

SUPREME COURT OF THE UNITED STATES
No. 142, Original

STATE OF FLORIDA,)
Plaintiff,)
V.) VOLUME VI
STATE OF GEORGIA)
Defendants.)

TRANSCRIPT OF PROCEEDINGS

The above-entitled matter came on for HEARING before SPECIAL MASTER RALPH I. LANCASTER, held in the U. S. Bankruptcy Court, at 537 Congress Street, Portland, Maine, on November 8, 2016, commencing at 8:57 a.m., before Claudette G. Mason, RMR, CRR, a Notary Public in and for the State of Maine.

APPEARANCES:

For the State of Florida: PHILIP J. PERRY, ESQ.
JAMIE L. WINE, ESQ.
ABID R. QURESHI, ESQ.
CHRISTOPHER J. FAWAL, ESQ.
NATALIE HARDWICK RAO, ESQ.

For the State of Georgia: CRAIG S. PRIMIS, ESQ.
BARACK S. ECHOLS, ESQ.
DEVORA W. ALLON, ESQ.
JOSH MAHONEY, ESQ.

Also Present: JOSHUA D. DUNLAP, ESQ.

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1 PROCEEDINGS
2 SPECIAL MASTER LANCASTER: Good morning,
3 counsel.
4 MR. ECHOLS: Good morning, your Honor.
5 MR. PERRY: Good morning, your Honor.
6 MR. ECHOLS: Proceed?
7 SPECIAL MASTER LANCASTER: Sure.
8 CROSS-EXAMINATION
9 BY MR. ECHOLS:
10 Q. Good morning, Mr. Sutton.
11 A. **Good morning.**
12 Q. Mr. Sutton, I'm going to do things a little bit
13 differently than I did yesterday because it was
14 getting a bit slow. So I'm going to skip some
15 documents, and I'm going to go in other documents
16 just to individual sentences or parts and not
17 read the entirety of the paragraphs. Okay?
18 That's not to say that in order to answer a
19 question, you should feel free to look at
20 whatever you need to look at; but I just don't
21 want to be accused of misleading you or not
22 reading some section to you in the document. I'm
23 trying to make it go a little quicker.
24 So where we left off yesterday, sir, we were
25 in binder number -- your first binder here of the

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1 cross documents. And I believe we were at tab
2 16.
3 And, you know, as I said, what I'm going
4 to do is I'm going to skip tab 16. I'm not
5 going to ask any more questions about that.
6 Similarly, I'm going to pass tab 17,
7 which is GX-562. I'm going to pass tab 18
8 and go to tab 19, if you could, with me, sir.
9 A. **Yes, sir. I'm there.**
10 Q. Okay. Now, one thing that I don't know that we
11 touched on yesterday is that while FWC has
12 enforcement responsibility on the water, FDACS
13 also has some enforcement responsibility with
14 respect to inspecting in plants and such; is that
15 correct?
16 A. **That's my understanding.**
17 Q. And sometimes in the course of performing those
18 inspections, FDACS may bring to the attention of
19 FWC if it runs across undersized oysters or
20 oysters that have been harvested contrary to the
21 regulations; is that right?
22 A. **I would expect them to communicate that.**
23 Q. I think you said that's part and parcel of the
24 agencies working together, you know, on these
25 types of issues. Correct?

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1 **A. Correct.**
 2 **Q.** If we look, please, at the document in tab 19,
 3 which is GX-676, if you would see here, sir, we
 4 have Joe Shields, who is a DACS employee.
 5 Correct?
 6 **A. I -- I think so, yes.**
 7 **Q.** And he's e-mailing Kal Knickerbocker, who is his
 8 supervisor at DACS. Right?
 9 **A. I know Kal is employed with DACS. I'm not sure**
 10 **of the supervisory relationship.**
 11 **Q.** My understanding, correct me if I'm wrong, is
 12 that Mr. Knickerbocker succeeded Mr. Berrigan.
 13 Generally does that sound right?
 14 **A. I think so.**
 15 **Q.** Now, here we have Mr. Shields is e-mailing
 16 Mr. Knickerbocker. It says, Kal, the attached
 17 pictures were taken by Inspector Nancy Horton and
 18 are of oysters received by Water Street Seafood,
 19 from Susan Reeder. Obviously they are
 20 undersized, but they coincide with what we
 21 discovered with our assessments. And the result
 22 is a 60-pound bag comprised of undersized
 23 oysters, dead shell, and shell hash matrix. I
 24 have no information on where these particular
 25 oysters are from, but these pictures could be

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1 forwarded to FWC and utilized when they are
 2 making oyster resource based decisions.
 3 Do you see that?
 4 **A. I do.**
 5 **Q.** And this is the type of thing that we just talked
 6 about where if DACS ran across undersized oysters
 7 in its surveys of dealers, it would pass that
 8 information along to FWC?
 9 **A. I would expect so.**
 10 **Q.** And there is nothing wrong with that. In fact,
 11 that's probably part of their responsibility;
 12 wouldn't you say?
 13 **A. I would expect that in routine coordination.**
 14 **Q.** And just to have some nice color pictures, you
 15 can see, if you turn to the next pages, you have
 16 got apparently what Ms. Horton -- Inspector
 17 Horton passed along, pictures of what she found
 18 with these undersized oysters in the plants or in
 19 the -- rather, in the dealer. And she puts a pen
 20 next to it.
 21 You can flip to the next one here, too, to
 22 give a sample of what the size is.
 23 So -- and, again, this is relatively ordinary
 24 course what you would expect them to do.
 25 Correct?

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1 **A. I -- I expect them to communicate any of their**
 2 **findings.**
 3 **Q.** Okay. Can we turn to tab 20, please.
 4 Now, in tab 20 --
 5 MR. ECHOLS: This is not -- it's 1306.
 6 **A. I'm there.**
 7 **Q.** Okay. It's GX-1306. You will see that you have
 8 at the bottom of the first page the e-mail from
 9 Joe Shields to Mr. Knickerbocker that we just
 10 read. And then in the -- two-thirds of the way
 11 down Mr. Knickerbocker forwards it to Jim Estes
 12 of FWC. Correct?
 13 **A. Yes.**
 14 **Q.** And he says, Jim, these pictures were taken by
 15 our processing plant inspector today.
 16 It proceeds up to Mr. Estes, who sends this
 17 to a Louie Roberson?
 18 **A. Roberson.**
 19 **Q.** Roberson, I'm sorry. Who is Mr. Roberson?
 20 **A. At the time Mr. Roberson was the regional**
 21 **director for the Northwest Region at FWC.**
 22 **Q.** Okay. So he's a FWC person. Right?
 23 **A. He has since retired.**
 24 **Q.** At the time Mr. Roberson, the regional manager of
 25 FWC, he, above there, e-mails back to Jim Estes,

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1 this is ridiculous. The oystermen can have 20
 2 percent shorts in a bag anyway. This doesn't
 3 prove much of anything. Louie.
 4 Do you see that?
 5 **A. I do.**
 6 **Q.** And this is Mr. Roberson writing back to
 7 Mr. Estes. Mr. Estes responds, thought you would
 8 like it, above. Correct?
 9 **A. Correct.**
 10 **Q.** If we could turn, please, to tab 21, in tab 21 is
 11 GX-677. And we have here an e-mail from -- at
 12 the bottom, from David Heil to Jim Estes. And
 13 then it looks like above that, he re-sent the
 14 e-mail -- reforwarded it to Mr. Estes. That's at
 15 least the way it appears here.
 16 If we start at the bottom, please, Mr. Heil,
 17 who is of FWC; is that correct?
 18 **A. That's correct.**
 19 **Q.** And he's e-mailing Mr. Estes. And he says in the
 20 paragraph, several calls today from oyster
 21 fishers requesting Apalachicola Bay to be closed.
 22 Rationale, fishers taking too many very small
 23 oysters and taking unculled oysters, including
 24 shell material, in that first couple of
 25 sentences.

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1 And then at the very bottom it says, of the

2 above, taking shell material results in long-term

3 damage.

4 Now, Mr. Heil is familiar with oysters and

5 the oyster fishery; would you agree?

6 **A. Yes, I would.**

7 **Q.** And do you read his statement here, taking shell

8 material results in long-term damage, to be that

9 if oystermen are removing shell from the reef,

10 that that is damaging to the reef structure?

11 **A. I think it would depend on the amount that that**

12 **would occur at. I would assume they are filling**

13 **their bags and trying to sell bags, and they're**

14 **collecting shell.**

15 **Q.** And would you agree with Mr. Heil that taking

16 shell material results in long-term damage?

17 **A. I don't think that I would reach that same**

18 **conclusion. I wouldn't even know to what degree,**

19 **what scale that's occurring.**

20 **Q.** Would you agree that Mr. Heil is more familiar

21 and knowledgeable of the oyster reefs and fishery

22 than you, yourself, are?

23 **A. I would agree with that.**

24 **Q.** And if we go to the e-mail above then where

25 Mr. Heil re-emails Mr. Estes, he notes, for what

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1 it is worth, Mark Berrigan told me that one of

2 the Apalachicola dealers told him that there is

3 indeed a large-scale harvest of 1-inch oysters

4 occurring.

5 Now, yesterday we talked about whether the

6 harvest of sub-legal and small oysters could have

7 an impact on the health of the oyster fishery.

8 Do you recall that?

9 **A. I recall.**

10 **Q.** Now, would the large-scale harvest of 1-inch

11 oysters have an impact on the biological ability

12 of the oysters to reproduce and grow to adult and

13 harvestable stage?

14 **A. Again, it would depend on the scale you're**

15 **expressing. Large scale is a little bit vague as**

16 **to what that is.**

17 **Q.** And we had the brief discussions about the

18 millions of gametes and such that oysters use

19 when they reproduce. Do you know whether 1-inch

20 oysters have reached the point at which they are

21 reproductive age?

22 **A. I would defer that question to others testifying.**

23 **Q.** All right. I would like to change topics, if we

24 could, please, sir. Now, what we just looked at,

25 I guess it was two documents back, was Mr. Heil

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1 noting that the taking of shell material can

2 cause long-term damage. And as you said, it

3 would perhaps depend upon the scale. But I

4 wanted to use that to move into the restoration

5 activities that the State of Florida would engage

6 in in the process called reshellng. Are you

7 familiar with that?

8 **A. Reshellng, cultching, yes, sir.**

9 **Q.** And you would agree with me, would you not, that

10 reshellng and cultching are best management

11 practices when dealing with oysters?

12 **A. It's a best management practice that's been**

13 **employed for many, many decades. Correct.**

14 **Q.** And similarly, reshellng and cultching are part

15 of the restoration efforts of oyster reefs to

16 enhance those reefs?

17 **A. It's part of the restoration and maintenance of**

18 **the resource.**

19 **Q.** Similarly, the reshellng, the cultching is part

20 of the process to assist the substrate of

21 portions of the reef; is that correct?

22 **A. Right. Substrate for attachment of spat.**

23 **Q.** As Mr. Berrigan was explaining to us yesterday --

24 actually, I guess on Friday, you need to have the

25 hard surface, the substrate, for the spat to land

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1 on to then be able to grow up to become adult

2 oysters. Right?

3 **A. I would certainly defer to Mr. Berrigan on that.**

4 **Q.** Do you recall, sir, that in the August 2012 DACS

5 report that was attached to the Governor's letter

6 for the disaster declaration, that report noted

7 that the reef substrate had been degraded to some

8 extent?

9 **A. Yes. To some extent I recall that statement.**

10 **Q.** And in your written direct, sir, you state -- and

11 this is in paragraph 35 of your written direct --

12 you state that hundreds of acres were culched in

13 Franklin County between 2010 and 2015.

14 Do you recollect that?

15 **A. Right. For example, hundreds of acres were**

16 **culched just in Franklin County between the**

17 **beginning of 2010 and 2015.**

18 **Q.** Right. So here we are in paragraph 35, you go

19 down six lines; and there's the sentence

20 beginning, for example, hundreds of acres were

21 culched just in Franklin County between the

22 beginning of 2010 and the end of 2015.

23 But now, sir, it is not the case, is it, that

24 hundreds of acres were culched or reshellng

25 prior to 2012-2013, the time of the oyster

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1 collapse; is it?

2 **A. I would want to refer to the logs to verify that.**

3 **Q.** Okay. Let's refer to the logs then --

4 **A. Okay.**

5 **Q.** -- to verify that.

6 And we have, if you would turn to tab 22 in

7 your binder --

8 **A. Yes, sir. I'm there.**

9 **Q.** And can you please identify tab 22, which is

10 JX-163, as the official log that the State of

11 Florida provided us, which identifies the amount

12 of cultching or reshelling that took place

13 between 2010 and 2015.

14 **A. Yes. I'm reviewing that here right now.**

15 **Q.** And this, sir, is the actual -- and it's in a

16 joint exhibit meaning that both Florida and

17 Georgia have identified it to be entered into

18 evidence. This is the actual state true and

19 accurate record of the shelling and cultching

20 activity that was done between 2010 and 2015?

21 **A. Yes. That's what my direct testimony references,**

22 **this exhibit.**

23 **Q.** All right. Because it is awfully difficult to

24 read this as a spread sheet, in advance of

25 getting to this area I sent your counsel some bar

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1 charts that turned these numbers into bars so we

2 could look at them and understand them more

3 easily. And we have got them turned into some

4 slides, which I would like to distribute here.

5 **A. Thank you.**

6 MS. WINE: Your Honor, I don't want to

7 be picky; I just want to note for the record

8 that what was just handed to me was not

9 provided prior to the testimony. We were

10 given some bar charts the other evening --

11 I'm not sure if you're getting to those as

12 well -- but these four documents were not

13 provided to us beforehand.

14 SPECIAL MASTER LANCASTER: Thank you.

15 MR. ECHOLS: Judge, what I did is I

16 provided the data for the entire period. And

17 for purposes of this, I changed the colors

18 and added some words. So I wanted to make

19 sure that counsel had all of the data that

20 would be being referred to, and then I turned

21 that data into demonstratives.

22 BY MR. ECHOLS:

23 **Q.** So, sir, if you would look, please, at -- we have

24 got on slide 7 the first demonstrative that I

25 have provided here based on JX-163, the official

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1 Florida state records. It is accurate, is it

2 not, that it was not hundreds of acres that were

3 shelled or culched prior to the collapse; in

4 fact, for the years of 2011, 2012, and 2013

5 there were only 70 acres shelled in total. Is

6 that accurate?

7 **A. Between what years again?**

8 **Q.** The ones I have reflected here, sir, 2011, 2012,

9 and 2013, all combined and added together.

10 **A. I'm assuming that you calculated the acreage**

11 **correctly. That would be 70 total for those**

12 **years you identified.**

13 **Q.** Okay. And then I provided your counsel the

14 numbers I would be using. And if I have got them

15 wrong, I'm sure she will let me know.

16 So let's look at 2013 specifically. In 2013

17 there were 16 total acres shelled in Apalachicola

18 Bay according to official state records; is that

19 right?

20 **A. That's what I see here.**

21 **Q.** And to make sure that we're all looking at the

22 same thing in the official state record, in

23 tab 22 where we were, JX-163, I would ask you,

24 please, to turn in -- you have got the cover

25 page. Then turn in one page, two pages, three

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1 pages to where you get to the table that has on

2 the far left date column, 2013, if you could look

3 at that, please.

4 **A. Okay. I'm there.**

5 **Q.** Okay. And would it be accurate for the Court to

6 understand this record as showing, beginning at

7 that point, the cultching, the reshelling that

8 was done in 2013 at that top portion of this page

9 of JX-163?

10 **A. That's what the record shows, yes, beginning in**

11 **February.**

12 **Q.** And that's where -- you know, we don't have to do

13 the math together -- feel free if you like --

14 where we got the 16 acres for 2013. Do you see

15 2 and 2.8 running down there?

16 **A. I see those numbers, yes.**

17 **Q.** Now, the other thing that's shown on this

18 particular page of JX-163 is the cost, the amount

19 of money that was spent for the reshelling. Do

20 you see that about five columns in?

21 **A. I do.**

22 **Q.** And in order for us to be able to read this, I

23 have had this blown up, this particular section

24 for 2013. If we could please look at slide

25 No. 8.

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1 And you should have that handed to you, I
 2 believe, in your set.
 3 **A. I'm referring -- I'm looking at -- you referenced**
 4 **slide 8.**
 5 **Q.** So when we look at 2013, sir, based on the
 6 official state record, is it accurate that in all
 7 of 2013, the total amounts of money spent for
 8 shelling and cultching was \$109,375?
 9 **A. I'll assume you did the math correct there.**
 10 **Q.** And that's accurate, \$110,000, shall we say, is
 11 all that the State of Florida spent on shelling
 12 in 2013?
 13 **A. Based on this record.**
 14 **Q.** And this is in the midst of the historic collapse
 15 of the oyster fishery. Correct?
 16 **A. In the midst?**
 17 **Q.** 2012-2013, the collapse is happening.
 18 **A. After the collapse, yes.**
 19 **Q.** And you testified in your direct, I believe, FWC
 20 is one of the largest and most well-funded state
 21 wildlife management agencies in the nation. Is
 22 that accurate?
 23 **A. That's accurate.**
 24 **Q.** But FWC didn't spend any more than \$110,000 here?
 25 **A. They spent 110 based on this record.**

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1 **A. I would want to refer to our budget to confirm or**
 2 **not on that statement, sir. I'm not able to be**
 3 **well-versed on our budget. It's a very large**
 4 **budget, very complicated.**
 5 **Q.** At a certain point in time around this exact
 6 time, 2012-2013, that's when Secretary Steverson
 7 and Secretary Cyphers took over the Northwest
 8 Florida Water Management District. Correct?
 9 **A. I'm not sure at what point they took --**
 10 **Mr. Steverson took the executive director job and**
 11 **Mr. Cyphers took the assistant executive job.**
 12 **Q.** But I take it you are aware, are you not, that
 13 when they came into those positions, they
 14 determined that the Northwest Florida Management
 15 Water District had built up a reserve of 70 to
 16 \$80 million for restoration that hadn't been
 17 spent? You're aware of that?
 18 **A. I'm not aware of that.**
 19 **Q.** You're not aware of the fact that when they came
 20 in in this 2012 time period, they determined that
 21 the prior executive director had stored some of
 22 the restoration funds; and they hadn't been
 23 spent. So there was a bank account basically of
 24 \$70 million there available for restoration
 25 activities?

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1 **Q.** And I take it there was no special request for a
 2 legislative appropriation for additional moneys
 3 to reshell in 2013 here that would have allowed
 4 FWC to spend more than \$110,000?
 5 **A. I'm not aware of any LBR. I'm only aware of**
 6 **requests for fishery disaster and looking to use**
 7 **those funds.**
 8 **Q.** And FWC didn't get any money from the Department
 9 of Environmental Protection, DEP, to do more
 10 shelling than this \$110,000?
 11 **A. I -- I don't recall. I can tell you that in the**
 12 **budget development process, there's a lot of**
 13 **precursors to your final submittal. So I don't**
 14 **recall the details of drafts or what might have**
 15 **been proposed before it made its final**
 16 **legislative budget request to the legislature.**
 17 **Q.** Now, Apalachicola Bay principally is in Franklin
 18 County. Right?
 19 **A. Correct.**
 20 **Q.** And Franklin County, is that part of the
 21 Northwest Florida Water Management District?
 22 **A. That's within their -- the boundaries; correct.**
 23 **Q.** And that's -- but FWC did not obtain any moneys
 24 in the Northwest Florida Water Management
 25 District for reshelling in 2013 either?

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1 **A. I'm not saying I don't -- that wasn't the case.**
 2 **I'm saying I don't have direct knowledge of that.**
 3 **Q.** In any event, none of that money was appropriated
 4 to reshelling in 2013?
 5 **A. I would refer to this chart to show what was**
 6 **shelled into our fish log.**
 7 **Q.** Now, if we go back a decade before the collapse
 8 of the oyster fishery, if we flip to the next
 9 slide, please. So I'm not just looking at the
 10 three years; I'm going for the entire decade now.
 11 And, again, we have turned into bar chart the
 12 information that's in JX-163, the official state
 13 record. And that shows that in that entire
 14 decade beginning in 2004, it was not hundreds of
 15 acres that were reshelled; it was a total of 180
 16 acres. Isn't that true?
 17 **A. From 2004 to 2013?**
 18 **Q.** Yes.
 19 **A. So it says 178 acres based on your chart.**
 20 **Q.** I think I might have rounded it up or else I did
 21 the math wrong. But in fact, there were years in
 22 the early 2000's or, rather, the mid-2000's when
 23 there was no reshelling done at all. Correct?
 24 **A. That's -- yes. That's what your chart reflects.**
 25 **Q.** But consistent with your testimony, there was

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1 some reshelling done after this point in time, if
 2 we can look at the next slide, please. And you
 3 should have it there also in front of you.
 4 And so in order for us to get to the hundreds
 5 of acres being reshelled, we have to go to 2014
 6 and 2015. And, again, this information comes
 7 from JX-163. And it shows that the state did do
 8 some reshelling in those years in 2014 and 2015.
 9 Correct?
 10 **A. That's what it shows, yes.**
 11 **Q.** And that's accurate; is it not?
 12 **A. I would assume if it's drawn from this spread**
 13 **sheet, it is.**
 14 **Q.** And, in fact, the moneys that the State used to
 15 do that reshelling it received as part of the
 16 disaster declaration request that had been --
 17 when the federal government declared a disaster
 18 and provided those funds. Is that right?
 19 **A. I know that we received a significant amount of**
 20 **funding from that disaster declaration.**
 21 **Q.** And at that point in time FWC and the State of
 22 Florida believed that it did make sense to engage
 23 in this reshelling activity because it's a best
 24 management practice and would, hopefully, assist
 25 with the restoration of the oyster resource?

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1 **A. Well, as I think you mentioned, it's a best**
 2 **management practice that's been employed for**
 3 **decades. And when the environmental conditions**
 4 **are correct, it helps in recovery.**
 5 **Q.** And especially as is the case here, now for 2013,
 6 we know we were out of the drought. Right?
 7 **A. You know, I -- I'm not that familiar with the**
 8 **climatic data. All I know is I'm familiar with**
 9 **the low flows and high salinities.**
 10 **I want to be cautious not to testify when I'm**
 11 **not an expert on the meteorological side of this**
 12 **equation. So --**
 13 **Q.** And, in fact, I'm going to change topics now.
 14 **A. Okay.**
 15 **Q.** But in order for us to get this out of the way,
 16 since I won't be reading every sentence in every
 17 paragraph, we can agree that there was a drought
 18 in 2011 and 2012?
 19 **A. Based on everything I reviewed, yes; that's**
 20 **correct.**
 21 **Q.** And we can agree, too, that because of this
 22 drought, there were low flows coming into the --
 23 from the river into the bay?
 24 **A. I would agree there was a high salinity in the**
 25 **bay.**

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1 **Q.** Yes, exactly. There were low flows and there was
 2 high salinity and there were predators. That's
 3 what happens in droughts. Right?
 4 **A. Well, again, I'm not testifying as from the**
 5 **causal perspective. I can give you qualitative**
 6 **and say, yes, there was high salinity. And**
 7 **certainly drought would be part and parcel to**
 8 **high salinity. That would seem to make logical**
 9 **sense.**
 10 **Q.** Now, sir, it is the responsibility of FWC to
 11 manage the fishery both in years of drought as
 12 well as in years of good environmental
 13 conditions; is it not?
 14 **A. That's what we do throughout the state through**
 15 **many droughts, through many floods, yes.**
 16 **Q.** And similarly, with respect to Apalachicola Bay,
 17 it is the responsibility of FWC to manage the
 18 fishing of any of the oyster reefs in the bay,
 19 including the most commercially productive reefs
 20 like Cat Point and East Hole; is it not?
 21 **A. That's correct.**
 22 **Q.** Let's then change topics. And I would like to
 23 ask you about landings, about FWC's collection
 24 and tracking of landings and licenses. And is it
 25 correct, sir, that FWC is the responsible agency

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1 for issuing fishing licenses?
 2 **A. We are. And in this instance, it would be the**
 3 **saltwater products license; and in the**
 4 **Apalachicola Bay, a harvesting license. It's a**
 5 **special license.**
 6 **Q.** And when -- once somebody obtains this license,
 7 then they are permitted to go and harvest oysters
 8 anywhere in the bay subject to whatever the
 9 restrictions are that are imposed by FWC; is that
 10 right?
 11 **A. Subject to the restrictions, which can be**
 12 **geographic, and certainly the bags and size.**
 13 **Q.** And, now, can we go back briefly to JX-77, which
 14 is behind tab 4 of your binder.
 15 **A. Okay. I'm there, sir.**
 16 **Q.** And in that tab I would ask you to page back to
 17 the second page of the August 2012 DACS report.
 18 **A. I'm sorry. What page are you on, sir?**
 19 **Q.** I'm sorry. Page 2 of the DACS report that has
 20 the table in it.
 21 **A. Okay. Table 1, I assume?**
 22 **Q.** Now, you see here, sir, in the 2012 DACS report
 23 this table 1. It reports the years, running down
 24 the left, the pounds of meats that are harvested,
 25 trips, and then there is the column No Licenses.

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1 Do you see that?

2 **A. I do.**

3 **Q.** Do you understand that, sir, to identify how many

4 licenses had been issued by FWC in any particular

5 given year?

6 **A. That's my understanding.**

7 **Q.** And similarly, the pounds of meats, that's to be

8 the pounds of oysters that the oystermen

9 harvested from the reefs and brought to the dock

10 as part of their catch; is that right?

11 **A. As part of the reporting requirements.**

12 **Q.** The reporting requirements, okay.

13 Okay. If we could look at tab 4, please. I

14 have turned this into a bar chart with respect to

15 the -- I'm sorry. Not tab 4, slide 4.

16 **A. Do I have that?**

17 **Q.** I'm going to hand it up to you so you have it in

18 hard copy.

19 **A. Thank you.**

20 MR. ECHOLS: If you could put, please,

21 slide 4 up.

22 And what we have here -- and this -- I

23 provided this chart without the colors on it

24 and the -- the dotted lines to counsel two

25 nights ago.

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1 BY MR. ECHOLS:

2 **Q.** So this is turning this table 1 into a bar chart.

3 And feel free, if you want to refer back, to see

4 if I listed the numbers correctly from table 1.

5 **A. It's the licenses right now. Correct?**

6 **Q.** Is it accurate, sir, that there is no restriction

7 concerning the number of licenses that can be

8 issued in any given year?

9 **A. I don't believe this to be a limited entry**

10 **license system.**

11 **Q.** That is so long as someone comes and pays and

12 fills out the forms, does whatever they're

13 required to do, there could be an unlimited

14 number of licenses issued?

15 **A. Theoretically. However, if it exceeded a certain**

16 **point, I'm sure our commission would take up**

17 **should it be a limited entry.**

18 **Q.** Could you confirm for me, sir, that based on this

19 data, that the three years prior to the collapse

20 were the three highest years of the number of

21 licenses being issued, at least going back

22 approximately there a decade?

23 **A. In the time scale you provided, those are the**

24 **highest numbers.**

25 **Q.** And these are the years leading up to the fishery

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1 collapse as indicated on the chart. Right?

2 **A. Yes. 2012 is the collapse; correct.**

3 **Q.** And so more fishermen could lawfully fish in

4 those years than in any of the prior years; is

5 that right?

6 **A. And, based on your chart, until 2000, yes.**

7 **Q.** Now, in that table 1 we also talked about and

8 referred to landings. And landings is what gets

9 brought to the dock. Right?

10 **A. That's my understanding, yes.**

11 **Q.** Now, we -- when I had Mr. Berrigan here on

12 Friday, we had put up the landings running

13 through, I believe, 2012. You know, so what I

14 have done now is based on the Florida records,

15 you know, I have extended that through 2015, if

16 we could flip, please, to the next slide.

17 And you have that slide with you? Did I give

18 that to you?

19 **A. Yes.**

20 **Q.** Okay. And the -- the landings that FWC tracks --

21 now, those are official data; aren't they?

22 **A. It's my understanding that it is.**

23 **Q.** And these data are supposed to be accurate?

24 **A. They are.**

25 **Q.** The State relies on these data; do they not?

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1 **A. The State relies on this for reporting; correct.**

2 **Q.** And in fact, when the State applied for the

3 federal disaster declaration, it submitted data

4 concerning landings to the federal government; is

5 that right?

6 **A. When we submitted the disaster request, we**

7 **included this entire report, correct, which would**

8 **have had table 1 in it.**

9 **Q.** Since -- and there were -- as you know, the

10 process that took place with requesting the

11 disaster declaration, there were subsequent

12 communications to the federal government that

13 updated -- updated some of the landings data;

14 you're aware of that?

15 **A. I'm aware there was correspondence back and forth**

16 **as they were making their determination, yes.**

17 **Q.** And since Mr. Berrigan was no longer an employee

18 when we had him here on Friday, could you please

19 confirm for me that based on the official FWC

20 landings data, the two highest years of harvest,

21 going back 25 years as reported in the official

22 data, were in 2011 and 2012. Is that right?

23 **A. That's, I think, important that you said**

24 **within -- since 1988; correct.**

25 **Q.** Right. And so that it's written in the text of

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1 the record, 2011, there are 2.81 million pounds
 2 harvested; is that right?
 3 **A. That's correct.**
 4 **Q.** And in 2012, 3.03 million pounds harvested.
 5 Correct?
 6 **A. Just -- I would just add that the 2012 data, I**
 7 **don't see that on the table 1 that you're**
 8 **referring to that I believe you said you drew --**
 9 **you drew your information from this exhibit as**
 10 **well as another?**
 11 **Q.** Well, actually, I have -- for the Court's
 12 purposes, you know, here at the very bottom,
 13 there are exhibits that are the data files that
 14 contain the full period of time. So we have
 15 identified on this chart, there is a GX-1248 --
 16 meaning it's a Georgia exhibit -- which is also
 17 identical to a Florida exhibit, FX-839. And so
 18 that there wouldn't be any confusion of what I
 19 was using, I sent that to your counsel to be able
 20 to confirm that these are the appropriate
 21 numbers. Okay?
 22 **A. Okay. I'm not trying to be argumentative. I**
 23 **just want to make sure -- if I'm referring to**
 24 **table 1 in this chart that I hadn't seen, I want**
 25 **to make sure that I understood what you were**

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1 **referring to.**
 2 **Q.** Sure. We're off of table 1 now.
 3 **A. Okay. Thank you.**
 4 **Q.** And it is also accurate, as Mr. Berrigan
 5 testified -- and I'm not sure if you were here
 6 for that part or not -- that then after this
 7 historically high amount of landings in -- that
 8 were harvested in 2011 and 2012, there was a
 9 significant drop-off in subsequent years.
 10 Correct?
 11 **A. That's what this table reflects.**
 12 **Q.** And that's what the official State of Florida
 13 landings data reflects. Correct?
 14 **A. I'll take your word based on these docs,**
 15 **correct -- on the exhibits.**
 16 **Q.** Just by way of characterization of this stretch
 17 of this time period of data, would you agree with
 18 me, sir, that it is not the case that it's the
 19 same rate of harvest in every year over the
 20 period of these decades?
 21 **A. I'm sorry. Can you repeat that?**
 22 **Q.** Sure. These bars differ, in some cases
 23 substantially, by as much as three or four times;
 24 there's different amounts of pounds that are
 25 harvested in different years over this past

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1 decade or two?
 2 **A. Sure. I mean, there's -- the bars show you that**
 3 **it's -- again, going back to 1988, show you that**
 4 **it varies.**
 5 **Q.** And it's not the case that the same amount of
 6 oysters are harvested in every single year.
 7 There can be substantial variation. Right?
 8 **A. Correct. Again, you're going back to 1988. The**
 9 **fishery has been active for much longer than**
 10 **that.**
 11 **Q.** Okay. I'm finished with this topic, this area.
 12 I want to move to another section, if we could.
 13 And now, sir, what I'm going to ask you about
 14 next is the process by which the disaster
 15 declaration was requested and the communications
 16 with the federal government and the development
 17 of the FWC report. And in order to do that, I
 18 have got different documents for you. Okay?
 19 **A. Okay.**
 20 **Q.** Okay, sir. And I think, as you testified
 21 yesterday, you, yourself, were not personally
 22 involved in the drafting of the FWC report that
 23 was used in the disaster declaration; but as part
 24 of your responsibilities, you may have seen it
 25 along the way. Is that correct?

