

SUPREME COURT OF THE UNITED STATES
No. 142, Original

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

VOLUME I

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 October 31, 2016, commencing at 9:09 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.
FREDERICK L. ASCHAUER, ESQ.
PAUL N. SINGARELLA, ESQ.
CHRISTOPHER J. FAWAL, ESQ.

For the State of Georgia: CRAIG S. PRIMIS, ESQ.
DEVORA W. ALLON, ESQ.
K. WINN ALLEN, ESQ.
KAREN McCARTAN DeSANTIS, ESQ.
BARACK S. ECHOLS, ESQ.

For the U.S.A.: MICHAEL T. GRAY, ESQ.

Also Present: THE REPORTING GROUP
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1 PROCEEDINGS
2 SPECIAL MASTER LANCASTER: Good morning,
3 counsel.
4 As I indicated before, it's not
5 necessary to rise unless you are tired of
6 sitting. So from now on, please, it's not
7 about me. It's about water.
8 Counsel, appearances?
9 MR. PERRY: Good morning, your Honor.
10 Phil Perry for Florida. And I would like to
11 introduce the other counsel at counsel's
12 table, if I might.
13 SPECIAL MASTER LANCASTER: Please.
14 MR. PERRY: Jamie Wine.
15 MS. WINE: Good morning, your Honor.
16 SPECIAL MASTER LANCASTER: Good morning.
17 MR. PERRY: Abid Qureshi.
18 SPECIAL MASTER LANCASTER: Good morning.
19 MR. QURESHI: Good morning, your Honor.
20 MR. PERRY: And Fred Aschauer.
21 SPECIAL MASTER LANCASTER: Good morning.
22 MR. ASCHAUER: Good morning, your Honor.
23 MR. PERRY: And there are two other
24 counsel that I would like to introduce now,
25 if I might.

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1 SPECIAL MASTER LANCASTER: Please.
2 MR. PERRY: Paul Singarella, who is in
3 the gallery.
4 MR. SINGARELLA: Good morning, your
5 Honor.
6 SPECIAL MASTER LANCASTER: Good morning.
7 MR. PERRY: And Chris Fawal.
8 SPECIAL MASTER LANCASTER: Good morning.
9 MR. FAWAL: Good morning, your Honor.
10 MR. PERRY: Your Honor, with the Court's
11 permission, if I might introduce a couple of
12 the other attendees from the State of
13 Florida.
14 SPECIAL MASTER LANCASTER: Please.
15 MR. PERRY: The secretary of Florida's
16 Department of Environmental Protection,
17 Secretary Steverson.
18 MR. STEVERSON: Good morning, your
19 Honor.
20 SPECIAL MASTER LANCASTER: Good morning.
21 MR. PERRY: Your Honor, Florida
22 Solicitor General, Amit Agarway.
23 MR. AGARWAY: Good morning, your Honor.
24 SPECIAL MASTER LANCASTER: Good morning.
25 MR. PERRY: Your Honor, the Mayor of the

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|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 | <p>1 Town of Apalachicola, Florida, Mr. Van 2 Johnson. 3 MR. JOHNSON: Good morning. 4 SPECIAL MASTER LANCASTER: Good morning. 5 MR. PERRY: And the city attorney for 6 Apalachicola, Mr. Pat Floyd. 7 MR. FLOYD: Good morning, your Honor. 8 SPECIAL MASTER LANCASTER: Good morning. 9 MR. PERRY: The executive director of 10 the Northwest Florida Management Water 11 District, Mr. Cyphers. 12 MR. CYPHERS: Good morning, your Honor. 13 SPECIAL MASTER LANCASTER: Good morning. 14 MR. PERRY: And I have already 15 introduced the general counsel of the 16 Department of Environmental Protection, 17 Mr. Aschauer. 18 MR. ASCHAUER: Good morning, again, your 19 Honor. 20 SPECIAL MASTER LANCASTER: Good morning, 21 again. 22 MR. PERRY: Thank you. 23 MR. PRIMIS: Good morning, your Honor. 24 Craig Primis from Kirkland & Ellis for the 25 State of Georgia.</p> <p style="text-align: center;">THE REPORTING GROUP Mason & Lockhart</p> | 7 | <p>1 SPECIAL MASTER LANCASTER: Good morning. 2 MR. PRIMIS: Thank you, your Honor. 3 SPECIAL MASTER LANCASTER: You may 4 proceed. 5 MR. PERRY: Your Honor, we're going to 6 set up just a few demonstratives for the 7 opening statement, if we may. 8 SPECIAL MASTER LANCASTER: While that's 9 occurring, there was going to be a joint 10 exhibit offered, the designations? 11 MR. PERRY: Yes, your Honor. There are 12 quite a few designations, and I think it will 13 take us a bit of time to cooperate to prepare 14 a joint exhibit of all the designations. 15 SPECIAL MASTER LANCASTER: Fine. 16 MR. PERRY: And we're also going to have 17 a projection screen here for the opening. I 18 anticipate it will be about 50 minutes, your 19 Honor. 20 I believe I'm now ready, your Honor. 21 MR. PRIMIS: Your Honor, may I come 22 around and take a look? 23 SPECIAL MASTER LANCASTER: Please. 24 MR. PERRY: May I proceed? 25 Thank you, your Honor.</p> <p style="text-align: center;">THE REPORTING GROUP Mason & Lockhart</p> |
| 6 | <p>1 I would like to introduce four of my 2 colleagues from Kirkland & Ellis who will be 3 appearing in court and trying this case with 4 me. I have Devora Allon. 5 MS. ALLON: Good morning, your Honor. 6 SPECIAL MASTER LANCASTER: Good 7 morning. 8 MR. PRIMIS: I have Winn Allen. 9 MR. ALLEN: Good morning, your Honor. 10 SPECIAL MASTER LANCASTER: Good morning. 11 MR. PRIMIS: Karen DeSantis. 12 MS. DeSANTIS: Good morning, your Honor. 13 SPECIAL MASTER LANCASTER: Good morning. 14 MR. PRIMIS: And Barack Echols. 15 MR. ECHOLS: Good morning, your Honor. 16 MR. PRIMIS: And with us as well today 17 we have two representatives from the State of 18 Georgia. I would like to introduce Ryan 19 Teague. He is executive counsel to Governor 20 Deal. 21 MR. TEAGUE: Good morning, your Honor. 22 SPECIAL MASTER LANCASTER: Good morning. 23 MR. PRIMIS: And we have the Solicitor 24 General of Georgia here, Britt Grant. 25 MS. GRANT: Good morning, your Honor.</p> <p style="text-align: center;">THE REPORTING GROUP Mason & Lockhart</p> | 8 | <p>1 In 1998 then Governor Zell Miller of 2 Georgia said during the context of Compact 3 negotiations with Florida that Florida had a 4 very real and significant interest in the 5 future of the Apalachicola Bay. And then he 6 also said in 1998 that based on technical 7 data developed over seven years, Georgia can 8 allocate the waters, along with Alabama and 9 Florida, of the three major river systems, 10 the Flint, the Chattahoochee, and the 11 Apalachicola, in a manner that is fair and 12 equitable to all concerned. 1998. 13 In 2002, your Honor, in a federal court 14 filing in a different case involving the Army 15 Corps, while Governor Barnes was presiding in 16 Georgia, the State of Georgia said, Florida 17 will be entitled to its equitable 18 apportionment of waters flowing from Georgia 19 and could file an equitable apportionment 20 case in the Supreme Court. 21 Today, of course, Georgia's position is 22 very different. There is no equitable 23 apportionment to be had. And, in fact, their 24 position is that the harms that the States 25 have been discussing for 20 years do not</p> <p style="text-align: center;">THE REPORTING GROUP Mason & Lockhart</p> |

