we come up with this number that is supposed to  
29 represent the probability of overfishing.

30  
31 In fact, since it doesn't account for all sources of  
32 uncertainty, it's really, at best, an approximation, and it  
33 tends to underestimate the probabilities. We also have -- As I  
34 said, sometimes we don't use the  $P^*$ . We use something like the  
35 example I said before of the yield at 75 percent of FMSY.

36  
37 In this case, 75 percent has nothing to do with any particular  
38 probability. It's just some qualitative adjustment, and so, for  
39 control rules that would do that sort of adjustment, I came up  
40 with a -- I just called it a  $Q^*$ , as the equivalent to a  $P^*$ , but  
41 when you're not doing a probability-based adjustment to ABC.  
42 You're doing something that's more qualitative.

43  
44 I know you can't possibly read this, but this is Tier 1 of our  
45 ABC control rule, and each of those colored areas represents  
46 either something having to do with our level of knowledge or  
47 some aspect of the assessment itself, where there is a certain  
48 amount of uncertainty involved.

1  
2 The SSC would go through the spreadsheet, and you can see the  
3 right-hand column has a place where they would put an "X" beside  
4 whichever characteristic in each of those areas best represents  
5 the assessment they were working on. Those have numbers  
6 associated with them. They don't show up on this particular  
7 screen, but the spreadsheet would add up all of those numbers  
8 and convert them into a  $P^*$ .

9  
10 The two areas circled in red, you can see the area on the left,  
11 that defines the range of possible  $P^*$ , from 0.3 to 0.5.  
12 Presumably that is supposed to represent from between a 30  
13 percent and 50 percent probability of the stock undergoing  
14 overfishing. That range was set by the council.

15  
16 The one on the right is the output from the spreadsheet. This  
17 particular spreadsheet came up with a  $P^*$  of 0.41. Now, one of  
18 the problems that we have with this spreadsheet is that it  
19 produces a very narrow range of  $P^*$ . Generally, almost  
20 everything comes up within a range of 0.38 to 0.42, and so it  
21 doesn't give us a lot of differentiation between the stocks, and  
22 that was one of the problems that we have.

23  
24 Just out of curiosity, I converted this to try to use the  $Q^*$ ,  
25 that percentage adjustment, and this is the exact same Tier 1  
26 spreadsheet that's in the previous slide. The only difference  
27 is I changed the range. Where it had been a  $P^*$  of 0.3 to 0.5,  
28 now it's a percentage adjustment of 50 percent to 100 percent.  
29 This exact same spreadsheet came out, in this particular case,  
30 with an adjustment of 0.763, about a 76 percent adjustment.

31  
32 Now, as it turns out, since we're generally been using 75  
33 percent for most of our percent adjustments, it looks like, if  
34 we wanted to, we could just convert this spreadsheet to do  
35 percent adjustments instead of a  $P^*$ , and it would have the  
36 advantage of not having to go to the step of producing the  
37 probability density function, which I will get into in a second.

38  
39 However, everything in here is arbitrary, and that would  
40 probably be the SSC's main argument against this, but it just seems  
41 to work, and so I thought that maybe it would be worth  
42 considering.

43  
44 In our current control rule, Tier 2, everybody agrees needs work  
45 done on it. It was originally meant for stocks where we  
46 couldn't do a traditional assessment, but we could get some sort  
47 of a PDF function, and so we would select a  $P^*$ , rather than  
48 trying to calculate it from a spreadsheet, and then apply that

1 to the PDF function.

2  
3 More recently, the SSC did get a presentation, last week, on the  
4 use of data-limited methods for coming up with an ABC, and  
5 possibly this tier could be adapted to those data-limited  
6 methods, and so the top is what is in the ABC control rule right  
7 now. The bottom is just if we wanted to adjust it to use a  
8 percent multiplier instead of a P\*. As I said, we would do the  
9 same thing, except we would select a multiplier. In this case,  
10 it would be either 85 percent, 75 percent, or 65 percent.

11  
12 Tier 3 would be almost unchanged from what's currently in the  
13 control rule. Tier 3 has two subsections to it, and this is for  
14 when the only thing we have to go on is a series of landings.  
15 Under this tier, we would take some representative time period,  
16 preferably ten years, but it doesn't have to be, when there is  
17 no obvious upward or downward trend in the landings and  
18 calculate a mean of the landings and a standard deviation.