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1 **A. It's possible that I had. But I was not directly**
 2 **involved in developing that. Correct.**
 3 **Q.** All right. Let's talk about the process that the
 4 FWC report and the request for the disaster
 5 declaration was conducted. And I believe, as you
 6 testified, it's David Heil and Jim Estes of FWC
 7 were generally the principal people involved in
 8 the drafting of the disaster declaration?
 9 **A. That's my understanding, yes.**
 10 **Q.** I'm sorry. Not the declaration, but the FWC
 11 report?
 12 **A. Yes. In drafting the report, correct.**
 13 **Q.** Now, the -- at the beginning of this process when
 14 FWC and DACS identified that there was a
 15 significant problem with the oyster population,
 16 when Florida wanted to request the disaster
 17 declaration, the first thing they did was to go
 18 to Georgia to ask for some assistance in drafting
 19 the request. Isn't that true?
 20 **A. I'm not aware of that.**
 21 **Q.** You're not aware of the fact that -- that
 22 Florida, when they wanted to put together their
 23 letter to the Department of Commerce, asked
 24 Georgia for help?
 25 **A. I -- I am not. I'm not aware of that.**

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1 **Q.** If we could please turn, sir, to tab 32 in your
 2 binder.
 3 **A. Okay. I'm there. Sorry.**
 4 **Q.** You're there. No problem.
 5 **A. Yes.**
 6 MR. ECHOLS: And tab 32, this is the
 7 first tab in the new binder, your Honor.
 8 BY MR. ECHOLS:
 9 **Q.** And you'll see here that we have got an e-mail.
 10 If you go down to the -- near the bottom of this
 11 page, you can see here, sir, an e-mail from a Pat
 12 Geer from the Georgia Department of Natural
 13 Resources to a Jim Page and to Mr. Heil -- to
 14 David Heil. Correct?
 15 **A. I see that.**
 16 **Q.** And what Mr. Geer sends to Mr. Heil and says is
 17 attached is a document containing the original
 18 letter from our Governor at the time requesting a
 19 disaster be declared, and response from NMFS
 20 requesting additional info and our response with
 21 supporting info. Hope this helps.
 22 Do you see that?
 23 **A. I do.**
 24 **Q.** If you turn in to the attachment, do you see
 25 there, sir, that what Mr. Geer, from the Georgia
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1 Department of Natural Resources, is sending
 2 Mr. Heil of FWC is the letter that the Georgia
 3 Governor, at that point Roy Barnes, sent to the
 4 Department of Commerce in connection with the --
 5 their blue crab disaster request. Do you see
 6 that?
 7 **A. I see a letter from Roy Barnes. I hadn't seen**
 8 **this before. If you would like me to read it, I**
 9 **certainly can.**
 10 **Q.** You certainly can. I'm -- as I said before, I'm
 11 going to refer to just a couple of things; but I
 12 don't want to cut you off from looking at
 13 whatever you would like to look at.
 14 **A. I hadn't seen it, so I apologize; but I would**
 15 **like to review it.**
 16 **Q.** Sure.
 17 **A. Okay, sir. I have read it. Thank you.**
 18 **Q.** Very good. And we don't need to turn back to it;
 19 but, you know, of course, that in September 2012,
 20 Governor Scott wrote to the U.S. Department of
 21 Commerce requesting a disaster declaration for
 22 the oyster fishery. Right?
 23 That's our principal document we have looked
 24 at many times.
 25 **A. Yes, I'm aware of that letter.**
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1 **Q.** There are a couple things that I just briefly
 2 wanted to touch upon that related to the Georgia
 3 request as compared to the Florida request. And
 4 I think you can just keep this one in front of
 5 you, you know, because I have put together a
 6 comparison that, hopefully, will make this
 7 easier.
 8 **A. Thank you.**
 9 **Q.** And so if we could look at the first -- the slide
 10 11 here. Do you see we have the Georgia letter
 11 which was provided by Mr. Geer to Mr. Heil to
 12 assist in Florida's request for the disaster
 13 declaration. And I'm looking here at what I
 14 believe is the second paragraph, if you have that
 15 Georgia letter in front of you. And I have put
 16 on the table, so that you can see it, the similar
 17 text from Governor Scott's letter requesting a
 18 disaster declaration.
 19 **A. Okay.**
 20 **Q.** And as you can see, would you agree with me that
 21 we have got quite a bit of similarity between
 22 these two letters. So in the Georgia letter, it
 23 says, the State of Georgia has experienced an
 24 unprecedented decline in the abundance of blue
 25 crabs within our coastal estuaries, a direct
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1 consequence of which has been a significant loss
 2 of income to commercial fishermen, in that
 3 sentence. Right?
 4 **A. Right.**
 5 **Q.** And I'm not going to read the entirety of
 6 Governor Scott's letter; but do you see that in
 7 Governor Scott's letter it says basically the
 8 same thing, that Florida had experienced an
 9 unprecedented decline in the abundance -- but
 10 instead of blue crab, it says oysters. Right?
 11 **A. In general that's -- they're similar in that**
 12 **regard.**
 13 **Q.** Okay. And I'll just refer to one other section
 14 of the letter, if we can go to the next slide,
 15 please.
 16 And so we have here on the bottom of the page
 17 of the State of Georgia's letter the line that
 18 begins disaster relief funds. Are you there,
 19 sir?
 20 **A. Yes.**
 21 **Q.** And do you see in the State of Georgia's letter
 22 that the Georgia Department of Natural Resources
 23 gave to Mr. Heil to assist Florida, it states,
 24 disaster relief funds authorized by the relevant
 25 statutes are needed to, 1, further assess the
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1400

1 primary and secondary causes of the blue crab
 2 decline; 2, determine feasibility of actions to
 3 remediate or restore the affected resources; 3,
 4 begin actions to prevent and restore affected
 5 resources; and, 4, provide economic assistance to
 6 fishing communities and small businesses,
 7 including crab fishermen, affected by the
 8 disaster. Do you see that?
 9 **A. That's what I read as well.**
 10 **Q.** And as you compare that to Governor Scott's
 11 letter, could you please confirm for me, sir,
 12 that Governor Scott's letter is essentially
 13 identical in this letter requesting a disaster
 14 declaration except that blue crab has been
 15 replaced by oyster and crab fishermen has been
 16 replaced by oyster fishermen?
 17 **A. Well, I -- I would add that, you know, it's an**
 18 **initial letter to look into the inquiry, which I**
 19 **would expect to be similar. But, however,**
 20 **Governor Scott refers to the Magnuson-Stevens**
 21 **Act, which I assume is statutes, spelled statue,**
 22 **but -- and that -- and other than that, it's**
 23 **pretty general in asking for that relief.**
 24 **Q.** If I can ask you --
 25 MR. ECHOLS: We can finish with this one
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1401

1 now. We can take that down.
 2 BY MR. ECHOLS:
 3 **Q.** Now, so we have September 2012. Governor Scott
 4 writes the letter to the U.S. Department of
 5 Commerce providing the initial information
 6 requesting the federal disaster declaration;
 7 correct?
 8 **A. That's the letter from the Georgia Governor**
 9 **you're referring to?**
 10 **Q.** No, I'm not. I'm going back to Florida.
 11 **A. Okay.**
 12 **Q.** Everything is going to be Florida from now on.
 13 **A. Okay.**
 14 **Q.** All right. So we have got Governor Scott of
 15 Florida writes to the federal government,
 16 September 2012, requesting the disaster
 17 declaration. Correct?
 18 **A. That's correct.**
 19 **Is that in your exhibits?**
 20 **May I pull that up just to have in front of**
 21 **me as you refer to it?**
 22 **Q.** Absolutely. That's JX-77, tab 4 in your first
 23 binder.
 24 **A. Thank you.**
 25 **Yes, sir. I have got tab 4 open. I don't**
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1 **know if you're waiting on me.**
 2 **Q.** I was just wanting to make sure you were
 3 comfortable then.
 4 **A. Yes. If we're going to refer to the letter, I**
 5 **want to have it in front of me. Thank you.**
 6 **Q.** As you testified in your direct, you know that
 7 this letter went to the federal government.
 8 And if you want to confirm, I'm looking at
 9 paragraph 48 of your direct testimony.
 10 **A. Yes. This letter was sent to the acting**
 11 **Secretary of the Department of Commerce, U.S.**
 12 **Q.** And, in fact, in your direct testimony, you note
 13 that when this -- this letter went in and one of
 14 NOAA's climate program office staff, Laura -- and
 15 I have been told it's Petes even though it's
 16 spelled P E T E S -- provided input to decision
 17 makers on the causes of the oyster crash, she
 18 specifically considered, and rejected, the theory
 19 that harvesting pressure was the cause of the
 20 collapse.
 21 And it continues on there, but that's part of
 22 your direct testimony. Correct?
 23 **A. That's part of my direct testimony; yes, sir.**
 24 **Q.** But that's not true, is it?
 25 **A. I'm sorry, sir?**
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1403

1 **Q.** I said that's not true?
 2 **A. I just confirmed it was part of my direct**
 3 **testimony.**
 4 **Q.** Right. But it's not true that Laura Petes
 5 specifically considered, and rejected, the theory
 6 that harvesting pressure was the cause of the
 7 collapse?
 8 **A. I think it would be important to refer to that**
 9 **memo.**
 10 **Q.** Yes, it would be important. Tab 33 in your
 11 binder.
 12 **A. Is that the new binder?**
 13 **Q.** Yes, sir.
 14 **A. Okay. Thank you. I'm there.**
 15 **Q.** And in tab 33, we have FX-412, which is what you
 16 cite in your direct testimony. And I would ask
 17 you, please, sir, to turn back into the actual
 18 memo from Laura Petes. In that memo I would go
 19 back, if you would, please, to her conclusions,
 20 to start with, which is page 7 of that memo.
 21 **A. Okay.**
 22 **Q.** Are you with me, sir?
 23 **A. I am.**
 24 **Q.** On page 7 of the Laura Petes memo?
 25 **A. Yes.**
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1404

1 Q. And Ms. Petes or Dr. Petes in her conclusions --
 2 her conclusions are reflected at the very bottom
 3 of that page 7. Do you see that?
 4 A. **I do. Under the subheading Conclusions?**
 5 Q. Yes. Conclusions and looking to the future,
 6 colon.
 7 A. **Yes.**
 8 Q. And at the very bottom of that page in this
 9 conclusion section of Dr. Petes's memo there is a
 10 paragraph that begins it is difficult.
 11 A. **Yes. I'm there.**
 12 Q. All right. And in that paragraph of Dr. Petes's
 13 memo in her conclusions she states, it is
 14 difficult to assess the relative magnitude of the
 15 impacts caused by each of the major contributing
 16 factors, paren, drought versus harvesting, to
 17 recent population declines in Apalachicola Bay.
 18 The rapidity of the decline is likely due to the
 19 simultaneous occurrence of changes in harvesting
 20 practices and prolonged poor environmental
 21 conditions. As indicated in the FDACS report,
 22 quote, overharvesting is most damaging when
 23 environmental conditions are less than optimal --
 24 it continues to the next page -- recruitment is
 25 low and natural mortality is high. Harvesting

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1405

1 pressure has likely had a particularly
 2 detrimental effect on Cat Point and East Hole
 3 Bars.
 4 Do you see that?
 5 A. **I do.**
 6 Q. That is what Dr. Petes put in her conclusions,
 7 having reviewed the initial submission of
 8 material by the State of Florida; isn't that
 9 true?
 10 A. **That's -- that is one statement within her memo.**
 11 **Correct.**
 12 Q. That's one statement in the conclusions?
 13 A. **It's -- yes. I read the same as you did.**
 14 Q. To give ourselves a time-set for when this is all
 15 taking place, in FX-412 -- now, this document,
 16 this Laura Petes memo, this is nothing that you
 17 saw in the ordinary course of your duties back in
 18 2012. Right?
 19 A. **No. I likely would not have seen that at that**
 20 **point in time.**
 21 Q. And, in fact, this document is nothing that ever
 22 was in the files of Florida Fish and Wildlife
 23 until we got it as part of this case and the
 24 discovery in this case. Right?
 25 A. **I -- I don't know the answer to that, sir.**

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1406

1 Q. And you don't have any information that anyone at
 2 FWC has spoken to Dr. Petes and asked her what
 3 she meant when she wrote what she did. Right?
 4 A. **I'm not aware of that.**
 5 Q. All right. And so, briefly, just to, again, get
 6 us in the right chronology of this, the e-mails
 7 at the front of this FX-412 -- it's a little
 8 confusing because we have the e-mail forwarding
 9 situation; but if you go to the second page of
 10 FX-412 --
 11 A. **Okay.**
 12 Q. -- in the very middle of that page, if you would
 13 see there it says forwarded message. And that's
 14 from Dr. Petes; and the date is September 21,
 15 2012. So that would be shortly after the
 16 Governor's letter went in to the Department of
 17 Commerce. You would agree with me?
 18 A. **Yes. Our letter went in --**
 19 Q. September 6?
 20 A. **-- September 6, correct.**
 21 Q. All right. So this is two weeks and one day
 22 afterwards. And here, as Dr. Petes says in the
 23 first paragraph there, attached is my assessment
 24 pertaining to this request.
 25 You understand that to be the original

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1407

1 e-mail, because you're familiar with these
 2 documents, that Ms. -- Dr. Petes sent attaching
 3 her memo. Right?
 4 A. **I would assume so.**
 5 Q. Let's go back into her memo two more pages in,
 6 please.
 7 A. **Can you -- okay. That's under 33?**
 8 Q. It's still in FX-412, at the very top of her memo
 9 it says, Laura Petes, NOAA Climate Program
 10 Office. Do you see that?
 11 A. **I do.**
 12 Q. Page 1 of the Petes memo.
 13 A. **Yes, I'm there, sir.**
 14 Q. And at the very top of this memo you see her
 15 introduction, which says, quote, this assessment
 16 reflects findings from the Florida Department of
 17 Agriculture and Consumer Services FDACS report
 18 accompanying the letter from Governor Scott, as
 19 well as additional information. And I'm not
 20 going to read all of that. Do you see that?
 21 A. **I do.**
 22 Q. You do understand, being familiar with this
 23 document, that this was her assessment based on
 24 the DACS report and the submission by Governor
 25 Scott in September?

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1408

1 **A. And her experience and postdoctoral work in this**
 2 **area as well.**
 3 **Q.** Have you talked to her?
 4 **A. I didn't talk to her. I have seen her**
 5 **credentials.**
 6 **Q.** She told you that she was basing this on her
 7 experience and postdoctoral work?
 8 **A. I think it's a logical conclusion that it's**
 9 **submitted to her because of her expertise.**
 10 **Q.** As I said, I'm not going to read everything in
 11 the document. I'll leave it to your counsel to
 12 read the parts that she wants to.
 13 Let me go in the summary. And in the
 14 summary, if you go down to the bottom two
 15 bullets, so the second to last bullet in
 16 Dr. Petes's summary, based on her experience and
 17 postdoctoral work states, harvesting pressure and
 18 practices are also contributing to low oyster
 19 numbers on certain bars in Apalachicola Bay.
 20 Pressure on some of the oyster bars increased
 21 during and after the Deepwater Horizon event due
 22 to concentrated, intensive harvesting and opening
 23 of areas that would normally be seasonally
 24 closed. Harvesting of sub-legal-size oysters,
 25 below the legal size limit of 3 inches, has also

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1409

1 been occurring due to lack of enforcement and low
 2 numbers of legal-size oysters available for
 3 harvest.
 4 And that is part of Dr. Petes's conclusion
 5 based on her initial review of the information
 6 provided. Right?
 7 **A. That certainly is how it reads in her summary.**
 8 **Q.** And then in the next paragraph below notes that
 9 we're in a drought. It's severe. And some
 10 oysters would be dying, you know, even if they
 11 weren't being harvested.
 12 That happens in drought. Right?
 13 **A. High mortality would be occurring.**
 14 **Q.** High mortality?
 15 **A. Even in the absence of harvesting pressures is**
 16 **how I read that.**
 17 **Q.** But as she concludes, the decline here is likely
 18 due because of the simultaneous occurrence of
 19 changes in harvesting practices, and
 20 overharvesting is most damaging in drought
 21 conditions like this?
 22 **A. I read it to say that some bars could have**
 23 **experienced some overharvesting.**
 24 **Q.** So you're looking back at her conclusions?
 25 **A. Is that what you were referring to, sir?**

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1410

1 **Q.** Yes. I'm paraphrasing.
 2 **A. Yes. I stand by -- she's discussing in certain**
 3 **bars it could contribute.**
 4 **Q.** Now, let me look at just one other thing that
 5 Dr. Petes says is part of her assessment of the
 6 cause of this collapse. If we could turn to
 7 page 4 of her memo, which at the top, that page
 8 says less certain. And then below that part
 9 there is a section that says upstream dam
 10 operations.
 11 **A. Yes. I'm there.**
 12 **Q.** And it's -- and, again, I'm not going to read all
 13 of these sentences. We're in the section
 14 Upstream Dam Operations in ACF Basin. And let's
 15 do -- the first two sentences here state, this
 16 recent drought has caused significantly-reduced
 17 local inflows from both the Chattahoochee River
 18 and the Flint River into the Lake Seminole
 19 reservoir. In turn, low flow has forced the
 20 USACE -- that's the U.S. Army Corps of
 21 Engineers -- to restrict outflows downstream of
 22 Woodruff Dam into the Apalachicola River.
 23 And that's consistent with Florida's
 24 understanding of what was taking place at this
 25 point in time; right? Because there was a

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1 drought and there wasn't much rain and there
 2 wasn't much water, the Corps of Engineers, under
 3 its operating rules, had to restrict outflows
 4 coming from Woodruff Dam into the Apalachicola
 5 River?
 6 **A. That certainly is what Ms. -- Dr. Petes reports**
 7 **here.**
 8 **Q.** But it's true; isn't it?
 9 **A. I believe I testified yesterday that I'm not**
 10 **familiar with the Corps' operational plan and**
 11 **defer to others that perhaps have expertise in**
 12 **that.**
 13 **Q.** It's not inconsistent with your understanding of
 14 the way it works?
 15 **A. It's not inconsistent with my direct testimony**
 16 **that speaks of high salinities and low flows.**
 17 **Q.** But I don't think you mentioned the Corps and the
 18 dams. You know they're involved?
 19 **A. I -- I stand by my direct testimony. I**
 20 **understand there is high salinity and low flows.**
 21 **The extent and the operations of the dams and the**
 22 **Corps, again, I would want to defer to someone**
 23 **that understands those complexities better than I**
 24 **do.**
 25 **Q.** Okay. Well, let me just do -- I'll skip the

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1412

1 middle part of the last two sentences of this
 2 paragraph here that says, the USACE officially.
 3 Do you see that --
 4 **A. Yes, sir.**
 5 **Q.** -- line there?
 6 And so Dr. Petes, based on her assessment and
 7 evaluation with her knowledge and training
 8 writes, the USACE officially began drought
 9 operations on May 1, 2012. The USACE is still in
 10 drought operations and expects that releases from
 11 Woodruff will remain near 5,000 cfs for at least
 12 the next several weeks.
 13 And I take it you don't have any
 14 understanding whether Dr. Petes is accurate or
 15 inaccurate in this statement?
 16 **A. I -- I would expect someone of her caliber would**
 17 **not report that without looking at some**
 18 **documents. But I'm not directly knowledgeable**
 19 **about it.**
 20 **Q.** Okay. That's all I have on this particular
 21 exhibit.
 22 Now, I want to move into the direct dealings
 23 that FWC and Mr. Heil had with the federal
 24 government in the course of drafting the FWC
 25 report on the oyster collapse. Okay?

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1413

1 **A. Okay.**
 2 **Q.** And that's something that you're here to testify
 3 about?
 4 **A. I am.**
 5 **Q.** If you wouldn't mind, please, sir, looking at
 6 tab 34 of your binder.
 7 **A. Okay. I'm there.**
 8 **Q.** And it's a little bit of an odd document because
 9 you have a combination of an e-mail with some
 10 things pasted into it. But since it is e-mails
 11 and a string of e-mails, it's probably easiest if
 12 you go to the very end. And this is GX-569.
 13 **A. To the e-mail in the e-mail chain?**
 14 **Q.** Yes. For some reason we have got three or four
 15 instances of Steve Branstetter, Ph.D. -- his
 16 signature line pops up three or four different
 17 times. But then above that we have an April 22,
 18 2013 -- I'm sorry -- yes, 2013 e-mail from David
 19 Heil to Mr. Branstetter. Do you see that?
 20 **A. I do. I -- it's -- you're right; it is confusing**
 21 **with all of the headings. But I think I'm there.**
 22 **That's at the top of page 13.**
 23 **Q.** Yes. I don't know why it printed out this way.
 24 So we have got the -- these two together.
 25 You see from Mr. Heil to Mr. Branstetter, he

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1 advises Mr. Branstetter that our agency is
 2 drafting the report containing the information in
 3 support of the Florida Governor's request for the
 4 oyster fishery failure. I anticipate the report
 5 will be sent to Roy on May 1, 2013.
 6 And that's what was taking place in April.
 7 Right?
 8 **A. Yes. That's my understanding.**
 9 **Q.** And the plan at that point in time was for the
 10 report to go to the Department of Commerce in
 11 May?
 12 **A. That's what David reports. That's his time**
 13 **frame.**
 14 **Q.** And if you go back one page, the very bottom, it
 15 would be numbered 12 in this string of e-mails.
 16 This page at the very top left-hand side says
 17 Florida's Governor?
 18 **A. Yes.**
 19 **Q.** Okay. But in order for us to keep in the
 20 chronology of the conversation, we have to start
 21 at the bottom.
 22 **A. Okay.**
 23 **Q.** And so you see at the very bottom it appears that
 24 Mr. Heil sent a copy of the draft report to
 25 Mr. Branstetter. It says, attached draft is in

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1415

1 review and subject to change.
 2 Do you see that?
 3 **A. I do.**
 4 **Q.** And I will state that we haven't, after lots of
 5 work, been able to identify this particular
 6 draft; but I don't think that will affect
 7 anything here.
 8 Above that, you have got the response by
 9 Mr. Branstetter to David Heil where he says in
 10 the second line, you state that in 2010 and 2011
 11 the State allowed harvest of undersized oysters
 12 and continues to do so. And now in 2013, you
 13 have minimal harvestable oysters in the system.
 14 Let's see, three years, dot, dot, dot, dot, hmmm.
 15 This is Mr. -- I'm sorry, Dr. Branstetter,
 16 the Gulf branch chief of NMFS part of NOAA.
 17 Correct?
 18 **A. That's what I understand him to be, yes.**
 19 **Q.** Mr. Heil responds above to Dr. Branstetter and
 20 states that I -- to Steve, I will address.
 21 Thanks. There was and is no allowable undersize
 22 harvest above the tolerances allowed by rule.
 23 Industry pushes undersize harvest at times, and
 24 law enforcement responds appropriately. I will
 25 make that crystal clear.

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1 Again, thank you. Please keep reviewing. I
 2 would rather take care of all misconceptions and
 3 explain anything needed before we submit report.
 4 And this is then the responsive chain. And
 5 for whatever reason, these print out so odd.
 6 You have got Mr. Branstetter responding to
 7 Mr. Heil that the submission to NOAA includes
 8 some information related to Executive Orders at
 9 the top there. Do you see that?
 10 **A. I'm sorry. I got lost there.**
 11 **Q.** Yes. We're back on the page -- because we had to
 12 flip back and forth; but we're back on the page
 13 that has at the top Florida's Governor.
 14 **A. Okay.**
 15 **Q.** And at -- to paraphrase this paragraph, he's
 16 noting that the information that's provided to
 17 NOAA indicates that the Governor issued Executive
 18 Orders that allowed for departures from the
 19 standard limits on harvesting. Right?
 20 **A. That's what it states.**
 21 **Q.** And then at the very bottom of that e-mail, he
 22 says, nevertheless, a disaster has to be beyond
 23 the scope and control of management. This
 24 relaxation of harvest restrictions in 2010 could
 25 be a reason for lack of oysters in 2013.

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1417

1 Right?
 2 **A. That's what I read.**
 3 **Q.** All right. Now, we have to continue further up
 4 to Mr. Heil responding to Mr. Branstetter. And I
 5 will paraphrase rather than read. He responds
 6 and says, none of the oyster rules were deviated
 7 or waived. And if that had been asked for, it
 8 would have been denied. Right?
 9 **A. That's how I understand that. Correct.**
 10 **Q.** And then Dr. Branstetter tells Mr. Heil in the
 11 e-mail in the center of that page, just remember,
 12 your agriculture report states such harvest did
 13 occur.
 14 Do you see that?
 15 **A. I do.**
 16 **Q.** And this is part of the back and forth
 17 communications that the federal government and
 18 FWC had in connection with the disaster
 19 declaration?
 20 **A. It is a portion of it. Correct.**
 21 **Q.** All right. Now, we have to flip all the way to
 22 the very front page, please, still in GX-569.
 23 **A. Okay.**
 24 **Q.** And in the middle of that page, we have an
 25 April 23 e-mail from David Heil to Jim Estes. So

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1 now we're just internal to FWC. Mr. Branstetter
 2 is not on this part of it. And Mr. Estes --
 3 Mr. Heil tells Mr. Estes, as he's forwarding all
 4 of this with some other things that we'll just
 5 touch on briefly, see latest e-mail response
 6 below from NOAA Fisheries Service. And then in
 7 all caps and all bold and underlined, I will need
 8 assistance to address this. Then it says below
 9 are highlighted excerpts from the DACS report
 10 addressing fishery practices, overharvest, and/or
 11 undersize harvest. Correct?
 12 **A. Yes. I read that the same.**
 13 **Q.** And I'm not going to go through and read any of
 14 this; but, you know, I'll just give you and the
 15 Court an opportunity to flip through what
 16 Mr. Heil pasted into this e-mail to Mr. Estes.
 17 And I think you'll see that it's a copy of the
 18 August 2012 report with his highlighting on every
 19 instance that harvesting, fishing pressure,
 20 extensive harvesting, continuous harvesting
 21 occurs.
 22 Let me know when you have had a chance to
 23 review.
 24 **A. Well, as you suggested, I'm just scanning the**
 25 **highlighted portions.**

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1419

1 **Q.** Sure.
 2 **A. Okay.**
 3 **Q.** Okay. All right. Let's -- let's look at
 4 another exhibit. This is a joint exhibit, Joint
 5 Exhibit 90. It should be behind tab 35 of your
 6 binder.
 7 **A. Okay.**
 8 **Q.** Okay. And Joint Exhibit 90 is another series of
 9 e-mails -- and I'm only going to look at a very
 10 couple of them -- between Mr. Branstetter --
 11 Dr. Branstetter and David Heil. Correct?
 12 **A. Yes.**
 13 **Q.** And let's go, if we could, just on the very first
 14 page -- I'm only going to look at part of this
 15 page and the next. On the very first page at the
 16 bottom we have on April 24 the -- on Wednesday,
 17 April 24, down below there from -- where it says
 18 from Mr. Heil. And Mr. Heil writes to
 19 Mr. Branstetter, information received.
 20 And here we are in the very, very, very
 21 bottom paragraph. It is my understanding that
 22 FWC will respectfully disagree that oysters have
 23 undergone overfishing. Because there is no
 24 prescribed threshold, oysters are not considered
 25 overfished. FWC recognizes that in recent

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| | |
|--|---|
| <p>1420</p> <p>1 months, harvesting pressure has been more evident</p> <p>2 due to less than optimal environmental</p> <p>3 conditions, lowered recruit, and higher</p> <p>4 natural -- the next page -- mortality,</p> <p>5 parentheses, reason FWC closed commercial harvest</p> <p>6 on Saturdays and Sundays November 12 through May</p> <p>7 2013. FWC concludes that fishing efforts merely</p> <p>8 exacerbated natural mortality over this extended</p> <p>9 drought and lower river flows. Correct?</p> <p>10 A. That's how I read that, yes.</p> <p>11 Q. This is part of the conversation between FWC and</p> <p>12 the federal government?</p> <p>13 A. A portion.</p> <p>14 Q. A portion of it. So then we have to go back to</p> <p>15 the first page to get Mr. Branstetter's response.</p> <p>16 And it's nearly two-thirds down the page. And we</p> <p>17 have got from Mr. Branstetter back to Mr. Heil.</p> <p>18 LOL, which my girls tell me means laugh out loud.</p> <p>19 A. Could be lots of love.</p> <p>20 Q. Or lots of love. Okay.</p> <p>21 I can buy that overfishing may not be</p> <p>22 occurring; but you have a resource that is</p> <p>23 projected to have -- to have, or will have, no</p> <p>24 harvest in a couple of months because of low</p> <p>25 population density, yet you wouldn't say it's</p> <p style="text-align: center;">THE REPORTING GROUP Mason & Lockhart</p> | <p>1422</p> <p>1 still waiting on data?</p> <p>2 Do you see that?</p> <p>3 A. I do.</p> <p>4 Q. Okay. Then we go up. And it appears the e-mail</p> <p>5 must have at least gone to Mr. Heil, but we have</p> <p>6 Mr. Heil responding to her cc'ing Mr. Estes. And</p> <p>7 he states that the documents has been sent.</p> <p>8 Target to have it completed and sent to NOAA is</p> <p>9 May 1. And then there is the sentence that</p> <p>10 begins as planned there. Do you see that?</p> <p>11 A. I see that.</p> <p>12 Q. And Mr. Heil writes back, as planned, draft was</p> <p>13 sent to Steve Branstetter -- misspelled -- to be</p> <p>14 sure what he needed was there. His initial</p> <p>15 conclusion was overharvesting. I respectfully</p> <p>16 disagreed. If overharvest or lack of -- I think</p> <p>17 this is supposed to be enforcement or judicial</p> <p>18 ignorance or any other fishery management action</p> <p>19 or lack of action, the disaster request will be</p> <p>20 denied. Please weigh in with all the influence</p> <p>21 we have.</p> <p>22 And that's Mr. Heil's response to</p> <p>23 Ms. McCawley. Correct?</p> <p>24 A. That's what I read, yes.</p> <p>25 Q. Let's go then, if we can go up the chain one more</p> <p style="text-align: center;">THE REPORTING GROUP Mason & Lockhart</p> |
| <p>1421</p> <p>1 overfished simply because there is no threshold,</p> <p>2 question mark?</p> <p>3 This is still part of the back and forth</p> <p>4 between Florida and the federal government about</p> <p>5 the disaster request?</p> <p>6 A. Correct. Which is -- which is, looks to me, very</p> <p>7 good civil dialogue between them.</p> <p>8 Q. Okay. Especially if it's the lots of love.</p> <p>9 Okay. If we could go to the next exhibit,</p> <p>10 please, tab 36 in your binder, which is GX-575.</p> <p>11 A. Yes, sir. I'm there.</p> <p>12 Q. All right. And more e-mails. If you could flip</p> <p>13 to the second page so that we can follow the</p> <p>14 chain. And now, at the very, very bottom we have</p> <p>15 Jessica McCawley. You mentioned her yesterday.</p> <p>16 You have got her title as director of Division of</p> <p>17 Fisheries Management. What generally was her</p> <p>18 role?</p> <p>19 A. She oversees the entire division of Marine</p> <p>20 Fisheries Management. And Mr. Jim Estes is one</p> <p>21 of her staff.</p> <p>22 Q. Okay. And we have here then -- I'm not clear who</p> <p>23 she is e-mailing to; but she states, where are we</p> <p>24 on the disaster declaration? Have we provided</p> <p>25 all the info that NOAA needs to them? Are we</p> <p style="text-align: center;">THE REPORTING GROUP Mason & Lockhart</p> | <p>1423</p> <p>1 e-mail on this. At the very top then we have got</p> <p>2 David Heil e-mailing Mr. Barbieri, Luiz Barbieri.</p> <p>3 Do you see that?</p> <p>4 A. I do.</p> <p>5 Q. And Mr. Barbieri is one of the people who was</p> <p>6 identified when we looked at the interrogatories</p> <p>7 as having played a role in putting together the</p> <p>8 disaster report?</p> <p>9 A. Yes. Mr. Barbieri worked for Fish and Wildlife</p> <p>10 Research Institute.</p> <p>11 Q. And if we go down to the e-mail to Mr. Barbieri</p> <p>12 where he has got Steve Geiger is reviewing the</p> <p>13 FWC report, are you with me?</p> <p>14 A. Yes, sir.</p> <p>15 Q. And if you continue down below that, he tells --</p> <p>16 David Heil is telling Luiz Barbieri, a</p> <p>17 preliminary draft of the FWC report was sent as</p> <p>18 planned to Steve Branstetter with NOAA Fisheries</p> <p>19 Service last week. He has responded that it</p> <p>20 appears to be overfishing. If NOAA Fisheries</p> <p>21 Service concludes that the Governor's disaster</p> <p>22 request was due to fishery management actions,</p> <p>23 high harvest levels, lack of enforcement, lack of</p> <p>24 judicial prosecution, the disaster request will</p> <p>25 be denied.</p> <p style="text-align: center;">THE REPORTING GROUP Mason & Lockhart</p> |

1424

1 Then he says he attaches a summary. And
 2 below in bold says, please advise if you can
 3 strengthen our argument.
 4 So this is just internal here at FWC.
 5 Correct?
 6 **A. Correct.**
 7 MR. ECHOLS: Shall I continue, your
 8 Honor?
 9 SPECIAL MASTER LANCASTER: Let's take a
 10 break.
 11 Mr. Primis and Mr. Perry, may I see you?
 12 (Time Noted: 10:22 a.m.)
 13 (Recess Called)
 14 (Time Noted: 10:32 a.m.)
 15 MR. ECHOLS: Your Honor, I consulted
 16 with Mr. Primis; and I just want to make sure
 17 as far as completing this portion of the
 18 testimony, we have certain documents in the
 19 record. And so I don't -- I'm going to go
 20 through them quickly; and I'm not going to
 21 read specifically from them. Okay?
 22 SPECIAL MASTER LANCASTER: Thank you.
 23 BY MR. ECHOLS:
 24 **Q.** Mr. Sutton, it's correct, is it not, that at some
 25 point a draft of the oyster -- of the draft FWC
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1425

1 report went to DACS for their review?
 2 **A. That's my understanding of some correspondence.**
 3 **Q.** And if you look at tab 37, you will see we have
 4 GX-584, which is the report being sent to DACS.
 5 Correct?
 6 **A. Yes.**
 7 **Q.** All right. And now, if we go to the next tab,
 8 tab 38.
 9 **A. Yes, sir.**
 10 **Q.** And we have here GX-1244. Do you have recognize
 11 this as an e-mail conversation between
 12 Mr. Knickerbocker and Ms. Conti -- Dr. Conti?
 13 **A. Yes, I see that.**
 14 **Q.** And they're both from DACS?
 15 **A. Yes. They both are from DACS; correct.**
 16 **Q.** And without me reading any of the specifics, at
 17 the very bottom of the first paragraph from
 18 Mr. Knickerbocker to Dr. Conti, he notes that --
 19 that FWC has taken some privileges with FDACS
 20 information, some statements are being
 21 misrepresented; and he states he doesn't feel
 22 comfortable being a party to this kind of
 23 information manipulation. Do you see that?
 24 **A. Yes, I see that.**
 25 **Q.** And, now, to go through -- or to make this
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1426

1 easier, we have the August 2012 DACS report.
 2 And then we have the draft report that went to
 3 Mr. Knickerbocker for DACS review. And I'm going
 4 to show you one slide that has the comparison.
 5 Okay. Sir, so what I have done here -- and
 6 just to identify what is shown is a comparison
 7 from the original August 2012 report. We have
 8 got it here. It says JX-67. It's also
 9 attached -- I think this is actually JX-77; so I
 10 apologize for that -- and then the text that's in
 11 the May version of the DACS report.
 12 And what we have done here is you see that
 13 section of harvesting pressure, what ended up in
 14 the FWC report cuts out all of the red text about
 15 harvesting pressure and continuous harvesting,
 16 poor harvesting practices, then adds that
 17 harvesting levels were not excessive under
 18 environmental conditions and changes damaging to
 19 evident.
 20 And that's what changed in the FWC report
 21 compared to the original DACS report. Correct?
 22 **A. That would seem to be an accurate comparison**
 23 **between the two statements.**
 24 **Q.** Okay. Let's go, if we can, to tab 39, please.
 25 MR. ECHOLS: And for the record, tab 39
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1427