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1 exist. They're based on speculation; and
 2 they were caused by other factors, none of
 3 which are attributable to Georgia.
 4 So, your Honor, Georgia's position in
 5 this case after 20 years of negotiation is
 6 essentially that Florida's harms are
 7 imaginary and that Georgia has zero
 8 responsibility.
 9 Well, your Honor, in the next two, two
 10 and a half weeks, our trial presentation will
 11 focus on three specific questions. What has
 12 happened in the ACF Basin since the 1970's?
 13 Why did it happen? And what can be done in
 14 an equitable apportionment action to fix it?
 15 So I would like to start with that first
 16 question, what has happened. And here, you
 17 see, your Honor, a chart that shows very
 18 starkly what happened with Georgia's
 19 consumption. This will be in the prefiled
 20 direct of Dr. Hornberger and our other
 21 experts. But from 1960 to 1970 to the
 22 present day upstream consumption of water has
 23 exploded in Georgia. The chart here, as our
 24 experts will explain, shows very high
 25 consumption levels in drought years -- that's

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1 what those peaks there are in the chart. But
 2 even in nondrought years, consumption is very
 3 significantly higher than it ever was in the
 4 past. So that's the first answer to the
 5 question of what has happened.
 6 We'll focus on three particular areas in
 7 the Georgia part of the basin where
 8 consumption has been intense. First, Metro
 9 Atlanta. And there, of course, the
 10 population has grown dramatically since the
 11 1970's; and it's anticipated to continue to
 12 grow at dramatic rates before 2050, your
 13 Honor.
 14 In the Flint there are two basins. The
 15 Upper Flint is one of them. And there the
 16 water crossing the fall line in the Flint
 17 River, the Upper Flint portion of the river,
 18 has suffered a 70 percent decline since the
 19 1970's.
 20 And in the Lower Flint, your Honor, you
 21 can see on the screen, there is intensive
 22 irrigation. You can see there from a very
 23 specific part of the Spring Creek Basin in
 24 Georgia -- which I will show you on the chart
 25 here -- is here, just in the middle going to

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1 Lake Seminole. In that part of the Flint,
 2 the Lower Flint Basin, and throughout the
 3 Lower Flint Basin there is an intense amount
 4 of agricultural irrigation. Center pivots
 5 are shown there by the circles. Not all
 6 farmers irrigate; 50 percent do not. But the
 7 amount of irrigation there is profound. And
 8 that has happened since the 1970's.
 9 This is the chart, your Honor, of the
 10 growth in irrigation since the 1970's.
 11 And here, as will be the case throughout
 12 our presentation at trial, we have internal
 13 documents from the State of Georgia among
 14 state employees that describe exactly what's
 15 happened over time. And what they say,
 16 without any ambiguity, is that when thousands
 17 of irrigation systems are all operating
 18 during dry weather, you can see a significant
 19 reduction in Flint River flows. This will
 20 occur in documents we see in this case over
 21 and over again from the 1990's to the present
 22 day.
 23 And to put this in further perspective,
 24 in a drought year -- and this is a document
 25 from 2002 written by the former director of

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1 Georgia's Environmental Protection Division.
 2 In a drought year, a few thousand farmers in
 3 the Flint Basin will consume more water than
 4 6 or 7 million people in Metro Atlanta.
 5 So, your Honor, the effects of Georgia's
 6 upstream water use are unambiguous. And they
 7 will be clear, and they will be convincing.
 8 But more than that, they can be readily
 9 measured.
 10 Now, on the screen and also beside me I
 11 have got gage readings from the U.S.
 12 Geological Survey. It's a federal government
 13 entity. This is just objective data. And
 14 this particular demonstrative just to my left
 15 here is a picture of the entire historical
 16 record for what's called The Chattahoochee
 17 Gage. It's a little confusing. It's near
 18 Chattahoochee, Florida; but it's on the
 19 northern end of the Apalachicola River.
 20 So if I might step over to this exhibit
 21 over here, this demonstrative, this is a
 22 depiction of the Apalachicola River. And The
 23 Chattahoochee Gage is at the far northern
 24 end. And it measures flows from Georgia.
 25 So here to my immediate left is a

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1 picture of what the historical record of
 2 flows look like. And, your Honor, I would
 3 suggest that this particular printout from
 4 that gage on the Apalachicola River shows an
 5 unmistakable pattern.
 6 Now, we have filled in in yellow boxes
 7 that are extreme low flows. Our experts
 8 later in this case will describe what
 9 those -- what those extreme low flows are and
 10 why they're relevant. But although there
 11 were droughts in the 1930's, as you can see
 12 at the top of the chart, and then in the
 13 1950's with the worst drought in 1954 and '55
 14 in the history of the basin, you had only a
 15 few occasions where you had mean monthly low
 16 flows, in other words, the average flow per
 17 month, was under 6,000 cubic feet per second,
 18 cfs.
 19 But when you get to the era of
 20 irrigation, things changed dramatically, your
 21 Honor. So you get to the 1980's here. There
 22 are a few more flows below 6,000 cfs. But
 23 when you get to the last 15 years, although
 24 the droughts aren't nearly as bad in the last
 25 15 years as they were in the 1950's, you get

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1 these low flows over and over and over again.
 2 So where you see in 1954 and '5, you get a
 3 couple months of those record low flows, in
 4 2011, six months; in 2012, eight months.
 5 This is a profound change in the hydrology of
 6 this ACF Basin.
 7 So these results are shown here on the
 8 screen. So -- they're expanded a bit so you
 9 can see what the numbers actually are.
 10 But that's not the only way to evaluate
 11 what has happened. Your Honor, Spring Creek
 12 here in the middle of the ACF Basin, has gone
 13 from flows that were averaging 300 cfs in
 14 summer months, 250 cfs, to zero that occurred
 15 beginning in the last 15 years. There were
 16 months where it was 2 cfs, 3; and then in
 17 2011, four months in a row was zero. Used
 18 the entire basin.
 19 So this particular chart now on the
 20 screen shows what happened in 1954 and shows
 21 what happened in 2011. This is all objective
 22 data, your Honor. There was less -- there
 23 were fewer inches of precipitation in the
 24 basin in 1954 than there were in 2011. There
 25 were higher temperatures in 1954 than in

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1 2011. And, yet, the flows in 1954 were
 2 dramatically higher than 2011. The same is
 3 true with 2012. And if you do that
 4 comparison for 1931 and compare it to recent
 5 droughts, you see the same thing. The
 6 droughts in the past were worse, but our
 7 flows are much, much lower today.
 8 Fundamental change in the hydrology of the
 9 basin.
 10 That is what is on the screen now is
 11 1931.
 12 Now, this isn't something that Georgia
 13 doesn't recognize. Georgia does recognize
 14 that this is happening. This is an important
 15 document, I think, for both parties in this
 16 case. It's Joint Exhibit 21. We call it the
 17 2006 plan. It relates to the Flint River,
 18 and it's a Regional Water planning document
 19 that Georgia created through its
 20 Environmental Protection Division. What it
 21 says -- and it's plain; it's unambiguous. It
 22 says that drought year low flows are reached
 23 sooner and are lower than before irrigation
 24 became widespread. This is 2006. And also,
 25 that agricultural irrigation compounds the

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1 effects of climatic drought. In other words,
 2 the droughts wouldn't be nearly as bad and
 3 the flows wouldn't be nearly as low without
 4 irrigation.
 5 So there are many scholars, including
 6 throughout different parts of Georgia, who
 7 have looked at this issue; and they agree
 8 that extensive pumping has caused significant
 9 streamflow declines. And this is not just
 10 pumping from rivers. This is pumping from
 11 aquifers below the ground -- groundwater.
 12 So just to provide a particular example
 13 of that, some of these aquifers -- the Upper
 14 Floridan Aquifer is the name of the principal
 15 aquifer. It's the easiest to access because
 16 it's relatively shallow. But they provide
 17 tens of millions of gallons per day. And in
 18 particular one aquifer, the Upper Floridan,
 19 feeds Radium Springs, which itself alone
 20 provides 70.6 million gallons per day in a
 21 reasonable year. That's a lot of water.
 22 That's over 100 cfs -- cubic feet per second.
 23 So in 1981, Radium Springs went dry for
 24 the first time as irrigation became
 25 widespread. It goes dry all the time now in

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1 drought years.

2 This is a picture of what Radium Springs

3 looks like in a wet year or a normal -- this

4 is actually a normal year. But here is what

5 it looks like in a drought year.

6 There are irrigation center pivot wells

7 drawing from groundwater all around this

8 area. And this is what happens, your Honor.