19  
20 For Tier 3a, which is stocks which, in the expert opinion of the  
21 SSC, are not overfished and are unlikely to undergo overfishing,  
22 then we would set the OFL two standard deviations above that  
23 mean, and the ABC would be set somewhere in between. By  
24 default, it would be set at one standard deviation, but it could  
25 be set higher or lower, depending on how risk-averse you would  
26 want to be.

27  
28 If it's a stock where we felt that the stock may be undergoing  
29 overfishing or may be overfished, Tier 3b would come into play.  
30 In that case, that mean of the landings would be the upper level  
31 instead of the lower level of where we would set the landings,  
32 and so the mean of the landings would become the OFL, and the  
33 ABC would be something below that.

34  
35 Right now, in the control rule, the options are to set it at 65  
36 percent of OFL, 75 percent, 85 percent, or 100 percent. The SSC  
37 had recommended that we eliminate the 100 percent option, the  
38 reason being that, if we think the stock is undergoing  
39 overfishing, it doesn't make sense to set the ABC at that level.  
40 It makes sense to reduce it from that level, and so they also  
41 had a bunch more editorial suggestions.

42  
43 Some of them had to do with modifying the conditions for use. I  
44 didn't put that in here, because it would have been impossible  
45 to try to display adequately, but, if we're going to work on  
46 revising the existing ABC control rule, we will have to address  
47 those eventually.

48

1 This is a method for selecting P\* that is called a bucket  
2 method, or a bin method. We have also called it the Bob Gill  
3 method, because it's based upon a system that Bob Gill, who some  
4 of you probably know, and he's a former council member and a  
5 current SSC member, had come up with, where we set up certain  
6 criteria that is associated with the P\*. Those species that fit  
7 that criteria get that P\*.

8  
9 I just prettied it up and tried to set some characteristics, and  
10 so each of those boxes represents certain characteristics. It  
11 goes from the most conservative P\* to the most liberal, from 0.3  
12 to 0.5. For example, at the top, the most conservative one  
13 would be for a stock that is overfished and when not adhering to  
14 the rebuilding schedule, or we don't have a rebuilding schedule,  
15 or we don't have any schedule at all. We want to be the most  
16 conservative with those fish.

17  
18 Then, if a fish meets that criteria, it falls into that bin. If  
19 not, it drops down to the next bin, and there is criteria for  
20 that one. If it fits there, that's where it goes. If not, it  
21 drops down, and so forth, until, at the bottom, it says "other  
22 highly resilient fish", and resiliency would be measured by a  
23 process called PSA, which stands for productivity susceptibility  
24 analysis. That's a methodology that the Science Center has done  
25 in the past and they are capable of doing.

26  
27 It comes up with a score representing how resistant and  
28 resilient the stock is to overfishing, and, if it comes up with  
29 a very good score, only the best score would fall into that  
30 bottom category, and then, if a fish doesn't fall into any of  
31 the criteria at all, the very bottom is a catchall, and that  
32 would assign a P\* that's right in the middle of the range, and  
33 what I've got in there right now are mostly the fish that have  
34 never had a stock assessment and we don't know much about, like  
35 queen snapper, cubera snapper, and some others.

36  
37 I put this together in 2014, and so, if we're going to adhere to  
38 this, we will need to take a closer look at whether or not the  
39 species are in the correct buckets. We will also -- Since this  
40 is a generic amendment, we will also have to add the coastal  
41 pelagics, red drum, spiny lobster, and the corals to this as  
42 well, but this is a fairly transparent method.

43  
44 It's something that everybody can understand, which makes it  
45 kind of desirable, as far as setting the appropriate risk level,  
46 and then this is the same thing, except, instead of assigning  
47 the P\*, it assigns a Q\*, a percentage. In this case, it goes in  
48 the opposite direction. No, it goes in the same direction, from

1 the most conservative to the least conservative, depending upon  
2 what category the stock is in.

3  
4 The next one is a method, and this is one of two methods that  
5 the SSC, back, in 2014, had recommended as an alternative to our  
6 current ABC control rule. It's based on a method that's used by  
7 the -- I believe it's the North Pacific Council, based upon a  
8 paper by Ralston et al., and what you see is a number of  
9 categories that represent levels of information about the stock.