1 we have here is GX-593.
 2 **A. Yes, sir.**
 3 **Q.** And here we have an e-mail from Mr. Gandy. And
 4 Ryan Gandy, that's a FWC scientist?
 5 **A. I -- I'm embarrassed to say I'm not sure.**
 6 **Q.** I thought you were his sponsor or supervisor at
 7 one point?
 8 **A. Ryan Gandy?**
 9 **Q.** Yes.
 10 **A. Well, I'm in the chain of command. I don't know**
 11 **all the staff.**
 12 **Q.** Okay. Regardless --
 13 MR. ECHOLS: And the Court will have the
 14 time to review it.
 15 BY MR. ECHOLS:
 16 **Q.** You have got Mr. Gandy is asked to review a
 17 summary of the report and notes in his e-mail --
 18 you can read it and tell me if you agree that he
 19 says he believes that the way the summary is
 20 phrased is weak in ascribing all of the blame to
 21 freshwater flow. And at the very tail end of the
 22 second paragraph, it says that he believes that
 23 an equal factor, compounding factor would be that
 24 there are more licensed fishermen and trips by --
 25 increasing by threefold. Do you see that?
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1428

1 **A. I see that.**
 2 **Q.** Okay. If we could go to tab 40, please.
 3 **A. Okay.**
 4 **Q.** And tab 40, here we have got, again, Dr. Conti
 5 and Mr. Knickerbocker.
 6 MR. ECHOLS: And for the record this is
 7 GX-595.
 8 BY MR. ECHOLS:
 9 **Q.** And you will see in the e-mail below
 10 Mr. Knickerbocker is telling Dr. Conti that he
 11 had a meeting with Jim Estes. And in particular,
 12 in the middle paragraph he communicated to
 13 Mr. Estes that DACS could not support the FWC
 14 conclusions with the harvesting issue and that
 15 this was resolved at the end of the day by having
 16 the complete DACS report attached. Do you see
 17 that?
 18 **A. If I may have a minute.**
 19 **Q.** Sure.
 20 **A. I see -- I think the thing that Mr. Knickerbocker**
 21 **is saying is that we told him that we do not**
 22 **support the FWC conclusions; is that your**
 23 **specific reference, or were you just asking if I**
 24 **saw that?**
 25 **Q.** Yes. Just if you saw that.
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1429

1 **A. Yes.**
 2 **Q.** So a conversation took place between Mr. Estes
 3 and Mr. Knickerbocker?
 4 **A. That's what he's reporting here, yes.**
 5 **Q.** Okay. If we could go to tab 41, please.
 6 **A. Yes.**
 7 **Q.** You see we have GX-1313; and this reflects that
 8 at this point in July, the report still is in
 9 draft. And at some point here in July, Mr. Heil
 10 sends the report to the Governor's office; is
 11 that right -- Mr. Grayson?
 12 **A. Yes. I believe Mr. Grayson was at the Governor's**
 13 **office at the time.**
 14 **Q.** Okay. And the actual final, final report, if we
 15 go to tab 42, is JX-96. And can you identify
 16 that, please, sir, as being the official
 17 transmission by Mr. Estes to Dr. Crabtree of the
 18 final FWC report?
 19 **A. Yes. It appears to be that, yes.**
 20 **Q.** Okay. Now, what I have done is I have just a
 21 couple of slides that are the comparison between
 22 the July draft that went to the Governor's office
 23 and the final report.
 24 **A. Thank you.**
 25 MR. ECHOLS: If we could put that up,
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1430

1 please.
 2 BY MR. ECHOLS:
 3 **Q.** So just as one example -- and we have only got
 4 two here. In the July draft, as I show at the
 5 top of this slide, the summary attributed the
 6 decline to severe drought conditions; but then in
 7 the August final which went to the federal
 8 government, it attributed the decline to upstream
 9 consumption and water management policies. Do
 10 you see that?
 11 **A. I do.**
 12 **Q.** And then, similarly, I have got one other slide
 13 showing how this report changed between July and
 14 the final August one that went in.
 15 If you could -- actually, to see it, I guess
 16 you have to see that there's two pieces. So what
 17 we have got in this slide in the green portion --
 18 and this is a -- this is from JX-96 -- is the
 19 text that was in the July one, which refers to
 20 the Corps of Engineers' operations and flows; but
 21 in the final report, this yellow block was
 22 inserted. At some point between July and August,
 23 this paragraph attributing the collapse to
 24 upstream consumption in Georgia was added to the
 25 final report that went to the federal government.
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1431

1 Do you see that?
 2 **A. I see -- I see it on the slide. Yes.**
 3 **Q.** Okay. And then if we go to the second to last
 4 tab in your binder, tab 43.
 5 **A. Yes, sir.**
 6 **Q.** And in tab 43, we have GX-644. This is an e-mail
 7 from Bill Pine to Jim Estes. This is dated
 8 August 8. And he identifies to Mr. Estes in the
 9 first couple of sentences that he was surprised
 10 that water management policies were identified as
 11 making the drought worse and that the reservoirs
 12 were supplementing flows. Correct?
 13 **A. Sorry. Sir, I hadn't seen this. I'm almost**
 14 **through.**
 15 **Okay. What is your question, sir?**
 16 **Q.** I'm sorry. It's just that Dr. Pine is noting
 17 that he disagrees that water management policies
 18 were the cause and that the reservoirs were
 19 supplementing flows. Correct?
 20 **A. He was surprised.**
 21 **Q.** Okay.
 22 MR. ECHOLS: We can take that down.
 23 BY MR. ECHOLS:
 24 **Q.** Now, Mr. Sutton, just generally, recognizing here
 25 that hindsight is 20/20, but knowing what we do
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1432

1 today that the oil never got to Apalachicola Bay,
 2 would you agree with me that it was a mistake for
 3 Florida to have opened up the bay for as long as
 4 it did after the oil spill to harvesting?
 5 **A. I would not agree with that.**
 6 **Q.** Would you agree that it was a mistake to relax
 7 enforcement on sub-legal harvesting?
 8 **A. I don't agree with relaxed enforcement of**
 9 **sub-legal harvesting.**
 10 **Q.** Would you agree with me that the State of Florida
 11 would have been better served to the oyster
 12 resource if it had done more reshelling in 2011
 13 and '12 and '13?
 14 **A. I wouldn't agree with that. I would say that the**
 15 **shelling went along with the environmental**
 16 **conditions.**
 17 **Q.** So after we have the collapse and once -- you
 18 knew immediately in August of 2012 that the
 19 fishery was collapsing, would you agree with me
 20 that at that point in time the State of Florida
 21 should have closed the bay or limited fishing
 22 more than it did?
 23 **A. I would state that from that point forward, we**
 24 **had a number of actions that continually reduced**
 25 **and put in management policies that to this day I**

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1433

1 **still stand by that were prudent.**
 2 **Q.** And at the very least, sir, would you agree with
 3 me that Georgia has no responsibility for
 4 managing the Apalachicola Bay oyster fishery?
 5 **A. Georgia has no authority; correct.**
 6 **Q.** Yes. And Georgia has no responsibility or
 7 authority to enforce the Florida laws on the
 8 books that say it's legal to harvest small
 9 oysters?
 10 **A. I would have to defer to counsel to answer that**
 11 **appropriately.**
 12 **Q.** Really?
 13 **A. Well, can you restate it then.**
 14 **Q.** Sure. Georgia doesn't have any authority to
 15 enforce Florida's laws about the illegal harvest
 16 of small oysters?
 17 **A. I would assume that they wouldn't; but I do know**
 18 **that a lot of times law enforcement, including**
 19 **wildlife agencies, they have shared pact**
 20 **agreements. But that may be a bit of a stretch.**
 21 **That's why I'm a little hesitant to answer that,**
 22 **counsel.**
 23 **Q.** Okay. Can we agree that Georgia doesn't have
 24 responsibilities for restoration of the reefs and
 25 the oyster resource?

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1 **A. In the sense of cultching?**
 2 **Q.** Yes.
 3 **A. Yes, I would agree.**
 4 **Q.** Okay. Those are all Florida -- Florida FWC and
 5 DACS responsibilities. Right?
 6 **A. That's correct.**
 7 MR. ECHOLS: I have no further
 8 questions, your Honor.
 9 SPECIAL MASTER LANCASTER: Thank you.
 10 Ms. Wine?
 11 MS. WINE: Sorry, your Honor. We're
 12 just getting our materials together.
 13 EXAMINATION
 14 BY MS. WINE:
 15 **Q.** Good morning, Mr. Sutton.
 16 **A. Good morning.**
 17 **Q.** We have talked about the NOAA disaster
 18 declaration here today. Are you familiar with
 19 the NOAA decision memorandum that was issued in
 20 connection with that disaster declaration?
 21 **A. I am.**
 22 MS. WINE: And, your Honor, if I may
 23 approach, I would like to hand that to the
 24 witness.
 25 SPECIAL MASTER LANCASTER: Please.

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1 **A. Thank you.**
 2 **Q.** Sir, after the cover e-mail in what is Exhibit
 3 FX-413, you will find that the third page of that
 4 document, the document dated August 20, 2013, the
 5 subject is Florida request for federal fishery
 6 disaster relief decision memorandum. Do you see
 7 that, sir?
 8 **A. Yes, ma'am.**
 9 **Q.** And do you know what this is?
 10 **A. I do. This is the memorandum that is the result**
 11 **and culmination of a process of review for**
 12 **fishery failure or a determination of disaster.**
 13 **And it's based within the, as it states,**
 14 **Magnuson-Stevens guidelines. And it's issuing**
 15 **its approval and support for declaration of a**
 16 **fishery disaster.**
 17 **Q.** And, sir, you will see in the subject line it
 18 says draft. If you refer back to the cover
 19 e-mail, it indicates that this is the final memo;
 20 and this is signed. Is it your understanding
 21 that this is the final NOAA decision memo?
 22 **A. Yes, ma'am.**
 23 **Q.** And, sir, you reference the Magnuson-Stevens Act,
 24 which is identified in the second paragraph of
 25 this memo, and also something called the

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1 Interjurisdictional Fisheries Act, IFA. Do you
 2 see that?
 3 That's in the second paragraph of the memo.
 4 **A. Yes, I do.**
 5 **Q.** And the next paragraph, without reading it all,
 6 goes on to talk about what is an allowable cause
 7 under these Acts. Sir, do you have an
 8 understanding of what that means, allowable
 9 cause?
 10 **A. I do.**
 11 **Q.** And what is that?
 12 **A. It has to be those that are natural,**
 13 **undetermined, or man-made beyond the control of**
 14 **fisheries managers to mitigate through**
 15 **conservation and management measures, including**
 16 **regulatory restrictions.**
 17 **Q.** And, sir, what does that mean to you?
 18 **A. That means that the -- no matter what you do as a**
 19 **fish and wildlife manager, you can't be**
 20 **conducting practices or regulations or anything**
 21 **that would result in the termination -- or into a**
 22 **fishery collapse.**
 23 **Q.** So, sir, can NOAA declare a fishery collapse if
 24 it determines that poor fisheries management
 25 caused the collapse?

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1 MR. ECHOLS: Objection.
 2 **A. My understanding --**
 3 MR. ECHOLS: Calls for a legal
 4 conclusion. He just stated earlier, you
 5 Honor, he's not a lawyer and can't opine on
 6 that.
 7 SPECIAL MASTER LANCASTER: Sustained.
 8 BY MS. WINE:
 9 **Q.** Sir, are you familiar with the Magnuson-Stevens
 10 Act?
 11 **A. I am.**
 12 **Q.** And are you familiar with NOAA's determination of
 13 allowable causes under that Act?
 14 **A. Generally, yes.**
 15 **Q.** And do you have an understanding of what the
 16 phrase "beyond the control of fishery managers to
 17 mitigate through conservation and management
 18 measures" means in the context of determining
 19 allowable cause?
 20 MR. ECHOLS: Objection, your Honor.
 21 This is, again, asking for a legal
 22 conclusion.
 23 SPECIAL MASTER LANCASTER: You may
 24 answer.
 25 THE WITNESS: Thank you, sir.

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1 **A. That's basically that FWC has the primary**
 2 **responsibilities. We do all the things that we**
 3 **can do as fishery managers to avoid those, in lay**
 4 **terms.**
 5 **Q.** And, sir, do you have an understanding as to
 6 whether, in a circumstance where poor fisheries
 7 management caused a decline, whether that can
 8 qualify as an allowable cause?
 9 **A. That's my understanding that it can't in the**
 10 **disaster declaration.**
 11 **Counsel, would you -- would you please**
 12 **restate that question again to make sure I**
 13 **answered that correctly?**
 14 **Q.** I think you did, but I will try to do that. I
 15 don't have the transcript in front of me.
 16 I asked if you have an understanding based on
 17 that language about beyond the control of fishery
 18 managers that if NOAA concluded that poor fishery
 19 management were a cause of the oyster decline,
 20 would that be -- would they be able to find
 21 allowable cause and declare a disaster
 22 declaration?
 23 **A. Okay. I stand by could not.**
 24 **Q.** Thank you, sir.
 25 And, sir, are you familiar with this memo?

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1 **A. Yes, ma'am.**
 2 **Q.** And, sir, do you recall that this memo identifies
 3 what the causes of the oyster collapse in 2012 in
 4 the Gulf Coast was?
 5 **A. Yes. It was a result of low flows, high**
 6 **salinity, and an increased predation that results**
 7 **from high salinities primarily.**
 8 **Q.** And, sir, if you look at the top of page 2 --
 9 this is within the background section after the
 10 memo cites low flows as a causal factor -- if you
 11 could, sir, just look at one sentence at the top
 12 of page 2 that begins the low discharge rate.
 13 **A. Yes, ma'am. I'm there.**
 14 **Q.** And, sir, do you see that it says, the low
 15 discharge rate is compounded by increased
 16 upstream water consumption during the drought
 17 periods?
 18 **A. Yes, I do.**
 19 **Q.** And, sir, is this consistent with your
 20 understanding of part of NOAA's conclusions in
 21 this memo?
 22 **A. It is.**
 23 **Q.** Sir, if you would, turn now to the top of page 3
 24 in this memo.
 25 **A. Okay.**

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1 Q. You will see, sir, that at the top of page 3,
 2 NOAA discusses the prolonged drought conditions.
 3 And I know the Court can read that, so I will not
 4 continue with that. But if you would, sir, just
 5 look at the second paragraph in that page that
 6 begins the DACS report.
 7 **A. Yes, ma'am.**
 8 Q. Do you see there it says two times that the DACS
 9 report acknowledges that there's been an increase
 10 in harvesting pressure and that the DACS report
 11 acknowledges the harvest of undersize and
 12 sub-legal oysters. Do you see that, sir?
 13 **A. I do.**
 14 Q. And do you understand what the DACS report is
 15 that's being referenced in that paragraph?
 16 **A. Yes.**
 17 Q. And what is that, sir?
 18 **A. That's the report that we have discussed quite a**
 19 **bit here; but that was -- accompanied not only**
 20 **the Governor's letter, but also accompanied our**
 21 **submittal to NOAA for consideration.**
 22 Q. And, sir, that's Mr. Berrigan's August 2012
 23 oyster assessment report?
 24 **A. That's my understanding.**
 25 Q. And as you just testified, sir, that was provided

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1 to NOAA two times in connection with this request
 2 for a disaster declaration?
 3 **A. At a minimum I know of two times.**
 4 Q. And the two times you just mentioned are
 5 initially with Governor Scott's September 6
 6 letter?
 7 **A. That's correct.**
 8 Q. And when was the second time?
 9 **A. I believe that would be in our correspondence**
 10 **with -- and back and forth in discussion with**
 11 **NOAA. And I would need to refer --**
 12 Q. And we can look at that later. Do you recall it
 13 as being around the time that FWC submitted its
 14 own report?
 15 **A. That's correct. There was an appendix actually**
 16 **in the FWC report.**
 17 Q. Okay. Thank you, sir.
 18 And if you could, just one last thing on this
 19 NOAA letter. If you look at the second to last
 20 sentence of the paragraph that we have been in,
 21 do you see the line that starts according to NMFS
 22 policy guidance?
 23 **A. Yes.**
 24 Q. Sir, first of all, what was NMFS?
 25 **A. The National Marine Fisheries -- I need to**

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1 **cheat -- Service. It's on the -- in the**
 2 **beginning of the exhibit.**
 3 Q. I didn't mean it to be a test. I thought you
 4 could help us out.
 5 Okay. If I could just read that, it says,
 6 according to NMFS's policy guidance for disaster
 7 assistance, the fact that overfishing may have
 8 occurred or is occurring does not preclude a
 9 determination that a fishery disaster occurred,
 10 if other factors are more central to the
 11 disaster.
 12 Do you see that language, sir?
 13 **A. I do.**
 14 Q. And what is your understanding of that language?
 15 **A. Well, as it states, if -- the fact that**
 16 **overfishing may have occurred does not preclude a**
 17 **determination, particularly if there are more**
 18 **primal or central reasons for the disaster.**
 19 Q. And, sir, did Florida let NOAA know that some
 20 overfishing had occurred?
 21 **A. Yes. We were very transparent with our data, our**
 22 **information, and the opinions in the reports of**
 23 **others.**
 24 Q. Now, sir, are you familiar with the process that
 25 NOAA undertakes for approval of these types of

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1 requests?
 2 **A. Yes.**
 3 Q. And do you understand that there are sometimes
 4 hearings in connection with these disaster
 5 declaration requests?
 6 **A. I do understand that to be the case.**
 7 Q. And are you familiar that such a hearing occurred
 8 in connection with this particular request?
 9 **A. Yes.**
 10 MS. WINE: Your Honor, may we approach
 11 to hand out another exhibit?
 12 SPECIAL MASTER LANCASTER: Yes.
 13 MS. WINE: Thank you, sir.
 14 **A. Thank you.**
 15 Q. Sir, I have handed you FX-423, which is written
 16 testimony of Emily Menashes, acting director of
 17 the Office of Sustainable Fisheries for NOAA. Do
 18 you see that, sir?
 19 **A. I do.**
 20 Q. And this is dated August 13, 2013?
 21 **A. Yes, that's what I see.**
 22 Q. And, sir, do you understand that this is around
 23 the time that NOAA issued the declaration of a
 24 disaster for Apalachicola Bay?
 25 **A. Yes, it is.**

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1 Q. Okay. And, sir, if you would, please, just turn
 2 to page 3 for me of this document.
 3 A. Okay.
 4 Q. Sir, you reviewed this before. Correct?
 5 A. I have.
 6 Q. And, sir, you understand that in this document --
 7 and I don't want to read it all; but on page 3
 8 here, Ms. Menashes goes through, again, the
 9 requirements that must be met in order to declare
 10 a fisheries disaster including that the causes
 11 have to be beyond of control of fisheries
 12 management. Do you see that up in that top
 13 section; and it's down in the bottom paragraph as
 14 well, sir?
 15 A. Yes. I see that.
 16 Q. I'm trying to not read it all to move things
 17 along.
 18 A. Yes, I see that.
 19 Q. And, sir, if you go to the end of the big
 20 paragraph on that page, so the paragraph that
 21 begins for the second requirement.
 22 A. Yes.
 23 Q. Go to the end of that paragraph there is a
 24 sentence that starts there is a presumption. Do
 25 you see that?

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1 A. Yes, ma'am.
 2 Q. And, sir, it says there -- this is Ms. Menashes's
 3 testimony before Congress. It says, there is a
 4 presumption against a finding of a fishery
 5 resource disaster when overfishing is occurring
 6 in a fishery.
 7 Do you see that, sir?
 8 A. I do.
 9 Q. And, sir, what do you understand that to mean?
 10 A. That if, through their vetting process and
 11 through the review, they find that fishery is --
 12 overfishing is occurring, then they would have a
 13 presumption to not issue the disaster relief or
 14 declaration.
 15 Q. And, again, sir, Florida informed NOAA about the
 16 overfishing that occurred in Apalachicola Bay.
 17 Correct?
 18 A. Correct.
 19 Q. Now, if you would, sir, please turn to tab 4 in
 20 the first binder that Georgia gave you yesterday.
 21 And I just now want to very quickly go through
 22 the chronology of the material that Florida
 23 provided to NOAA in connection with this request.
 24 A. Okay. I'm at tab 4.
 25 Q. Okay. So, sir, again, we won't belabor it; but

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1 first we have Governor Scott's September 6, 2012,
 2 letter. Correct?
 3 A. Correct.
 4 Q. And, sir, do you understand that this letter
 5 speaks about the lack of freshwater flow to
 6 Apalachicola Bay?
 7 A. Yes.
 8 Q. And do you recall that it also mentions
 9 harvesting pressures?
 10 A. It does.
 11 Q. And, sir, just again for the record, if you turn
 12 a few pages, you will see that the August 2012
 13 oyster assessment report is attached to that
 14 Governor Scott letter. Correct?
 15 A. That's correct.
 16 Q. Now, this is -- again, just because it was
 17 referred to slightly differently, Georgia's
 18 counsel showed you in Exhibit GX-569, which is
 19 tab 34 -- I don't know if you need to go there,
 20 but it was a letter from -- an e-mail from
 21 Mr. Branstetter that was talking about Florida's,
 22 quote, agricultural report and some things in
 23 there that he saw about overharvesting.
 24 Sir, is it your understanding that that
 25 agricultural report that Mr. Branstetter was

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1 referencing is this August 2012 oyster assessment
 2 report?
 3 A. That's my understanding.
 4 Q. And we went through the oyster assessment report
 5 in great detail with Mr. Berrigan, so we won't do
 6 that again here today. But you have reviewed it
 7 as well, sir?
 8 A. Yes, ma'am.
 9 Q. And do you recall that, again, the oyster
 10 assessment report discusses both the lack of
 11 freshwater flow and the impact on the bay from
 12 that as well as overharvesting?
 13 A. Yes. Lack of freshwater flows, salinities,
 14 increased predation, yes.
 15 Q. And just for reference, Mr. Berrigan's August
 16 2012 oyster assessment report that was provided
 17 to NOAA at table 1 also provides the landings
 18 data and fisheries license data that you looked
 19 at with Georgia's counsel that's on page 2 of
 20 that report?
 21 A. I recall.
 22 Q. Okay. Thank you. Now, sir, if you would, turn
 23 to tab 33 of the binder that Georgia gave you
 24 today. It's going to be the Petes memo. It's
 25 Exhibit FX-412.

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1 **A. Okay. I'm there.**

2 **Q.** Sir, I think you said you had some familiarity

3 with Ms. Petes. What do you understand her

4 background to be?

5 **A. I -- she -- I believe her post-doc work is**

6 **dealing with the invertebrates, particularly**

7 **oysters, in the northwest Florida Apalachicola**

8 **Bay area and particularly in how it relates to**

9 **salinity regimes and -- amongst other things.**

10 **Q.** And, sir, if you turn to the page with the Bates

11 numbers -- those are the numbers on the bottom

12 right in this exhibit -- that ends 3842. This is

13 in the attachments to her memo.

14 **A. Yes.**

15 **Q.** Sir, do you understand there's an article there

16 entitled Ecology and Evolution; and she's listed

17 as one of the authors. Do you understand what

18 that article is?

19 **A. Yes, I do generally. It's a publication in the**

20 **Journal of Ecology and Evolution.**

21 **Q.** And is this -- is she -- she authored it?

22 **A. Yes. She's the first author; correct.**

23 **Q.** And is this the post-doc work on Apalachicola Bay

24 that you were referencing?

25 **A. I would have to look at her -- when she credits.**

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1 **Most of the time in academic journals, they will**

2 **speak to how the funding was. But I assume that**

3 **it is part of her post-doc work.**

4 **Q.** Thank you, sir.

5 If you turn back to the first page of her

6 actual memo -- so not the e-mail in the front,

7 but a few pages in there is the first page of the

8 Petes memo at Bates ending 3818. Are you there,

9 sir?

10 **A. Yes.**

11 **Q.** And, again, just remind us of the timing of this.

12 This was about two weeks after Governor Scott

13 submitted his letter?

14 **A. Correct.**

15 **Q.** Okay. So he submitted the letter along with the

16 oyster assessment report, and then we get to the

17 Petes memo. Correct?

18 **A. Correct.**

19 **Q.** Okay. Now, she lists a number of resources in

20 the top of her memo in that first paragraph just

21 before the summary. And do you see that one of

22 the things she lists is that FDACS report?

23 **A. Yes, ma'am.**

24 **Q.** And that is the 2012 oyster assessment report?

25 **A. That's correct.**

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1 **Q.** Okay. And she lists a whole number of other

2 sources of information. Correct?

3 **A. Yes.**

4 **Q.** And we won't go through them all; but if you look

5 at the back of her memo, there's a lot of charts

6 and graphs on salinity and river flow and things

7 like that attached. Do you see that, sir?

8 **A. Yes, she has.**

9 **Q.** Okay. Now, if we focus back on her summary

10 section, there are -- the last two bullets were

11 read to you. The second part concerns harvesting

12 pressure, but do you see all the bullets above

13 that have to do with low flow and the effects of

14 low flow on the bay?

15 **A. I do.**

16 **Q.** And, sir, if you would turn to -- I'll just go

17 right to the conclusion section, sir, which is on

18 pages 7 and 8 of the memo. It's Bates 3824 and

19 25. Are you there, sir?

20 **A. Yes, ma'am.**

21 **Q.** So you read the paragraph that begins it is

22 difficult to assess. Correct?

23 **A. That's correct.**

24 **Q.** Okay, sir. If we could, this will be the only

25 thing I read in from this memo. Let's read the

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1 paragraph that follows that begins however.

2 MS. WINE: Mr. Walton?

3 BY MS. WINE:

4 **Q.** It says, however, even the bars that have

5 experienced relatively low harvesting pressure

6 have exhibited oyster declines, indicating that

7 drought is impacting the health, production, and

8 recovery of the fishery. The fact that declines

9 are occurring simultaneously across Franklin,

10 Wakulla, Dixie and Levy Counties suggests

11 widespread, landscape-scale impacts of reduced

12 freshwater input.

13 Do you see that, sir?

14 **A. Yes, ma'am.**

15 **Q.** And it goes on to talk about the impacts of that

16 reduced freshwater input on the oysters. Do you

17 see that, sir?

18 **A. I do.**

19 **Q.** And what do you understand Ms. Petes to be saying

20 in that paragraph of her conclusion?

21 **A. It's saying that, first of all, where there's**

22 **even low harvesting pressure, we're seeing oyster**

23 **declines, and that it is a result of reduced**

24 **freshwater input. And as we -- it is pretty**

25 **complete within the literature that causes stress**

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1 **on oysters. It increases not only mortality, but**
 2 **disease and predation by stone crabs and oyster**
 3 **drills and some of those.**
 4 **Q.** And, sir, do you see her very last paragraph of
 5 this memo, it says, near term recovery of Florida
 6 Gulf Coast oyster population will depend in large
 7 part on the improvement of regional drought
 8 conditions and freshwater input?
 9 **A. I do.**
 10 **Q.** And, sir, what do you take that to mean?
 11 **A. Well, I think it's important in resiliency of a**
 12 **system to look at if they're going to recover,**
 13 **first of all, the drought would have to end as**
 14 **well as other freshwater inputs that contribute**
 15 **to the system would have to increase or become at**
 16 **the right level.**
 17 **Q.** Thank you, sir.
 18 Now, while we're on this memo, I just want to
 19 ask you about one other slightly different
 20 related topic. Yesterday in response to some of
 21 the questioning you received, you said that the
 22 harvesting of sub-legal oysters could not cause a
 23 crash unless it was a large-scale, unregulated
 24 dredging type operation. Do you recall saying
 25 that?

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1 **A. I do.**
 2 **Q.** And, sir, why did you say that?
 3 **A. Well, a number of factors. I think, one, in my**
 4 **testimony I defer to just having a general**
 5 **knowledge of ecology and biology. And, secondly,**
 6 **I -- in reviewing the University of Florida**
 7 **report that we submitted as part of our disaster**
 8 **report, it states a similar sort of statement.**
 9 **And then I guess another point of reference is if**
 10 **you look at our oyster rule in general and you**
 11 **look at the methods of harvest that we allow with**
 12 **the tongs, which is really unique, it's a pretty**
 13 **conservative rule to begin with.**
 14 **Q.** And why do you say that the tonging rule is a
 15 conservative rule to begin with?
 16 **A. Well, the method is they -- and you may have**
 17 **heard -- I apologize if the Court has heard this;**
 18 **but they have these long handles with these wide**
 19 **rakes. And they go out there and just**
 20 **selectively harvest and cull. And that's much**
 21 **less more impactful or intensive as I know some**
 22 **other commercial oystermen around the nation may**
 23 **invoke. It's a traditional, over the generations**
 24 **method of harvesting out there.**
 25 **Q.** And, sir, you said this is an FWC rule that

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1 allows only tonging on the public bars in
 2 Apalachicola Bay?
 3 **A. Correct.**
 4 **Q.** And, sir, if you could just briefly turn to
 5 page 2 of the Petes memo that's in front of you.
 6 **A. Okay.**
 7 **Q.** And there's a paragraph right in the middle that
 8 begins Florida Gulf Coast oysters. Do you see
 9 that?
 10 **A. I do.**
 11 **Q.** And the second sentence begins, oysters on public
 12 bars in this region are harvested using hand
 13 tongs -- and it describes what the tongs are.
 14 This practice leads to relatively localized,
 15 nondestructive harvesting pressure, when compared
 16 to methods such as dredging.
 17 Do you see that, sir?
 18 **A. I do.**
 19 **Q.** And is that consistent with your view that the
 20 tonging rule in Apalachicola Bay is conservative?
 21 **A. Yes, ma'am.**
 22 **Q.** And, sir, do you agree that it is a relatively
 23 nondestructive method of harvesting?
 24 **A. I do.**
 25 **Q.** Thank you, sir.

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1 Now, sir, I want to go to the report that FWC
 2 prepared. So if you would, sir, it's J -- I'm
 3 going to use JX-96, which I believe is Georgia
 4 tab 42.
 5 **A. Okay.**
 6 **Q.** And, sir, I just want to note for the record that
 7 in your prefiled direct testimony when you speak
 8 about the FWC report, you refer to JX-91. I'm
 9 sure you don't remember that, but the lawyers
 10 remember details like that.
 11 MS. WINE: For the Court's information,
 12 that is also a copy of the FWC report; but it
 13 is a copy that does not contain all of the
 14 appendices. JX-96 is the copy of the report
 15 with all of the appendices that were
 16 transmitted to NOAA.
 17 BY MS. WINE:
 18 **Q.** So, sir, if you could just please look at JX-96
 19 and tell me if you recognize this document.
 20 **A. I do.**
 21 **Q.** And what is this, sir?
 22 **A. This is the report produced by FWC that was**
 23 **submitted, as you see, by Nick Wiley to**
 24 **Dr. Crabtree of NOAA.**
 25 **Q.** And, sir, if you would, turn to a couple pages

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1 in, it's about the third page of the document.
 2 Mr. Walton just had the cover on it up on the
 3 screen.
 4 That's a piece of this.
 5 MS. WINE: If you go back to the cover,
 6 Jon. One back, I think.
 7 Thank you.
 8 BY MS. WINE:
 9 Q. That's the cover of FWC's actual report that's
 10 contained in all these materials; is that
 11 correct?
 12 A. **That's correct.**
 13 Q. Okay, sir. And if you could, turn to page 4 of
 14 that report.
 15 A. **Okay.**
 16 Q. I am not going to walk through all of this
 17 because I know the Court will read it; but there
 18 is a very lengthy executive summary, sir. Do you
 19 see it goes on for about, you know, four or five
 20 pages?
 21 A. **Yes, I do.**
 22 Q. And, sir, have you reviewed this executive
 23 summary?
 24 A. **Yes.**
 25 Q. And do you understand that it talks about the
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1 impacts of low flow on Apalachicola Bay and the
 2 oysters in the bay?
 3 A. **Yes.**
 4 Q. And it speaks about the Gulf Coast more globally,
 5 I think; is that true?
 6 A. **That's true.**
 7 Q. Okay. And just remind the Court, what percentage
 8 of the oysters -- of the Florida oysters that are
 9 harvested are harvested from Apalachicola Bay?
 10 A. **The Florida industry is 90 percent.**
 11 Q. Okay. So when we're talking about the Gulf Coast
 12 industry, the vast majority of that is
 13 Apalachicola Bay oysters. Correct?
 14 A. **I would agree with that.**
 15 Q. And, sir, this executive summary talks about the
 16 impact of low flows. It mentions consumptive
 17 use, as Georgia's counsel pointed out. And it
 18 also talks about overfishing. Correct?
 19 A. **That's correct.**
 20 Q. And, sir, do you recall that counsel showed you
 21 some changes from the executive summary from one
 22 of the initial drafts to the final draft?
 23 He put up some comparisons on a chart?
 24 A. **Yes, I do.**
 25 Q. And, sir, is it uncommon in your view for reports
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1 like this to go through multiple drafts?
 2 A. **Absolutely not uncommon. It occurs on virtually
 3 everything that we do.**
 4 Q. And, sir, if you would, turn to page 20, which is
 5 actually towards the end of this memo.
 6 A. **Okay. I'm there.**
 7 Q. Do you see, sir, the first full paragraph that
 8 begins increases in river flows?
 9 A. **I do.**
 10 Q. And if you just look at the first sentence, it
 11 says, increases in river flows and reductions in
 12 upstream consumptions are required for
 13 environmental conditions on the Florida Gulf
 14 Coast to be more favorable for oyster survival.
 15 Do you see that, sir?
 16 A. **I do.**
 17 Q. And is that consistent with your understanding of
 18 FWC's conclusions here?
 19 A. **Yes.**
 20 Q. And, sir, that's not one of the sentences that
 21 Georgia's counsel showed you that changed from
 22 one draft to another; is it?
 23 You can look back at his chart if you want;
 24 but I believe the sentences he showed you were
 25 all from the executive summary, sir.
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1 A. **It's a bit confusing. I apologize, counsel.**
 2 Q. I understand.
 3 A. **Can you say it again so I can verify?**
 4 Q. Yes, sir. And I don't have it in front of me so,
 5 hopefully, I'm right about this. But I don't
 6 believe this sentence on page 20 was one of the
 7 sentences he called out as having changed from
 8 one draft to another. Correct?
 9 A. **I don't recall it being drawn out.**
 10 Q. Okay. Thank you, sir.
 11 If you would, sir, do recall that yesterday
 12 Mr. Echols asked you a lot of questions about
 13 actions that FWC took after the Deepwater Horizon
 14 spill. Do you recall those questions?
 15 A. **I do.**
 16 Q. And, sir, do you recall whether in the FWC
 17 report to NOAA, FWC told NOAA about the actions
 18 it took in response to the Deepwater Horizon
 19 spill?
 20 A. **Yes, it did.**
 21 Q. Okay. And, sir, if you could turn to page 7 of
 22 this report.
 23 A. **Okay.**
 24 Q. You will see right here -- this is just an
 25 example. In the executive summary, if we go to
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1 the third bullet on that page --

2 **A. Yes, I see that.**

3 **Q.** -- it says, Florida's emergency actions in 2010

4 in response to the Deepwater Horizon, DWH, oil

5 spill did not result in increased landings or

6 overharvest.