9 Never happened before 1981. With the growth

10 of irrigation, it happens all the time now.

11 So, your Honor, this particular slide on

12 the screen is a depiction of the relationship

13 between groundwater pumping -- and you see a

14 well there irrigating a crop -- and the Flint

15 River. The Flint River and its tributaries

16 are all impacted by groundwater withdrawals.

17 This particular well draws from the Floridan

18 Aquifer as depicted there.

19 And Georgia studied this. They studied

20 it in some detail. There is at Florida

21 Exhibit 24 one of their studies called The

22 Lower Flint-Ochlockonee Regional Water Plan.

23 This, I think, will be an important document

24 in this case as well. It's from 2011.

25 And there Georgia, using its own data,

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1 determined that too much water was being

2 withdrawn from the Upper Floridan Aquifer in

3 the Dougherty Plain, which is in the Flint

4 Basin. It's a relatively large area in the

5 Flint Basin.

6 And, sir, this gentleman depicted on the

7 screen is named Napoleon Caldwell. We'll be

8 playing his -- with your permission, your

9 Honor, his deposition designations by video

10 later today. He has worked with Georgia's

11 Environmental Protection Division for decades

12 with responsibility for agricultural

13 permitting and water resources.

14 (Whereupon the video was played.)

15 MR. PERRY: Your Honor, that's Florida

16 Exhibit 24 at page 3-9.

17 But that's not the only study in that

18 particular exhibit. Today, later today,

19 we'll be focused on this particular study as

20 well by Georgia, which is in the same exhibit

21 at page 3-6. And, your Honor, this is

22 particularly revealing and important. Here

23 at Bainbridge, this is a USGS gage at

24 Bainbridge. I'll point out, your Honor, on

25 the bigger map where Bainbridge is.

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1 The Bainbridge Gage is here at the

2 southern -- not extreme southern, but near

3 the southern end of the Flint River Basin.

4 And what this chart demonstrates, your

5 Honor, is that there's a shortfall between

6 the flow of the river and the sustainability

7 criteria. In other words, there's not enough

8 water in the river. And this number right

9 here, 1376, that's how many cubic feet per

10 second the flow of the Flint River at

11 Bainbridge was short. That's a considerable

12 amount of water, your Honor.

13 And while Florida believes that that --

14 actually, the way that's calculated is in

15 fact too low, that alone is a very

16 significant admission in this case. 1376

17 short on the Flint River under Georgia's own

18 sustainability requirements.

19 But, your Honor, we don't just have to

20 focus on Georgia's own requirements. We have

21 federal guidelines for the health and

22 maintaining the present structure of the

23 Apalachicola River ecosystems. And these are

24 from 1999.

25 And, your Honor, if I might step over to

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1 the chart here that shows the Apalachicola

2 River Basin, these particular guidelines from

3 EPA and from U.S. Fish and Wildlife in 1999

4 are for the ecological health of that entire

5 river basin. That's a different question

6 under federal law from whether endangered

7 species will persist with low flows in

8 particular discrete areas. This is a

9 measurement of what's necessary to maintain

10 the health of the entire river ecosystem.

11 So, your Honor, if we take a look at the

12 first column -- and we'll spend some time on

13 this, including with Mr. Struhs tomorrow.

14 But if you take a look at the first column

15 there, there are a number of one-day minimum

16 flows that must be exceeded in all years.

17 That means you should not, for the health of

18 the river ecosystem, dip below those flows.

19 Well, your Honor, on the next slide in

20 yellow, over the last 15 years the

21 Apalachicola dipped below those levels

22 consistently. These are one-day minimums.

23 Year after year after year including in 2007,

24 2008, 2011, 2012. And, your Honor, what's

25 particularly troubling, if I might invite the

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1 Court's attention to 2016, we're below those
 2 levels now. We were below those levels in
 3 July and August and September. Those are
 4 one-day minimum flows.
 5 But there are other charts in this same
 6 EPA and U.S. Fish and Wildlife guidance from
 7 1999 that recognize it's not just the one-day
 8 minimum flow that matters. For the ecosystem
 9 it's also very important that you don't have
 10 repeated low flows year after year after
 11 year. And so this particular column that I
 12 have highlighted is the one-day minimum
 13 exceeded in three or four years. In other
 14 words, you should not go below that number
 15 more than one in four years.
 16 Those are much higher numbers than we
 17 have on our river. In fact, this chart, your
 18 Honor, shows vast noncompliance with that
 19 guideline. There are -- and that's what the
 20 yellow blocks are here on the chart.
 21 There are a few months in 2005 and 2003
 22 and 2014 and '13 that are in compliance, but
 23 virtually everything else is out of
 24 compliance with those federal guidelines.
 25 So, your Honor, there will be multiple

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1 discussions, I'm sure, with Georgia witnesses
 2 about other criteria in this case. This
 3 particular slide identifies them. The Clean
 4 Water Act requirements may be quite important
 5 as we go forward, as well as some of
 6 Georgia's own wildlife resources division's
 7 recommendations.
 8 But this particular chart that I have
 9 just focused is the chart we received last
 10 week with a bookshelf of new information from
 11 Georgia's experts. It's not in their
 12 prefiled direct. It's in the supporting
 13 material. This is a chart from Dr. Bedient,
 14 one of Georgia's experts in this case, that
 15 shows how many days of low flow Florida
 16 received on the Apalachicola River. You
 17 notice there is some in the 1930's, including
 18 1931, which we talked about. There is some
 19 in '54 and '55. But, boy, it just explodes
 20 when you get to 2000 and goes -- and gets
 21 worse and worse through 2012.
 22 But this isn't reasonably disputed, your
 23 Honor. This is happening.
 24 Now, I would like -- I would like to
 25 turn to the actual impacts of those low flows

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1 on Apalachicola Bay and Apalachicola River
 2 and the ecosystems that surround them. But
 3 I'll start by saying that Florida has made a
 4 commitment since the 1960's to protect
 5 natural areas. In fact, Secretary
 6 Steverson's testimony is about that. And
 7 this commitment was made particularly in the
 8 Apalachicola far before these impacts have
 9 been felt, far before irrigation exploded,
 10 far before Atlanta boomed in size.
 11 So this particular slide is Article II,
 12 Section 7 of Florida's Constitution where it
 13 shall be the policy of the state to conserve
 14 and protect natural resources and scenic
 15 beauty. This is a public policy that Florida
 16 pursues. Secretary Steverson's prefiled
 17 direct talks about it. And he'll be
 18 available to talk about it in detail today.
 19 In particular, about all of the acreage
 20 that's been set aside, purchased, to avoid
 21 development and to preserve these ecosystems.
 22 So there's a very specific problem
 23 occurring in Apalachicola Bay. It's that the
 24 ecosystem, which is a unique estuary, is
 25 changing. And it's changing because the

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1 river, which I'm highlighting with the
 2 pointer here, has significantly lower flows
 3 than it had in history. Of course, we talked
 4 about that with the chart here which shows
 5 the objective data on all those lower flows.
 6 But when you get lower flows coming down
 7 the Apalachicola River here, this estuary,
 8 which is a mix of fresh and saltwater and has
 9 oysters, all sorts of other very unique
 10 species that depend upon that mix, when you
 11 get less water, the bay starts to become a
 12 saltwater lagoon and not an estuary.
 13 And so at the bottom of the slide, you
 14 see the Gulf of Mexico. The salinity here,
 15 when fresh water is low, becomes much more
 16 like the Gulf of Mexico. And the species
 17 suffer. And that's a fundamental change to
 18 the ecology of the bay.
 19 So we know what's happening in the bay,
 20 your Honor.
 21 This particular photograph is of
 22 predators -- marine predators, predators that
 23 live in saltwater and prey on oysters in
 24 particular. Oysters are a foundational
 25 species for the ecology of the bay.