10  
11 It goes from the most knowledgeable to the least knowledgeable,  
12 and, based on that characteristic, a particular  $P^*$  is pre-  
13 assigned, and a CV, which is a coefficient of variation, which  
14 is part of what is used to put together the probability density  
15 function, is assigned. The larger the CV, the broader the  
16 probability function, which means the lower the ABC is at a  
17 given  $P^*$ .

18  
19 The SSC decided to just use the fixed  $P^*$  here. The Pacific  
20 Council does adjust the  $P^*$ , as well as the CV. Here, it just  
21 adjusts the CV. The coefficient of variation gets larger, in  
22 other words more conservative, with less and less knowledge.

23  
24 Alternative 5, and this is partially part of this, was the  
25 recommendation that the SSC had made for another item to replace  
26 the current control rule. This will use a fixed value of either  
27 the  $P^*$  or the  $Q^*$ , and, as an example, we might just decide to  
28 take a  $P^*$  of 0.4 and apply it to all stocks and just be done  
29 with it, not try to calculate any other  $P^*$ , or, if we're using  
30 the percentage, the  $Q^*$ , just select some percent and apply that  
31 to all stocks. In this example, it's 75 percent, which is  
32 actually what the SSC has been doing in a lot of the recent  
33 stock assessments.

34  
35 The rationale here is that we can't possibly know all of the  
36 sources of uncertainty. We can't possibly account for all of  
37 them, and so, rather than try to do that, let's just use a  
38 single value that we feel is large enough to incorporate all the  
39 different sources without being explicit about that. As I said,  
40 the 75 percent value has been used by the SSC, and they, in  
41 2014, recommended that as the second of two possible  
42 alternatives to our current control rule.

43  
44 This alternative is based upon a method that's used, I think, by  
45 the Pacific Fishery Management Council. They call it the 60/40  
46 rule, I think. It's not the exact same thing as what they use,  
47 but it works more or less the same way.

48

1 This is using  $Q^*$ , but it could use  $P^*$  as well. What this says  
2 is that, as long as the stock is healthy, as long as it's above  
3 MSST, then we set either our  $Q^*$  or our  $P^*$  at some fairly liberal  
4 level. In this example, MSST is set at a fixed 80 percent of  
5 ABC, but it could be set at whatever you want. If we drop below  
6 MSST, rather than having a fixed  $P^*$  or a fixed  $Q^*$ , we have one  
7 that varies continuously with what the stock status is, as far  
8 as the current biomass relative to its biomass at MSY.

9  
10 As you see, it runs continuously downward. We have matched the  
11 current biomass on the X-axis to the appropriate  $Q^*$  or  $P^*$  on the  
12 Y-axis, and there is a formula there. The way this is currently  
13 set up is, if the biomass level dropped to a very low level, in  
14 this example 15 percent or lower, then the multiplier would drop  
15 to zero, which means you would drop to a zero harvest if your  
16 biomass level drops below some critical level, and that critical  
17 level you can adjust to whatever you want it to be, but it's a  
18 graphical illustration. There is a formula that goes with that  
19 graph, so you can find out exactly what the  $P^*$  or  $Q^*$  is. As I  
20 said, it does follow a method that is used out west.

21  
22 That was Action 1, which deals with trying to set up your risk  
23 policy. Action 2 is the base ABC control rule, which is  
24 actually a fairly simple part of the control rule. If you're  
25 using a PDF, the probability-based function, then all this  
26 consists of, the base control rule, is the PDF to which you  
27 apply the  $P^*$ . If you're using the  $Q^*$ , then it's the function  
28 that you use to determine OFL, such as the yield at F rebuild.

29  
30 In here, Alternative 1 applies to the  $P^*$ . Right now, for  
31 constructing a PDF function, we leave it up to the Science  
32 Center and the SSC to construct it however they feel it should  
33 be constructed, and that may be the best way to go. They're the  
34 most knowledgeable about these things.

35  
36 Alternative 1 is no action, let them continue to do that.  
37 Alternative 2 would be to provide some guidance on the  
38 construction of a PDF. If we had a chance to have the SSC go  
39 through this, I'm sure they would have made a lot of  
40 modifications here, but these were just some suggestions that I  
41 came up with.

42  
43 If we're going to give them guidance, one idea might be to use a  
44 fixed CV. 0.37 has been used by the SSC. I don't know if  
45 they've used it for actual ABCs or if they've just used it for  
46 looking at some sensitivity runs, but that is the coefficient of  
47 variance that is used by the North Pacific Council. They have  
48 gone through all of their stock assessments and looked at the

1 outputs and generated a CV for all of their outputs averaged  
2 together, and they came up with 0.37 out west.