7 **A. Yes, I see that.**

8 **Q.** And is that consistent with your recollection

9 that NOAA was informed of the management actions

10 that FWC took?

11 **A. It is.**

12 **Q.** And, sir, if you turn to pages 14 and 15 of this

13 memo --

14 **A. Okay.**

15 **Q.** -- sir, on page 14 there is heading that says

16 Modifications to Harvest Related to Deepwater

17 Horizon Oil Spill. Do you see that section of

18 the memo?

19 **A. I do.**

20 **Q.** And, sir, there is a very long paragraph on

21 page 15 that details the chronology after the

22 spill. And I would like to direct your attention

23 to a sentence --

24 MS. WINE: Mr. Walton, it's about midway

25 through.

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1 BY MS. WINE:

2 **Q.** It starts, FWC opened the Apalachicola Bay

3 System. Do you see that?

4 **A. Midway -- a little more to midway, yes, I do.**

5 **Q.** Yes.

6 MS. WINE: Mr. Walton, we might -- we're

7 on -- I'm looking a little bit further down,

8 I believe, to the one that references a

9 May -- May 21, 2010. Do see that time

10 period?

11 Yes, right -- maybe you can help him

12 out. I'm lost on where he is.

13 Right there. See the FWC that starts

14 after the semicolon right at the end of that

15 sentence?

16 Thank you, Mr. Walton.

17 BY MS. WINE:

18 **Q.** So if we look at this sentence, Mr. Sutton, it

19 says, FWC opened the Apalachicola Bay System for

20 harvesting from May 21, 2010, through June 1,

21 2010, a total of 11 extra days.

22 Do you see that?

23 **A. I do.**

24 **Q.** And, sir, do you recall that that's a reference

25 to one of the Executive Orders we looked at

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1 yesterday?

2 **A. Yes.**

3 **Q.** And then, sir, it continues -- we don't have to

4 read all these; but if you could just scan down

5 the next few sentences and let us know what that

6 is conveying to NOAA.

7 **A. What it's conveying to NOAA is the intent of or**

8 **the -- I should say the order and actions that we**

9 **took. And it's conveying that if the fishery**

10 **received modification of any other oyster**

11 **regulations, such requests would not have been**

12 **deemed in the best interests of oyster**

13 **conservation.**

14 **Q.** So it's detailing all of the management actions

15 that were taken after the Deepwater Horizon oil

16 spill?

17 **A. Correct.**

18 **Q.** And, sir, if you would now just turn to page 16

19 of this memo.

20 **A. Okay.**

21 **Q.** Do you recall yesterday you were asked some

22 questions about warnings FWC received via

23 Mr. Berrigan's September 2011 oyster assessment

24 report, warnings about intense harvesting and the

25 bay's perhaps not being able to take the

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1 harvesting pressure through the winter season?

2 **A. I do.**

3 **Q.** And he was asking you questions about why the

4 fishery was still open the next season. Do you

5 recall that?

6 **A. I do.**

7 **Q.** And, sir, if you look at the second -- the first

8 full paragraph on this page that begins after the

9 2010, if we look at the last sentence there it

10 says, oyster harvesting seven days a week during

11 the Apalachicola Bay System summer area, June,

12 July, and August, was implemented in June 1,

13 2012.

14 Do you see that, sir?

15 **A. I do.**

16 **Q.** And what is that a reference to, sir?

17 **A. Current regulations require -- I have to read to**

18 **myself?**

19 **I'm sorry, counsel. Could you repeat the**

20 **question?**

21 **Q.** I'm wondering if you recall offhand what that is

22 a reference to?

23 And if you don't recall offhand, feel free to

24 consult tab 2 in your binder yesterday that we

25 looked at at page 13 of 17. I believe this is

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1 one of the actions that Georgia's counsel
 2 directed you to.
 3 **A. I think this is conveying the executive --**
 4 **referencing the Executive Order.**
 5 **Q.** And, sir, is this the Order where the bay was
 6 opened for the summer season even after FWC
 7 received the warnings in the September 2011
 8 oyster assessment report?
 9 **A. It was implemented June 1, 2012; so that**
 10 **chronologically, yes.**
 11 **Q.** Okay. Thank you, sir.
 12 Now, sir, if you would, please turn to
 13 page -- well, I'm going to call it 50 of this
 14 report. Unfortunately, not all of the pages were
 15 printed with page numbers on them. But some of
 16 them have it, and 49 has a page number on it.
 17 It's a graph.
 18 **A. I see that.**
 19 **Q.** So 50 would be the next page that says tables.
 20 Do you see that, sir?
 21 **A. I do.**
 22 **Q.** I want to make sure the Special Master is with us
 23 as well.
 24 MS. WINE: Sir?
 25 Okay. Thank you.

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1 BY MS. WINE:
 2 **Q.** Sir, do you see that some tables were included
 3 along with this FWC report to NOAA?
 4 **A. Yes.**
 5 **Q.** And, sir, what is the first table indicated as?
 6 **A. Apalachicola Bay oyster harvesting licenses**
 7 **issued 2007 through '12.**
 8 **Q.** And if you look at the very next page, which I
 9 believe should be labeled 51, can you tell me
 10 what that is?
 11 **A. It's a corresponding table showing licenses a**
 12 **year, and the number of licenses sold.**
 13 **Q.** And it has the years 2011, 2012, 2013 on it.
 14 Correct?
 15 **A. Correct.**
 16 **Q.** And this information was conveyed to NOAA.
 17 Correct?
 18 **A. Yes.**
 19 **Q.** And, sir, if you look back at page 50, the
 20 listing of the tables, do you see items 2 through
 21 12?
 22 **A. Yes.**
 23 **Q.** So, sir -- and I believe they all reference
 24 landings data for various parts of the Gulf
 25 Coast. Do you see that, sir?

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1 **A. I do.**
 2 **Q.** Sir, what do you understand is being conveyed to
 3 NOAA via those 11 tables?
 4 **A. We're conveying the amount of harvest via**
 5 **landing, the data that we keep and collect for**
 6 **their information and their assessment.**
 7 **Q.** And you see, sir, it contains landings data for
 8 2008 through 2013?
 9 **A. Yes.**
 10 **Q.** Okay, sir. If you now turn a few pages in this
 11 lengthy exhibit, you will see another Florida
 12 Fish and Wildlife Conservation Commission, like,
 13 heading page. It's at Bates 5265.
 14 **A. I'm there. This supplemental document**
 15 **appendices?**
 16 **Q.** Correct.
 17 MS. WINE: Mr. Walton, are you there?
 18 Can you just put up that page for us,
 19 sir? It ends in 5265.
 20 Thank you.
 21 BY MS. WINE:
 22 **Q.** And, Mr. Sutton, what do you understand this part
 23 of FWC's submission to be?
 24 **A. This is making sure and attaching all of the**
 25 **information that was referenced in the report to**

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1 **NOAA for their consideration and review.**
 2 **Q.** And, sir, if you turn to the next page. It ends
 3 in Bates number 5266.
 4 Do you see it says List of Appendices?
 5 **A. Yes.**
 6 **Q.** And these are the appendices that FWC provided to
 7 NOAA?
 8 **A. Correct.**
 9 **Q.** And, sir, in appendix 1 you will see, again, the
 10 Governor Scott letter with the 2012 oyster
 11 assessment report attached that was provided to
 12 NOAA again.
 13 So I think this is the second time --
 14 **A. Yes.**
 15 **Q.** -- you were recalling?
 16 **A. Yes.**
 17 **Q.** And, sir, are you familiar with what is in
 18 appendix 2?
 19 **A. Yes, I am.**
 20 **Q.** And what is that?
 21 **A. That was another report that was conducted**
 22 **primarily by the University of Florida**
 23 **professors. And so we had reviewed that in**
 24 **developing our determinations and also provided**
 25 **it to NOAA for their consideration.**

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1 Q. And, sir, I believe appendix 2 is found a few
 2 pages in at -- the ending Bates numbers are
 3 41113. It says Oyster Situation Report on the
 4 front cover. Let me know when you're there, sir.
 5 A. **What number did you reference there again?**
 6 Q. It says 41113. It's after appendix 2.
 7 A. **Yes. I'm seeing 5285 is the last four digits.**
 8 Q. I'm sorry. I don't believe that this portion of
 9 the appendices were included in the version of
 10 JX-96 that Georgia's counsel provided to you.
 11 And, instead, it is found at tab --
 12 MS. WINE: It's not here at all?
 13 BY MS. WINE:
 14 Q. All right. They're telling me it's a different
 15 Bates number. I apologize for the confusion.
 16 So you have a page that ends 5285 that looks
 17 like this?
 18 A. **Yes, I do.**
 19 MS. WINE: And, your Honor, I'm sorry
 20 for the confusion. Are you there as well?
 21 The cover is being flashed on the screen.
 22 SPECIAL MASTER LANCASTER: I am.
 23 MS. WINE: Thank you.
 24 BY MS. WINE:
 25 Q. And, sir, you said that this is a report that was
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1 prepared by some professors from the University
 2 of Florida?
 3 A. **Yes. The contributors are on the page that**
 4 **follows.**
 5 Q. Okay. And so if we look at that page, we see
 6 Karl Havens; is that correct?
 7 A. **Correct.**
 8 Q. Who is a name that we have heard in the courtroom
 9 a fair amount so far.
 10 And then Mr. Pine is second to last there.
 11 Do you see that?
 12 A. **I do.**
 13 MS. WINE: And, Jon, we're just at the
 14 next page after the cover.
 15 I think you -- yes.
 16 BY MS. WINE:
 17 Q. And, sir, have you reviewed this University of
 18 Florida oyster situation report?
 19 A. **I have.**
 20 Q. And what do you understand it to be?
 21 A. **It was the -- again, this -- the contributors**
 22 **reviewed the -- the Apalachicola oyster crash;**
 23 **but also they reviewed some of the -- a number of**
 24 **different documents and worked as stakeholders**
 25 **and essentially developed some models to look at,**
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1 **some of their assumptions, and then essentially**
 2 **convey some -- some findings, their findings, and**
 3 **some recommendations for what appears to be**
 4 **probably future research.**
 5 Q. And do you recall what their findings were?
 6 A. **Well, they aren't -- they are detailed on page 4.**
 7 **But it essentially concurs with the FWC report of**
 8 **discharge levels and flows and predation and a**
 9 **number of the same things that I won't repeat.**
 10 **But it's consistent with prior testimony.**
 11 Q. And, sir, just -- not to belabor it, we haven't
 12 looked at this document, but under findings on
 13 that page, the second paragraph that begins water
 14 quality data?
 15 A. **Yes.**
 16 Q. That says water quality data indicate that 2012
 17 was a year of high salinity at all monitoring
 18 stations in the bay likely caused by low river
 19 flows and limited local rainfall in most months.
 20 Do you see that, sir?
 21 A. **I do.**
 22 Q. And then it goes on to say, skipping a paragraph,
 23 the 2012 decline in oyster landings and
 24 recruitment of juvenile oysters is unprecedented
 25 during the period of data analyzed and has likely
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1 involved recruitment failure or high mortality of
 2 small oysters. Do you see that, sir?
 3 A. **I do.**
 4 Q. And, sir, I think you also said that this article
 5 does indicate that additional research might be
 6 needed; is that correct?
 7 A. **Yes. I recall that.**
 8 Q. And that was the conclusion of these authors?
 9 A. **Yes.**
 10 Q. And this is a report that FWC provided to NOAA in
 11 the package of information for NOAA to consider?
 12 A. **Correct.**
 13 Q. Now, sir, while we are on this document, I just
 14 wanted to pause on a related topic. If you could
 15 turn to -- I think I have different page numbers
 16 than you, so there's a section that is titled
 17 Fisheries-Dependent Data Summary. And what
 18 follows are some graphs on Apalachicola Bay
 19 landings and license holders.
 20 MS. WINE: And, hopefully, Mr. Walton
 21 can find where I am and help us all get
 22 there.
 23 A. **Is that within the University of Florida**
 24 **document?**
 25 Q. It is, sir.
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1 MS. WINE: I have different Bates
 2 numbers, I think, so -- Jon, can you search
 3 for the heading Fisheries-Dependent Data
 4 Summary.
 5 Okay. So I'm being told that in the
 6 version that you all have, it starts at Bates
 7 ending 5294.
 8 Yes. Thank you, Jon.
 9 **A. Okay.**
 10 **Q.** And then it continues on page -- on the following
 11 page; and there are some graphs. Do you see
 12 that?
 13 **A. I do.**
 14 **Q.** Now, sir, do you see that first draft that says
 15 annual reported AB landings in pounds?
 16 **A. I do.**
 17 **Q.** And AB is defined above as Apalachicola Bay?
 18 **A. Correct.**
 19 **Q.** And, sir, do you also recall the chart that
 20 Georgia's counsel gave to you of landings?
 21 It's a chart that says -- it's No. 2 of all
 22 the handouts that he gave you.
 23 **A. I do.**
 24 **Q.** And, sir, do you see that counsel started their
 25 chart in 1988?

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1 **A. I do.**
 2 **Q.** Sir, do you recall what the landings were just
 3 prior to 1988?
 4 **A. If I refer to this graph and the oyster situation**
 5 **from the University of Florida.**
 6 **Q.** And I know that graph is hard to read, but what
 7 does that graph tell you when you look at that?
 8 **A. In 1986, I believe, certainly prior to '88, the**
 9 **landings were -- looks to be close to -- close to**
 10 **3 million.**
 11 **Q.** And, sir, if you -- actually, do you have -- I
 12 just don't remember if this was provided to you.
 13 Do you have Exhibit GX-1248, which was the backup
 14 data to the chart that counsel prepared?
 15 I don't think you do, so let me just hand it
 16 out.
 17 **A. I don't think so.**
 18 MS. WINE: Your Honor, may we approach?
 19 **A. Thank you.**
 20 **Q.** Sir, what I have handed you is Exhibit GX-1248.
 21 It's a Georgia exhibit that contains the landings
 22 data from 1980 to 2016. Do you see that, sir?
 23 **A. I do.**
 24 **Q.** And if you look at the chart they provided you on
 25 page 2, they actually cite it as a source at the

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1 bottom of that chart. Do you see that?
 2 Do you see the reference to GX-1248 in their
 3 sources on the bottom of that page 2 chart?
 4 **A. I do.**
 5 **Q.** And, sir, if you could turn three pages in on
 6 Exhibit GX-1248 --
 7 **A. Okay.**
 8 **Q.** -- a few lines down you will see for the year
 9 1987, do you see it says Franklin?
 10 **A. I do.**
 11 **Q.** And that's Franklin County?
 12 **A. That's correct.**
 13 **Q.** Is that where Apalachicola Bay is?
 14 **A. Primarily, yes.**
 15 **Q.** And do you see the number for the landings that
 16 are reported there in pounds, which if you look
 17 at the front, that's the first number of columns
 18 there?
 19 **A. Yes, I do.**
 20 **Q.** And what does that say?
 21 **A. 2,781,224.**
 22 **Q.** And that's consistent with what you see right
 23 there in the University of Florida situation
 24 report. Correct?
 25 **A. Yes.**

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1 **Q.** And, sir, I am not at all a good artist; but we
 2 took the liberty of just drawing that bar in for
 3 1987 so we could see what it looked like if
 4 counsel just started it one year prior.
 5 MS. WINE: Jon, if you could put that
 6 up.
 7 **A. Thank you.**
 8 **Q.** Sir, is the line that I not very ably drew
 9 consistent with the number that you just looked
 10 at in GX-1248?
 11 **A. It is.**
 12 **Q.** Okay. Thank you, sir.
 13 Sir, we talked about the Congressional
 14 testimony that occurred in connection with the
 15 request for disaster declaration here. And is it
 16 your understanding that other people besides
 17 Ms. Menashes testified at that hearing?
 18 **A. That's my understanding.**
 19 **Q.** Okay, sir.
 20 MS. WINE: If I could approach again,
 21 your Honor.
 22 **A. Thank you.**
 23 **Q.** Sir, I have handed you Exhibit FX-485. This is
 24 the Congressional testimony of Mr. Karl Havens.
 25 Do you see that?

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1 **A. I do.**
 2 **Q.** And, again, Mr. Havens was the -- is one of the
 3 authors of the University of Florida situation
 4 report?
 5 **A. He's the first listed.**
 6 **Q.** And does that have significance to you that he's
 7 the first listed author?
 8 **A. Traditionally, in academic publications, the**
 9 **first author is generally the prime author or**
 10 **responsible author.**
 11 **Q.** And, sir, you were also shown a number of e-mails
 12 over the course of the last few days where
 13 Mr. Havens was e-mailing with other University of
 14 Florida professors such as Mr. Pine. Is that
 15 correct?
 16 **A. Correct.**
 17 **Q.** And, sir, have you had a chance to review this
 18 testimony of Mr. Havens before Congress in
 19 connection with the disaster declaration request?
 20 **A. I have.**
 21 **Q.** And if you could, sir, I direct your attention
 22 just to the second paragraph there on the first
 23 page where he says he's there to provide
 24 information about water flow in the Apalachicola
 25 River and the health of the Apalachicola Bay

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1 ecosystem. Do you see that?
 2 It's right there in the second paragraph
 3 after Senator Rubio and Nelson?
 4 **A. Yes. Yes. I see that.**
 5 **Q.** Thank you, sir.
 6 And then he goes on at the end of that page
 7 to talk about the droughts that have occurred in
 8 2011 and 2012. Do you see that, sir?
 9 **A. I do.**
 10 **Q.** And he goes on in the next page, there is a
 11 heading titled, Now I will discuss impacts the
 12 recent low river flow on the bay. Do you see
 13 that, sir?
 14 **A. I do.**
 15 **Q.** And, sir, if we can read that first paragraph, he
 16 testifies, when river enters into the bay, it
 17 dilutes the salt content to a lower level than
 18 occurs in the open waters of the Gulf of Mexico.
 19 Oysters in the bay thrive, and grow in large
 20 colonies called bars. Certain other animals,
 21 including crabs, conchs, clams, worms, and
 22 sponges, which eat or damage oysters, are kept at
 23 lower levels when there is good river flow. When
 24 river flow is greatly reduced, conditions in the
 25 bay become favorable to these things that eat and

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1 parasitize oysters, and oysters are harmed.
 2 Do you see that, sir?
 3 **A. I do.**
 4 **Q.** And, sir, is that consistent with the conclusions
 5 of FWC?
 6 **A. Yes, it is.**
 7 **Q.** And is that consistent with the conclusions of
 8 NOAA in declaring a disaster declaration?
 9 **A. Yes, it is.**
 10 **Q.** And, sir, if we skip the next paragraph and go on
 11 to the bottom paragraph on the page, he says,
 12 when the river flows were low, salinities
 13 increased to levels similar to those found in the
 14 Gulf, and both predators and parasites of oysters
 15 were abundant. Oysters were heavily infested
 16 with boring clams, sponges, and worms. And they
 17 had a high level of internal parasites. What
 18 previously had been a place for oysters to thrive
 19 became a place for them to die.
 20 Do you see that, sir?
 21 **A. I do.**
 22 **Q.** And is that consistent with the conclusions that
 23 FWC reached?
 24 **A. Yes, it is.**
 25 **Q.** And is that conclusion -- that consistent with

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1 the conclusions that NOAA reached?
 2 **A. It is.**
 3 **Q.** Now, sir, let's go on to read the next paragraph.
 4 MR. ECHOLS: Your Honor, objection.
 5 She's just reading another witness's
 6 testimony to him and asking if he can see it
 7 and understand it. I think the Court can
 8 read this as well for itself, and it's not
 9 really proper direct testimony.
 10 SPECIAL MASTER LANCASTER: Counsel, why
 11 don't you suggest that he read it and then
 12 ask your question.
 13 MS. WINE: Sure thing, your Honor.
 14 And this will be the last paragraph.
 15 BY MS. WINE:
 16 **Q.** Sir, if you could just read the paragraph that
 17 says, the data we examined, and read through to
 18 the end of that paragraph.
 19 SPECIAL MASTER LANCASTER: To himself.
 20 BY MS. WINE:
 21 **Q.** To yourself.
 22 MS. WINE: Thank you, your Honor.
 23 **A. Okay.**
 24 **Q.** Sir, is that paragraph consistent with the
 25 conclusions of FWC?

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1 **A. It is.**
 2 **Q.** And in what way, sir?
 3 **A. In the -- the prime reasons for the crash and**
 4 **loss of oysters was related to high salinity, low**
 5 **river inflow, and predators and disease.**
 6 **Q.** And, sir, is it your understanding that that's
 7 consistent with the conclusion that NOAA reached
 8 as well?
 9 **A. It is.**
 10 MS. WINE: Your Honor, I'm about to move
 11 to another topic. I don't have very much
 12 left in my examination; but if this would be
 13 a good time for a lunch break, I could make
 14 sure that my last few questions are as
 15 efficient and quick as we can make them.
 16 SPECIAL MASTER LANCASTER: We'll take a
 17 break.
 18 MS. WINE: Thank you, your Honor.
 19 (Time Noted: 11:44 a.m.)
 20 (Recess Called)
 21 (Time Noted: 12:52 p.m.)
 22 SPECIAL MASTER LANCASTER: Proceed,
 23 counsel.
 24 BY MS. WINE:
 25 **Q.** Good afternoon, Mr. Sutton. I just have a few
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1 more questions.
 2 Mr. Sutton, after the oyster collapse in
 3 2012, what has been the focus of FWC management
 4 efforts?
 5 **A. Largely recovery and enforcing and putting forth**
 6 **regulatory options to try and recover population.**
 7 **Q.** And I believe you testified yesterday that there
 8 were two goals to FWC's efforts in this regard.
 9 One you said was progressive management to allow
 10 recovery, and the second was to equally
 11 distribute oyster resources among harvesters. Do
 12 you recall that?
 13 **A. I do recall.**
 14 **Q.** And, sir, what are some of the things FWC has
 15 done post the crash either to assist in the
 16 recovery or facilitate the allocation of oyster
 17 resources among the harvesters?
 18 **A. I think the progression of the Executive Order**
 19 **lays out the regulatory approach. And I believe**
 20 **I testified that part of the beauty of the**
 21 **Executive Order is it allows you to react and**
 22 **respond and -- depending on the data. So we have**
 23 **been responsive in that regard.**
 24 **And if you looked at the beginning of -- as**
 25 **in my testimony, the beginning of the harvest and**
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1 **the bag limits, and we're down now to three, from**
 2 **20 to three, which is a serious reduction. And**
 3 **part of that calculation is to make sure that the**
 4 **fishermen out there are still able to at least**
 5 **maintain some sort of viability with equal**
 6 **distribution. So some of that calculation is**
 7 **based on that, which is typical in fisheries**
 8 **management.**
 9 **Q.** We saw in the Executive Order yesterday there was
 10 also some limits to harvesting days. Do you
 11 recall that?
 12 **A. Yes.**
 13 **Q.** Is that part of the recovery goals?
 14 **A. That's correct.**
 15 **Q.** And check stations as well?
 16 **A. They are invoked at times, yes.**
 17 **Q.** And we also talked about reshelling today.
 18 Correct?
 19 **A. Correct.**
 20 **Q.** And you were asked yesterday some questions about
 21 whether certain reefs in the bay were closed in
 22 order to assist recovery. Do you remember being
 23 asked those questions yesterday?
 24 **A. I do.**
 25 **Q.** Okay. And do you recall, first -- we don't
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1 necessarily need to turn to it; but, first, you
 2 were shown an e-mail from Bill Pine to Nick Wiley
 3 where Bill Pine was suggesting why don't we close
 4 some of these reefs that were in recovery. Do
 5 you recall that e-mail?
 6 **A. I do.**
 7 MS. WINE: That was GX-589 just for the
 8 record.
 9 BY MS. WINE:
 10 **Q.** And then, if you would, sir, this is not in
 11 either binder; it's one of the loose documents
 12 you were given, GX-734. Can you find that, sir?
 13 **A. I will.**
 14 **Q.** It says GX-734 in the upper right corner; and
 15 it's a May 19, 2014, letter.
 16 **A. I'm having difficulty finding that right now.**
 17 MS. WINE: Do we happen to have another
 18 one marked?
 19 Counsel, do you have -- this is one that
 20 you handed out. Do you have another copy?
 21 BY MS. WINE:
 22 **Q.** Well, sir, I'll just --
 23 MS. WINE: If the Court doesn't mind,
 24 we're pulling it up.
 25 Does the Court have it, or is it okay
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1 that we're pulling it up on the screen?

2 SPECIAL MASTER LANCASTER: On the screen

3 is fine.

4 MS. WINE: Okay. Let's just not delay.

5 We don't need to find the hard copy.

6 BY MS. WINE:

7 **Q.** Now, sir, do you recall you were shown this

8 document?

9 MS. WINE: If you will scroll down to

10 the bottom, Mr. Walton.

11 BY MS. WINE:

12 **Q.** It's from Tommy Ward and Shannon Hartsfield. Do

13 you know who those two gentlemen are?

14 **A. I'm familiar with their names.**

15 **Q.** And do you understand what their roles are here

16 as it relates to the oyster industry?

17 **A. Yes. They're communicating to Mr. Estes some**

18 **options and ideas on harvesting.**

19 **Q.** And one that you will see in that middle caret,

20 if you will, it says close East Hole to summer

21 harvesting. Remain open for winter harvesting

22 season only. Do you see that, sir?

23 **A. I do.**

24 **Q.** And, sir, counsel then suggested in his

25 questioning that you ignored the requests of

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1 these oystermen and did not act on that. Do you

2 recall that testimony yesterday?

3 **A. I do.**

4 **Q.** Okay. And, sir, if you would, please turn to

5 tab 10 in the binder that they gave you

6 yesterday.

7 **A. Okay.**

8 **Q.** Tab 10 is JX-111. It's actually one of the

9 Executive Orders that they showed you, but we

10 didn't cover this part. Could you read this

11 Executive Order, sir, and tell us what it says

12 about East Hole.

13 **A. The -- I assume you don't want me to read it out**

14 **loud?**

15 **Q.** I don't want you to read it out loud. I just

16 want you to tell us if it gives any indication

17 with regard to actions taken with regards to East

18 Hole.

19 **A. Okay.**

20 **Q.** And what do you see, sir?

21 **A. That beginning on June 1 and continuing through**

22 **August 31 of 2014, the area commonly known as**

23 **East Hole in Apalachicola Bay System is hereby**

24 **prohibited.**

25 **Q.** So East Hole was closed to harvesting as

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1 requested by Mr. Ward and Mr. Hartsfield.

2 Correct?

3 **A. That's correct.**

4 **Q.** And if you look, sir, Mr. Ward and Mr. Hartsfield

5 also request two other things in those other

6 carets, an eight-bag limit for commercial

7 harvesters and a reduction of the recreational

8 harvesting.

9 Sir, could you look at JX-111 and tell us if

10 that Executive Order addresses either of those

11 two requests?

12 **A. It does address those.**

13 **Q.** And in what way does it address those?

14 **A. The -- under numeral 3 is that limits commercial**

15 **harvesting to no more than eight bags; and then**

16 **No. 4 references a recreational harvester, no**

17 **more than 5 gallons of oysters.**

18 **Q.** Thank you, sir. Now, just briefly, if you could

19 turn back to tab 2 in that binder, which is

20 GX-1304. Counsel had directed you yesterday to

21 page 13 of 17. I would like to direct you to

22 page 14 of 17. And, sir, just circling back to

23 East Hole now, do you see on that page a

24 reference to the same Executive Order that we

25 just looked at in JX-111 regarding the closure of

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1 East Hole?

2 **A. What's the tab again, just to make sure?**

3 **Q.** I'm sorry. Tab 2.

4 **A. I'm in tab 2.**

5 **Q.** And page 14 of 17, sir.

6 **A. Okay.**

7 **Q.** And I think at the top, if I'm correct, the

8 second one will be the Executive Order that we

9 just looked at.

10 **A. Yes, ma'am. I'm there.**

11 **Q.** And, sir, just briefly, again -- please don't

12 read it all; but if you could just scan the rest

13 of that page and going on to page 15, could you

14 please tell us, sir, whether there was additional

15 management action with regard to East Hole over

16 some period of time thereafter?

17 **A. Working down on the winter season in 14, East**

18 **Hole was closed in order 1418 -- 14-18. Again,**

19 **in 15-14 closing commercial and recreational on**

20 **East Hole. Order 15-18, same, prohibits**

21 **commercial recreational harvesting of oysters in**

22 **East Hole. The Order that follows also**

23 **references closing commercial and recreational on**

24 **East Hole; that's Executive Order 15-22.**

25 **Q.** Sir, I believe that might cover it; but please

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1 scan it.

2 **A. Yes. I don't see it in the Orders that follow.**

3 **Q.** And just so the record is entirely clear, on

4 Order 15-18, which is the second to last one you

5 mentioned, I believe it says East Hole is closed

6 except Mondays. So for that one period of time

7 there was very limited harvesting allowed on East

8 Hole, correct, on Mondays?

9 **A. That's correct.**

10 **Q.** Okay. But, otherwise, it was closed during that

11 period?

12 **A. Correct.**

13 **Q.** Okay. Sir, why in your view hasn't the bay

14 recovered despite the restoration efforts that

15 FWC has undertaken since the crash?

16 **A. Well, as I have stated in my testimony, it's the**

17 **environmental conditions. It's the water**

18 **regime -- the salinity. Without that proper**

19 **balance, it's -- restoration can't happen.**

20 **Q.** Okay. Thank you, sir.

21 MS. WINE: I have no further questions.

22 SPECIAL MASTER LANCASTER: Recross?

23 RECCROSS-EXAMINATION

24 BY MR. ECHOLS:

25 **Q.** Mr. Sutton, if I mixed up the dates, I apologize.

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1 But I have got on the screen right now the

2 exhibit where we tried to track all of the Orders

3 that were entered. And I thought that I had run

4 through all of them with you, and maybe there was

5 some confusion on my part. But I do have listed

6 here -- it says May-June 1, 2014, an Executive

7 Order that was entered at that time. And to the

8 extent that I didn't identify it as East Hole as

9 part of that Order or connected to the Tommy Ward

10 letter, then, you know, please accept my

11 apologies.

12 I want to go to, first -- if we can go back

13 to my landings chart where we have the official

14 state data of all the oysters harvested from 1988

15 through 2015. Now, do you recall, sir, when

16 Ms. Wine -- Ms. Wine had one, which I don't have

17 a copy of, where she drew in a bar that showed

18 2.7 million pounds harvested in 1987. I don't

19 know if you have the one that she wrote on?

20 **A. I do.**

21 **Q.** Okay. Now, just to be clear, first off, the 2.87

22 million, that's still less than was harvested in

23 2012 of 3 million pounds there. Right?

24 **A. Yes. It's -- since you don't have this, it's**

25 **2.78 on her drawing. But --**

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1 **Q.** Okay. 2.78?

2 **A. Correct.**

3 **Q.** Okay. So then it's also still less than what was

4 harvested in 2011. Right?

5 **A. Yeah.**

6 **Q.** Do you notice in 1988 the amount harvested is

7 significantly lower, about 1.25 million?

8 **A. I do.**

9 **Q.** And do you have any idea why that happened?

10 **A. I'm not familiar with all of the variables that**

11 **resulted in that.**

12 **Q.** I take it you're not aware then that after

13 Hurricane Elena when there was this massive

14 recovery effort put in place with massive

15 reshelling and the like, that when they first

16 opened the bay back up to harvesting, they were

17 concerned that too many oysters were being

18 harvested in 1987, and that that was what

19 sparked FWC to institute a licensing requirement,

20 a check station requirement, and a seasons

21 requirement. You don't -- you were not aware of

22 that?

23 **A. I recall reading that after Elena with the check**

24 **stations, yes.**

25 **Q.** And, in fact, Mr. Berrigan wrote an entire

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1 article -- two articles about it because he

2 studied it because there was a concern that the

3 population was going to crash after it had

4 recovered from too much harvesting. And so FWC

5 put in place all of these limitations in order to

6 protect the resource so that it wouldn't

7 collapse. That generally accords with your

8 recollection?

9 **A. I would certainly defer to Mr. Berrigan's**

10 **recollection.**

11 **Q.** All right. Now, if we could go to the FWC

12 report, which is which tab?

13 It's the JX-96. The final report, JX-96

14 behind tab 42 in your binder.

15 **A. Okay.**

16 **Q.** And Ms. Wine referred you to page 52 in the

17 appendices, which is the table listing the annual

18 landings of pounds of oyster meat. I don't know

19 if you can flip back to find that.

20 **A. That was the one that wasn't numbered.**

21 **Q.** No. Actually, this one is numbered. It has a 52

22 on the bottom of it.