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25

1 So here are a series of predators,
 2 sometimes called conchs or oyster drills or
 3 snails. And, your Honor, here are some other
 4 pictures on cages that are -- that have been
 5 pulled up by one of our experts in his
 6 experimentation throughout the bay. These
 7 are predators.
 8 And here, your Honor, is a cage that has
 9 conch egg sacs. It's a very ugly picture in
 10 my opinion. These egg sacs each have
 11 hundreds of conch eggs. And so just what you
 12 see in this picture is potentially thousands
 13 of those predators -- could potentially yield
 14 that many predators.
 15 So, your Honor, probably towards the end
 16 of this week Mr. Mark Berrigan will testify.
 17 He's a 30-year veteran of the bay. He
 18 formerly worked with the Florida Department
 19 of Agriculture and Consumer Services. Here
 20 is how he describes what's happening.
 21 (Whereupon the video was played.)
 22 MR. PERRY: Your Honor, Mr. Berrigan is
 23 not the only person who will testify about
 24 those personal observations. We will have in
 25 the courtroom, for example, Mr. Tommy Ward,
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1 who has been an oysterman and an oyster
 2 dealer for virtually his whole life in the
 3 Apalachicola. And his family has held a
 4 lease to harvest oysters for nearly 60 years.
 5 And what he says is that it used to be common
 6 to harvest hundreds of oysters and maybe find
 7 one conch. Now, there's probably 100 conchs
 8 per oyster. That's a fundamental change
 9 ecologically in the bay. And that's caused
 10 by salinity -- higher salinities because
 11 there's lower flows, as we talked about
 12 earlier, by disease, and other items.
 13 So, your Honor, we will have an expert
 14 named Dr. Kimbro probably early next week who
 15 will explain exactly what studies he's been
 16 doing. And he has used cages that he's put
 17 out into the bay between 2013 and 2016 -- his
 18 experiments are still ongoing, of course --
 19 to measure exactly what's happening with
 20 oysters. Some of the cages allow conchs and
 21 other predators in. Some don't. Some are
 22 closed. We saw some of those pictures a bit
 23 ago with the egg sacs on them. He measures
 24 the salinity. He takes other environmental
 25 measurements. And here's the conclusions
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1 he's reached.
 2 Based on these observations, his
 3 experiments, and mathematical modeling, the
 4 cause of the crash of the oyster fishery in
 5 2012 were these low flows that we talked
 6 about earlier today that produced higher
 7 rates of disease, all the conchs and other
 8 predators we have been talking about, and
 9 then a systematic failure to reproduce in the
 10 same way that the oysters should.
 11 So Georgia's position in this case is
 12 that none of these things I have identified
 13 are really the cause, and that it's all
 14 fishery mismanagement by Florida,
 15 overharvesting. Well, your Honor, the
 16 federal government issued a Disaster
 17 Declaration when the fishery -- when the
 18 oyster fishery crashed. And the only way
 19 they could do that under federal statutes was
 20 if they made a finding that there was not
 21 fishery mismanagement as the central cause.
 22 And, in fact, they found that the central
 23 cause of the harm to oysters in the bay was
 24 indeed low flows, severe low flows.
 25 So prominent in Georgia's pretrial brief
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1 in this case is an argument that some
 2 University of Florida professors believed
 3 it's overharvesting that's the culprit and
 4 not the severe low flows. Well, your Honor,
 5 we will show through deposition designations
 6 exactly what the chair of that University of
 7 Florida oyster group says. He says, we did
 8 not find evidence to link overharvesting with
 9 the crash of the population.
 10 Now, Georgia also argues that a
 11 gentleman named Dr. Bill Pine believes it's
 12 overharvesting or at least that he doesn't
 13 know what it is. And he's written two -- or
 14 contributed to two different reports on this
 15 in 2015. And the first report I would point
 16 out, your Honor, that he says that further
 17 research is required, which, of course, we
 18 have done with Dr. Kimbro and others.
 19 In his second report from 2015, along
 20 with a number of other authors that can be
 21 seen on this slide, he concludes that it's
 22 likely there was a sequence of events. He's
 23 still not sure. And he hasn't seen
 24 Dr. Kimbro's data, and he hasn't done his own
 25 field experiments; but he, with other
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1 authors, concludes it's likely that a
 2 sequence of events occurred whereby low river
 3 flow led to increased salinity in
 4 Apalachicola Bay for a multi-year period
 5 which led to increases in oyster parasites,
 6 predators, unknown pathogens causing elevated
 7 mortality, particularly among juvenile
 8 oysters.

9 Now, that's pretty close to what you
 10 just heard Mr. Berrigan say on his tape.

11 Now, that's not all the evidence we'll
 12 have about the bay. We have an expert named
 13 Dr. Glibert, who is an expert on estuaries.
 14 And she'll talk about the profound changes in
 15 the food web, which extend -- which certainly
 16 include impacts on foundational species like
 17 oysters, but include other species and other
 18 impacts in the phytoplankton and other
 19 elements of the estuary. But her conclusion
 20 is if something isn't done, this will be a
 21 permanent change to the bay. And it's
 22 already been impacted very severely.

23 So, of course, we also have a case about
 24 the Apalachicola River. And when I say the
 25 river, I really also mean the floodplain and

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1 then the sloughs, which are channels off the
 2 mainstem of the river.

3 And so there are many species that
 4 depend upon the floodplain of the
 5 Apalachicola River and the main channel,
 6 amphibians, reptiles, mussels, all sorts of
 7 fish who breed in the floodplains. And we'll
 8 have multiple experts to talk about this, but
 9 in particular Dr. Allan, who will be here in
 10 the next couple days.

11 But this -- this particular slide is
 12 from Dr. Allan's prefiled direct testimony.
 13 And it highlights first what happens just in
 14 the mainstem of the river when you have low
 15 flows.

16 So Dr. Allan uses representative species
 17 to explain what is happening to all sorts of
 18 species in this ecosystem, but this picture
 19 depicts low flows. And these are dead
 20 endangered mussels. It doesn't take a huge
 21 reduction in flow for this to happen in the
 22 channel margins.

23 Here is another picture of stranded
 24 mussels.

25 And here, your Honor, is a picture of

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1 some of the sloughs I mentioned. They feed
 2 off of the main channel, and they carry water
 3 to the floodplain. They're essential for
 4 this ecosystem to be healthy. And when the
 5 water recedes, when there is not enough flow
 6 from Georgia to the Apalachicola River, they
 7 dry up. Here is a map of some of the
 8 sloughs. The sloughs are up and down the
 9 entire -- or most of the river; and you can
 10 find them in many places. But here is what
 11 happens when they dry up. You're stranding
 12 breeding fish. You're killing mussels. All
 13 sorts of other parts of the ecosystem suffer.
 14 These are dead mussels in a slough right
 15 here. And you fundamentally change what's
 16 happening out in the ecosystem.

17 This is what it's supposed to look like,
 18 your Honor, in the floodplain. There's some
 19 beautiful cypress and tupelo trees. But when
 20 the floodplain doesn't fill, you have
 21 profound impacts on the forest, too.

22 So this data, this chart, is from
 23 Dr. Allan's testimony. And it -- it's
 24 between 1976 and 2004. It doesn't even
 25 include the most significant recent droughts,

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1 your Honor. But what it shows is already by
 2 2004, some of the lowest flows were occurring
 3 by that date. You had loss of this
 4 floodplain forest. You lost tupelo trees.
 5 You lost cypress. These things with adequate
 6 flows would take generations to regrow, to
 7 recover. And it's much worse than this chart
 8 shows today.

9 So why is this happening, your Honor?

10 Well, what we'll show in this next two
 11 and a half weeks or so during our case and
 12 also during Georgia's case is that there are
 13 internal documents dating from the early
 14 1990's, through the 1990's, and throughout
 15 the last decade, and even recent documents
 16 where internal members of Georgia's
 17 Environmental Protection Division and others
 18 explain frankly what's happening. So
 19 beginning in 1999, there are a series of
 20 documents.

21 Mr. Reheis, who is a former director,
 22 will likely testify about these. I'm calling
 23 him as a hostile witness on Thursday, your
 24 Honor.

25 But these documents confess basically

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1 that the laws relating to how farmers can
2 irrigate are the weakest of all Georgia's
3 environmental laws. And they were written in
4 a very loose manner to place the minimum
5 amount of requirements on agricultural users.

6 And indeed, in 1999 the gentleman I
7 mentioned who will be here Thursday said in a
8 public presentation, in southwest Georgia in
9 the Flint Basin that the State will need to
10 put a cap on water depletions one of these
11 days, which is, of course, what we're asking
12 for in this case.