3  
4 We would be assuming that that's a universal number that applies  
5 to all stocks if we did this, but we don't know if that's true,  
6 and so Option 2b would be to calculate our own universal CV from  
7 the Gulf stock assessments. The problem here is that we only  
8 have relatively few stock assessments where we can calculate  
9 these CVs. I think it's only the ones since we adopted Stock  
10 Synthesis 3, and so either we would have very little data from  
11 which to put this together or the Science Center would have to  
12 go back and redo those older stock assessments, which would be a  
13 very expensive and very time-consuming process. They probably  
14 could do it, but it would be very difficult.

15  
16 Option 2c would be to assign a particular CV to each stock, and  
17 we would work with the SSC to find out which species gets  
18 assigned which value. Then we would have a table of values, and  
19 we would use that table until somebody decides it should be  
20 changed. Then Option 2d is in there just because we had one of  
21 the previous alternatives dealing with what the North Pacific  
22 Council uses. You remember they had that table where they  
23 varied the coefficient of variance, but not the  $P^*$ , and so  
24 Option 2d would be to use that method, in which case we don't do  
25 anything with any other changes to the PDF.

26  
27 Then, for Tiers 2 and 3, under our current control rule, where  
28 we don't use a  $P^*$  or a PDF, we would just continue to calculate  
29 the ABC as it is currently specified.

30  
31 Then, again, and I think I mentioned this, for Q-based,  
32 percentage-based, policies, the base is simply whatever you're  
33 using for your base, the yield at FMSY or the yield at F  
34 rebuild, and you would multiply that by whatever percentage  
35 you're using to get your ABC, and the same thing for Tiers 2 and  
36 3. They would be the same as we currently have.

37  
38 Then the third part of this what I'm calling add-ons, and, in  
39 here, Actions 3.1 and 3.2 deal with carryover of underharvest  
40 from one year to the next, and, this section, Ryan Rindone is  
41 working on this. I have two more slides that I want to go  
42 through, and then I will let him discuss this further.

43  
44 One of the things we're going to ask you about is, if we  
45 continue with this, we could take this carryover section out and  
46 continue it as a separate amendment, or we could leave it in  
47 with everything else.

48

1 Action 3.3 is an action that you can take advantage of if you  
2 want. It's part of the revised NS 1 Guidelines. They allow up  
3 to a three-year phase-in of changes in ABC. Now, the Guidelines  
4 also caution about using this -- Being careful about using this  
5 with a stock that's in a rebuilding phase, because it may not be  
6 appropriate, but you can have a stock that is not rebuilding  
7 that is healthy, but the new stock assessment, because of some  
8 change in the biological inputs, the recruitment has changed or  
9 there is a different growth rate, that the ABC changes  
10 considerably.

11  
12 Instead of immediately putting in that change in the ABC, you  
13 could stretch it out over up to three years, as long as you  
14 don't exceed the OFL in any one of those years.

15  
16 Then Action 3.4, the revised NS 1 Guidelines also state that we  
17 can take social and economic concerns into consideration when  
18 determining where to set the ABC. We also can do that when  
19 we're setting the ACL, but, since we're allowed to do that in  
20 the ABC, I put this in as a potential action, and I have no idea  
21 how we would do this. I was going to ask the sociologists and  
22 the economics people on our SSC for some help in coming up with  
23 some ideas, and so I just included this as a potential action.  
24 Either don't develop socioeconomic adjustments to ABC or we do  
25 develop some socioeconomic adjustments, with the help of the  
26 SSC.

27  
28 These last two actions were not requested by the council. I  
29 just put them in because they are items that, when we got our  
30 review of the new NS 1 Guidelines, we were told these are things  
31 we can do. If you're not interested in these, I would be more  
32 than happy to remove them from the paper, but, if you do want to  
33 continue them, then we'll continue to try to develop them.

34  
35 Like I said, I just tried to very quickly go through what we  
36 have, where we are right now. We're kind of at an early stage,  
37 but we will go through this with the SSC at their next meeting.  
38 We ran out of time at the last meeting, and, if you have any  
39 questions about what I presented, I will try to answer them.  
40 Otherwise, I think Ryan is waiting on the phone to go over the  
41 carryover provisions.