23 **A. I'm there, yes.**

24 **Q.** And do you see, sir, that the pounds that are

25 listed here for 2012 of what was harvested,

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1 what's included in the report that went to the
 2 federal government for 2012, it says 2.77 million
 3 pounds. Right?
 4 **A. I see that.**
 5 **Q.** And there's an asterisk by that, too. And the
 6 asterisk says, this is preliminary data, data run
 7 April 2013. Right?
 8 **A. It is.**
 9 **Q.** And, yet, we're in August 2013 when this is being
 10 submitted to the federal government. Yet, we
 11 have got data run only through April 2013. This
 12 says 2.77.
 13 MR. ECHOLS: Can you put back up my
 14 landings chart, please.
 15 BY MR. ECHOLS:
 16 **Q.** When you had the final data, it was more than
 17 2.77 million. It's over 3 million. Right?
 18 **A. Correct.**
 19 **Q.** So in the table attached to the official
 20 submission to the federal government, it looked
 21 like there was less harvested in 2012 than in
 22 2011 when in actuality there was more. Correct?
 23 **A. When you compare your chart to that table, that's**
 24 **correct.**
 25 **Q.** Yes. That chart being the official FWC landings
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1 data. Right?
 2 **A. Yes, I believe it references that. Correct.**
 3 **Q.** Also in the FWC report in that same tab, if I
 4 could refer you please to page 7 of the report
 5 itself.
 6 **A. Okay.**
 7 **Q.** And Ms. Wine referred you to that bullet in the
 8 middle saying that there was no increase in
 9 landings or overharvest due to the Deepwater
 10 spill Horizon actions. Do you recall that
 11 testimony?
 12 Right in the middle, Florida's emergency
 13 actions.
 14 **A. Yes, I recall.**
 15 **Q.** All right. Now, there is not a single
 16 contemporaneous document describing what took
 17 place in 2011 and 2012 that is consistent with
 18 this statement from everything that we have seen
 19 through this day and a half of your testimony.
 20 Isn't that correct?
 21 **A. I don't know that that's correct.**
 22 **Q.** Well, what we do know is that in the official
 23 state documents in 2011 and in 2012, it said
 24 again and again and again that the management
 25 actions which opened up the bay resulted in
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1 increased landings and overharvest. That you
 2 would agree with me; would you not?
 3 **A. There are some statements in numerous reports, et**
 4 **cetera, that claim that.**
 5 **Q.** And these were the contemporaneous official state
 6 reports?
 7 **A. They were reports that we referenced as part of**
 8 **our overall report that we submitted to NOAA;**
 9 **correct.**
 10 MR. ECHOLS: And we can take that down.
 11 BY MR. ECHOLS:
 12 **Q.** We had changes that we put the comparison charts
 13 up between the July draft and the August draft
 14 where in multiple locations all of a sudden it
 15 was inserted that the cause of the collapse was
 16 increased consumption by Georgia. Do you recall
 17 those demonstratives?
 18 **A. I do.**
 19 **Q.** And it's correct, is it not, that FWC does not
 20 even have a hydrologist on its staff. Right?
 21 **A. I don't know that we don't have a hydrologist.**
 22 **We have a number of scientists. I'm sure there**
 23 **are some that have that expertise.**
 24 **Q.** Okay. I'm not going to go back to Mr. Heil's
 25 testimony, who is not here and whom I deposed and
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1 who was involved in this. But there was no
 2 hydrologic analysis between July -- mid-July and
 3 August when the submission went to the federal
 4 government to say that it was upstream
 5 consumption by Georgia that caused the collapse
 6 as opposed to what was in the draft before it got
 7 revised. Right?
 8 **A. I don't know that to be the case.**
 9 **Q.** Let's go back to the FWC report please, page 20.
 10 Because I referenced it a couple of times, I
 11 wanted to make sure, if you wouldn't mind reading
 12 to yourself the paragraph that Ms. Wine read you
 13 just the first part of, the increases in river
 14 flows. Please read that to yourself.
 15 **A. Okay.**
 16 **Q.** Does that refresh your recollection that, indeed,
 17 environmental conditions got better and were
 18 favorable in 2013?
 19 **A. It -- based upon the assumption that it continues**
 20 **to hit the historical levels and that the number**
 21 **of low river flow days in future years remains**
 22 **high or increases. That's how I read that.**
 23 **Q.** Okay. We got rain in 2013. Right?
 24 **A. Yes. Again, I -- I think I have testified I --**
 25 **I'm not here for meteorological assessments. I**
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1 **would defer that to others that may be called in**
 2 **this case.**
 3 **Q.** I'm just pulling this out of the official FWC
 4 report. Your FWC --
 5 **A. Correct. Yes.**
 6 **Q.** If you would look, please -- you were talking
 7 about the reshelling activity. The last document
 8 I will ask you to take a look at, tab 30 in your
 9 first binder.
 10 **A. Okay.**
 11 **Q.** And you will see this is for the record GX-1312,
 12 memo Jim Estes to Nick Wiley. Look on page 2,
 13 please. And if you would read to yourself the
 14 last paragraph.
 15 **A. Okay.**
 16 **Q.** And it is consistent with your understanding and
 17 your recollection, is it not, that when shelling
 18 is done, there can be favorable results. And, in
 19 fact, FWC is noting that it was getting favorable
 20 results from the shelling that had been done.
 21 **A. Mr. Estes here, he notes there appears to be good**
 22 **recruitment on East Hole.**
 23 **Q.** And here we are in May 2015, just last year,
 24 where -- after we had a little bit of shelling in
 25 2014 and 2015 by FWC. Correct?
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1 **A. Correct.**
 2 **Q.** But we had almost no shelling in the three years
 3 before the collapse and very little shelling in
 4 the 10 years before that. Right?
 5 **A. Yes. I believe we have addressed that testimony.**
 6 **Q.** Okay. Last thing, Mr. Sutton. Ms. Wine put in
 7 front of you FX-485, which was testimony by
 8 Dr. Karl Havens. And, first off, just to make
 9 sure that the record is clear, when Ms. Wine gave
 10 you this document, she said it was Mr. Havens's
 11 testimony before NOAA. And it's not that at all.
 12 If you take a look, this is a Congressional
 13 hearing.
 14 MS. WINE: If I misspoke, I meant to say
 15 it was Congressional testimony, the same
 16 hearing that Ms. Menashes testified at. It
 17 was a Congressional hearing.
 18 BY MR. ECHOLS:
 19 **Q.** Do you have that, sir?
 20 **A. I have it.**
 21 **Q.** Okay. And you said and recited to us -- and I
 22 take it you were there at this Congressional
 23 testimony? You witnessed this?
 24 **A. No, I did not.**
 25 **Q.** You talked to Dr. Havens; you asked him to
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1 explain his position?
 2 **A. I did not.**
 3 **Q.** And since you were asked to review -- but you
 4 credit Dr. Havens as knowing what he's talking
 5 about when it comes to assessing the oyster
 6 population and oyster recovery and the impact of
 7 flows on oysters. You do?
 8 **A. I -- he certainly has some expertise.**
 9 **Q.** And I take it because Ms. Wine gave you this
 10 testimony from way back in 2013, she also let
 11 you know that Dr. Havens has provided sworn
 12 testimony in this case within the last year.
 13 Right?
 14 **A. I'm aware that he -- I think he's been deposed.**
 15 **Q.** Yes. So I take it you read his testimony, too?
 16 **A. I recall reviewing some of his testimony, but**
 17 **it's been some time.**
 18 **Q.** So you do then recall, I take it, that in his
 19 sworn testimony in this case, since you reviewed
 20 it, that he testified that he was never able to
 21 establish any cause and effect relationship
 22 between drought and low river flows on the one
 23 hand and oyster mortality on the other. Do you
 24 recall that?
 25 MS. WINE: I just want to note, again, I
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1 think it's proper procedure for Mr. Echols to
 2 give the witness a portion of the testimony
 3 that he's reading from.
 4 MR. ECHOLS: Judge, she put testimony
 5 from Mr. Havens in front of him that he had
 6 never seen before from a hearing he was never
 7 at, and I have to be up here on redirect. I
 8 can have him read my copy, if you like,
 9 judge.
 10 SPECIAL MASTER LANCASTER: You're on
 11 recross.
 12 MR. ECHOLS: I'm sorry. I'm on recross,
 13 yes.
 14 SPECIAL MASTER LANCASTER: You may
 15 proceed.
 16 BY MR. ECHOLS:
 17 **Q.** Okay. The -- and then finally, sir, I take it --
 18 and your having reviewed Dr. Havens's testimony,
 19 you are also aware that he, in his sworn
 20 testimony, said that he has never concluded
 21 definitively that overfishing didn't cause the
 22 collapse. Do you recollect that?
 23 **A. Are you referencing his deposition?**
 24 **Q.** Yes, sir.
 25 **A. If it's in the deposition, I defer to that as the**
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| | |
|---|--|
| <p>1500</p> <p>1 court record for what it states. I can't claim</p> <p>2 to recall every portion of that.</p> <p>3 Q. Fair enough. I just want you to confirm -- and</p> <p>4 I'll be done -- that I properly and correctly</p> <p>5 characterized his testimony in those two</p> <p>6 highlighted portions.</p> <p>7 A. You have characterized it here in deposition.</p> <p>8 Q. That's what he said; what I read is what he said.</p> <p>9 Right?</p> <p>10 A. Those portions that you referenced.</p> <p>11 Q. Yes. Okay.</p> <p>12 MR. ECHOLS: I have no further</p> <p>13 questions.</p> <p>14 MS. WINE: I have nothing further, your</p> <p>15 Honor.</p> <p>16 SPECIAL MASTER LANCASTER: Mr. Sutton,</p> <p>17 you will have to bear with me because I'm not</p> <p>18 sure I know what I'm talking about. But the</p> <p>19 FWC did impose harvesting restrictions after</p> <p>20 August 2012; is that correct?</p> <p>21 THE WITNESS: Yes. A series of times,</p> <p>22 sir.</p> <p>23 SPECIAL MASTER LANCASTER: And why did</p> <p>24 you do that?</p> <p>25 THE WITNESS: Because after the crash</p> <p style="text-align: center;">THE REPORTING GROUP Mason & Lockhart</p> | <p>1502</p> <p>1 today, sir. I apologize. We certainly can,</p> <p>2 if it's proper format, provide it to the</p> <p>3 Court at some point.</p> <p>4 SPECIAL MASTER LANCASTER: One final</p> <p>5 question. Did the lack of reshelling in</p> <p>6 2005, 2006, 2007 affect the oyster</p> <p>7 population?</p> <p>8 THE WITNESS: I don't believe so, sir.</p> <p>9 SPECIAL MASTER LANCASTER: That's all I</p> <p>10 have.</p> <p>11 MR. ECHOLS: No questions, your Honor.</p> <p>12 MS. WINE: Nothing further, your Honor.</p> <p>13 SPECIAL MASTER LANCASTER: Thank you.</p> <p>14 THE WITNESS: Thank you, your Honor.</p> <p>15 MR. QURESHI: Good afternoon, your</p> <p>16 Honor.</p> <p>17 SPECIAL MASTER LANCASTER: Good</p> <p>18 afternoon.</p> <p>19 MR. QURESHI: The State of Florida would</p> <p>20 like to introduce Dr. David L. Kimbro.</p> <p>21 Dr. Kimbro is an experimental ecologist with</p> <p>22 the Department of Marine and Environmental</p> <p>23 Sciences at Northeastern University.</p> <p>24 THE CLERK: Please raise your right</p> <p>25 hand.</p> <p style="text-align: center;">THE REPORTING GROUP Mason & Lockhart</p> |
| <p>1501</p> <p>1 when the oysters were greatly reduced, we</p> <p>2 used restrictions in a large part to make it</p> <p>3 equitable among the fishing community for</p> <p>4 what crop was out there. Does that make</p> <p>5 sense, sir?</p> <p>6 SPECIAL MASTER LANCASTER: Now, I</p> <p>7 thought you testified that it might not have</p> <p>8 been helpful to limit harvesting prior to</p> <p>9 August 2012 because the system or the oysters</p> <p>10 might have died anyway. Am I correct?</p> <p>11 THE WITNESS: Yes. It's -- when you</p> <p>12 look -- I think the best way I could</p> <p>13 characterize it, your Honor, is if you look</p> <p>14 over the period of a long time and we're</p> <p>15 utilizing kind of the same regulatory</p> <p>16 management approach, we saw, you know, when</p> <p>17 it's harvestable, folks are able to harvest</p> <p>18 it. And then once we saw the crash, we</p> <p>19 started invoking more serious restrictions on</p> <p>20 it.</p> <p>21 SPECIAL MASTER LANCASTER: What's the</p> <p>22 status of the oyster population in Pensacola</p> <p>23 Bay?</p> <p>24 THE WITNESS: I -- I'm not sure I know</p> <p>25 what the exact status is sitting up here</p> <p style="text-align: center;">THE REPORTING GROUP Mason & Lockhart</p> | <p>1503</p> <p>1 Do you solemnly swear that the testimony</p> <p>2 you shall give in the cause now in hearing</p> <p>3 shall be the truth, the whole truth, and</p> <p>4 nothing but the truth, so help you God?</p> <p>5 THE WITNESS: I do.</p> <p>6 THE CLERK: Can you be seated.</p> <p>7 Just pull yourself up to the microphone</p> <p>8 state your full name and spell your name for</p> <p>9 the record please.</p> <p>10 THE WITNESS: My name is David Lloyd</p> <p>11 Kimbro, D A V I D, L L O Y D, K I M B R O.</p> <p>12 MR. QURESHI: Your Honor, with your</p> <p>13 permission, I would like to provide</p> <p>14 Dr. Kimbro with a copy of the prefiled</p> <p>15 direct.</p> <p>16 SPECIAL MASTER LANCASTER: Sure.</p> <p>17 DIRECT EXAMINATION</p> <p>18 BY MR. QURESHI:</p> <p>19 Q. Dr. Kimbro, do you recognize this as the</p> <p>20 testimony you submitted in this matter?</p> <p>21 A. Yes.</p> <p>22 Q. And do you adopt it in its sum and substance?</p> <p>23 A. Yes.</p> <p>24 Q. Thank you.</p> <p>25 MR. ECHOLS: Your Honor, I have a binder</p> <p style="text-align: center;">THE REPORTING GROUP Mason & Lockhart</p> |

1504

1 of exhibits. And I may also refer to some

2 from the prior binders we have already.

3 CROSS-EXAMINATION

4 BY MR. ECHOLS:

5 Q. Good afternoon, Dr. Kimbro.

6 A. **Good afternoon.**

7 Q. Dr. Kimbro, as Mr. Qureshi introduced you, you're

8 an experimental ecologist; is that correct?

9 A. **Yes.**

10 Q. And I take it that -- I think you explained

11 before, although you're an experimental

12 ecologist, you're not a fisheries ecologist?

13 A. **No, I'm not a fisheries biologist.**

14 Q. Not a fisheries biologist, and you haven't

15 studied any other fisheries separate and apart

16 from this particular work that you did for

17 Apalachicola Bay. Correct?

18 A. **No.**

19 Q. The method that you used and described in your

20 written direct testimony is a three-part analysis

21 that includes observations, experiments, and

22 mathematical modeling; is that right?

23 A. **Yes.**

24 Q. I would like to, as I go through this structure,

25 go through each of those topics, if we could.

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1505

1 First, when it comes to observations, you, sir,

2 went down to Apalachicola Bay in late 2012 right

3 after the collapse was identified; did you not?

4 A. **Yes. I began making observations in the fall of**

5 **2012.**

6 Q. And, in fact, you went out on the water with

7 Mr. Berrigan and I think Mr. Shields, too, from

8 DACS?

9 A. **And Mr. John Gunter.**

10 Q. And Mr. Gunter, too, okay. And you made some

11 observations when you were down there in or about

12 October 2012?

13 A. **I recall it being late September. And as the**

14 **DACS was collecting their data to generate**

15 **their fishery-independent datasets, I monitored**

16 **how they went about actually doing that. And**

17 **I reprocessed the same sample just to see if**

18 **we were getting the exact same kind of**

19 **information.**

20 Q. I want to ask you about an observation that you

21 made when you were down there in September,

22 October 2012. If I could please direct you to

23 tab 5 of your binder.

24 MR. ECHOLS: And tab 5 for the record is

25 GX-486.

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1506

1 BY MR. ECHOLS:

2 Q. And if you would, sir, obviously look at as much

3 as you like, but the part I would like you to

4 read to yourself, if you would, is on the second

5 page at the bottom. There is an e-mail from you,

6 October 25, 2012, to Dr. Bill Pine.

7 A. **Okay. I have read that e-mail.**

8 Q. And it's accurate, is it not, sir, that when you

9 were down there shortly after the collapse was

10 identified, when you went to the open bars and

11 looked at them, your observation was that they

12 looked like gravel parking lots because they had

13 been harvested so much?

14 A. **I did observe a lack of structure at some, but**

15 **not all sites, as the rest of the e-mail goes on**

16 **to explain. And one of my preliminary hypotheses**

17 **about the collapse in 2012 was the influence of**

18 **harvesting. So, yes, this was the beginning of**

19 **my research program. I made an observation, and**

20 **I began making hypotheses. And the fishing**

21 **influence was one of the hypotheses that we**

22 **tested with our three-pronged research approach.**

23 Q. That is what you saw with your eyes was gravel

24 parking lots?

25 A. **I'm sorry?**

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1 Q. I'm sorry. You saw that with your eyes?

2 A. **I can't recall if I saw it or if I -- actually, I**

3 **couldn't have seen it because I was not diving at**

4 **that time. So it had to have been I saw it by**

5 **the samples that the divers from DACS brought up**

6 **to the boat. And so some samples had lots of**

7 **structure in it, and other samples had not much,**

8 **but kind of gravel, broken-up shell like you**

9 **would see in a dirt parking lot.**

10 Q. And a structure that is gravel and broken-up

11 shell, that's not good habitat for oysters to

12 grow on. Would you agree with me?

13 A. **Yes, I would agree.**

14 Q. Because you want to have some elevation, and you

15 want to have some live oysters and dead oysters,

16 things for spat to settle on; is that accurate?

17 A. **Yes.**

18 Q. Now, you were hired in -- is it January 2013 to

19 begin your work for the State of Florida; is that

20 right?

21 A. **That's incorrect.**

22 Q. Oh, I'm sorry. What is it then, sir?

23 A. **I -- as part of the University of Florida Oyster**

24 **Recovery Task Force that was led by Dr. Karl**

25 **Havens, that's when I began my research. So in**

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1 **September, October 2012 I became a part of that**
 2 **task force. I then presented my research ideas**
 3 **on what I thought needed to be done to establish**
 4 **cause and effect about what happened in 2012 to**
 5 **Dr. Havens. And he jumped at the idea and**
 6 **thought it was great. He then gave me a small**
 7 **starter grant of \$10,000 to initiate my research**
 8 **program, and so the initiation process officially**
 9 **began in January of 2013.**
 10 Q. Got it. That must be what I was --
 11 A. So at that time -- may I finish?
 12 Q. Yes. Sorry. Go ahead.
 13 A. At the time at that time I was not working under
 14 a contract with the State of Florida. I was
 15 getting my funding through the University of
 16 Florida.
 17 Q. Okay. And at January 2013, you had some of your
 18 graduate students also go and do some quadrat
 19 sampling in Apalachicola Bay?
 20 A. Yes. That's correct.
 21 Q. And we had what Mr. Berrigan -- I'm not sure if
 22 you were here at the time when we looked at it;
 23 but some of this you put online, and there's
 24 videos and pictures and everything of this.
 25 Right?

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1 **A. Yes. We wanted to try and keep the public**
 2 **informed of what we were doing.**
 3 MR. ECHOLS: Can we have the Berrigan
 4 demo 8. We have got some printout copies
 5 here as well.
 6 BY MR. ECHOLS:
 7 Q. What you have in front of you, sir, would you
 8 take a look at -- oh, there we have it on the
 9 screen.
 10 So this was a couple of snapshots taken out
 11 of the research video that was posted online with
 12 your colleagues and graduate students who were
 13 doing the work. And it reflects, if you see in
 14 the top left-hand side, the process of doing a
 15 quadrat sampling. Do you see that?
 16 A. Yes, I do.
 17 Q. And there you also see, similar to what was
 18 described earlier, that there's not much, if any,
 19 shell structure there. It's just little bits and
 20 pieces of shell hash and broken shell, not good
 21 substrate. Would you agree with me?
 22 A. Yes.
 23 Q. And so in January 2013 when you had your graduate
 24 students doing this research, they also were
 25 finding that -- and this was at the center of

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1 East Hole oyster bar -- that it was a -- it was
 2 similar to what was flat or like a parking lot or
 3 at least bad substrate. Correct?
 4 A. I'm sorry. Could you repeat your question,
 5 please?
 6 Q. Sure. Your graduate students assisting you with
 7 your research found that the condition of the
 8 substrate at East Hole Bar was poor in January
 9 2013?
 10 A. May I look at the data for something that you're
 11 referring to to make that inference, please?
 12 Q. That --
 13 A. In particular --
 14 Q. I'm looking at this picture.
 15 A. These aren't data. This is just -- you know,
 16 5 feet away from us there could be a quadrat with
 17 lots of reef structure.
 18 So I actually presented these preliminary
 19 data at the back end of the UF Oyster Recovery
 20 Task Force. And in that there are images or
 21 graphs of the amount of biomass and restructure
 22 in an area. So we could look at that and talk
 23 about hard data.
 24 Q. Let's -- I know this is the first time you have
 25 ever testified. Right?

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1 A. Yes.
 2 Q. Yes. One of the ways this works is I'll ask my
 3 questions, and then Mr. Qureshi will have the
 4 chance to let you talk as much as you like about
 5 whatever you would like, you know. So I just
 6 want to make sure it's clear that's how this
 7 process works. Okay?
 8 A. Clear.
 9 Q. So looking at these pictures, would you agree
 10 with me that the quadrat sample that was being
 11 taken by your graduate students as part of this
 12 research looks like really poor substrate at this
 13 point?
 14 A. Yes. But this doesn't tell you where exactly it
 15 came from or how much of the sampling looked
 16 exactly like this. So you can't make any kind of
 17 inference about how prevalent this kind of image
 18 was.
 19 Q. Yes. And I'll represent to you, although I don't
 20 have the quote 100 percent in my head, that when
 21 Stephanie is describing it, she says, here we are
 22 at the center of East Hole Bar, one of the
 23 largest commercial bars in Apalachicola Bay.
 24 So if that's correct and accurate, would you
 25 agree with me that this portion of East Hole Bar

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1 looks like it's got very poor substrate?

2 **A. I'm sorry. I don't mean to be difficult. I just**

3 **don't want to generalize beyond this image to say**

4 **what a whole large oyster bar looks like.**

5 **Q.** No, I know. I'm asking about this quadrat.

6 **A. This quadrat, yes; I completely agree that it**

7 **doesn't look like a good environment for oyster**

8 **larvae to settle on.**

9 **Q.** And you can see, if you look at what she pulled

10 up in the mesh bags, we have got -- at the top

11 right-hand side you have this little bit of

12 gravel; and then at the bottom four quadrat

13 samples, each of which has almost nothing in it.

14 Right?

15 **A. Yes. So we laid out long transects and took**

16 **quadrat samples at every 5-meter increments. And**

17 **it appears along that one transect of four**

18 **quadrat samples there was not much reef**

19 **structure.**

20 **Q.** Now, one of the things that you conclude is that

21 it was predation that killed the oysters that

22 caused or is related to the collapse; is that

23 correct?

24 **A. My overall conclusion is that high salinity**

25 **allowed natural enemies of oysters to**

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1 **proliferate. And these consist of multiple**

2 **predator species, one of which is the drill. And**

3 **they killed the adults and this causes**

4 **recruitment failure. So that's my overall**

5 **conclusion.**

6 **Q.** When oyster drills kill the oysters, the shells

7 are left behind; are they not?

8 **A. Yes.**

9 **Q.** So if there had been a predation event here with

10 a lot of oysters killed by oyster drills, you

11 would expect to see some shells; would you not?

12 **A. It depends.**

13 **Q.** Typically when the drills kill the oysters, the

14 shell is left behind. Right?

15 **A. Yes.**

16 **Q.** And this is January 2013, right in the height of

17 what you are opining is the collapse caused by

18 predation by oyster drills?

19 **A. So I think what you're referring to is when a**

20 **snail eats an oyster, the oyster dies; and there**

21 **is no tissue or muscle left in it. But the shell**

22 **still has two valves attached at the bottom. And**

23 **so oystermen and DACS call that a box because it**

24 **looks like an empty box.**

25 **And so a snail eats an oyster without causing**

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1 **any damage. So after it eats it, it leaves**

2 **behind a box. And so in a perfect environment**

3 **without any kind of disturbance, if you have a**

4 **lot of snails eating a lot of oysters, you can**

5 **see a lot of remnant boxes remaining. And that**

6 **can be an indicator of snail predation.**

7 **However, in a environment like this with very**

8 **strong currents and you do have tonging, storms,**

9 **you can have physical factors that quickly cause**

10 **the box to fall apart. And if that's the case,**

11 **you just have two single shells laying on the**

12 **ground. And at that point, the evidence of a box**

13 **is destroyed.**

14 **Q.** And in here though, we don't have either complete

15 boxes or two single shells, apparent at least in

16 this quadrat. And if there are some, not very

17 many at all in these four different quadrat

18 samples that were pulled up. Correct?

19 **A. Yes. But that's not representative of -- it's a**

20 **large bay.**

21 **Q.** You -- you are telling me, are you, sir, that it

22 would be improper to draw conclusions bay-wide

23 from looking at a single oyster bar?

24 **A. It depends on what kind of conclusion you're**

25 **trying to draw.**

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1 **Q.** I'm just picking up from what you said. You said

2 this is not representative of the bay, that you

3 shouldn't draw conclusions from a single bar that

4 would be applicable to the entire bay.

5 **A. Right. So -- and with regards to the number of**

6 **boxes or the biomass of reef structure in an**

7 **area, I would -- as I would teach my students, I**

8 **would not generalize based on these screen shots.**

9 **I would look at data, look at averages and**

10 **variances, and make my conclusion based on that.**

11 **Q.** No. And, I'm sorry. I didn't mean to be so

12 limited to the screen shots.

13 **But we had Mr. Berrigan here on Friday. And**

14 **he was explaining to the Court and to us how each**

15 **reef is basically its own individual ecosystem.**

16 **And things can differ substantially from one reef**

17 **to another depending upon the shell structure,**

18 **depending upon where it is in the bay and**

19 **salinity and the like. You would agree with**

20 **that?**

21 **A. Absolutely.**

22 **MR. QURESHI:** Your Honor, if he's going

23 to ask Dr. Kimbro to opine on Mr. Berrigan's

24 testimony, I would request that he show him

25 the transcript rather than characterizing it,

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1 because I don't think that's what
 2 Mr. Berrigan said.
 3 MR. ECHOLS: Judge, it was trial
 4 testimony.
 5 BY MR. ECHOLS:
 6 Q. Go ahead, sir. I think you were about to answer.
 7 **A. I was going to say looking at how things differ**
 8 **over environmental gradients is actually my**
 9 **specialty. So I wholeheartedly agree that oyster**
 10 **reefs close to the Apalachicola River are going**
 11 **to be functioning very differently than oyster**
 12 **reefs very far away from the Apalachicola River,**
 13 **primarily because salinity is lower closer to the**
 14 **river and higher farther away. So I**
 15 **wholeheartedly agreement that oyster reefs are**
 16 **not all the same in Apalachicola Bay.**
 17 Q. And oyster reefs are not the same anywhere; in
 18 any large bay you're going to find them different
 19 from location to location. Would you agree?
 20 **A. Yes. And most often, they're predictable**
 21 **differences.**
 22 Q. So, for instance, this is something else that we
 23 used with Mr. Berrigan as an example of the
 24 different kinds of things you might find when
 25 you're looking at an oyster reef. And you

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1 have -- would you agree that this picture here,
 2 the A, would represent a relatively healthy reef?
 3 It's got good structure, lots of oysters,
 4 looks pretty good?
 5 **A. Yes.**
 6 Q. And then B is kind of intermediate. You know,
 7 there's not as much structure; but you do have
 8 some oysters there. I don't know how you would
 9 characterize it. Medium? Okay?
 10 **A. Yes. It looks like there's a gradient from A to**
 11 **B to C and decreasing oyster abundance.**
 12 Q. And C is closer to the type of gravel parking lot
 13 that you saw, at least from the samples that were
 14 tonged up when you were there in late 2012 and
 15 what your research assistants saw in January 2013
 16 at East Hole?
 17 **A. And I can't remember exactly where we were**
 18 **sampling. We sampled pretty much all over the**
 19 **bay in 2012. So I don't -- I can't recall**
 20 **exactly what East Hole looked like in my mind.**
 21 **I'm sorry. Could you repeat your question**
 22 **please?**
 23 Q. Yes. Sure. That the C, this is an example of a
 24 poor substrate surface. This is a reef that you
 25 would not expect to be very healthy for oyster

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1 spat to settle on?
 2 **A. Right. And from my processing of samples in**
 3 **2012, it looked like some of the sites were**
 4 **characterized by image C. But it also looked**
 5 **like some of the sites were characterized by**
 6 **images B and A as well.**
 7 Q. Right. Because each reef is different and you
 8 can't generalize from one reef to another; that
 9 would be improper?
 10 **A. You can -- if you have predictable biological and**
 11 **environmental pathways understood, you can make**
 12 **predictions about what conditions will be like in**
 13 **other portions of the estuary.**
 14 Q. Let me ask you in a very layman's sense. Oyster
 15 spat settles in a reef that looks like C. It's
 16 not going to grow. Right?
 17 **A. Correct. The larvae need hard substrate to**
 18 **attach to.**
 19 Q. If oyster spat settles on a reef that looks like
 20 A, it's probably got a pretty good chance to
 21 grow?
 22 **A. Yes.**
 23 MR. ECHOLS: Now, if I could refer the
 24 Court and counsel to the tab 4 that we had
 25 of -- in Mr. Sutton's binder. And I'll hand

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1 this up.
 2 **A. Should I read this?**
 3 Q. Well, I'm going to refer you to a couple specific
 4 places.
 5 I take it in the course of you having been
 6 retained and working on the determination of what
 7 caused the oyster fishery collapse, you're
 8 familiar with the fact that there was a request
 9 to the federal government that a fishery disaster
 10 be declared?
 11 **A. Yes.**
 12 Q. And I can't recall from when we did the
 13 deposition or not, but you saw the Governor's
 14 letter; and you saw the 2012 DACS report in the
 15 course of your work?
 16 **A. Yes.**
 17 Q. And that's what we have here. It's JX-77. So
 18 it's a joint exhibit that over the past four or
 19 five days we have looked at a number of times.
 20 And I wanted to direct you, if I could, to
 21 ask you a question, if you agree -- this is in
 22 the DACS report, the August 2012 attachment. If
 23 you wouldn't mind going to tab -- or, I'm sorry,
 24 it's page 3 of that report.
 25 **A. Sorry. Front and back page 3 or --**

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1 **Q.** It's 3 on the bottom, page 3 of the August 2012
 2 DACS report.
 3 **A. Okay. Got it. Thank you.**
 4 **Q.** And if you wouldn't mind reading the second to
 5 last paragraph to yourself, the one that says Cat
 6 Point and East Hole Bar.
 7 **A. Okay.**
 8 **Q.** Do you see the discussion of substrate being
 9 degraded?
 10 **A. Yes.**
 11 **Q.** Would you agree with me that the pictures that we
 12 were looking at, recognizing that they're
 13 individual quadrat samples here and there, would
 14 be examples of degraded substrate that would not
 15 be good for spat settlement and recruitment?
 16 **A. I think I understand what you're asking me, but I**
 17 **think you -- you want me to establish a clear**
 18 **connection to those images and text written by**
 19 **someone other than me. So I can see right here**
 20 **there's a phrase that says, and the quality of**
 21 **the substrate is degraded. So, yes, I agree**
 22 **that's here in this paragraph.**
 23 **Q.** You know that this August 2012 report was written
 24 by Mr. Berrigan. Do you know that?
 25 **A. I think I have heard that. But at the time I**

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1 **first saw this, I didn't know it because I don't**
 2 **think his name is on it.**
 3 **Q.** Right. But you have been working on this
 4 research for over three years now, and you were
 5 out on the boat on the water with Mr. Berrigan
 6 and Mr. Shields and Mr. Gunter. Correct?
 7 **A. Yes. But on a limited basis actually, just once.**
 8 **Q.** You know that Mr. Berrigan has been described and
 9 described himself as being the most knowledgeable
 10 person about the Apalachicola Bay oyster fishery
 11 for the last 30 years based on his work as the
 12 lead person in DACS?
 13 **A. I do know that.**
 14 **Q.** And -- but to the extent then that he -- and
 15 strike that.
 16 And these DACS reports are official Florida
 17 state records. You're aware of that; are you
 18 not?
 19 **A. Yes.**
 20 **Q.** And in these official Florida state records,
 21 they're talking about the degraded quality of
 22 reef substrate and structure?
 23 **A. And I have no reason to doubt what that says in**
 24 **the document.**
 25 **Q.** And what you saw was degraded reef substrate and

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1 structure when you were down there?
 2 **A. When samples were brought up to me on the boat, I**
 3 **saw many -- or some samples that looked like a**
 4 **degraded reef, yes. I also saw many other**
 5 **samples that still had reef structure.**
 6 **Q.** Now, one of the reasons -- strike that.
 7 One way that you can assist degraded reef
 8 structure is to engage in reshelling. Would you
 9 agree with me?
 10 **A. Yes.**
 11 **Q.** And that's an important restoration tool that's
 12 available to fisheries to help promote the
 13 recovery of an oyster population?
 14 **A. Yes.**
 15 **Q.** But as far as when you submitted your initial
 16 report, you hadn't analyzed any of the shelling
 17 data that Florida had done. Correct?
 18 **A. I had read about it and had seen it with my own**
 19 **eyes when I was out conducting my research, which**
 20 **is why when I was writing my expert report and I**
 21 **was introducing everything I knew about the**
 22 **system, I suggested that Florida's shelling**
 23 **efforts seemed to be aggressive, both because of**
 24 **what I read in a Florida state document as well**
 25 **as a Gulf states fishery management document.**

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1 **So given those official scientists and then**
 2 **what I saw with my own eyes, I felt comfortable**
 3 **describing it as, you know, a good effort in**
 4 **trying to reshell the habitat in Apalachicola**
 5 **Bay.**
 6 **Q.** But as of the time that you submitted your expert
 7 report in February of this year you hadn't
 8 analyzed any shelling data and had no idea of
 9 whatever shelling Florida was doing compared to
 10 prior periods. Right?
 11 **A. No. But I have since then. And my statistical**
 12 **analysis shows that before the collapse, we --**
 13 **the shelling effort by the State of Florida was**
 14 **not statistically different than in the long-term**
 15 **30-year average of annual shelling effort**
 16 **conducted by the State. So with my own eyes and**
 17 **what I read and now I have statistically**
 18 **analyzed, I stand by that comment.**
 19 **Q.** Let me ask you about that statistical analysis.
 20 In your direct, you have got a chart on page 50
 21 of your direct.
 22 **A. Is --**
 23 **Q.** Yes?
 24 **A. Is that in the -- can I have a piece of paper**
 25 **form to look at that?**

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1 **Q.** I think your counsel gave you your written
 2 direct -- your testimony.
 3 **A. Thank you. You're right.**
 4 **Okay. I'm there.**
 5 **Q.** And is this, sir, the statistical analysis that
 6 you were referring to?
 7 **A. It is.**
 8 **Q.** And here what you have done in this analysis is
 9 to create five-year tranches or buckets; is that
 10 right?
 11 **A. Sure.**
 12 **Q.** And that was what you did in order to reach the
 13 conclusion that there wasn't a statistically
 14 significant difference in the shelling that
 15 Florida did before the collapse relative to other
 16 periods?
 17 **A. In short, yes. But there's a little more**
 18 **analytical steps to it.**
 19 **Q.** Okay. And I'm sure you will get a chance to
 20 explain that.
 21 From a biological standpoint for oysters,
 22 now -- and you know this from your research --
 23 when spat settles, it only takes, like, a year or
 24 two to grow up to be an adult oyster. Right?
 25 **A. In Apalachicola it can happen in a year or less.**
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1 the like, it doesn't make sense to have a
 2 five-year bin when you're evaluating if there's
 3 substrate for an oyster spat to land on in order
 4 for it to grow up in a year?
 5 **A. Sure. And that's why I take it even down to just**
 6 **looking at the one mean in 2012 and without any**
 7 **measure of variance. And it still overlapped**
 8 **with the long-term average.**
 9 **Q.** The Court has seen these before; but I don't know
 10 that you have, Dr. Kimbro.
 11 MR. ECHOLS: And you know what; let's
 12 just put up the longer one.
 13 BY MR. ECHOLS:
 14 **Q.** And so what I have handed you, sir, are a couple
 15 of exhibits that were used with Mr. Sutton. And
 16 these come from the official Florida state
 17 records that have been submitted to the Court
 18 about how much shelling took place in these -- in
 19 this decade basically, decade-plus.
 20 And you would agree with me, sir, would you
 21 not, that particularly since we're interested in
 22 looking at whether there's shell there for spat
 23 to settle on so that they can grow up in the next
 24 year, if you look at 2011, there's shelling of
 25 only 19 acres, a pretty small amount?
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1 **Q.** Right. So for purposes of analyzing shelling and
 2 the amounts of shelling that's done, wouldn't it
 3 be more useful to look at individual years to see
 4 when there was shell out there for the spat to
 5 settle on?
 6 **A. That's a great question. And I can refer to a**
 7 **lot of climate science where if you want to draw**
 8 **conclusions about what's happened recently**
 9 **compared to long-term trends, you could compare**
 10 **one year; but you would use an average. And**
 11 **there is no variation or little error bars around**
 12 **that average. So that's why typically when**
 13 **people look at long-term precipitation records,**
 14 **you use bends or some -- something akin to that**
 15 **so that you can have both a mean and a variance,**
 16 **or an error bar. So that's why you need to group**
 17 **things into categories.**
 18 **And to be honest, after reading the expert**
 19 **prestated Georgia's direct testimony, I was -- it**
 20 **was brought to my attention that I perhaps**
 21 **grouped them wrong. So I regrouped them and ran**
 22 **the same analysis as the expert for the State of**
 23 **Georgia suggested. And I got the same outcome.**
 24 **Q.** But whereas it makes sense to do things in bins,
 25 such as for long-term precipitation analysis and
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1 **A. I'm sorry. Did you say 2011?**
 2 **Q.** Yes. I'm looking at 2011 first.
 3 **A. And you said 19 to 20 acres?**
 4 **Q.** 19 acres it says; yes, sir.
 5 **A. Okay. And your question?**
 6 **Q.** That's not a lot of shell?
 7 **A. Compared to what?**
 8 **Q.** Compared to anything.
 9 **A. It seems consistent to previous years.**
 10 **And I'm also wondering why are we only**
 11 **looking at 10 years worth of shelling data when**
 12 **the record is much longer?**
 13 **Q.** We're looking at it because the collapse took
 14 place in 2012 to 2013 and because oysters need to
 15 land on a shell to grow up in one year or two
 16 years, as you said. That's why we're looking at
 17 this period of time.
 18 **A. It could also be that, you know, shelling isn't**
 19 **always going to help. So perhaps the State of**
 20 **Florida felt that the environmental conditions**
 21 **were unsuitable to deploy shell, which is a**
 22 **limited resource. So if you put it out in high**
 23 **salinity conditions, there aren't going to be any**
 24 **larvae there to settle on it. So then that shell**
 25 **is quickly silted over and lost. So it's a waste**
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1 of a limited resource.