13 And here, your Honor, is an important
14 document. It's Florida Exhibit 4. It is a
15 set of talking points developed by multiple
16 members of Georgia's Environmental Protection
17 Division. It will be prominent today in the
18 deposition designations we play for
19 Mr. Napoleon Caldwell.

20 But here what Georgia said is -- and in
21 1999 we've already exceeded the safe upper
22 limit of permissible acreage in the Lower
23 Flint. Overuse will cause severe impacts.
24 It will hurt Georgia's chances in federal
25 court if we let irrigation deplete the Flint

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1 regarded that as a good faith effort to
2 preserve river flow into Florida.

3 Well, what happened after that was
4 disappointing to Florida, your Honor. In
5 2006 Georgia proposed to issue more
6 agricultural permits in the Flint River
7 Basin. And here, another important document,
8 Florida Exhibit 46, the U.S. Fish and
9 Wildlife Service wrote to Georgia and
10 explained, you have already got a current
11 overallocation of water in the Flint River
12 Basin. Current permits need to be reassessed
13 and constrained to reasonable use.

14 But Georgia, nevertheless, did issue a
15 whole number of new permits. In fact, since
16 the time that the Flint River Drought
17 Protection Act passed, there are probably
18 more than 150,000 new acres in the Flint
19 River Basin.

20 So the rationale for issuing this new
21 acreage was, well, we'll buy out irrigation
22 rights under the Flint River Drought
23 Protection Act. The problem, your Honor, is
24 that didn't happen.

25 In 2007, as the chart here shows, there
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1 River. If new irrigation uses are not
2 limited effectively and soon, it will create
3 a bigger Achilles heel than we currently
4 have. In the worst case, the Georgia state
5 government would have to buy back water
6 rights from farmers.

7 All of these facts have become known to
8 Georgia over the course of 1998. It is now
9 necessary to act on them.

10 Well, your Honor, there was some action
11 in 2000. It was called the Flint River
12 Drought Protection Act. And this initial
13 action, as this document FX-10, Florida
14 Exhibit 10, shows was motivated by high use
15 of irrigation dramatically reducing the flow
16 of the Flint River. This particular document
17 is the official legislative history for the
18 Flint River Drought Protection Act. And it
19 explains the purpose of the Flint River
20 Drought Protection Act, to take acreage out
21 of irrigation production during times of
22 severe drought. That is to reduce the amount
23 of irrigation in the Flint Basin during
24 severe drought.

25 Mr. Reheis will testify that Georgia
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1 was a terrible drought. Flint River Drought
2 Protection Act wasn't used. In 2008, the
3 same. 2011, the same. 2012, another
4 terrible drought year. Flint River Drought
5 Protection Act wasn't used.

6 So there's no question that during this
7 time period Georgia knew exactly what was
8 going on.

9 This is an important document, your
10 Honor, as well. It's Florida Exhibit 49d1.

11 It's a study funded by the State of
12 Georgia. And it focuses on the reasons for
13 low flows in the Flint. And what it says is
14 that agricultural irrigation is fundamentally
15 changing or has by that point fundamentally
16 changed the hydrology of the basin. There is
17 no climatologic indication that recent
18 droughts were more severe or persistent than
19 those in the past in the 1930's or 1950's.
20 And it's clear that water use upstream of
21 Florida is the primary factor causing record
22 low streamflow. It's a fundamental change in
23 the regional hydrology. The bay and river
24 have existed for millennia, and in the last
25 30 years the flows have been fundamentally

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1 changed by upstream water consumption.
 2 So, your Honor, by 2012, we can see
 3 documents -- internal documents by Georgia
 4 that explain exactly what the problem is with
 5 the Flint River Drought Protection Act from
 6 their perspective. And what they say is
 7 pretty blunt. No funds are currently
 8 appropriated for this purpose. There is no
 9 money to buy out irrigation. That's the
 10 problem, your Honor. There is no money.
 11 And, candidly, the then EP --
 12 Environmental Protection director said in
 13 this press release, Joint Exhibit 69, there
 14 is no doubt we need a viable management tool
 15 to deal with drought in the Flint River
 16 Basin, but the Flint River Drought Protection
 17 Act lacks any funding.
 18 So after 2012 and indeed after we filed
 19 this case in 2013, Georgia continues to try
 20 to figure out what to do. And there are many
 21 documents that will show from that time
 22 period. This particular document, Florida
 23 Exhibit 49b, is a presentation that was made
 24 at a meeting between Georgia's Environmental
 25 Protection Division, who convened the

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1 meeting, and a number of interested parties
 2 in the Lower Flint Basin. This is a
 3 presentation by a Georgia technical adviser
 4 going back -- he was a technical adviser in
 5 2006 and has been thereafter for Georgia.
 6 This particular presentation supports what
 7 we're saying in this case about all the
 8 causes, your Honor. And we'll spend some
 9 time on this presentation in this trial.
 10 But after that meeting, the Georgia
 11 Environmental Protection Division personnel
 12 who attended got together and wrote a meeting
 13 summary explaining what happened in that
 14 meeting. And here is what was recorded as
 15 statements by the then director of Georgia's
 16 Environmental Protection Division; Florida's
 17 equitable apportionment action, this Original
 18 Action, is a challenge and can seem
 19 overwhelming. But, Director Turner
 20 explained, it's important that we identify
 21 steps that can be taken today rather than
 22 freezing to see what happens. In other
 23 words, Georgia knew that it had to do
 24 something.
 25 And this same document, Joint Exhibit 154,

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1 explains some of the things that can be done,
 2 your Honor, acquire easements for permanent
 3 removal of acres from irrigation -- pay
 4 farmers not to irrigate, or temporarily
 5 during severe drought years -- or transfer
 6 water users to deeper aquifers.
 7 There are a range of possible solutions
 8 here, your Honor, almost all of which Georgia
 9 at least internally has considered. And they
 10 recognize in this and many other documents
 11 that long-term solutions are needed. The
 12 problem is that there have been no long-term
 13 solutions implemented. And we're seeing,
 14 even today, much lower flows than we should
 15 be.
 16 So what can be done in this Original
 17 Action to remedy this problem?
 18 Well, there are solutions that our
 19 experts will describe in some detail,
 20 including Dr. Sunding, for Metro Atlanta.
 21 Even reducing drought year lawn watering can
 22 have an important impact. Metro Atlanta did
 23 that in 2007, but declined to do it in 2011
 24 or '12 when we have seen the worst flows in
 25 history. There are other infrastructure

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1 investments that can be made that we'll talk
 2 about in some detail.
 3 On the Upper Flint, similarly, there are
 4 a whole range of things that can be done.
 5 And that's also true on the Lower Flint, in
 6 particular with respect to more efficient
 7 irrigation. If Georgia just used the same
 8 controls on irrigation that Florida already
 9 employs in its part of the ACF Basin, a lot
 10 of water would be saved.
 11 Now, on this slide there's a -- the
 12 second bullet reads, eliminate illegally
 13 irrigated acres. Your Honor, during
 14 discovery in this case we took a deposition
 15 of one of Georgia's witnesses. And we
 16 determined by taking that deposition, by
 17 looking at the underlying documents that up
 18 to 90,000 acres in the Lower Flint Basin are
 19 illegally being irrigated. They're not
 20 permitted to irrigate that many.
 21 Now, it shouldn't take lawyers taking
 22 depositions for a regulatory program to
 23 recognize it's got 90,000 illegal acres of
 24 irrigation land -- of irrigated land. And
 25 our conclusion from that is that there is not

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1 a sufficiently serious regulatory program
 2 overseeing irrigation in the Lower Flint
 3 Basin.
 4 Through Dr. Sunding and others we'll
 5 cap -- we'll propose how to exactly cap
 6 amounts of irrigation water in the way that
 7 Florida already does and, indeed, discuss the
 8 same sorts of possible solutions that we see
 9 in Georgia documents.
 10 But in the end, at the end of our
 11 presentation, your Honor, we will show that
 12 our consumption cap would be practicable,
 13 that it would be verifiable by a third party,
 14 which the States can agree upon, and indeed
 15 that an appropriate consumption cap, using
 16 all the sorts of tools -- Georgia can select
 17 which tools it wants to use to achieve the
 18 outcome -- but it need not cause any
 19 significant financial harm to Atlanta or to
 20 individual farmers.
 21 Your Honor, the State of Georgia had a
 22 policy for years and years where it allowed
 23 farmers to apply for and get permits with
 24 virtually no environmental scrutiny. And it
 25 created a problem that it needs to fix now.