42  
43 **CHAIRMAN WALKER:** Madam Chair, we're past our time. Do you want  
44 to go ahead and let Ryan continue on? I think he's got about  
45 ten minutes, and then I don't think the SSC has any comments for  
46 this meeting. Then we have Other Business. How would you like  
47 to proceed?

48



1 **MS. BOSARGE:** We don't have anything under Other Business  
2 scheduled for your committee?  
3  
4 **CHAIRMAN WALKER:** Not unless someone brings something up.  
5  
6 **MS. BOSARGE:** All right. If it's ten minutes -- Tell Ryan that  
7 I am timing him. Let's do it.  
8  
9 **CHAIRMAN WALKER:** Are you ready, Ryan?  
10  
11 **MR. RYAN RINDONE:** Let's go to PDF page 21 on E-5(a). It's  
12 Action 3.1, establishment of the carryover provisions, blah,  
13 blah, blah. Alternative 2 here would establish a carryover for  
14 all of the FMPs. Any quota not harvested upon closure of the  
15 fishery because the ACL or ACT was projected to be met would be  
16 considered for carryover for the following year, and whatever  
17 was going to be carried over would be added to the ACL, up to  
18 and equal to the ABC for the next year.  
19  
20 Then, whatever ACL or ACT adjustments need to happen, those will  
21 happen. The advantage of this one is that you don't have to do  
22 anything as far as necessarily modifying the ABC control rule,  
23 but you might not be able to carry over quite as much as you  
24 could with Alternative 3, which would modify the control rule to  
25 establish the carryover provision for uncaught quota from all of  
26 our FMPs, and, again, it's only considering quota that is  
27 determined to have not been harvested because the fishery was  
28 closed because the ACL or ACT, whatever is used to set the  
29 season, was met or projected to be met, and it would be carried  
30 over to the following fishing year.  
31  
32 In some cases, we're going to have to use preliminary landings  
33 data to pull this off, but, at the last meeting, I think it was  
34 Dr. Crabtree that noted that this is something that we've done  
35 in the past.  
36  
37 I have some options here, Options 3a through 3c, that set a  
38 buffer between the new ABC for the following year, which  
39 includes whatever quotas to be carried over, and the OFL, just  
40 to ensure that the ABC doesn't creep too close to the OFL, and  
41 those are shown there, by 5, 10, and 15 percent buffers.  
42  
43 It's important to note here though that remaining quota could  
44 only be carried over to the individual fishing components,  
45 either commercial or recreational, or, in the case of red  
46 snapper, recreational for-hire and the private recreational  
47 components from which the remaining quota originally went  
48 unharvested, and this is in keeping with what you guys outlined

1 as your preferences when we had a little Q&A session the first  
2 time that we talked about this a while back. Are there any  
3 questions so far on 3.1?

4

5 **CHAIRMAN WALKER:** I see none.

6

7 **MR. RINDONE:** All right. Hearing none, we will go down to 3.2.  
8 Here, I've got some adjustments to any carryover provision that  
9 you guys might establish in Action 3.1. In Alternative 1, we  
10 would just run what we've got in Action 3.1, if you guys choose  
11 one of those, and we wouldn't have any adjustments.

12

13 However, the updated National Standard 1 Guidelines recommend  
14 accounting for annual natural mortality when you're carrying  
15 quota over to the following fishing year. If you're not going  
16 to account for that, they recommend that you have a really  
17 defined reason as to why you're not going to.

18

19 Alternative 2 would do just that. It would reduce the amount of  
20 quota to be carried over from a previous fishing year to the  
21 following fishing year by whatever the mean natural mortality  
22 rate of the species that is being considered for carryover used  
23 in the most recent accepted quantitative stock assessment.

24

25 This, combined with some explanatory language in Action 3.1,  
26 does kind of limit the species that could be considered for a  
27 carryover to those for which we have an accepted quantitative  
28 stock assessment on the books, and so, for most of the species  
29 that are typical hot-button species, that includes all of them,  
30 and so we're good on that. For species that we have a whole lot  
31 more uncertainty about, we might have to think about something  
32 different to do for those, if we were to run into this kind of  
33 situation.