2 Q. So is it your -- you're the expert -- the oyster

3 expert for the State of Florida and opining with

4 respect to shelling and everything else. Is it

5 your testimony, since you have had access to

6 anybody in state government that you would like,

7 that the State of Florida determined that it

8 likely was not beneficial to shell from 2004 --

9 or at least not to shell that much from 2004 all

10 the way up through 2013?

11 A. I'm sorry. It looks like they shelled from 2008

12 through 2015. It looks like in 2005 through 2007

13 they did not. And perhaps they were very wise

14 because that was a year drought, I believe. And

15 so if that's the case, they saved themselves from

16 wasting a lot of shell.

17 Q. Okay. I just want to make sure that the Court is

18 clear with your testimony that it was -- the

19 State of Florida was wise not to shell in these

20 years where they did not shell?

21 A. That's not my conclusion. I'm just making a

22 point that there's another interpretation of

23 these data.

24 Q. Right. But you're the expert for the State of

25 Florida providing this testimony for the Court to

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1 of Florida to shell only 19 acres, 35, 16 acres,

2 that that was a beneficial management program?

3 A. In 2010 they shelled 57 acres; 2011, 19 acres;

4 2012, 35 acres. And when you compare those --

5 that amount of shelling to the long-term records,

6 it doesn't differ statistically.

7 So they have been doing this for a while, and

8 it's been working for a long time. So I just

9 stand by that.

10 Q. It doesn't differ statistically if you put it in

11 five-year buckets, but if you --

12 A. Nor if I put it in four, three, or two-year

13 buckets.

14 Q. How about one?

15 A. Then you have a measure of variation.

16 Q. But the variation that we're looking for is are

17 the spat going to settle in year 1 so that, as

18 you found, they can grow up to adult size in

19 year 2?

20 A. I'm sorry. I don't understand the question.

21 Q. You just explained to the Court that the oyster

22 spat can grow to adult size in a year, in 12

23 months, in Apalachicola Bay?

24 A. Yes. That's correct.

25 Q. All right. So they need the spat, when they're

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1 understand the process. And is it your judgment,

2 sir, that it was wise not to shell from 2004 to

3 2007?

4 A. My conclusion is when I look at the long-term

5 record from 1970 to now, that the efforts of

6 shelling have been statistically consistent.

7 That apparently has been sufficient to maintain a

8 very productive oyster fishery for a very, very

9 long time.

10 This has also been supported by State of

11 Florida documents as well as the Gulf States

12 Marine Fisheries Council.

13 Q. And I'm sorry if I wasn't clear. 2004 to 2007 it

14 was wise for the State of Florida not to shell

15 during those years based on your opinion?

16 A. That's not my opinion.

17 Q. And --

18 A. I was just pointing out perhaps an alternative

19 explanation.

20 Q. And similarly, you -- when we're coming up to the

21 collapse which took place in 2012 to 2013 that

22 you were analyzing, is it your testimony that it

23 was appropriate for the State of Florida to -- as

24 opposed to in subsequent years when they actually

25 did shell, that it was appropriate for the State

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1 baby oysters, to settle on in the first year so

2 that they can grow up the next year?

3 A. I agree with that.

4 Q. You actually, sir, did some experiments about

5 reshelling as part of your research; did you not?

6 A. Sorry. Yes. I did.

7 Q. Now, one thing that we haven't talked about

8 previously, but I think it will be important for

9 the record here, is that reshelling not only is

10 beneficial because it provides a hard surface for

11 the baby oysters to land on and grow up, but when

12 you have a healthy reef or a reshelled reef,

13 that's important because it helps reduce

14 predation. Isn't that correct?

15 A. It could.

16 Q. Okay. Well, it does?

17 You have studied this, and that's what you

18 have determined. Right?

19 A. No.

20 Q. Okay. Well, maybe I'm confused then. In your

21 expert report, which in the binder is tab 1 --

22 and you can -- this is the expert report you

23 submitted in this case. Correct?

24 A. Yes, it is.

25 Q. And for the record, it's in the binder; but it's

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1 also identified as FX-797. If you wouldn't mind

2 taking a moment to look in the middle paragraph

3 that starts our most recent experiments, and then

4 I would like you in particular to read that next

5 sentence that starts first.

6 **A. I'm sorry. Could you tell me the page number**

7 **again, please?**

8 **Q.** I'm sorry. On page 15.

9 **A. Okay.**

10 **Q.** Sorry if I didn't say that before.

11 **A. Did you want me to read that?**

12 **Q.** To yourself, please.

13 **A. Yes.**

14 **Q.** The Court can read it. I can read it.

15 **A. Okay. I finished.**

16 **Q.** Okay. And it's correct, is it not, sir, that

17 that's what you found when you analyzed how

18 having a restored reef might assist in preventing

19 predation, that -- that it significantly affected

20 and decreased the effect of predation. Correct?

21 **A. Right. So proving out an ecological theory, it's**

22 **hypothesized that structured habitats can inhibit**

23 **predators from finding and attacking their prey.**

24 **But for other predator prey, it can sometimes**

25 **enhance that attack rate.**

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1 **So in this specific sentence, I was referring**

2 **to experiments I conducted, you know, in a lab**

3 **setting. I used to be a professor at Florida**

4 **State University before going to Northeastern.**

5 **So there we had outdoor tubs essentially. And I**

6 **sort of mimicked little piles of oyster shell.**

7 **I had some piles that had lots of structure,**

8 **others with a little, and others with none. And**

9 **I looked at how the foraging rate of the snail**

10 **predators on oysters changed as you had big piles**

11 **versus little piles. And I found the statistical**

12 **difference of over a week, the snails ate about**

13 **half as many oysters.**

14 **Given that result, I felt that it would be a**

15 **great idea to actually go out and test this out**

16 **in the real environment. So I convinced the**

17 **State of Florida to actually build me two**

18 **quarter-acre reefs, and we did this experiment**

19 **outdoors. And the results differed from the lab**

20 **experiments. It showed that on really big,**

21 **complex reefs, you had predation. On moderately**

22 **structured reefs, you had predation. And on**

23 **reefs with little structure, you had predation.**

24 **And that predation level did not differ among**

25 **those three reef types.**

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1 **Q.** And I know you put that in your written direct.

2 I take it you also have had the opportunity to

3 read Dr. Lipcius's written direct submission

4 where he evaluated what you wrote there?

5 **A. Yes. I looked at the experts' direct testimony.**

6 **Q.** Yes. And he pointed out -- and I don't need to

7 do it with you. He will testify, as he's right

8 there, when it's his turn that your analysis

9 actually did have a statistical difference as far

10 as the level of predation for restored reefs?

11 **A. Yes.**

12 **Q.** So you saw that analysis. Right?

13 **A. Yes. And I was surprised by it. So I went and**

14 **cursorily looked at the statistical code he used**

15 **to analyze those data. And I -- the data weren't**

16 **analyzed as I designed the experiment; and that**

17 **really shouldn't be done. It looks like the data**

18 **had been subsetted.**

19 **And so to be honest, I really don't know how**

20 **he came up with the results he presented in his**

21 **direct testimony because they're completely the**

22 **opposite of what I observed and reported in my**

23 **testimony.**

24 **Q.** But at least insofar as this report was your

25 expert report that we took your deposition on,

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1 which you said was full and complete and

2 accurate, after working on your research for

3 three years for the State of Florida, you

4 concluded here at that point in time that the

5 restored reefs significantly reduced the

6 intensity of predation and pointed to that as

7 being one of the reasons that the restoration

8 efforts that Florida was undertaking were a

9 particularly good thing to do?

10 **A. Exactly.**

11 **And those were preliminary results. And it**

12 **turned out that I had not analyzed the full**

13 **dataset. There were data from all the reefs that**

14 **had been left out. And so when I reanalyzed the**

15 **full dataset for my direct testimony, that**

16 **supported the conclusion I just stated a few**

17 **moments ago.**

18 **Q.** So you found, despite the fact that you had

19 worked on this for three years and submitted it

20 in an expert report that Florida submitted to

21 this Court, now you determined that that was

22 wrong?

23 **A. It wasn't wrong. The data were just preliminary**

24 **in nature. The experiment was ongoing. It**

25 **started in the fall of 2015.**

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1 **Q.** Now, you did some other experiments as well; did
 2 you not?
 3 There were these cage experiments which are
 4 referred to in your direct testimony?
 5 **A. Yes. And they're the same experiments that were**
 6 **conducted on these restored reefs.**
 7 **Q.** And a part of the cage experiments was you
 8 testing whether the predators would come in and
 9 attack the oysters more or less at different
 10 locations and under differing circumstances.
 11 Would you agree generally with that?
 12 **A. Yes. And to evaluate essentially when oysters**
 13 **survive well over the environmental conditions.**
 14 **When they die, what are the environmental**
 15 **conditions; and why did they die? Did they die**
 16 **because of stress and disease, or did they die**
 17 **because of predators?**
 18 **Q.** And your conclusion from your research was that
 19 the primary -- the overwhelmingly primary
 20 predator was the rock snail or oyster drill; is
 21 that correct?
 22 **A. At the time we conducted the study in 2013, yes;**
 23 **that was the most abundant predator we were**
 24 **seeing.**
 25 **Q.** And we have touched on this with Mr. Berrigan

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1 briefly. But also at the time that you submitted
 2 your written direct testimony in this case, you
 3 found that the oyster drill was 95 percent of
 4 the -- responsible for 95 percent of the
 5 predation; is that correct?
 6 **A. On average, the oysters that were -- had been**
 7 **eaten, 95 percent of them had been eaten by a**
 8 **snail that left a box. The other 5 percent were**
 9 **eaten by a crushing predator, the stone crab.**
 10 **Q.** Yes. And because of that reason, when we talked
 11 about this back during your deposition, you
 12 didn't -- the stone crab predation was very
 13 small; and they were not the primary predator
 14 based on your experiments?
 15 **A. Correct. They were -- they were gone.**
 16 **Q.** And are you aware, sir, from either having read
 17 Mr. Berrigan's testimony or, I don't know,
 18 perhaps in having talked to him, if you did, that
 19 he concluded, based on being out on the water,
 20 that the stone crab was, in his opinion, one of
 21 the primary predators?
 22 **A. I'm aware of that, and I don't believe that**
 23 **conflicts with my research program or its**
 24 **conclusions.**
 25 **Q.** And the reason it doesn't necessarily conflict, I

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1 take it, is because when you're experimenting --
 2 you're doing these experiments, it's after the
 3 collapse when the conditions in the bay are
 4 entirely different from before the collapse?
 5 **A. Technically, yes. But we're still able to do our**
 6 **experiments and rigorously establish how changes**
 7 **in salinity create changes in disease or**
 8 **predators on oysters.**
 9 **Q.** Okay. But the -- what you were hired to do by
 10 the State of Florida for purposes of this case
 11 was to identify the cause of the collapse, so
 12 what happened before the collapse to make it
 13 happen. But all of your experiments are you and
 14 your research assistants out on the water after
 15 the collapse when there aren't any oysters around
 16 anymore, or at least very, very few?
 17 **A. Correct. But our research approach was designed**
 18 **to circumvent that problem.**
 19 **Q.** And similarly, you said that you -- because in
 20 your experiment you're not finding stone crabs,
 21 that makes sense because the conditions were
 22 likely very different when you're doing
 23 experiments than before the collapse, which is
 24 what Mr. Berrigan was testifying about from what
 25 he saw?

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1 **A. My understanding of Mr. Berrigan's opinion or**
 2 **observations were that he also saw -- in fact, we**
 3 **were on the same boat where he was seeing high**
 4 **numbers of snail predators in certain locations**
 5 **of the bay. But in other locations of the bay,**
 6 **his team and he were seeing all stone crabs.**
 7 **Now, when the resource, the prey -- the**
 8 **oyster, are gone, stone crabs are mobile; so**
 9 **they're going to leave. So it's logical that by**
 10 **the time I began my experiments, the less mobile**
 11 **predator, the snails, were the only ones that**
 12 **were still around.**
 13 **Q.** And the snails though, they are somewhat mobile.
 14 Right?
 15 They will come to and attack if they have a
 16 live oyster that they can find; will they not?
 17 **A. Much slower than the crab, but they are somewhat**
 18 **mobile.**
 19 **Q.** And part of your experiments -- you had these
 20 caged experiments that you described in your
 21 direct. Part of it involved -- there was a
 22 control treatment where you would have an oyster
 23 basically strapped onto a sheet of mesh cage.
 24 And so it's out there in the open and can be
 25 subject to predation; is that right?

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1 **A. Right. So we had two primary experimental**
 2 **treatments.**
 3 **Q.** Sure.
 4 **A. If you will, the mesh can act like a dinner**
 5 **plate. And we had five oysters on a dinner plate**
 6 **over here. And then we had five pretty much**
 7 **identical oysters on a dinner plate over there.**
 8 **I randomly assigned one dinner plate to get a**
 9 **cage to restrict access by predators.**
 10 **So if the oysters on the plate without the**
 11 **cage died and the oysters on the plate with the**
 12 **cage did not, then I could conclude that the**
 13 **environment is not the thing that killed the**
 14 **oysters on the cage; it was a predator. So it's**
 15 **a standard experimental technique used in ecology**
 16 **for the past half century.**
 17 **Q.** And basically, as you said, the oyster -- well,
 18 first, let's start off. We have already
 19 identified that there are portions of the bay at
 20 this point in time that don't have many live
 21 oysters and, in fact, some portions that look
 22 like a gravel parking lot. Right?
 23 **A. And to be fair, some portions of the bay that**
 24 **have restructure.**
 25 **Q.** Right. But some portions that look like a gravel
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1 parking lot. I take it that your experiment
 2 involved using -- running your experiment in some
 3 of those places as well because it was in many
 4 locations in the bay?
 5 **A. Yes. So we wanted to repeat the experiment**
 6 **repeatedly through time so we could see how**
 7 **things like disease and predation change as**
 8 **seasons change, as it gets warmer or colder or as**
 9 **you get more inflow from the river and salinity**
 10 **is less the next month. So how does predation**
 11 **change?**
 12 **We also recognized the fact that Apalachicola**
 13 **is very large, so its environment is going to**
 14 **differ even on the same day, depending on if**
 15 **you're far from the river or close. So in**
 16 **addition to repeating our experiments over time,**
 17 **we replicated them rigorously across space.**
 18 **So --**
 19 **Q.** And what you found, sir, for the control
 20 treatment, those oysters that were set out there
 21 on the dinner plate, they died; the rock snails
 22 came to the dinner plate and ate them?
 23 **A. In the warm months, yes. Not during the winter**
 24 **months. They hibernate, if you will.**
 25 **Q.** And I -- because this is so difficult because
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1 we're not underwater and we can't look at it, I
 2 was trying to find some kind of analogy. And I
 3 want to know if you would say that this is
 4 accurate. I could be totally off, but it struck
 5 me as I walked to court this morning. So when I
 6 came out of the hotel, I saw somebody had
 7 scattered a bunch of bird seed on the sidewalk.
 8 And all the pigeons came to eat the bird seed.
 9 And that's like if you have the oyster out there
 10 in the gravel parking lot; all the snails come
 11 and eat the oyster. Would that more or less make
 12 sense?
 13 **A. That could happen, yes.**
 14 **Q.** Yes. And then -- but you did a separate part of
 15 the experiment that didn't involve the oyster
 16 served up on a plate. You know, it was actually
 17 inside a cage. Right?
 18 **A. Right. So one plate without a cage, one plate**
 19 **with the cage.**
 20 **Q.** With the cage. And then you have got your
 21 picture in your direct, paragraph 79, the
 22 picture -- so in your direct you have got the
 23 picture, if you have it in front of you --
 24 actually, I guess I have the wrong paragraph
 25 number. My apologies. I have got the wrong
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1 paragraph number listed in my paper here. Let me
 2 find it.
 3 Okay. So this is on page 4. It's on page 4
 4 of your expert submission here, your direct
 5 testimony, that figure 2 there. And this here is
 6 when you have the oyster on the plate; but the
 7 plate is surrounded by a cage, so the snails
 8 still come, but they can't get in. Right?
 9 **A. Ideally, yes.**
 10 **Q.** Okay. And that's sort of what this reflects,
 11 snails on the outside of the cage that can't get
 12 in to eat the oyster?
 13 **A. Yes.**
 14 **Q.** And this is exactly what you would expect to find
 15 when there aren't live oysters out there for the
 16 snails to eat, and you put some live oysters out
 17 there in a cage; is it not?
 18 **A. True. It could also happen on a reef where there**
 19 **are live oysters and structure. And by repeating**
 20 **our experiment systematically throughout the bay,**
 21 **we, in fact, did have these cages on reefs with**
 22 **live oysters and structure.**
 23 **Q.** But, actually, you didn't study and take into
 24 account, as we talked about it in your
 25 deposition, what the elevation was, what reef
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1 elevation was when you set these cages down?

2 **A. No. We rigorously sampled the general area and**

3 **evaluated structure in terms of the biomass of**

4 **the reef habitat per unit area and used that as a**

5 **proxy for reef structure.**

6 **And may I add one further thing?**

7 **Q.** Sure.

8 **A. By repeating these experiments for four years**

9 **now, just like salinity has changed throughout**

10 **the bay, and we see predictable results. When**

11 **the salinity lowers, predation stops. When**

12 **salinity increases, predation increases.**

13 **We have seen changes in the structure of the**

14 **reefs where our experiments were conducted. Some**

15 **areas get more structure one year; some areas**

16 **lose structure the other year.**

17 **While salinity strongly can predict and**

18 **explain why predation goes up or down, when we**

19 **use our structure data to ask the same question,**

20 **it does not influence snail predation one bit.**

21 **Q.** So we went through the observations and the

22 experiments. As far as observations, you saw and

23 your research assistants saw gravel parking lots

24 in places. Correct?

25 **A. Yes.**

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1 **And the rest of that e-mail you're referring**

2 **to also --**

3 **Q.** There were snails, too?

4 **A. -- observed reefs with structure.**

5 **Q.** That's right. I know you weren't here for part

6 of the other testimony that there were snails.

7 There was predation. You would expect that when

8 you have a drought, you have some higher

9 salinity; you're going to have some predators.

10 That happens in every drought, you know, for

11 every oyster fishery more or less. Right?

12 **A. That's correct.**

13 **Q.** Now, the third prong of the analysis you did

14 involved the modeling; is that right?

15 **A. That's correct.**

16 **Q.** And that modeling was something that you did with

17 your colleague, Dr. Will White?

18 **A. I would rephrase that as Dr. White designed and**

19 **conducted the modeling. I facilitated it by**

20 **providing data and biological detail about what**

21 **was needed in the model.**

22 **Q.** And that's right. In order for Dr. White to

23 create and to run this model, he had to have

24 certain parameters to put into it, some of which

25 were relating to the biology of the oyster. Is

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1 that correct?

2 **A. Yes.**

3 **Q.** And these parameters that go into the model that

4 pertained to oyster biology, those parameters

5 aren't supposed to change. That's something

6 that's tied to, you know, how oysters develop and

7 grow?

8 **A. Well, the value of the parameter can change**

9 **depending on things like water salinity.**

10 **Q.** Sure. Let's make sure we're looking at it the

11 same way with Dr. White.

12 Let's look at Dr. White and the way that he

13 described how the model works with your inputs.

14 And in particular, so that I don't butcher it,

15 we'll just make sure we'll use Dr. White's

16 description.

17 If you could look at paragraph 28 of his

18 written direct testimony, and here he's

19 explaining, I believe, that you have got certain

20 data points, certain parameters that you put in

21 that relate to things like growth rate in the

22 oyster population, and that those don't change

23 over time?

24 **A. I don't exactly know what he was intending by**

25 **that one sentence. What I know about growth is**

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1 **that I have studied it a lot in oysters both on**

2 **the Atlantic coast, the Gulf coast, and the**

3 **Pacific coast of the United States is that**

4 **oysters do grow differently through time.**

5 **Generally they start growing very fast right**

6 **after they settle. And then as they get older,**

7 **they will slow down in growth. They also slow**

8 **down in growth when it's colder. And when it's**

9 **warmer, they speed up their growth.**

10 **So that whole process of growing from a**

11 **little baby oyster to an adult, it's sort of a**

12 **growth path. And if you study these growth paths**

13 **over and over again, you can get an idea of how**

14 **these growth paths are doing.**

15 **So perhaps that is what Dr. White was**

16 **intending to mean. But you would have to ask him**

17 **about the intentions of his paragraph 28.**

18 **Q.** Well, I'm just talking about the parameters.

19 Here we're talking about the eastern oyster and

20 the model, and the model uses a single parameter

21 for growth rate. Right?

22 **A. It used a von Bertalanffy growth curve.**

23 **Q.** You're going to have to spell that one for her.

24 **A. I don't think I -- von Bertalanffy. It itself**

25 **has parameters as well.**

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1 Q. Yes. And let's go --

2 MR. ECHOLS: So, madam court reporter,

3 you will see it written out, we can go to

4 paragraph 51 of Dr. White's written

5 testimony.

6 BY MR. ECHOLS:

7 Q. And here, as Dr. White is explaining, you have

8 these parameters of growth rate and this thing

9 called asymptotic maximum size. Are you familiar

10 with that?

11 A. Yes.

12 Q. And those are parameters that you gave Dr. White

13 to run his model. Right?

14 A. **Not exactly. I gave Dr. White the actual**

15 **growth data that we went out and dove on the**

16 **bottom of the bay and spent a lot of time**

17 **generating. It's the kind of data that never**

18 **existed for Apalachicola Bay and is crucial.**

19 **So I gave these data to Dr. White, and he**

20 **himself fit the von Bertalanffy growth curve**

21 **and from that estimated the parameters such as**

22 **the asymptotic growth rate or size that he would**

23 **need to run his model.**

24 Q. Could I direct you please and the Court to tab 3

25 in your binder.

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1 MR. ECHOLS: And for the record, tab 3

2 is FX-798.

3 BY MR. ECHOLS:

4 Q. And can you identify that this is the expert

5 report of -- submitted by your colleague with

6 whom you worked on this research which was

7 submitted February 29, 2016, in this case?

8 A. Yes.

9 Q. And I would like to just briefly turn back --

10 and, unfortunately, we don't have numbered pages

11 on this. So you have to flip in about 20 pages

12 until you get to appendix B that says Model

13 Methods. And after that appendix B page, turn

14 two more pages in and you will see a big table,

15 table 1, identifying parameters used in the

16 model.

17 A. I see it.

18 Q. And I'm just going to call your attention to two

19 of these parameters. Under oyster parameters --

20 and this is -- these are the parameters that are

21 supposed to apply to oyster biology in order for

22 Dr. White's model to work. Is that accurate?

23 A. Yes.

24 Q. And here you will see there's this asymptotic

25 maximum size. Then we have got a symbol there,

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1 and it says 61.5 millimeters. And the source is

2 identified as Kimbro expert report?

3 A. Yes.

4 Q. And that's the value that you gave Dr. White to

5 run in his model for purposes of the February 29

6 expert report and analysis submitted in this

7 case. Right?

8 A. **I'm sorry. I don't mean to be difficult, but no.**

9 **I gave Dr. White the data, and he fit the**

10 **statistical patterns to it. And from that he**

11 **calculated the values of these parameters.**

12 Q. The source is identified here as Kimbro expert

13 report. And Dr. White, I will represent to you,

14 testified he got that from you.

15 A. **Well, then there's just a misinterpretation**

16 **because the data came from me; but the functional**

17 **relationship was fitted by Dr. White.**

18 Q. And I take it that part of the reason that you

19 are hesitant to buy onto this particular figure

20 is because you did determine it was a mistake; it

21 was wrong?

22 A. **No. That's incorrect. It's not a mistake.**

23 Q. It was accurate? It's correct?

24 A. **At the time -- and I'm happy to clarify why**

25 **that's the case.**

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1 Q. Well, let me go back -- and I'll let your counsel

2 have you clarify; but I just want to make sure --

3 MR. ECHOLS: Can we go back to paragraph 51

4 of Dr. White's written direct testimony.

5 A. **Sorry. Say that again, please?**

6 Q. No. I was asking if we could get Dr. White's

7 written direct testimony.

8 Do you still have that in front of you,

9 paragraph 51 where we left off?

10 A. Yes.

11 Q. Okay. And he explains that what this asymptotic

12 maximum size means, it's the average maximum size

13 of very old individuals.

14 A. **Yes, I understand that.**

15 Q. And that's an accurate description of what

16 asymptotic maximum size means?

17 A. Yes.

18 Q. And the reason that I point this out is because

19 the -- the figure, the parameter that either

20 Dr. White came up with or that you gave him, was

21 61.5 millimeters. And that just doesn't make any

22 sense, does it, as far as being the average

23 maximum size of very old individual oysters?

24 A. **We needed to quickly quantify growth rates for**

25 **oysters from Apalachicola. We did this in two**

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1 **ways. And the first one was to go out and, from**
 2 **our surveys, collect a bunch of oysters,**
 3 **different size. And you can take them back to**
 4 **the lab, and their ligamental area at the bottom**
 5 **actually has a banding pattern. So you can slice**
 6 **it open. And it's been published in scientific**
 7 **literature that you can look at these bands, and**
 8 **they're almost like tree rings. And so if you**
 9 **count these bands and measure the size of the**
 10 **oyster, with each band corresponding to one year**
 11 **of age, you can then fit a mathematical function**
 12 **to evaluate how oysters grow to certain years of**
 13 **age. So we did this as a means to get growth**
 14 **rates as soon as possible.**

15 **And because we were not finding very many**
 16 **large oysters in 2013, you know, there was a**
 17 **massive unprecedented decline, we didn't have**
 18 **very many large oysters to sample to put in that**
 19 **dataset. And the very large oysters we did have,**
 20 **oftentimes they weren't conducive for this aging**
 21 **process. Just some shells were conducive and**
 22 **some were not.**

23 **So these data are real. They came from**
 24 **Apalachicola. They were the best we had. They**
 25 **weren't perfect. And we recognized that. I**

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1 **anticipated that problem, which is why in 2014 we**
 2 **began a painstaking experiment to quantify growth**
 3 **of oysters every month over a two-and-a-half year**
 4 **time span. We did it again 18 months later. We**
 5 **repeated this experiment twice. So now, we have**
 6 **new -- the best growth data available that exists**
 7 **in Apalachicola Bay; and that's why this**
 8 **parameter was updated from Dr. White's expert**
 9 **report to his direct testimony.**

10 **Q.** That is correct. After we had your deposition
 11 and Dr. White's deposition, Dr. Lipcius,
 12 Georgia's expert, in his report explained why
 13 this figure of 61.5 millimeters was absolutely
 14 wrong. And then you changed it?

15 **A.** **But how can that be wrong if that's what the**
 16 **animals were out in nature and that's what they**
 17 **were. It can't be wrong. It can just be under a**
 18 **nonideal situation for oysters when salinity**
 19 **conditions are too high. This is the asymptotic**
 20 **growth rate you're going to find; it's not wrong.**
 21 **And, no, we just didn't have the data for the**
 22 **second experiment until well after my deposition.**
 23 **When it was finalized, we included it for the**
 24 **direct testimony. So there is no because I**
 25 **received criticism, I changed my mind.**

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1 **Q.** Well, the reason -- the only way that this could
 2 be inaccurate that 61.5 millimeters -- well,
 3 let's get out of the metric. That's about 2
 4 inches. Right?

5 **A.** **Okay.**

6 **Q.** More or less?

7 **A.** **Sure.**

8 **Q.** Oysters can't be harvested in Apalachicola until
 9 they're 3 inches in size. Right?

10 **A.** **Yes.**

11 **Q.** And so what the parameter is that you gave
 12 Dr. White or Dr. White came up with on his own
 13 for the average maximum size of very old
 14 individual oysters was about 2 inches, and that
 15 makes no sense.

16 **A.** **That's what the data said.**

17 **Q.** And that data said that because you're taking
 18 data from after the collapse when, as you said,
 19 there aren't oysters out there. And that's why
 20 it can't tell you anything about before the
 21 collapse and what caused it?

22 **A.** **I'm sorry. Was that a question?**

23 **Q.** I think so.

24 **A.** **Could you rephrase it, please.**

25 **Q.** Sure. All of your data and the reason you got

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1 this 61.5 millimeters is because you're analyzing
 2 what's happening with these oysters when -- after
 3 the fishery collapsed when there's poor substrate
 4 and there are no oysters out there, and you're
 5 getting this 2 inches as the maximum size.
 6 Right?

7 **A.** **Yes. And predators were eating all the live,**
 8 **large oysters.**

9 **Q.** Yes. Like the ones you put on the serving plate?

10 **A.** **Correct.**

11 **Q.** But before the collapse, it didn't look like
 12 that?

13 **A.** **Correct.**

14 **Q.** Before the collapse, there were oysters out
 15 there; and there were lots of oysters because
 16 they were being harvested and harvested and
 17 harvested at the highest levels in the past 25
 18 years. It was a very different situation?

19 **A.** **I don't agree with that.**

20 **Q.** You don't?

21 **A.** **No.**

22 **Q.** You don't agree with the official Florida state
 23 data showing that more oysters were harvested in
 24 the two years prior to the collapse than in the
 25 25 years prior?

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1 **A. With our model and our objective, an estimate of**
 2 **harvesting rate over 20 years, it was consistent.**
 3 **It did not change.**
 4 **Q.** Let's just make sure --
 5 MR. ECHOLS: Since we're talking about
 6 it, can we put up the landings chart. And go
 7 ahead; let's do the broader time series so we
 8 have the full period.
 9 BY MR. ECHOLS:
 10 **Q.** So we already had, just before you took the
 11 stand, sir, Mr. Sutton, one of the executives
 12 from Florida Fish and Wildlife, testified. And
 13 he agreed that this, being the official Florida
 14 state landings data, is accurate. It's meant to
 15 be accurate, and that there was a lot of
 16 variation in the level of harvest from year to
 17 year. And these are what the data show.
 18 Now, is it your testimony, sir, that the
 19 level of harvest from year to year over the past
 20 25 years was the same?
 21 **A. No. I am saying that these data --**
 22 **fishery-dependent data, which they're**
 23 **observations so you can't use them to establish**
 24 **cause and effect, show that the landings have**
 25 **varied over time. And it looks like the bars**

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1 **closer to the collapse are higher.**
 2 **Now, that could be for one of two reasons.**
 3 **The first is they could increase their effort and**
 4 **begin overharvesting the resource, which looking**
 5 **at these data and hearing people speak at the**
 6 **time, which is why I had my original hypothesis**
 7 **of fishing was probably the likely cause of the**
 8 **collapse. But an alternative explanation is**
 9 **that conditions could have been good before the**
 10 **collapse, and so there was more resource. And**
 11 **so they're expending the same amount of effort,**
 12 **but they were just landing more oysters per**
 13 **effort.**
 14 **Q.** But we know that's not the case. Right?
 15 I mean, you reviewed the fishery-independent
 16 data that -- the DACS reports from 2011 and 2012;
 17 and you know that it was not the case that there
 18 were more oysters out there?
 19 **A. Can I see the data, please?**
 20 **Q.** You have no recollection with all of the three
 21 years of work that you have done on this that
 22 these official state reports on 2011 and 2012
 23 were warning of the decreased population of
 24 oysters?
 25 **A. Can you rephrase your question, please?**

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1 **Q.** Sure. There weren't more -- strike that.
 2 It was -- it's not the case that there were a
 3 lot more oysters out there in 2011 and 2012
 4 during the drought when all of the official
 5 Florida state documents are saying that the
 6 population is stressed and declining?
 7 **A. Yes. So in the fishery-independent data, oyster**
 8 **abundance per unit area declined at around -- I**
 9 **would really like to look at the data so I could**
 10 **get the numbers correct.**
 11 **Q.** You're unable to speak even generally about the
 12 fact that --
 13 **A. From 2010 to 2012, they were very high. And you**
 14 **would have the onset of drought, and they**
 15 **declined.**
 16 **Q.** Right.
 17 **A. And at the same time, these landings declined as**
 18 **well.**
 19 **Q.** Are we looking at the same chart here?
 20 That far --
 21 **A. Yes.**
 22 **Q.** -- far right red bar?
 23 **A. The far right red is mid-2012, and then it drops**
 24 **off precipitously.**
 25 **Q.** Right. Yes, the far right red bar is 2012.