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1 And it can fix it without harming farmers and
 2 without harming Atlanta.
 3 So Georgia has said in its pretrial
 4 brief and elsewhere that it thinks that the
 5 right thing to do in this case is restore the
 6 status quo. Well, we have two comments on
 7 that, your Honor. First, the status quo for
 8 millennia has been a healthy riverine
 9 ecosystem and a healthy Apalachicola Bay.
 10 And what Georgia has done has occurred in the
 11 last 30 years to change that. But even if
 12 you only focus on the last 15 years or so,
 13 Georgia took what it acknowledged was a good
 14 faith step to pass the Flint River Drought
 15 Protection Act in 2000 to reduce irrigation
 16 and then, because it became too expensive,
 17 they halted it.
 18 Your Honor, if there's anything that's
 19 the status quo it's protecting what Florida
 20 has set aside and protected in the
 21 Apalachicola River and the Basin; and I don't
 22 think it's appropriate, and we'll argue
 23 vigorously that it's not appropriate to
 24 preserve, simply for economic reasons,
 25 unnecessary and wasteful irrigation where it

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1 occurs. And indeed, there can be a solution
 2 that, without harming farmers, limits that
 3 irrigation.
 4 So let me close this opening, your
 5 Honor, by referring again to the Florida
 6 Constitution. It shall be the policy of the
 7 State of Florida to conserve and protect its
 8 natural resources.
 9 That's what we're here to do, your
 10 Honor. But it's important for me to
 11 emphasize one other thing. And that is -- I
 12 introduced the Mayor of Apalachicola earlier.
 13 I introduced the city attorney. The
 14 communities that live in the Apalachicola
 15 Basin are critical to Florida. They have
 16 relied on that beauty and health and the
 17 oyster fishery in that area for generations.
 18 It's a unique area. It's a unique community.
 19 And we're trying to save them.
 20 Thank you, your Honor.
 21 SPECIAL MASTER LANCASTER: Thank you,
 22 counsel.
 23 Mr. Primis?
 24 MR. PRIMIS: Your Honor, Craig Primis
 25 for the State of Georgia.

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1 We shared our equipment with Florida for
 2 Mr. Perry's presentation; so we just need to
 3 switch over, do a little logistical work. It
 4 will take two or three minutes to get my
 5 presentation up and running.
 6 SPECIAL MASTER LANCASTER: Why don't we
 7 stand in recess then.
 8 (Time Noted: 10:05 a.m.)
 9 (Recess Called)
 10 (Time Noted: 10:15 a.m.)
 11 SPECIAL MASTER LANCASTER: Mr. Primis?
 12 MR. PRIMIS: Thank you, Special Master
 13 Lancaster.
 14 And may it please the Court, it is a
 15 privilege to stand before you today on behalf
 16 of the people of Georgia. We very much
 17 appreciate the time and attention the Special
 18 Master has dedicated to this case; and now,
 19 we look forward to presenting our evidence.
 20 As we do so, it will quickly become clear
 21 that Florida cannot meet the significant
 22 burden it faces in this case, and the remedy
 23 it seeks could have serious consequences for
 24 Georgia and its citizens with little or no
 25 benefit to Florida or the Apalachicola River

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1 or Bay.
 2 The Supreme Court has repeatedly warned
 3 that an equitable apportionment is an
 4 extraordinary remedy and not one to be
 5 imposed lightly. Justice Cardozo put it best
 6 80 years ago in Washington versus Oregon. As
 7 I have shown on the screen, there the Court
 8 said, before this Court can be moved to
 9 exercise its extraordinary power under the
 10 Constitution to control the conduct of one
 11 state at the suit of another, the threatened
 12 invasion of rights must be of serious
 13 magnitude and it must be established by clear
 14 and convincing evidence.
 15 50 years later in Colorado versus New
 16 Mexico, the Court repeated the need for clear
 17 and convincing evidence, and it explained
 18 that the consequences of getting this wrong
 19 can be devastating.
 20 If I can refer the Court to the monitor,
 21 the Court in Colorado explained that
 22 society's interest in minimizing erroneous
 23 decisions in equitable apportionment cases
 24 requires that hard facts, not suppositions or
 25 opinions, be the basis for interstate

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1 diversions. Hard facts are required, the
 2 Court said, because the harm that may result
 3 from disrupting established uses is typically
 4 certain and immediate, whereas, the potential
 5 benefits from a proposed diversion may be
 6 speculative and remote.
 7 That is exactly the situation we have
 8 here. Florida does not have the hard facts
 9 the Court requires. Its injury case is built
 10 on speculation and on harms not caused by
 11 Georgia. And the damage a consumption cap
 12 would cause Georgia would be certain and
 13 immediate.
 14 Now, Mr. Perry spent the balance of his
 15 opening arguing that the Court should cap
 16 Georgia's water use because of growth in
 17 Georgia's agricultural sector. Georgia will
 18 address that claim both in its opening and
 19 throughout the trial, but for present
 20 purposes the important point is that Florida
 21 essentially ignores all the other elements
 22 the Supreme Court has articulated before an
 23 equitable apportionment may be ordered,
 24 elements like injury, causation, equitable
 25 balancing, remedy, and necessary parties.

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1 Florida barely mentions these critical
 2 issues, but Georgia will address all of them;
 3 and we will urge the Court to do so, too.
 4 And just so there is no misunderstanding
 5 on one key point, Georgia emphatically
 6 rejects the suggestion that it has not been a
 7 good steward of water. We are proud to
 8 defend and will defend Georgia's stewardship
 9 of this resource in both metropolitan Atlanta
 10 and the agricultural sector of the state.
 11 At the outset, I want to emphasize what
 12 is at stake in this case. What is at stake
 13 is the economic well-being of millions of
 14 Georgians who depend on the Chattahoochee
 15 River, the Flint River, and the federal
 16 reservoir system, which Mr. Perry failed to
 17 mention, for their drinking water, their
 18 food, their jobs, their entire way of life.
 19 What's at stake is an economy that supports
 20 millions of jobs and billions of dollars in
 21 economic activity throughout Georgia and
 22 beyond.
 23 Let's look at some of the key
 24 differences between Georgia and Florida in
 25 the ACF Basin. I put on the screen and the

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1 Court can see the Georgia portion of the ACF
 2 Basin is five times the size of the Florida
 3 portion. Georgia ACF population is over
 4 5 million people. Florida doesn't have
 5 100,000. There were over 2 million jobs on
 6 the Georgia side and just 25,000 on the
 7 Florida side. It's not pictured there, but
 8 the economy in the Georgia portion is more
 9 than 100 times the size of the Florida
 10 economy.
 11 And just focusing for a minute on the
 12 agricultural part of the basin in the bottom
 13 right corner, Georgia generates more than 1.3
 14 billion dollars a year -- that's billion --
 15 growing row crops like corn and soybeans,
 16 while revenues on oysters in a good year
 17 barely average about \$6-1/2 million in
 18 Florida. We had to insert the number on this
 19 part of the chart because the oyster line is
 20 not visible at all.
 21 And the ACF portion in Georgia is home
 22 to Atlanta, the ninth largest metropolitan
 23 area in the nation. To put that in context,
 24 the Atlanta metro region is 20 percent larger
 25 than the next largest, which just happens to