34

35 Alternative 3 gives you guys another reduction available to you.  
36 It's just for management uncertainty, and this is extremely  
37 arbitrary, but it can be justified based on, for example, the  
38 proportional standard error of the landings, which tends to be  
39 higher for the recreational fleet than for the commercial fleet,  
40 just based on our data collection methods, or it could be for  
41 any other reason that you guys decide that the quota might need  
42 to be reduced, you know propensity for variation in catch or  
43 chronic environmental variation that you think might be  
44 affecting the health of the stock, whatever you might justify.  
45 You have that available to you in Alternative 3.

46

47 Alternative 4 here says that the council's SSC will determine  
48 the appropriate adjustment, if any, to the ABC for the following

1 fishing year, to the carryover for the following fishing year.  
2 The council would then set the ACLs and ACTs, as appropriate,  
3 for the eligible fishery components.

4  
5 Now, you can choose multiple alternatives in Action 3.2, and so,  
6 for instance, you could choose Alternative 2 by itself or  
7 Alternative 2 and one of the options from Alternative 3, but, if  
8 you're going to choose Alternative 4, it's probably best just to  
9 have that one be selected by itself, if that's your intent,  
10 because then the SSC would, by default, follow the guidance of  
11 the National Standard 1 Guidelines, and they would be compelled  
12 to account for things like natural mortality, any episodic  
13 events or anything like that leading up to carryover that quota  
14 over to the following fishing year. Any questions on 3.2?

15  
16 **CHAIRMAN WALKER:** Seeing none, proceed.

17  
18 **MR. RINDONE:** That takes care of the carryover things. The  
19 other thing that kind of pairs with this is Action 4, which is  
20 on PDF page 29, and so this would modify the framework  
21 procedures for the council FMPs, and it would be for the Reef  
22 Fish and CMP FMPs, and it would allow the Regional Administrator  
23 to adjust the ACL, ACT, and quota for a stock, as outlined in  
24 the rest of Action 3, to account for carryover of unused quota,  
25 or ACL. The amount of the adjustment would be determined by the  
26 ABC control rule.

27  
28 The change would be to the closed framework procedure under  
29 Alternative 2, and it would allow the adjustment of the ACL,  
30 ACT, and quota to happen through the closed framework procedure.  
31 This is what speeds it up and kind of helps automate the  
32 process, which is what you guys had said at the last meeting  
33 that you were most interested in.

34  
35 Alternative 3 would modify the abbreviated framework procedures  
36 for all of the FMPs to allow the specification of an ABC  
37 recommended by the SSC, based on the results of the new stock  
38 assessment and using the ABC control rule. This allows us to  
39 use -- If a new assessment comes out, instead of going through  
40 the longer process we currently use, this will allow the  
41 abbreviated documentation process to be applied.

42  
43 In Alternative 4, we would revise the procedure for all the FMPs  
44 to have consistent terminology and format and to include changes  
45 to the standard framework procedure for the FMPs to include  
46 accountability measures, and the highlighted sections are what  
47 would be added to the Red Drum and Coral FMPs. It allows  
48 implementation or changes to in-season and post-season

1 accountability measures.  
2  
3 I know the framework procedure stuff can be kind of cumbersome  
4 to go through, but the point of all of this is to try to  
5 automate the process of updating the catch limits after we have  
6 a carryover or a stock assessment, for that matter. Are there  
7 questions?  
8  
9 **CHAIRMAN WALKER:** Not seeing any, proceed.  
10  
11 **MR. RINDONE:** That's what I have, Mr. Chair.  
12  
13 **MS. BOSARGE:** Good job. You're only slightly over time.  
14  
15 **CHAIRMAN WALKER:** We have carried over into the next committee.  
16 The SSC is not going to be making any comments today with the  
17 Tab B, Number 11, and so we're going to move on to Other  
18 Business. Is there any other business today? Seeing none, I  
19 guess, Madam Chair, the Sustainable Fisheries Committee stands  
20 adjourned.  
21  
22 **MS. BOSARGE:** Before you adjourn, I was just going to say, on  
23 the descending devices, and this is up to the council, but, if  
24 you all want staff to bring you something back that could be an  
25 action item to look at, as far as possibly requiring some of  
26 these descending devices to be onboard a vessel, we will  
27 probably need to instruct staff. We had a good, robust  
28 discussion, but I think we kind of left it open-ended, and so do  
29 you all want to pursue something like that and have staff bring  
30 it back to you or what is your pleasure?  
31  
32 **CHAIRMAN WALKER:** Greg.  
33  
34 **DR. STUNZ:** I would like to see something like that, certainly,  
35 but, given my -- I don't know if it's appropriate for me to  
36 bring that up or not. Do we need that through a motion or do we  
37 need --  
38  
39 **MS. BOSARGE:** I think let's have it in the form of a motion, and  
40 I am not sure if -- They may be able to possibly put it in a  
41 document that we have now for us to look at as an action item,  
42 or it may have to be a separate document. We will let them kind  
43 of flesh that out, but, essentially, we would probably need a  
44 motion that says to instruct staff to bring us an action item to  
45 evaluate descending device requirements.  
46  
47 **DR. STUNZ:** So moved.  
48