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1 That's the official Florida state data showing
 2 3.03 million pounds of oysters harvested, which
 3 is the highest number for the last 25 years. And
 4 oyster population wasn't more abundant in 2012
 5 than it was in 2011 or 2010; was it?
 6 **A. I think it was high.**
 7 **Can we put the fishery-independent data up on**
 8 **the screen?**
 9 **Q.** You're unable to state based on all of your work
 10 on this, given that you had the oyster collapse
 11 in 2012, that the oyster population was
 12 declining?
 13 **A. The oyster population prior to the collapse was**
 14 **doing quite well. That's why it caught the state**
 15 **officials by surprise because their surveys prior**
 16 **to the collapse suggested that the harvest was**
 17 **going to be very, very good in the next few**
 18 **seasons.**
 19 **Let's see.**
 20 MR. ECHOLS: Judge, I'm probably going
 21 to need to pull a couple of documents, given
 22 that Mr. Kimbro -- Dr. Kimbro has asked to
 23 see some data. And I wonder if it might be
 24 all right for me to have a moment to do that
 25 and take a short break.

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1 SPECIAL MASTER LANCASTER: Sure.
 2 (Time Noted: 2:43 p.m.)
 3 (Recess Called)
 4 (Time Noted: 2:58 p.m.)
 5 MR. ECHOLS: If I might direct the Court
 6 and counsel to tab 3 in the binder
 7 from Mr. Sutton's testimony. We have a
 8 document in there that was responsive to
 9 Dr. Kimbro's question about the population
 10 parameters. It's under tab 3.
 11 I'll hand it up.
 12 And if I could direct the Court and
 13 Dr. Kimbro to page 5.
 14 BY MR. ECHOLS:
 15 Q. I put a flag on it for you there, Dr. Kimbro.
 16 A. **Okay. Is this the same file that Mr. Berrigan**
 17 **produced?**
 18 Q. If you -- if you want to look at the very first
 19 page, you can see that this is the official state
 20 oyster resource assessment report for 2011. And
 21 I don't know if you recall, this is a document
 22 that we used in your deposition.
 23 A. **Okay.**
 24 Q. Okay. You have looked at these reports or these
 25 types of reports before as part of your work in

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1 assessing the causes of the collapse; have you
 2 not?
 3 A. **I considered them, yes.**
 4 Q. And it would make sense to look at these given
 5 that they're the official state documents put out
 6 by the resource agency that collects the
 7 fishery-independent data. Right?
 8 A. **Yes. But the data on the front page are**
 9 **fishery-dependent data.**
 10 Q. Right. But I'm just speaking generically. You
 11 know that DACS collected the fishery-independent
 12 data, and that's information that you analyzed
 13 and relied upon in your analysis. Correct?
 14 A. **Yes.**
 15 Q. And we were just, when we took a break,
 16 discussing whether it was the case that there
 17 happened to be more oysters out there; and that's
 18 why landings were so high. And so I wanted you
 19 to take a brief look at this official state
 20 report, page 5 of this report from DACS. If you
 21 go down almost right in the middle, you will see
 22 a paragraph that says stable or declining
 23 population estimates, if you wouldn't mind
 24 reading that to yourself.
 25 A. **Sorry. May I also have the document that showed**

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1 **the landings so that I can have that in my mind**
 2 **when --**
 3 Q. Yes, absolutely.
 4 A. **-- I'm reading this?**
 5 Q. In fact, that's a good idea.
 6 And I think -- I think I gave it to you in
 7 hard copy, I hope. Anyway, it's up on your
 8 screen now.
 9 So this is the fishery-dependent data that is
 10 collected and provided by FWC. And this is the
 11 independent report that the Department of
 12 Agriculture collects, Mr. Berrigan and his
 13 people, in assessing the population and providing
 14 guidance to FWC about setting harvesting limits
 15 and the like.
 16 A. **Okay. I have read --**
 17 Q. That paragraph?
 18 A. **-- the material.**
 19 Q. Sure. And so what we have got -- this is to
 20 situate us in time -- September 2011 you have
 21 DACS reporting that the populations of oysters
 22 are stable or declining and that harvest rates
 23 may not be able to be sustained. And so they, in
 24 the fishery-independent data, are reporting that
 25 there are fewer oysters out there and anticipated

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1 to be out there at the same time as the
 2 harvesting of oysters in pounds is getting higher
 3 and to its highest levels ever. Is that
 4 accurate?
 5 A. **I read it as that during 2010-2011, oyster**
 6 **population parameters reflected relatively stable**
 7 **production estimates.**
 8 Q. Okay.
 9 A. **And then if you look at the 2011 red bar, it**
 10 **seems roughly equal to 2009 and 2007. So, again,**
 11 **without error bars, you can't calculate**
 12 **statistical differences. But if the population**
 13 **is relatively stable and it looks like the**
 14 **harvest or the landings, let's say, reported by**
 15 **the fishermen themselves, they also appear to be**
 16 **relatively stable.**
 17 **And then our closer inspection of the**
 18 **fishery-independent data show that in 2012**
 19 **there's a very strong recruitment class on**
 20 **substrate out in the estuary. And then suddenly,**
 21 **wham, a massive mortality event happened.**
 22 **So I see them stating caution in the report,**
 23 **as any fisheries management biologist should; but**
 24 **I see the word stable production estimates. And**
 25 **I look at these landings; and, you know, they're**

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1 **relatively stable. And then, again, based on our**
 2 **closer inspection at a higher resolution of the**
 3 **fishery-independent data, this level of**
 4 **harvesting did not inhibit recruitment just prior**
 5 **to the collapse.**
 6 **Q.** In fact, if I can refer you -- and let's keep
 7 this up on the screen there -- to your written
 8 direct testimony, paragraph 99.
 9 **A. Sorry. My direct testimony?**
 10 **Q.** Yes, please, sir, your direct testimony to
 11 paragraph 99 on page 40.
 12 Are you at paragraph 99?
 13 **A. Yes. I was just beginning to --**
 14 **Q.** Okay. Sure.
 15 **A. -- read it.**
 16 **Should I read it?**
 17 MR. ECHOLS: Just waiting for the Court
 18 to -- got it, sir?
 19 BY MR. ECHOLS:
 20 **Q.** Yes. We were operating under a rule where we
 21 don't read things, at least I don't. But could
 22 you read the first sentence only of that
 23 paragraph out loud.
 24 **A. The results of the model demonstrated that the**
 25 **commercial harvest of oysters has not changed**

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1 **significantly over the past 30 years.**
 2 **And --**
 3 **Q.** Okay.
 4 **A. -- if I could revise that, I would revise it to**
 5 **be the estimated fishing rate.**
 6 **Q.** Okay. And the commercial harvest of oysters has
 7 changed significantly over the past 30 years, as
 8 reflected by the harvest data. Correct?
 9 **A. Again, when you -- you're just seeing an image**
 10 **here; and you're using your eyes and your mind to**
 11 **say what's different and what's not. And in our**
 12 **field, we use statistics. And in order to use**
 13 **statistics, you have to have averages and**
 14 **variances.**
 15 **So the way you're looking at these data right**
 16 **here, the human mind wants to see patterns. But**
 17 **in order to objectively see if there are**
 18 **differences or not, you need to use means and**
 19 **variances. And so when you do that, like the**
 20 **model output did, it shows that the level of**
 21 **fishing has been relatively consistent for the**
 22 **past 20 years.**
 23 **Q.** In your binder, if I could ask you to turn,
 24 please, to tab 6. And this is GX-1318. And
 25 we're only going to look at a very tiny part of

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1 this. This is an article published --
 2 peer-reviewed article that you cite in your
 3 expert report bibliography. And I take it you're
 4 familiar with this article?
 5 **A. Yes. And, in fact, as a post-doc, I tried to**
 6 **work with Dr. Kirby to write a proposal for the**
 7 **National Science Foundation.**
 8 **Q.** And in very laymen terms, what Dr. Kirby is
 9 studying is how oyster fisheries have declined
 10 and in some cases been destroyed up and down the
 11 coast in progression over time over the past
 12 hundred-some years?
 13 **A. Yes. He's using essentially fishery-dependent**
 14 **data landings and historical records to piece**
 15 **together a very plausible story about how oyster**
 16 **reefs declined going from north to south.**
 17 **Q.** And this is awful hard to read given the way the
 18 columns are set up. I'll direct you over, but
 19 I'll have it pulled out. I'll direct you on the
 20 right-hand column, and it's two-thirds of the way
 21 down there is a section where he starts third.
 22 He's doing first, second, and third. The line
 23 that begins early 1800's.
 24 **A. I see that.**
 25 **Q.** Okay.

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1 MR. ECHOLS: And can we put up, you
 2 know, that particular portion on our chart,
 3 please.
 4 BY MR. ECHOLS:
 5 **Q.** And so what, as you explained, Dr. Kirby was
 6 looking at was Dr. Kirby, whom you wanted to do
 7 some research with, was looking at how you could
 8 examine landings data to identify fishery
 9 collapses, shall we say, and explains that what
 10 you would find that would show a fishery collapse
 11 would be where the landings data would show a
 12 rapid rise to a maximum value followed by a rapid
 13 decrease and that such a rise to a maximum value
 14 like this serves as an equally and easily
 15 recognizable proxy for a fishery collapse and
 16 reef degradation. Right?
 17 **A. Yes. And that's why, when I looked at these**
 18 **data, my initial hypothesis was that fishing**
 19 **pressure played a role in the collapse of 2012 in**
 20 **Apalachicola.**
 21 **Q.** Okay. Last thing I would like to touch on,
 22 please, sir, is the model that you and Dr. White
 23 worked on was designed to assist the Court in
 24 determining whether the low flows from the river
 25 caused the oyster collapse. Does that more or

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1 less sound accurate?

2 **A. Yes. We wanted to evaluate the relative roles of**

3 **fishing pressure and very high salinity level**

4 **induced by low river flows.**

5 **Q.** And when we had your initial report, you had --

6 you and Dr. White had run a scenario that assumed

7 that Georgia was consuming no water whatsoever,

8 you know, and analyzed whether that would have

9 had an impact on the biomass or abundance of

10 oysters. Is that right?

11 **A. We did run that scenario.**

12 **Q.** But then since then, you know, up until now

13 through your direct testimony, you and Dr. White

14 also ran what is called a remedy scenario, which

15 uses what Florida is proposing be imposed on

16 Georgia as far as restrictions on their water

17 use. Is that right?

18 **A. We were asked to run a scenario as you described.**

19 **Q.** And I just want to look at what the results of

20 the model that you and Dr. White did. And you

21 did fix those parameters, the ones that were

22 wrong, the small size and the growth rate?

23 **A. Just for the record, they weren't wrong at the**

24 **time. But we just had better data that we could**

25 **use at a later date.**

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1 **Q.** You changed them. They were double when it was

2 rerun later on. Right?

3 **A. Given our more expansive and very intensive**

4 **experiment, we then had much higher quality data.**

5 **And we would rather use those data than the data**

6 **that we had -- that's all we had when we first**

7 **started the sturdy.**

8 **Q.** If you could look at Dr. White's written direct

9 testimony where he charts the results of the

10 model and the effect of the remedy scenario, and

11 that would be on page 50 of Dr. White's written

12 direct. Are you there, sir?

13 **A. Yes, I am.**

14 **Q.** And do you see the same chart that we have up on

15 the screen. And I'm focused on the Cat Point

16 one.

17 **A. Yes.**

18 **Q.** Now, this remedy scenario that is proposed here,

19 you understand that it anticipates that half of

20 Georgia's agricultural consumption of water would

21 be cut?

22 **A. I didn't understand that. I was just given a**

23 **salinity time series and was told to run it. And**

24 **I knew it was less of an imposition, for lack of**

25 **a better word, on the State of Georgia than was**

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1 **the "Georgia can't use any water" scenario.**

2 **Q.** And so under this remedy scenario, the way the

3 Court should understand the chart is that if you

4 cut, assuming that is what is intended here,

5 one-half of all of Georgia's agricultural

6 consumption, based on the model that you and

7 Dr. White put together, that remedy scenario

8 shows that you would have somewhere in between a

9 zero and a 1.1 percent difference as far as

10 greater oyster abundance. Right?

11 **A. That's correct.**

12 **Q.** And your conclusion is that despite the fact that

13 if you put in place this significant restriction

14 on Georgia water use, that based on all of your

15 modeling and observation and experimentation,

16 that the 1 to 1.2 percent difference that you

17 would have in the change in population shows that

18 Georgia water use caused the oyster collapse?

19 **A. Yes.**

20 **Is there any way I could look at a map and --**

21 **Q.** I'm sure Mr. --

22 **A. -- to answer the question?**

23 **Q.** Mr. Qureshi will lead you through that.

24 That's correct; your opinion is that Georgia

25 water consumption caused the oyster collapse?

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1 **A. The reason why I wanted to look at a map is to**

2 **say -- well, one, the model was set up in a very,**

3 **very conservative process. We are looking at Cat**

4 **Point commercial bar, the most heavily-fished**

5 **bar. So the model is estimating fishing rate in**

6 **an area of the bay where it's being fished the**

7 **most. It's not happening everywhere. At the**

8 **same time we're at an oyster bar that's farther**

9 **away from the river than are other bars.**

10 **So our results here are very, very**

11 **conservative in showing the benefit of any**

12 **additional flow from the river on the population**

13 **abundance at this commercial bar far from the**

14 **river.**

15 **So, unfortunately, we don't have data for**

16 **bars closer to the river. And as you move in**

17 **towards the river, you're going to see, given the**

18 **same scenario, much more pronounced benefit to**

19 **the oyster populations.**

20 **And during times of natural stress, oyster**

21 **reefs far away from the river generally decline**

22 **precipitously. What is needed in estuaries for**

23 **those bars close to the river to be maintained is**

24 **freshwater inflow driving out predators and**

25 **disease. So when the conditions normalize, the**

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1 **reproduction from these reefs by the river**
 2 **reseeds the whole bay.**
 3 **Q.** What your model shows -- your and Dr. White's
 4 model -- is that at Cat Point, which is one of
 5 the largest, most commercially important reefs
 6 in Apalachicola Bay, that if you cut Georgia's
 7 water -- agricultural water consumption by 50
 8 percent under the proposed remedy scenario, you
 9 would have a 1.2 percent increase at that major
 10 oyster bar -- 1.2 percent increase in oyster
 11 biomass. Right?
 12 **A.** **Based on our very, very conservative use of the**
 13 **model, yes.**
 14 **Q.** Thank you.
 15 REDIRECT EXAMINATION
 16 BY MR. QURESHI:
 17 **Q.** Good afternoon, Dr. Kimbro.
 18 **A.** **Good afternoon.**
 19 **Q.** Do you recall some questions earlier today about
 20 when you became involved in reviewing the
 21 collapse of the oyster fishery in Apalachicola
 22 Bay?
 23 **A.** **Yes, I do.**
 24 **Q.** Have you heard of the Apalachicola Bay oyster
 25 situation report?
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1 **A.** **Yes.**
 2 **Q.** What is it?
 3 **A.** **It's a document put together by a task force,**
 4 **mostly based out of the University of Florida in**
 5 **Gainesville. It was called the University of**
 6 **Florida Oyster Recovery Task Force. And it was**
 7 **led by Dr. Karl Havens, who is a professor at the**
 8 **University of Florida and also head of Florida's**
 9 **Sea Grant. And he convened a panel of experts to**
 10 **gather all the available data at the time of the**
 11 **2012 oyster decline to try and figure out what**
 12 **was the cause of that unprecedented decline in**
 13 **oysters.**
 14 **Q.** What involvement did you have with the task
 15 force?
 16 **A.** **I conducted research that was a precursor for all**
 17 **the research we have been talking about today. I**
 18 **argued that if you're ever going to be able to**
 19 **establish what caused what in a very complex**
 20 **system like Apalachicola Bay, you're going to**
 21 **need a rigorous research program involving**
 22 **experiments, observations, and modeling. And you**
 23 **need to have that maintained.**
 24 **And my section that I wrote was towards the**
 25 **end of the report, and it essentially introduced**
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1 **that need and my plan for implementing it to the**
 2 **readers, primarily the citizens of Apalachicola.**
 3 **Q.** And, Dr. Kimbro, how did you become involved in
 4 the task force?
 5 **A.** **Shortly after the collapse, in the fall of 2012,**
 6 **Dr. Havens contacted me and told me about the**
 7 **task force, which I thought was a great idea.**
 8 **And he said that he had selected many experts to**
 9 **be on the task force; but the current composition**
 10 **was insufficient because they all consisted of**
 11 **scientists from the University of Florida at**
 12 **Gainesville when there are other scientists, like**
 13 **myself, who were much closer to the situation.**
 14 **At the time I was at Florida State University and**
 15 **was only 30 miles from Apalachicola Bay.**
 16 **And, secondly, all of the scientists on the**
 17 **panel lacked extensive experience with oyster**
 18 **ecology. So he thought by inviting me to join**
 19 **the task force, that that problem would be**
 20 **solved. He invited me, and I humbly accepted.**
 21 MR. QURESHI: Your Honor, may I provide
 22 Dr. Kimbro with a document?
 23 SPECIAL MASTER LANCASTER: Please.
 24 BY MR. QURESHI:
 25 **Q.** Dr. Kimbro, do you recognize the document marked
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1 as GX-568?
 2 **A.** **Yes.**
 3 **Q.** Okay. I would like to ask you to turn to page 4
 4 and explain to us what findings the task force
 5 made in April 2013?
 6 **A.** **So there were several key findings made by the**
 7 **collective task force. The first is that the**
 8 **flow of the Apalachicola River was extremely low**
 9 **just before and during the collapse of 2012. And**
 10 **this was during a period of high, prolonged**
 11 **drought. As a result of that, because the inflow**
 12 **from rivers is the primary control of salinity of**
 13 **water in an estuary, there is a spike in water**
 14 **salinity throughout Apalachicola Bay. Coincident**
 15 **with that, there's an unprecedented decline in**
 16 **the oyster fishery of Apalachicola Bay that the**
 17 **panel attributed to be most likely caused by**
 18 **recruitment failure and massive mortality of**
 19 **sub-legal-size oysters.**
 20 **Using the fishery-independent data, the task**
 21 **force concluded that there really wasn't much out**
 22 **there left, legal-size oysters or sub-legal-size**
 23 **oysters. And as a result, the fishery was going**
 24 **to be in trouble for the next couple of years.**
 25 **There were simply no more young oysters to grow**
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1 into adult legal-size oysters for harvest.

2 They then, due to some modeling efforts,

3 concluded that the current regulation on the

4 legal size limit to harvest oysters at 3 inches

5 was sufficient to prevent the likelihood of

6 overharvesting the resource. However, they

7 cautioned that everyone needed to stick to

8 obeying that regulation.

9 And, finally, they share with the public that

10 they had investigated in oysters, two different

11 shrimp species, and crabs whether or not

12 dispersant used during the Deepwater Horizon oil

13 spill was in any way in the food web in the bay

14 and might play a factor in the collapse of

15 oysters in 2012. And they, based on their

16 evidence, concluded that it was not a factor.

17 Q. Dr. Kimbro, on page 7 under the Results section,

18 the first substantive topic is environmental

19 conditions. Why did the task force look at

20 environmental conditions in its work?

21 A. This was research conducted by, if I remember,

22 Dr. Bill Pine and Dr. Karl Havens, both at the

23 University of Florida. And I think the overall

24 goal of this section was to show just how

25 different the environmental conditions in

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1 Apalachicola Bay and the River were just prior to

2 the collapse when compared to long-term trends

3 from 1950 to 2000.

4 So the first figure on page 7, figure 1, is

5 showing you how recent years of flow from the

6 Apalachicola River compared to long-term averages

7 and variances of flow from 1950 to 2006, I

8 believe, for each of the 12 months of the year.

9 Q. Dr. Kimbro, excuse me for interrupting. Are you

10 on figure 1 or figure 2?

11 A. Figure 1, talking about flow.

12 Q. Okay.

13 A. But -- in short, the most recent years were

14 considerably below the long-term average of flow

15 from the river.

16 Q. And what impact does that have on the health of

17 the estuary?

18 A. Well, salinity is the primary organizational

19 environmental force of how species and food webs

20 assemble themselves throughout an estuary. If

21 you ever go fishing in an estuary, if you go

22 closer to the river, you're going to catch

23 different fishes and species than you are farther

24 away from the river. That's because you're going

25 to have species more adapted to marine conditions

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1 far away from the river and species better

2 adapted for freshwater conditions closer to the

3 river. So salinity essentially organizes what

4 your food web looks like throughout an estuary.

5 And, for example, oysters for a long time

6 have enjoyed the benefits of living close to

7 rivers because their predators and diseases can't

8 take that. So when you have flow events, it

9 beats back the disease and predators, which

10 oysters, I assume, appreciate.

11 Q. And what impacts does fresh water have on

12 nutrients?

13 A. So fresh water from the river organizes estuarine

14 systems in two ways. The first is the salinity,

15 which we just talked about. The second is food

16 webs, whether on land or at sea, the base of them

17 are supported by plants or autotrophs. And these

18 things grow their food on limited nutrients such

19 as nitrogen and phosphorus. So without that, the

20 plants can't grow. Without plants, you can't

21 have herbivores. Without herbivores, you can't

22 have carnivores. So in estuaries, the primary

23 delivery of limited nutrients such as nitrogen

24 and phosphorus come from rivers.

25 So when you turn off the flow of the river,

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1 any river, that's dumping into an estuary, you're

2 significantly altering the food web of the

3 estuary in two ways. One, by increasing the

4 salinity, you're increasing natural enemies of

5 things like oysters that then come and make them

6 die. So that's, like, a top-down pressure.

7 And then, No. 2, because you're starving the

8 system of limited nutrients that the plants -- in

9 marine systems the plants are algae. And that's

10 what the oysters filter out of the water for

11 food. You're then starving the oysters. So

12 you're collapsing the food web from the bottom as

13 well.

14 So lacking river water fundamentally changes

15 the food webs of the estuaries from the top down

16 and from the bottom up.

17 Q. On page 10, sir, there's a discussion by the task

18 force on status and trends in the oyster fishery.

19 Can you explain why the task force was looking at

20 the fishery?

21 A. I'm sorry. Can you tell me which page that is on

22 again, please?

23 Q. I believe it's page 10, sir.

24 A. And your question was what is this section about?

25 Q. It was more general. Why was the task force

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1 looking at the oyster fishery?

2 **A. One, they wanted to explain to the public the**

3 **kinds of data they have available to evaluate**

4 **what's going on with the fishery. So they**

5 **presented two different kinds of data that --**

6 **again, I'm not a fisheries biologist, but what I**

7 **believe fisheries biologists use. And the first**

8 **was fishery-dependent data. And that essentially**

9 **is the amount of landings or oyster pounds**

10 **brought to the dock. Typically on an annual**

11 **basis, they use the total. And from that they**

12 **can calculate how landings fluctuate over time.**

13 **The second type of data that they want to**

14 **introduce the public to that they use to evaluate**

15 **what's going on with the fishery are the**

16 **fishery-independent data. So these are data**

17 **collected by DACS, a division within the State of**

18 **Florida, that went out and dove to the bottom on**

19 **reefs. And instead of relying on harvesters to**

20 **tell them, you know, how many oysters are out**

21 **there, they went down and actually grabbed**

22 **samples per unit area, brought them up to the**

23 **boat, and counted the number of oysters. And**

24 **they also sized the oysters so you could tell how**

25 **many oysters were of market size to be harvested**

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1 **and how many oysters are just below that so,**

2 **therefore, are going to quickly grow into market**

3 **size. And they could then use that to plan**

4 **future harvesting regulations for the next**

5 **season.**

6 **Q.** Sir, if we could look at figure 14 on the bottom

7 of page 13, the lower right-hand corner. Can you

8 explain what that means?

9 **A. Figure 14, the bottom panel?**

10 **Q.** Yes, sir.

11 **A. Okay. These are -- this is a plot of the**

12 **fishery-independent data. And it shows you on**

13 **the Y axis the number of oyster individuals per**

14 **meter squared. So that's size of the quadrat**

15 **they used to collect their animals.**

16 **And the red data at the bottom shows you for**

17 **each year from 1990, going from left to right, to**

18 **2012 the abundance of adult legal-size oysters in**

19 **these quadrats. And it was relatively stable.**

20 **You don't see too many wild fluctuations in that.**

21 **If you then look at the blue data on the line**

22 **just above it, one, you're going to notice that**

23 **these are the sub-legal oysters. So they're**

24 **smaller. And there are many more of them. And**

25 **that's what you expect to find in any natural**

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1 **population. There are going to be more younger**

2 **individuals than older individuals, so that**

3 **doesn't surprise me. But what you also see is**

4 **over the past 22 years, there's been tremendous**

5 **variability, peaks and valleys, of the abundance**

6 **of sub-legal oysters that they were quantifying.**

7 **However, in 2011 there was a very high**

8 **abundance of sub-legal oysters, indicating that**

9 **harvest the following year should be very good.**

10 **But what they found in 2012 was there was a**

11 **precipitous drop-off in the abundance of these**

12 **sub-legal oysters, most likely due to a massive**

13 **mortality event.**

14 **Q.** Dr. Kimbro, there's been discussion about harvest

15 of oysters that are smaller than 3 inches. As an

16 oyster ecologist and biologist, what's the impact

17 on the oyster resource of harvesting oysters

18 smaller than 3 inches?

19 **A. Well, the 3-inch threshold for harvesting an**

20 **oyster is a conservative threshold set by federal**

21 **or state management scientists; but it doesn't**

22 **reflect the true biology of the organism. If I**

23 **went out and we all harvested oysters that were 2**

24 **inches, 2-3/4 inches, that wouldn't inhibit**

25 **reproductive capability of the oyster population**

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1 **because oysters -- they're actually**

2 **hermaphrodites. So at 1 inch in size, the males**

3 **begin producing many, many sperm that are**

4 **released. Once the oysters get a little older,**

5 **they switch to female; and they're larger. And**

6 **the average-size female oyster can release 8**

7 **million eggs.**

8 **So I find it hard to believe that if we**

9 **harvest at 2 inch, 2-3/4 inches for our oyster**

10 **population, that we're going to somehow inhibit**

11 **the reproductive success of an oyster population.**

12 **Q.** Dr. Kimbro, on page 23 of the task force report

13 there's a discussion of monitoring and

14 experimentation. Can you describe that section

15 for us?

16 **A. Yes.**

17 **THE WITNESS:** Could I use a map to --

18 your Honor, to explain this?

19 **This is a section I wrote; and it will**

20 **be wordy, but easier to do if I can point at**

21 **things.**

22 **Thank you.**

23 **BY MR. QURESHI:**

24 **Q.** Sure. I'll put a map up for you and give you a

25 laser pointer.

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1 **A. So my section of the report was essentially**
 2 **communications to the public that in order to --**
 3 **this is a very big, complicated system. And in**
 4 **order to ever establish what caused what, we**
 5 **would need a rigorous research approach to be**
 6 **maintained. And I outlined to the public what**
 7 **this research approach would look like. It**
 8 **should involve long-term observations, repeated**
 9 **experiments, and modeling that can integrate all**
 10 **those results.**

11 **So because of observations I wanted us to**
 12 **make and began making within 2013, was to monitor**
 13 **oyster populations not just on Cat Point or Dry**
 14 **Bar, but everywhere, because this is not a**
 15 **homogenous environment. Salinity can be quite**
 16 **higher here away from the river than here because**
 17 **we're closer to the river. Not only that, we**
 18 **have east-west currents. So salinities away from**
 19 **the river in the east can be different from**
 20 **salinities away from the river in the west.**

21 **So our goal was to monitor consistently how**
 22 **oyster reefs, their health, changed as we saw**
 23 **changes in the inflow of the river. So if you**
 24 **have more inflow of the river, do you see**
 25 **salinity drop? And then do you see oyster**

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1 **populations improve? Do you see more improvement**
 2 **closer to the river than you do farther away from**
 3 **the river? What do the predators look like at**
 4 **all these different reefs? When you have more**
 5 **river inflow coming in, just after a very salty**
 6 **time period, do we have predators all up in here**
 7 **that quickly go away?**

8 **So these kinds of observations can allow us**
 9 **to make hypotheses about how the inflow of the**
 10 **river and its influence on salinity can change**
 11 **the health of oyster reefs.**

12 **But that's just an observation. I can't**
 13 **say -- if the inflow of the river comes in and we**
 14 **see a dramatic improvement in oyster health**
 15 **because the water salinity dropped, I can't tell**
 16 **you exactly why. For that I need the second**
 17 **prong of our approach, and that's**
 18 **experimentation.**

19 **So we talked about this earlier. And I**
 20 **explained that we have two simple treatments.**
 21 **It's been used in ecology for the past 50 years.**
 22 **For example, we have a plate of oysters with five**
 23 **of them. We have another plate; they're the**
 24 **same. And I randomly assigned this plate to**
 25 **receive a cage that excludes predators. So we**

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1 **put them out here on this reef. And one of three**
 2 **things can happen. No. 1, all the oysters could**
 3 **survive. Perhaps salinity is low everywhere, so**
 4 **great.**

5 **No. 2, we could have all the oysters eaten on**
 6 **the plate without the cage; but all the oysters**
 7 **on the plate with the cage would survive. So if**
 8 **that's the case, it would suggest that the**
 9 **environment, the stress, disease, is not strong**
 10 **enough to kill the oysters in the cage. So,**
 11 **therefore, what killed the oysters outside of the**
 12 **cage was predation.**

13 **So if you actually do a little sort of**
 14 **subtraction thing that we do as ecologists, if**
 15 **you subtract the survivorship in-the-cage plate**
 16 **versus the survivorship on the noncage plate,**
 17 **that's a very strong indicator of predation**
 18 **strength.**

19 **The third outcome is oysters die on the plate**
 20 **without the cage, but they also die on the plate**
 21 **inside the cage. That would suggest that stress,**
 22 **high salinity, and disease is what killed these**
 23 **oysters both inside and outside the cage.**

24 **So by repeating these experiments**
 25 **systematically throughout this estuary for four**

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1 **years, very intensive effort, diving down to the**
 2 **bottom, seeing things with your own eyes, I can**
 3 **show you and I repeatedly have shown you that as**
 4 **you get fluctuations in this river inflow, you**
 5 **get fluctuations in water salinity that gives you**
 6 **fluctuation in predator abundance. And that**
 7 **explains why we see different levels of predation**
 8 **throughout this whole bay. It is predictable.**
 9 **Done it over and over and over again.**

10 **It's actually not that new of a concept.**
 11 **Investigators before me did this. Dr. Skip**
 12 **Livingston was a long-time professor at the**
 13 **Florida State University for 30 years. He did**
 14 **similar experiments that showed very similar**
 15 **results. In the 1960's, Dr. Menzel and**
 16 **Dr. Hathaway did the same experiment that showed**
 17 **that high salinity caused an outbreak of**
 18 **predators that destroyed reefs out here in the**
 19 **St. Vincent section of Apalachicola.**

20 **So once we get all these observations and**
 21 **these experiments which allow us to establish**
 22 **cause and effect about patterns in the present,**
 23 **we then integrate that into a model which proves**
 24 **to work very well in the present. If you have**
 25 **data, luckily, that is consistent from a long**

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1 **time ago, you can take that model, go back in**
 2 **time, and evaluate why things like the FDACS data**
 3 **went up and down from year to year and,**
 4 **therefore, exactly why the oysters collapsed in**
 5 **2012.**
 6 **And this three-pronged research approach of**
 7 **observations, experiments, and modeling, it is**
 8 **not new. This is not something I invented. It's**
 9 **actually a research approach that I teach to my**
 10 **undergraduate ecology students at Northeastern**
 11 **University. It's highlighted in a textbook.**
 12 **It started with, in Canada, there was a**
 13 **200-year record of snowshoe hare, for trapping**
 14 **for furs, and Canadian lynx, which like to eat**
 15 **the hare. And so ecologists figured, I would**
 16 **like to look in these trapping books. And they**
 17 **noticed really interesting patterns of when the**
 18 **predators increased, the lynx, the snowshoe hare**
 19 **decreased. And it's a cycle that repeats every**
 20 **200 years. So ecologists debated for 40 or 50**
 21 **years what was causing that. Some people thought**
 22 **it was the lynx, when they get abundant, drive**
 23 **the snowshoe hare predators down. But it could**
 24 **also be possible that food quality for the**
 25 **snowshoe hare changed through time; and because**

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1 **snowshoe hares starved, the lynx starved and fell**
 2 **down.**
 3 **Well, the only way they figured this out was**
 4 **by conducting long-term experiments in the**
 5 **present where these people erected electronic**
 6 **fences at an aced scale. And they manipulated**
 7 **the abundance of predators. They manipulated the**
 8 **abundance of food. So they knew exactly how food**
 9 **and predators controlled snowshoe hare**
 10 **abundances, cause and effect. And then they**
 11 **implemented that into a model, just like we did,**
 12 **proved that it worked now.**
 13 **So given that they had this wonderful**
 14 **200-year time series, they can take that model**
 15 **back in time and tell you exactly what caused**
 16 **these fluctuations in predator and prey. And**
 17 **it's highlighted in the ecological textbook that**
 18 **I use in my class.**
 19 **So the point of my story is not only to tell**
 20 **you what I wanted to introduce in the section of**
 21 **the report to the public in Apalachicola, but to**
 22 **highlight that my research approach, which worked**
 23 **very well in this situation, is not something I**
 24 **invented.**
 25 **Q.** Dr. Kimbro, on page 24 of the task force report,

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1 based on the research approach you just
 2 discussed, what conclusions had you made at this
 3 point in time in April of 2013?
 4 **A. I'm sorry. I just sat down. Can you repeat your**
 5 **question, please?**
 6 **Q.** Certainly. Page 24 and 25 of the task force
 7 report --
 8 **A. Sure.**
 9 **Q.** -- what conclusions had you reached at this point
 10 in time, April 2013?
 11 **A. They were very preliminary. My goal wasn't to**
 12 **reach any conclusions. I just wanted to be very**
 13 **transparent that the community was hurting. And**
 14 **I think they wanted to see any kind of work that**
 15 **was being done on their behalf to figure out what**
 16 **had happened and how can we fix it. And so this**
 17 **was just a good faith effort to tell everyone**
 18 **what exactly I was doing and what I'm actually**
 19 **seeing.**
 20 **And so on figure 35 on page 25, I'm**
 21 **presenting the results of our first sampling**
 22 **efforts began in January 2013. And regions 1,**
 23 **2, and 3, as you -- region 1 means we're looking**
 24 **at reefs closer to the river mouth. Region 3**
 25 **means we're way out on reefs far from the river.**

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1 **And what I showed to the public is some areas do**
 2 **look like gravel parking lots. There's not that**
 3 **much structure. In fact, the black bars are the**
 4 **reefs towards the west of Apalachicola Bay. And**
 5 **they have lower structure per unit area. But**
 6 **some reefs have lots of reef structure left. In**
 7 **fact, as you go from the river, away from the**
 8 **river towards the east, towards Cat Point, we saw**
 9 **variability -- you can see that wide arrow bar --**
 10 **in restructured per sample; but the average was**
 11 **pretty good. So then I also just shared with**
 12 **them my abundance counts of adult-size oysters**
 13 **and baby oysters that we quantify in these**
 14 **samples.**
 15 **And, again, it was just very preliminary data**
 16 **to show, you know, work is being done. And if we**
 17 **can stick with this, we'll figure it out.**
 18 **Q.** Okay. Dr. Kimbro, we talked a little earlier
 19 about the evaluation of status in trends in
 20 oyster fishery -- in the oyster fishery in
 21 Apalachicola Bay. The group that -- of the task
 22 force that was responsible for that issue, on
 23 pages 14 and 15 what conclusions have they
 24 reached at this point in time?
 25 **A. So this was led independently by Dr. Mike Allen**

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1 and Dr. Bill Pine at the University of Florida,
 2 as well as Dr. Carl Walters, who is a retired
 3 fisheries biologist from the University of
 4 British Columbia, as well as a student of
 5 Dr. Pine's, Ed Camp. In addition to evaluating
 6 the fishery-dependent and independent data, they
 7 constructed a model. It was actually
 8 Dr. Walter's model; he created it and drove it.
 9 And they had four key conclusions that are
 10 important to share with the Court.