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1 be Boston, right down the road.
 2 With these basic facts in mind, I would
 3 like to draw the Court's attention to this
 4 chart which shows the average annual flow
 5 that Florida receives at the state line,
 6 which is shown in blue. You can compare that
 7 value with the amount of water that Georgia
 8 consumes in a year, which is shown in green
 9 along the bottom.
 10 Now, Mr. Perry put up a chart at the
 11 beginning of his presentation which vastly
 12 overstated Georgia's consumption of water,
 13 and we will show that at trial. But as this
 14 chart shows, the vast majority of the water
 15 in the ACF Basin already flows over the state
 16 line into Florida; and Georgia consumes only
 17 a small amount.
 18 As Georgia's natural resource economist,
 19 Dr. Robert Stavins from Harvard, will
 20 testify, the proportion of water that Georgia
 21 consumes is minuscule compared to the size of
 22 its population and its economy. That is why
 23 the risk in this case disproportionately
 24 falls on Georgia with Florida seeking to cap
 25 Georgia's water use and with it, Georgia's

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1 economy.
 2 At the same time, Florida receives more
 3 water than it needs in normal and wet years;
 4 and it will still continue to receive steady
 5 and dependable flows in a drought and, in
 6 fact, more than nature would deliver in a
 7 drought from the Army Corps of Engineers,
 8 another entity that was not mentioned earlier
 9 today.
 10 If the Supreme Court were to cap
 11 Georgia's water use in this case, Georgia
 12 jobs will be put at risk; and Georgia's
 13 economy will be harmed. And this is not an
 14 academic exercise. These are real people
 15 living and working in Atlanta or growing
 16 crops in the southwest part of the state.
 17 And Florida is asking this Court to put them
 18 at significant risk of economic hardship for
 19 no good reason.
 20 This is why the Supreme Court demands
 21 hard facts and not speculation. It is also
 22 why it wants clear and convincing evidence
 23 that there is actual injury that needs to be
 24 redressed. That is the mandatory first step
 25 in the analysis, and Florida's case begins

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1 and ends at that very first step.
 2 Florida devoted just two pages of its
 3 pretrial brief to its alleged injury,
 4 offering predictions of doom, but no actual
 5 evidence. And that was no accident. The
 6 evidence will show that Florida's proof of
 7 injury cannot possibly meet the clear and
 8 convincing standard.
 9 And that is true for two reasons. In
 10 many cases, Florida has no injury at all or
 11 its claimed injury is pure speculation. And
 12 in others, the harm Florida claims was not
 13 caused by Georgia; and there is no clear,
 14 convincing evidence to claim that it was.
 15 One injury allegation we can dispense
 16 with quickly is economic injury. Florida
 17 hired not one, but two Ph.D. economists as
 18 experts in this case. And neither of them
 19 offer the opinion that Georgia's consumption
 20 of water harmed Florida's economy. Florida's
 21 lead economist, Dr. Sunding, never even
 22 looked at impacts on the Florida side of the
 23 border.
 24 If you look at the screen, you will see
 25 where he admitted that. He was asked, have

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1 you attempted to quantify in any economic or
 2 monetary sense the impact on Florida of
 3 Georgia's consumptive water use?
 4 And his answer was, nothing comes to
 5 mind, no.
 6 Florida had another economist,
 7 Dr. Phaneuf. He did look at Florida's
 8 economy, but he never asked whether Florida's
 9 economy in the basin had gotten better or
 10 worse. So Florida dropped Dr. Phaneuf as a
 11 witness, and he won't be coming to trial to
 12 testify. As a result, Florida has no expert
 13 testimony, none, of any economic harm at all
 14 at any point in time resulting from any
 15 action on the part of Georgia.
 16 With no economic harm to speak of,
 17 Florida pitches its whole case on ecological
 18 harm. And while Georgia does not take the
 19 position that ecological harm alone can never
 20 justify an equitable apportionment, it cannot
 21 possibly do so in this case given the high
 22 burden on Florida and the speculative
 23 evidence it has advanced.
 24 Mr. Perry mentioned the oysters, so
 25 let's start with the oysters. After all, the

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1 oyster collapse of 2012 is what prompted this
 2 particular chapter in this long-running
 3 dispute. In paragraph 54 of its complaint
 4 Florida alleged, quote, as a result of
 5 actions authorized by Georgia, reduced
 6 freshwater inflows to the Apalachicola Bay
 7 over the past several years precipitated a
 8 collapse of the Apalachicola Bay oyster
 9 fishery.

10 It turns out, your Honor, that is just
 11 not true. As laid out in our brief, a team
 12 of University of Florida scientists charged
 13 with getting to the bottom of the oyster
 14 collapse researched this question
 15 extensively, relying on scientists and
 16 experts from multiple disciplines. These
 17 University of Florida scientists published
 18 their results in a paper called The
 19 Apalachicola Bay Oyster Situation Report in
 20 April 2013. And I have pictured it on the
 21 screen.

22 It reported that the team had not found
 23 a connection between low river flows and the
 24 2012 oyster collapse. One key member of that
 25 team was a University of Florida Ph.D. with

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1 advanced degrees in fisheries science and
 2 zoology. His name is Bill Pine, and his
 3 picture is on the screen. He is a tenured
 4 professor in the Department of Wildlife
 5 Ecology and Conservation at University of
 6 Florida. Florida Fish and Wildlife
 7 Commission had already relied on Dr. Pine's
 8 research on the Gulf surgeon, and he was now
 9 asked to join the oyster team. Dr. Pine was
 10 asked in his deposition about the research he
 11 had led as of this point in time. He was
 12 asked, at this point in April of 2013 after
 13 the report came out, have you reached any
 14 firm conclusions about the connection between
 15 oyster population dynamics and river flow?

16 And his answer was no. Unequivocal.

17 Six months later and with its leading
 18 University scientists saying they hadn't
 19 found a connection between low river flow and
 20 the 2012 oyster collapse, Florida filed this
 21 lawsuit blaming low river flows and Georgia
 22 for the collapse.

23 Now, Dr. Pine still wanted an answer to
 24 what caused the collapse; so he kept
 25 researching. And after more than two years

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1 and thousands of hours of research and
 2 analysis, Dr. Pine published his findings in
 3 a peer-reviewed scientific journal. As the
 4 Court can see in the key excerpts I'm putting
 5 on the screen now, Dr. Pine and his
 6 co-authors reported, we did not find
 7 correlations between Apalachicola River
 8 discharge measures, which are flows, and our
 9 estimated relative natural mortality rate or
 10 oyster recruitment rates.

11 They went on to state, the overall
 12 relationships between freshwater flows,
 13 drought frequency and severity, oyster
 14 recruitment, and harvest dynamics remain
 15 unclear.

16 In a case where Florida needs clear and
 17 convincing evidence of harm, a
 18 contemporaneous finding by a leading Florida
 19 oyster biologist that the relationship
 20 between freshwater flow and oyster mortality
 21 is, quote, unclear should just about end the
 22 inquiry.

23 Now, recall that Florida had alleged in
 24 paragraph 54 of the complaint that it was low
 25 flows from Georgia that caused the collapse.

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1 I read that allegation to Dr. Pine at his
 2 deposition, and here is what he said. He was
 3 asked, based on all the work you've done in
 4 connection with evaluating the eastern
 5 oyster, would you agree with the statement --
 6 and this is straight from the complaint --
 7 that reduced freshwater inflows to the
 8 Apalachicola Bay over the past several years
 9 caused a collapse of the Apalachicola Bay
 10 oyster fishery?

11 His answer was, I don't know that.

12 We wanted to clarify. You don't know
 13 that to be the case?

14 I don't know that to be the case.

15 He was asked, have you seen clear
 16 evidence, which is what's required, to
 17 support such a statement?

18 And his answer was, again, no.

19 So what did Florida do? It tried to
 20 make sure that Dr. Pine's research never saw
 21 the light of day. We previewed these facts
 22 in our opening brief, but I want to make sure
 23 the Court sees this extraordinary e-mail that
 24 revealed the lengths to which Florida went to
 25 keep this evidence from the Court.

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1 As your Honor can see on the screen,
 2 while the case was pending, on December 20,
 3 2014, Dr. Pine sent an e-mail to the chair of
 4 his department at the University of Florida.
 5 He reported, on Thursday morning I received a
 6 call from a colleague at Florida's Fish and
 7 Wildlife Commission as a, quote, heads-up.
 8 The purpose of the call was to let me know
 9 that following a meeting on Wednesday in
 10 Tallahassee with the legal team representing
 11 Florida in the Florida versus Georgia case
 12 pending in the U.S. Supreme Court, that the
 13 lead attorneys were, quote, not happy with
 14 two manuscripts that I have in journal review
 15 on oyster populations in Apalachicola Bay.
 16 He said, I was told by my FWC colleague that
 17 the attorneys thought the paper should be
 18 withdrawn. And if they were published, they
 19 could, quote, make things difficult for me.