1 **CHAIRMAN WALKER:** You have a motion there, Gregg?  
2  
3 **DR. STUNZ:** She is still working on it. She's almost got it, I  
4 think.  
5  
6 **EXECUTIVE DIRECTOR GREGORY:** Let me try this with you. To  
7 consider staff to develop an action to require either descending  
8 devices or venting tools to be onboard a vessel when fishing for  
9 reef fish. To instruct staff to develop an action, and not a  
10 document, to develop an action to require either descending  
11 devices or a venting tool -- Either descending devices or a  
12 venting tool onboard a vessel to reduce discard mortality.  
13  
14 Now, the question is, do we want to limit this to reef fish  
15 vessels or all fishing vessels? Do we want to specify in  
16 federal waters, since that's really what our jurisdiction is?  
17 Greg, those are questions I was posing to you. I'm sorry.  
18  
19 **DR. STUNZ:** I think I would leave it open for now. The one  
20 thing you added about venting tools -- I guess that's fine to  
21 leave it for now, but we have shown that they work, but also  
22 there is a lot of other science out there that shows, if they're  
23 not used properly, they are harmful. For now, for discussion, I  
24 think we can leave it in there. **I would just say "for vessels  
25 fishing for reef fish in federal waters". That's implied  
26 though, right? Onboard vessels fishing for reef fish in federal  
27 waters.**  
28  
29 **CHAIRMAN WALKER:** Greg, this is your motion then?  
30  
31 **DR. STUNZ:** Well, I don't know if Lieutenant Commander was going  
32 to make just a recommendation, but that is my motion.  
33  
34 **CHAIRMAN WALKER:** Do we have a second on the motion? All right.  
35 Any questions? Patrick, I think you had a question first.  
36  
37 **MR. PATRICK BANKS:** Yes, I did, and it's for Dr. Porch. If we  
38 were to put something like this in, do we have a good idea on  
39 what it could do to our stock assessment and what it could do to  
40 our projections, or is that going to be data that would have to  
41 take a long time?  
42  
43 **DR. CLAY PORCH:** No, we could plug those numbers in. The big  
44 question is, just because they have on them on boat, will they  
45 actually use it? The compliance issue is a big deal. If we  
46 knew we had 100 percent compliance, we could use the numbers  
47 like Greg showed us, put them straight into the assessment and  
48 into the projections that we get the ACL advice from.

1  
2 **CHAIRMAN WALKER:** We have Kevin was next.  
3  
4 **MR. ANSON:** Thank you, Mr. Chair. Doug, we did this three or  
5 four or five years ago. Would it be appropriate to just pull up  
6 that document, or is that what the intention is? We did this a  
7 while ago, and then we rescinded it, and so I'm just -- For time  
8 purposes, staff time and such, we might be able to just dust  
9 that off.  
10  
11 **EXECUTIVE DIRECTOR GREGORY:** Right, and, as an action, we'll go  
12 back and look at that, and we will have different alternatives  
13 and options of descending tools and venting tools, either or,  
14 and so we can explore all of that, but bring an action to you  
15 with some alternatives, and we'll either embed it into an  
16 existing document we're working on or do it separately as a  
17 framework action.  
18  
19 **CHAIRMAN WALKER:** Okay. Leo, did I see you hand up?  
20  
21 **LCDR LEO DANAHER:** Thank you, Mr. Chair. From an enforceability  
22 standpoint, I don't see a tremendous amount of issues. What I  
23 would like to add is that, if you look at the required turtle  
24 mitigation gear, it's not just about the equipment.  
25  
26 As you're going through the process and developing whether or  
27 not you should be required to have the equipment, it's also the  
28 protocols, the required placards that have to be onboard so that  
29 they know what they're supposed to do when they are having to  
30 perform this procedure, because, as Dr. Stunz mentioned, using  
31 the needle may not always work, or you may end up puncturing  
32 certain organs and damaging the fish even further, and so I  
33 would just add that that would be considered as part of the  
34 motion for the future. Thank you.  
35  
36 **CHAIRMAN WALKER:** Dr. Crabtree.  
37  
38 **DR. CRABTREE:** I would probably, rather than saying "onboard  
39 vessels fishing", I would tie it to possession of reef fish.  
40 That, to me, is much easier to do. It's hard to say what people  
41 are fishing for.  
42  
43 **CHAIRMAN WALKER:** Dr. Stunz.  
44  
45 **DR. STUNZ:** I wasn't here when you all put forward, obviously,  
46 the venting, and I'm still -- I know this is my motion, but  
47 everyone has sort of chipped in here, but this onboard issue  
48 versus requiring the use, if I had my way, if this was my