11 The first is just as we have all seen looking
 12 at the fishery-dependent and independent data,
 13 there was an unprecedented decline of oysters in
 14 2012. They said the possible reasons for that
 15 collapse was a recruitment failure and/or a
 16 massive mortality of sub-legal oysters.

17 Second, the actual output from their model
 18 suggested that mortality of oysters was
 19 increasing; but because they lacked the necessary
 20 data, i.e., the kind of data that my research
 21 program has developed, they could not explain
 22 exactly why mortality was increasing. They did
 23 lay out hypotheses about the influence of low
 24 river flow, higher salinity, and its influence on
 25 the diseases and predators of oysters.

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1 Third, they highlighted that the
 2 fishery-independent dataset indicated by 2012,
 3 the oyster situation did not look good. As a
 4 result, it could not sustain substantial
 5 harvesting further. And they highlighted the
 6 fact that FWC had significantly restricted
 7 harvest as guided by this task force.

8 And fourth is an important one, so I'll quote
 9 it. Fourth, there is no evidence that harvest of
 10 sub-legal oysters has or would lead to
 11 overfishing. If current regulations are
 12 followed, it is unlikely that the current with
 13 sub-legal oysters and the catch has caused the
 14 trends we see in the data unless the sub-legal
 15 harvest has been unregulated and extremely high.

16 And I just want to add that this was done
 17 completely independent of me on the task force.
 18 I don't agree with their methods, but their
 19 results point in the very same direction that my
 20 research program does.

21 Q. Thank you, Dr. Kimbro.
 22 Before we leave this document, can you
 23 describe the relationship between the task force
 24 and the Florida state agencies involved at DACS
 25 FWC?

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1 A. You couldn't ask for a better relationship. I
 2 was pretty young. I had never worked with state
 3 scientists. So I suspected that they wouldn't
 4 appreciate academics coming in and asking to see
 5 their books requesting data. But that was the
 6 completely opposite of what I saw.

7 For example, Dr. Pine requested persistently
 8 updated landings data, fishery-independent data.
 9 By following e-mail chains, I was able to discern
 10 that FWC employees were working overtime to get
 11 him these data.

12 From my own experience, I wanted a different
 13 version of the fishery-independent data that the
 14 task force did not have. So I simply got in my
 15 car, drove from the FSU marine lab 20 minutes to
 16 the FDACS office, knocked on the door
 17 unannounced; and they invited me right in. I
 18 told them what I needed. And it was as simple as
 19 me sticking my disk drive into their computer.
 20 And five minutes later I was walking out of their
 21 office with a 30-year time series.

22 So the point I'm trying to make is they were
 23 very open. It was a harmonious relationship
 24 between state scientists and academics. And you
 25 couldn't hope for anything better when you're

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1 working on a complex issue like this.

2 Q. Thank you, Dr. Kimbro.
 3 I want to move on to a slightly different
 4 topic now. You had mentioned some of the prior
 5 studies evaluating the relationship between
 6 salinity and the oyster resource. You mentioned,
 7 I believe, Dr. Petes. Who is Dr. Petes?

8 A. Dr. Petes received her Ph.D. from Morgan State
 9 University under a very famous ecologist,
 10 Dr. Jane Lubchenco. She then did a post-doc with
 11 me at Florida State University. When I became a
 12 faculty there, she moved to work for NOAA, the
 13 National Oceanic Atmospheric Administration, in
 14 their climate program office.

15 Given her -- she actually studied in 2007 and
 16 '8 one of the serious droughts in Apalachicola.
 17 She studied the relationship between increasing
 18 water salinity due to lack of water flow in the
 19 river and the incidence and intensity of a
 20 disease called dermo and its effect on oyster
 21 mortality.

22 So given that proven track record, the
 23 Undersecretary of Commerce, Dr. Jane Lubchenco,
 24 who was hand-picked by the president of the
 25 United States, she asked Dr. Petes to investigate

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1 **the issue when they were notified by the State of**
 2 **Florida about the problem in 2012.**
 3 MR. QURESHI: Your Honor, may I approach
 4 Dr. Kimbro?
 5 BY MR. QURESHI:
 6 **Q.** Dr. Kimbro, I have handed you a document that's
 7 identified as Florida Exhibit 412. It's actually
 8 three documents stapled together. I'll give you
 9 a moment to flip through it.
 10 **A. I'm familiar with the document.**
 11 **Q.** Okay. Can you please describe it?
 12 **A. It appears to be an e-mail correspondence between**
 13 **Dr. Petes and perhaps her supervisor. Dr. Petes**
 14 **being notified that she's been appointed by**
 15 **Dr. Lubchenco, the Undersecretary for the**
 16 **Department of Commerce Oceanic Atmosphere. And**
 17 **it appears that she's accepted that task.**
 18 **And then there's another e-mail in which she**
 19 **is reporting her conclusions on the situation**
 20 **surrounding the 2012 oyster decline in**
 21 **Apalachicola Bay and is then asking if she can be**
 22 **of any further assistance.**
 23 **Q.** The document where she lays out her conclusions,
 24 is that signified by the Bates numbers on the
 25 lower right-hand corner, NOAA-0003818 through

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1 3841?
 2 **A. Yes, it is.**
 3 **Q.** How are the conclusions in this memo consistent
 4 with your work?
 5 **A. In short, very consistent.**
 6 **Q.** Can you explain how?
 7 **A. My understanding is she lays out the fact that**
 8 **there was significant drought naturally stressing**
 9 **the oyster populations, much as my research**
 10 **approach analogies. And she, of course,**
 11 **attributes that to low flow from the Apalachicola**
 12 **River. During these kinds of conditions, natural**
 13 **enemies of oysters proliferate such as disease**
 14 **and multiple species of predators. So these were**
 15 **restricting the population of the oyster.**
 16 **She also talks about harvesting pressure was**
 17 **ongoing at the same time. However, she concludes**
 18 **due to stressful conditions associated with the**
 19 **severity and duration of the recent drought, it**
 20 **is likely that high Florida Gulf Coast oyster**
 21 **mortality would be occurring even in the absence**
 22 **of harvesting pressure, so said a scientist for**
 23 **the -- NOAA.**
 24 **Q.** On page 4 of this memo, sir, there is a
 25 discussion about drought and flooding in the

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1 Suwannee River. I would like to understand from
 2 you whether the 2012 collapse in Apalachicola Bay
 3 was an issue that was broader in scope? Were
 4 there other areas of Florida that were impacted?
 5 **A. That's a great question. And it was specifically**
 6 **incorporated by my research approach, which I not**
 7 **only focused on Apalachicola, but to be able to**
 8 **answer questions like that I ran the same kind of**
 9 **observations and experiments in other estuaries.**
 10 **So the principle is if you see the same**
 11 **outcomes from your studies in other estuaries**
 12 **that you're seeing in Apalachicola, then that**
 13 **would indicate there's a regional-scale stressor**
 14 **causing everything. If, however, you see**
 15 **intensification of things in Apalachicola Bay**
 16 **that you don't see elsewhere, then that would**
 17 **suggest that there's something additional that's**
 18 **unique to Apalachicola that is going on beyond**
 19 **natural environmental stress to cause what we saw**
 20 **in 2012.**
 21 **And so one sort of nonscientific hard data**
 22 **observation was in the e-mail about the gravel**
 23 **parking lot. I think if we read that further, we**
 24 **would see that Dr. Pine and I were communicating**
 25 **about what we were seeing. He was operating --**

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1599

1 **Q.** If I could just pause you, Dr. Kimbro, so we can
 2 catch up.
 3 **A. Sure.**
 4 **Q.** I'm going to put that e-mail up. I believe it's
 5 GX-486, and it should be tab 5 of the binder that
 6 was provided to you by Georgia's counsel.
 7 If you could just direct us to the section
 8 you were referring to, and then we'll follow
 9 along.
 10 I believe you sent an e-mail to Dr. Pine at
 11 9:47 p.m. on Thursday, October 25, 2012?
 12 **A. So in this e-mail chain we're comparing notes**
 13 **essentially of what I'm seeing in Apalachicola**
 14 **Bay and what Dr. Pine was seeing in Cedar Key, an**
 15 **estuary a five-hour drive south of Apalachicola**
 16 **Bay. We recognized that there were stressors on**
 17 **the oyster populations in both areas; but I asked**
 18 **him, after making the gravel parking lot comment,**
 19 **you know, that I was seeing in other areas of**
 20 **Apalachicola Bay symptoms of an outbreak of**
 21 **predatory snails eating all the oysters caused by**
 22 **very high salinity, if he saw anything similar in**
 23 **Cedar Key. So if he did, that would suggest that**
 24 **there is a very regional stress causing the same**
 25 **thing in all estuaries of the Gulf Coast. And he**

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1600

1 **said he did not.**

2 **So that was my first sort of idea that we may**

3 **be looking at something unique in Apalachicola**

4 **Bay.**

5 **Q.** And what have you identified that unique factor

6 to be?

7 **A.** **A pronounced increase in -- essentially the**

8 **natural -- a classic estuary is going to have a**

9 **natural salinity in it where as you're closer to**

10 **the river, it's going to be lower salinity. As**

11 **you get a little farther, it's going to be a**

12 **little higher in salinity. And as you get to the**

13 **ocean, it's going to be really salty.**

14 **All right. What we're seeing from our**

15 **experiments -- we conducted them both in**

16 **Apalachicola Bay and in an estuary 30 kilometers**

17 **to the east called Ochlockonee Bay. It's a much**

18 **smaller estuary, but it's not tied to the**

19 **watershed of the Apalachicola River. So if**

20 **there's a regional force causing all the badness**

21 **in Apalachicola Bay, you should see the same**

22 **water salinity and predation results in both**

23 **bays.**

24 **When we repeated our experiments, we found**

25 **that, yes, predation on oysters occurs in both**

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1 **bays, especially when you're far away from the**

2 **river. But unlike -- Ochlockonee Bay was acting**

3 **more like a genuine estuary. Close to the river**

4 **on reefs and moderate distances from the reefs,**

5 **the flow from the river was keeping predators**

6 **away. So oyster survivorship was high. There**

7 **was no predation.**

8 **There is not that at all in Apalachicola Bay.**

9 **Predation has infiltrated abnormally all the way**

10 **up to the reefs closest to the river. So that**

11 **suggested that something had intensified a**

12 **natural process in Apalachicola Bay that's not**

13 **operating in any other bays we looked in in the**

14 **Gulf Coast.**

15 **Q.** Dr. Kimbro, if we could return for a moment to

16 Florida Exhibit 412, this is a document I handed

17 you; and it consisted of three documents,

18 actually. I just want to talk about the last one

19 in that collection. It begins on the Bates

20 number 3842. I ask you to describe that after

21 you have had a moment to look at it.

22 **A.** **I'm familiar with this document.**

23 **Q.** Okay. What is it?

24 **A.** **It's a scientific publication by a researcher,**

25 **Dr. Petes, who is the NOAA climate program**

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1602

1 **officer that investigated the oyster fishery**

2 **situation in 2012 at -- on behalf of Dr. Jane**

3 **Lubchenco. And it's a publication that observed**

4 **oysters in Apalachicola Bay along that classic**

5 **salinity gradient from reefs near the river to**

6 **reefs far away from the river. And they went out**

7 **every month and monitored the incidence and**

8 **intensity of oyster disease, and they found clear**

9 **relationships between the amount of inflow from**

10 **the river and how it influenced salinity and that**

11 **relationship to dermo disease in oysters. She**

12 **then did experiments to show that dermo can cause**

13 **very high mortality.**

14 **So it was a clear observational experimental**

15 **study that established a causal pathway between**

16 **what's going on with the river, salinity, and**

17 **oyster disease.**

18 **Q.** Dr. Kimbro, you mentioned that -- you spoke about

19 the work that Dr. Petes did and Dr. Skip

20 Livingston. What other scholars have examined

21 the relationship between salinity and the health

22 of the oyster resource, particularly at

23 Apalachicola Bay?

24 **A.** **Well, for Apalachicola Bay there would be**

25 **Dr. Wilber, who did a correlational study about**

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1603

1 **the relationship between the inflow of the river**

2 **and the landings. If you looked at the**

3 **relationship in present time, you would see when**

4 **you have high flow from the river, landings**

5 **decrease. But as to your time lag, you see --**

6 **after major inflow of the river, you see oyster**

7 **landings rebound.**

8 **And so her conclusion was that's caused by**

9 **the high flows beat back the predators and**

10 **disease from the oyster reefs, and that allows**

11 **oyster reefs to recover and reproduce. And two**

12 **years later after the oysters settle, grow, and**

13 **become market size, that's the end product of**

14 **moderate to high flow from the Apalachicola**

15 **River.**

16 **Q.** Okay. Let's talk about other estuaries. What

17 research has been done about the relationship

18 between salinity and the health of the oyster

19 resource in other places?

20 **A.** **Lots. So, for myself, I have conducted research**

21 **in estuaries on the Atlantic coast that shows as**

22 **you increase salinity very high, you can create**

23 **outbreaks of snails that cause large losses on**

24 **oyster reefs. I have done similar research on**

25 **oysters in California.**

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1604

1 You also have many researchers in Delaware
 2 Bay showing very strong relationships between
 3 water salinity, as it increases, predictably you
 4 see an increasing effect of dermo disease on
 5 oysters. And that can have a devastating impact
 6 on oyster populations.

7 You also see NOAA document studies as well as
 8 studies out of Texas that show salinity is the
 9 primary determinant of where oysters can occur.
 10 So at a certain point if the water is too salty,
 11 you no longer have oyster reefs. And these are
 12 in publication cited, in fact, by the expert
 13 witness from the State of Georgia.

14 You also have geological evidence published
 15 in a geological journal in 2015 that shows
 16 oysters came into a Texas estuary about 10,000
 17 years ago. And there have been massive droughts
 18 from now until then. And those droughts are
 19 associated with massive, massive losses of oyster
 20 reef habitat in that bay.

21 So these are my observations, my experiments
 22 in Apalachicola Bay, others' independent research
 23 efforts in Apalachicola Bay, other independent
 24 research efforts in other estuaries.

25 And now, let's go to the landings data. Can
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1605

1 salinity cause massive declines in oyster
 2 landings?

3 So if you look at datasets requested from the
 4 National Marine Fisheries Service, you can get
 5 landings data for all the Gulf states going back
 6 to the 1950's. So you can see in the early
 7 '50's, there was a massive drought; and that
 8 resulted in a massive collapse of oyster
 9 landings, greater than what we saw in
 10 Apalachicola. You can see similar associations
 11 between severe droughts and significant drops,
 12 more than 50 percent, in oyster landings in other
 13 states of Mississippi and Alabama in the '60's.

14 Going back to Texas, the Texas legislature
 15 passed legislation in 1985 so that fresh water
 16 from the rivers would not be impeded so that all
 17 that water could flow as it naturally does to the
 18 estuaries to prevent problems that happened with
 19 coastal species when you deprive estuaries of
 20 fresh water. Since then, they haven't had these
 21 dramatic problems.

22 Now, in fact, going to the Chesapeake Bay,
 23 you can see in 1987-1988, there's a very
 24 significant drought. And researchers, in fact,
 25 from the Virginia Institute of Marine Science has
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1606

1 published a scientific study that showed the very
 2 clear relationship in oysters outdoors. With
 3 high salinity conditions, you have high dermo
 4 disease that caused massive losses of oysters and
 5 significant decline in the oyster fishery.

6 The same conclusion and thing happened in a
 7 severe drought in 2001 and 2002 in Chesapeake Bay
 8 where researchers again found the exact same
 9 pattern. And this was provided by data from the
 10 Maryland Department of Marine Science, I believe.

11 So if we go from my work conducted in
 12 Apalachicola, other work conducted in
 13 Apalachicola, scientific studies from the
 14 geological record to ecological studies in other
 15 estuaries, and then looking at the landings data
 16 and drought data in other estuaries, I can
 17 definitively say that when you have very high
 18 salinity conditions due to lack of flow of river,
 19 you're going to have bad things happen to
 20 oysters, just like we saw in 2012 in Apalachicola
 21 Bay.

22 Q. Thank you, Dr. Kimbro.

23 On the binder that was provided to you by
 24 Georgia's counsel, they reviewed with you the
 25 article by Kirby behind tab 6.

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1607

1 A. Okay.

2 Q. Sir, are you familiar with this article?

3 A. I am. I haven't read it in awhile.

4 Q. Okay. Just very generally, what does this
 5 article provide about the cause and effect
 6 relationships for a fishery collapsing?

7 A. It doesn't. It provides strong observational
 8 data on what could have caused the collapse.
 9 It's convincing, but I would be reticent to apply
 10 that thinking in particular to Apalachicola
 11 because all the estuaries that this study focused
 12 on allowed harvesters to use very efficient
 13 methods such as dredging. In contrast, the State
 14 of Florida and Apalachicola does not allow
 15 dredging on public oyster bars. You have to use
 16 very large tongs. They're 12 feet tall, very
 17 heavy wooden salad spoons basically.

18 And I tried to tong oysters from a very
 19 unsteady boat. If you ever see an oysterman
 20 tonging oysters, they're on these very, very
 21 small boats. They're rocking back and forth. So
 22 when you're standing on the bow and you're moving
 23 all around by the waves and you have these very
 24 large, 12-foot tall, two rakes put together like
 25 a salad spoon, it's very difficult to grab
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1608

1 sections of the reef and bring it back up to the
 2 boat.
 3 **So that's a much more inefficient harvesting**
 4 **practice than what you saw in the areas that**
 5 **Dr. Kirby talked about where all the collapses**
 6 **occurred.**
 7 **Not only is the actual process less**
 8 **efficient, the tonging, only a few people can do**
 9 **that. Not anyone off the street can just walk in**
 10 **there and get on a boat and go tong efficiently a**
 11 **bunch of oysters. If you look at these gentlemen**
 12 **out on their boats harvesting out in Apalachicola**
 13 **Bay, they're strong; and they're very skilled**
 14 **and not -- the fishery has a relatively small**
 15 **number of individuals. So it's not a job just**
 16 **anyone else can do.**
 17 **And finally, the tongs are set up so that**
 18 **when you grab a section of the reef, smaller**
 19 **oysters and material can fall through the teeth**
 20 **of the tong. Again, trying to make it so that**
 21 **they're only extracting the adult oysters. So**
 22 **it's a very inefficient process.**
 23 **Given that, I would be reticent to apply the**
 24 **conclusions made on estuaries in the mid and**
 25 **north Atlantic to what's going on in Apalachicola**

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1609

1 **Bay.**
 2 **Q.** On figure 1 of the Kirby article, there's a
 3 reference to Apalachicola Bay signified by the
 4 number 13. How do you interpret that figure?
 5 **A. That peak in landings occurred much later than in**
 6 **other estuaries. So it hasn't been harvested as**
 7 **long as other estuaries.**
 8 **Q.** And, Dr. Kimbro, behind tab 7 and 8 of that same
 9 binder there's two publications by Dr. Pine. Do
 10 you know Dr. Pine?
 11 **A. I do.**
 12 **Q.** Are you familiar with these particular
 13 publications behind tab 7 and 8?
 14 **A. Yes.**
 15 **Q.** And what is your assessment of those
 16 publications?
 17 **A. The first is that I don't agree with their**
 18 **methods. But they -- and as a result, they**
 19 **actually admit themselves that they can't really**
 20 **conclude that much. But the things that they do**
 21 **conclude are in the same -- point in the same**
 22 **direction as my research program. So that's**
 23 **convenient.**
 24 **And in particular, they essentially say they**
 25 **have no evidence that harvesting effort caused**

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1610

1 **the collapse in 2012. The other -- that's an**
 2 **important conclusion.**
 3 **The other important component of this paper**
 4 **is that one of the main things we're talking**
 5 **about here today is how extraction of fresh water**
 6 **from the Apalachicola River may have impacted**
 7 **what happened in 2012. And they admit in the**
 8 **beginning of this article they did not even**
 9 **address that. So I find it hard to accept any**
 10 **conclusions from the study about what happened in**
 11 **2012 if they did not even evaluate the most**
 12 **proximal potential cause for it happening in**
 13 **2012.**
 14 **Q.** Okay. Thank you, Dr. Kimbro.
 15 MR. QURESHI: I have nothing further.
 16 SPECIAL MASTER LANCASTER: Counsel, are you
 17 able to give me an estimate of how much longer?
 18 MR. ECHOLS: Would 7 to 10 minutes be
 19 okay, Judge, or no?
 20 SPECIAL MASTER LANCASTER: Seven to 10,
 21 okay. The clock is ticking.
 22 RE-CROSS-EXAMINATION
 23 BY MR. ECHOLS:
 24 **Q.** Dr. Kimbro, you still have the Apalachicola Bay
 25 oyster situation report in front of you --

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1611

1 **A. Yes.**
 2 **Q.** -- GX-568?
 3 **A. Yes, I do.**
 4 **Q.** And do you -- you were referred to page 15 and
 5 the portion which you read verbatim that there
 6 was a conclusion of not being evidence that
 7 harvest of sub-legal oysters could be the cause
 8 unless it had been unregulated and extremely
 9 high. Do you see that?
 10 **A. Yes.**
 11 **Q.** And in the course of you preparing your expert
 12 report and in the course of the testimony today,
 13 you know, we have seen a large number of state
 14 official documents like JX-50. Do you still have
 15 that one in front of you, the August 2011 oyster
 16 resource --
 17 **A. Is there a tab that you can point me to, please?**
 18 **Q.** No. I handed that one up to you loose in the
 19 Sutton tab. And the Court has seen it before, so
 20 I would expect that -- JX-50.
 21 **A. I found it.**
 22 **Q.** Okay. On -- this will take two seconds. On
 23 page 6 we have seen this numerous times,
 24 unregulated and extremely high, the State of
 25 Florida -- if you are at the top of page 6, if

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1612

1 you can open and pull up that larger paragraph

2 there, you have read this before. Right?

3 **A. I would need to read it again before I commented**

4 **on it.**

5 **Q.** Okay. Go ahead and take a look at that

6 paragraph, please.

7 **A. Okay. I read it.**

8 **Q.** The report said, unregulated, the State of

9 Florida says that there was less effort directed

10 toward enforcing size limits. The Sea Grant

11 report said that if it were extremely high, that

12 perhaps that sub-legal harvest could impact a

13 collapse. The State of Florida says there were

14 numerous reports and that the harvest of small

15 oysters was very common. Would you agree with

16 me?

17 **A. Sure. But that's a hard thing to really analyze**

18 **and use in a scientific method.**

19 **In contrast, our research program with our**

20 **very good model, if there was ravage harvesting**

21 **of sub-legal oysters, we would have seen an**

22 **uptick in the fishing rate in the output of that**

23 **model. So these are sort of not really data that**

24 **you can do any kind of valid scientific**

25 **statistical analysis on or include into a model.**

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1613

1 **So I recognize this is good information; and,**

2 **in fact, I use it to define my hypotheses.**

3 **Again, I came into this actually thinking fishing**

4 **pressure was the bigger cause.**

5 **Q.** And it's correct, is it not, that the oyster Sea

6 Grant report, Dr. Havens, Dr. Pine, both are

7 well-respected scientists with experience and

8 knowledge and writings on fisheries and oysters.

9 Right?

10 **A. No.**

11 **Q.** No?

12 Dr. Havens and Dr. Pine --

13 **A. Not --**

14 (Discussion off the record.)

15 BY MR. ECHOLS:

16 **Q.** Dr. Havens and Dr. Pine, they're not well

17 respected?

18 **A. They're well respected, but they have no**

19 **experience with oyster reefs.**

20 **Q.** Okay. And your testimony is that the only way

21 that this causal determination can properly be

22 made is through the appropriate data that came

23 from your research with the three-part

24 methodology?

25 **A. That's correct.**

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1614

1 **Q.** And that was what you have determined, you know,

2 in the course of preparing your expert analysis

3 in this case? You reached that conclusion this

4 year more or less?

5 **A. I reached it by the time of the expert report.**

6 **And then with continued data coming in, the**

7 **conclusion -- I was even more confident in what I**

8 **concluded from my expert report. And as we**

9 **continue to study it, I think it's going to**

10 **become even stronger.**

11 **Q.** And so, for example, when the Fish and

12 Wildlife -- the Florida Fish and Wildlife

13 submitted its report to the federal government in

14 August 2013, they didn't have available to them

15 the State of Florida appropriate data to reach a

16 valid conclusion about the causes of the oyster

17 collapse?

18 **A. I wasn't part of the State of Florida when**

19 **that --**

20 **Q.** Right.

21 **A. Nor am I now.**

22 **Q.** But that data didn't exist until you did your

23 experiments. Nobody in the world had the

24 appropriate data to come to a reliable scientific

25 conclusion about the collapse until you did your

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1615

1 research?

2 **A. Well, my job was to design and conduct my**

3 **research. And I used the FWC statements as**

4 **motivation for conducting my study. But I did**

5 **not evaluate how FWC went about making their**

6 **decisions and conclusions.**

7 **Q.** Last thing, do you still have FX-412 with you up

8 there, please, sir?

9 That's the Laura -- Dr. Laura Petes -- Petes?

10 **A. Petes.**

11 **Q.** Petes, okay. I screwed up the pronunciation

12 regardless. Everybody calls me Barack, but it's

13 Barack.

14 **A. People call me Dave; I'm David.**

15 **Q.** You were talking about how qualified she was;

16 she's appointed by the Undersecretary of the

17 Department of Commerce, and how her research and

18 conclusions accord with yours. Correct?

19 **A. Independently.**

20 **Q.** Yes, independently. Let's look at her

21 conclusion, and this will be the last thing.

22 **A. Sorry. Are we on the ecology and evolution paper**

23 **or some other document?**

24 **Q.** It's on page 7, please, of the official memo she

25 did for NOAA in that FX-412 in the section called

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1616

1 Conclusions and Looking to the Future. Are you
 2 with me, sir?
 3 **A. Yes, I am.**
 4 **Q.** Okay. If you would look, please, to see what
 5 Dr. Petes's conclusions were at the bottom of
 6 this page, you know, which you are entirely in
 7 agreement with her independently, she states,
 8 beginning at the "it is difficult", that the
 9 decline, meaning the collapse, was likely due to
 10 the simultaneous occurrence of changes in
 11 harvesting practices and the environmental
 12 conditions. And she goes on to say that
 13 overharvesting is most damaging when
 14 environmental conditions are less than optimal,
 15 recruitment is low, natural mortality is high
 16 and that this has had a particularly detrimental
 17 effect on Cat Point and East Hole, the two
 18 major productive oyster reefs in Apalachicola
 19 Bay.
 20 And that's entirely consistent with all of
 21 your research and conclusions. Correct?
 22 **A. No. I was saying that many of the things that**
 23 **she reported in her general findings at the**
 24 **beginning of this document pointed in the same**
 25 **direction as our research conclusions. I didn't**

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1618

1 (Proceeding adjourned to Wednesday,
 2 November 9, 2016, at 9:00 a.m.)
 3 (End of day)
 4 - - - - -
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1617

1 **say that I agreed with everything in this whole**
 2 **document.**
 3 **Q.** Like her conclusions?
 4 MR. ECHOLS: I have no further questions.
 5 MR. QURESHI: I have nothing further,
 6 your Honor.
 7 SPECIAL MASTER LANCASTER: We will be in
 8 recess until tomorrow morning.
 9 I predict that when we wake, there will
 10 be good news and bad news. The good news
 11 will be that we will no longer have to suffer
 12 from national, regional, local, statewide
 13 ads -- political ads that are all negative.
 14 The bad news is that one of the two is going
 15 to be elected president.
 16 MR. ECHOLS: That shouldn't be on the
 17 record, madam court reporter.
 18 SPECIAL MASTER LANCASTER: I don't mind
 19 it being on the record. It's the way I
 20 feel.
 21 I have committed to stay with you until
 22 we're finished and my report is written. But
 23 I can assure you that after that is done, I'm
 24 going to my home in Nova Scotia.
 25 (Time Noted: 4:22 p.m.)

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1619

1 CERTIFICATE
 2 I, Claudette G. Mason, a Notary Public
 3 in and for the State of Maine, hereby certify
 4 that the foregoing pages are a correct
 5 transcript of my stenographic notes of the
 6 Proceedings.
 7 I further certify that I am a
 8 disinterested person in the event or outcome
 9 of the above-named cause of action.
 10 IN WITNESS WHEREOF, I subscribe my hand
 11 this 5th day of December, 2016.
 12
 13
 14
 15 /s/ Claudette G. Mason
 16 Claudette G. Mason, RMR, CRR
 Court Reporter
 17 My Commission Expires
 18 June 9, 2019.
 19
 20
 21
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 24
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| | | | | |
|---|---|---|--|--|
| \$ | 1420:6, 1465:21, 1530:22, 1577:8, 1607:16 | 15-22 [1] - 1487:24 | 1473:25, 1474:3, 1486:19, 1487:3, 1487:4, 1496:12, 1530:19, 1543:5, 1554:3, 1554:14, 1555:5, 1577:10, 1579:7, 1582:23, 1583:9, 1586:5, 1590:23 | 2010-2011 [1] - 1563:5 |
| \$10,000 [1] - 1508:7 | 12-foot [1] - 1607:24 | 1503 [1] - 1365:4 | 2,781,224 [1] - 1474:21 | 2011 [29] - 1378:4, 1378:8, 1385:18, 1391:22, 1392:1, 1393:8, 1415:10, 1432:12, 1462:23, 1464:7, 1465:13, 1477:8, 1490:4, 1492:22, 1493:17, 1493:23, 1526:24, 1527:1, 1527:2, 1530:3, 1557:16, 1557:22, 1558:3, 1559:5, 1560:20, 1562:20, 1563:9, 1582:7, 1611:15 |
| \$109,375 [1] - 1380:8 | 12:52 [1] - 1480:21 | 1504 [1] - 1365:4 | 2-3/4 [2] - 1582:24, 1583:9 | 2012 [94] - 1375:4, 1378:4, 1378:8, 1382:20, 1385:18, 1387:17, 1387:22, 1390:2, 1390:13, 1391:22, 1392:4, 1392:6, 1393:8, 1397:19, 1401:3, 1401:16, 1405:18, 1406:15, 1412:9, 1418:18, 1426:1, 1426:7, 1432:18, 1439:3, 1440:22, 1446:1, 1446:12, 1447:1, 1447:16, 1449:24, 1463:13, 1464:9, 1465:13, 1467:10, 1470:16, 1470:23, 1477:8, 1481:3, 1489:23, 1491:25, 1492:2, 1492:21, 1493:17, 1493:23, 1500:20, 1501:9, 1505:2, 1505:5, 1505:12, 1505:22, 1506:6, 1506:17, 1508:1, 1508:4, 1517:14, 1517:19, 1518:3, 1519:14, 1519:22, 1520:1, 1520:23, 1526:6, 1527:14, 1529:21, 1530:4, 1557:16, 1557:22, 1558:3, 1558:13, 1558:25, 1559:4, 1559:11, 1563:18, 1567:19, 1573:11, 1574:5, 1575:9, 1576:15, 1581:18, 1582:10, 1588:5, 1592:14, 1593:2, 1596:2, 1596:20, 1598:2, 1598:20, 1599:11, 1602:2, |
| \$110,000 [4] - 1380:10, 1380:24, 1381:4, 1381:10 | 13 [6] - 1413:22, 1443:20, 1463:25, 1486:21, 1581:7, 1609:4 | 1506 [1] - 1365:15 | 2.7 [1] - 1489:18 | |
| \$70 [1] - 1382:24 | 1366 [1] - 1365:3 | 1509 [1] - 1365:15 | 2.77 [3] - 1492:2, 1492:12, 1492:17 | |
| \$80 [1] - 1382:16 | 1368 [1] - 1365:20 | 1519 [1] - 1365:9 | 2.78 [2] - 1489:25, 1490:1 | |
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