1 motion, which I'm fine at this point, I guess, leaving it as is,  
2 but why aren't we just going and saying you need to use these  
3 things?

4  
5 I know there's times when anglers can look at a fish and it's  
6 clear that it doesn't need to be descended or vented or  
7 whatever, and so maybe that leaves the wiggle room, but it also  
8 means that, well, big deal, and I am just going to throw one of  
9 these in my deck box or something and you will never see the  
10 light of day. That gets back to Clay's point about is there a  
11 reason that we just don't require that, or why we didn't in the  
12 past?

13  
14 **CHAIRMAN WALKER:** Dr. Crabtree.

15  
16 **DR. CRABTREE:** When we did this with venting devices, that was  
17 the problem, because there are people out there who may catch a  
18 snapper in thirty feet of water, and you probably don't want  
19 them to hook it up to one of these devices, because they don't  
20 need to, and it becomes very difficult to say when they have to  
21 do it or not, and so, at some point, there has to be some angler  
22 discretion involved, which I think gets to Leo's comment about  
23 the protocols and training and outreach.

24  
25 I think requiring them to have the gear onboard is one thing,  
26 but I don't know that I would go as far as requiring them to use  
27 it, because you may be requiring them to do something that does  
28 more harm than good.

29  
30 **CHAIRMAN WALKER:** Greg.

31  
32 **DR. STUNZ:** Right, and that's what I am struggling with, and I  
33 suppose we can cross that bridge and have that discussion later  
34 as well, but I would just like to see their implementation more.

35  
36 **CHAIRMAN WALKER:** Madam Chair.

37  
38 **MS. BOSARGE:** I think these are all good discussions, and I  
39 think this will probably guide staff as to what different  
40 alternatives we would like to see and what choice options or  
41 what points we want to pick as we're implementing this, and so  
42 hopefully they will bring us back some of these options listed  
43 in whatever action or document that they bring us, and so good  
44 discussion.

45  
46 **CHAIRMAN WALKER:** Johnny.

47  
48 **MR. GREENE:** It says "federal waters". You don't want them to

1 use them in state waters?

2

3 **CHAIRMAN WALKER:** Greg.

4

5 **DR. STUNZ:** I am not opposed to using them in state waters, but  
6 is that our purview of this committee?

7

8 **CHAIRMAN WALKER:** Any other questions or comments? Mara.

9

10 **MS. MARA LEVY:** Just a comment. When we're doing these motions,  
11 I know that staff is listening and trying to capture what people  
12 are saying, but I think it's important, when the motion maker  
13 makes a motion, to have it down.

14

15 Then people make suggestions, and that's fine. There is a  
16 decision to accept them, but I think, as the meeting goes on,  
17 it's going to get confusing if we just start typing in what  
18 people suggest, and so I think a suggestion is fine. Then, if  
19 it's clear that the motion maker and the seconder are okay with  
20 it, then we can add it, but I would just caution about trying to  
21 type in everything that everyone is suggesting at the time that  
22 they're suggesting it.

23

24 **CHAIRMAN WALKER:** Greg, are you good with this motion?

25

26 **DR. STUNZ:** **This is my motion for now.** I think we can solve a  
27 lot of this as our discussions continue.

28

29 **CHAIRMAN WALKER:** Is the seconder still good? Okay. **Is there**  
30 **any objection to the motion? One objection. The motion passes.**  
31 Is there any more questions or comments? I guess this would  
32 conclude our meeting. We stand adjourned.

33

34 (Whereupon, the meeting adjourned on April 3, 2017.)

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