20 He went on to note that whether the
 21 attorneys working on the case like it or not,
 22 State of Florida staff have been involved in
 23 this work since 2011, predating the lawsuit.
 24 The State has also had copies of the
 25 main paper, reviewed it numerous times; and

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1 authors, plus potentially more who were
 2 instructed to step off by Florida.
 3 And Georgia's oyster expert, Dr. Ron
 4 Lipcius, independently researched this
 5 question and arrived at the same answer as
 6 Dr. Pine. Dr. Lipcius is a leader in his
 7 field and is a professor at William & Mary's
 8 Virginia Institute of Marine Science. He has
 9 played a key role in restoring the oyster
 10 population in Chesapeake Bay. As Dr. Lipcius
 11 will explain and Florida's own documents will
 12 confirm, in the years preceding the oyster
 13 collapse, Florida allowed essentially
 14 unlimited fishing of the oyster bars with
 15 virtually no enforcement of size
 16 restrictions. Record numbers of oysters were
 17 pulled from the bay causing concern among
 18 Florida officials.

19 I'm going to show the Court now a
 20 document authored by Mr. Berrigan, the
 21 gentleman whose video the Court was shown.
 22 And here is what Mr. Berrigan said in his
 23 August 2012 Oyster Assessment Report. He
 24 told the state officials, the standing stocks
 25 of juvenile, sublegal, and market-size

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1 many of their staff were included as
 2 co-authors until very late drafts of the
 3 manuscript when they were asked by legal
 4 staff to, quote, step off the paper.

5 Dr. Pine concluded by saying that at
 6 issue is the perception that the work I've
 7 led undermines the State of Florida's
 8 assertion in the ongoing lawsuit that the
 9 Apalachicola oyster collapse was caused by
 10 water policy in Georgia.

11 The Court will hear Dr. Pine's
 12 compelling testimony about this incident by
 13 video deposition. After seeing this
 14 testimony, I think the Court will agree with
 15 Georgia that this isn't how the process is
 16 supposed to work. The Supreme Court wants
 17 hard facts showing injury. And the hard fact
 18 here is simple; there is no connection
 19 between river flows and oyster mortality in
 20 2012, and Florida's researchers couldn't find
 21 one.

22 Dr. Pine isn't the only scientist who
 23 came to the conclusion that low river flows
 24 didn't cause that collapse. Dr. Pine's
 25 published paper was joined by six other

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1 oysters suggest that the overall condition of
 2 many reefs has declined substantially over
 3 the past two years as a result of continuous
 4 harvesting from Cat Point and East Hole Bars,
 5 concentrated and intensive harvesting by the
 6 majority of the fishing fleet, and the
 7 excessive harvesting of sublegal oysters. He
 8 reported that the practice of harvesting
 9 sublegal oysters appears to be an extension
 10 of a "use it or lose it" attitude that
 11 prevailed during the fall and winter of 2010.

12 In fact, before it realized the
 13 litigation-driven need to blame Georgia for
 14 its oyster problem, Florida was so confident
 15 in its position that overharvesting was a
 16 major contributor to the collapse that
 17 Florida Governor Rick Scott, in seeking funds
 18 from the federal government, expressly
 19 identified it as a cause.

20 In his letter to the Department of
 21 Commerce Governor Scott wrote, harvesting
 22 pressures and practices were altered to
 23 increase fishing effort, as measured in
 24 reported trips, due to the closure of oyster
 25 harvesting in contiguous states during 2010.

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1 This led to overharvesting of illegal and
 2 sublegal oysters, further damaging an already
 3 stressed population.
 4 Florida could have protected its oysters
 5 by limiting fishing and restoring the habitat
 6 through reshelling, but greed and politics
 7 prevented it from taking those necessary
 8 steps. Georgia had nothing to do with
 9 Florida's bad decision making.
 10 Before we leave the bay and move to the
 11 river, I want to mention that Florida also
 12 alleges harm to microscopic organisms in the
 13 bay and predicts cascading harm throughout
 14 the food web. Georgia's ecology expert,
 15 Dr. Menzie, explains in his testimony why
 16 that claim is baseless and speculative.
 17 There is no evidence of any cascading effect
 18 and no evidence of harm to any fish
 19 population up the food chain in the bay,
 20 which is what Florida predicts.
 21 If the Court needs any more proof on
 22 this front, I will simply note that Florida
 23 used to have an expert, Dr. Kenneth Jenkins,
 24 who was supposed to testify to harm to a wide
 25 range of fish in the bay. That testimony did

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1 hired to testify in this very case.
 2 There is no secret that construction of
 3 a massive reservoir and dam at the state line
 4 dramatically changed the landscape and
 5 ecology of this region. And there is also no
 6 dispute that dredging and other changes to
 7 the river channel disrupted natural habitats.
 8 Neither Georgia nor its consumption of water
 9 is the cause of any of this change, and
 10 Georgia is not the reason that some of these
 11 mussels are endangered or that the sturgeon
 12 is endangered.
 13 We will show, relying on reports of the
 14 U.S. Fish and Wildlife Service, that even
 15 those endangered species have weathered the
 16 repeated droughts of the last 15 years pretty
 17 well. But before I turn to individual
 18 species, I do want to touch on these physical
 19 changes to the river and the floodplain that
 20 are far more important to the well-being of
 21 these species than anything Georgia is doing
 22 on this side of the border.

23 The most important changes, for present
 24 purposes, were the construction of Jim
 25 Woodruff Dam at the state line and the
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1 not work out the way Florida had hoped, so
 2 Dr. Jenkins became the second expert that
 3 Florida dropped for trial. Florida has no
 4 testimony on harm to fish species in the bay,
 5 and the fact that the fish in the bay are
 6 thriving confirms that the species down the
 7 food chain are abundant and more than
 8 sufficient to sustain the bay and its
 9 ecology.
 10 Florida's injury fares no better if we
 11 turn to the claimed harms in and along the
 12 river. Florida claims in this case that
 13 Georgia is responsible for a whole series of
 14 alleged harms to the ecology of the river and
 15 the plants and animals that live there.
 16 Florida fails to mention that there is a long
 17 history of physical change to this basin that
 18 does not involve any conduct by Georgia.
 19 This history is documented in official
 20 publications of multiple agencies of the
 21 federal government, in official publications
 22 of the State of Florida, in sworn testimony
 23 from Florida officials in prior litigation
 24 over the same species in this case, and in
 25 published work by one of the experts Florida

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1 dredging of the river by the Army Corps. The
 2 dam not only cut off habitat upstream for
 3 fish like the sturgeon; but it had a
 4 corrosive effect on the river, literally
 5 lowering the riverbed so that more water must
 6 fill the river to reach the same elevations.
 7 And the dredging literally dug up
 8 pre-existing natural habitats. And the dirt
 9 and sand left behind blocked areas where
 10 floodwaters used flow.
 11 The United States Geological Survey has
 12 catalogued this history in a formal report,
 13 which I will put on the screen now. As the
 14 Court can see, and I will highlight here,
 15 this report was prepared not just by the
 16 federal government, but with the input of the
 17 Florida Fish and Wildlife Conservation
 18 Commission, the Northwest Florida Water
 19 Management District, the Florida Department
 20 of Environmental Protection, and another
 21 government agency, the Fish and Wildlife
 22 Service. So Florida is aware of this
 23 information and, in fact, helped compile it.
 24 What this report from USGS and Florida
 25 agencies state is that from 1954 to 2004,

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1 water levels declined in the nontidal reach
 2 of the Apalachicola River. Why did that
 3 happen? Channel widening and deepening,
 4 which occurred throughout much of the river,
 5 apparently caused the declines.
 6 Now, Mr. Perry put up a chart that was
 7 blue and gray; and it talked about the
 8 decline in some of the tree species. The
 9 same author of this report is Helen Light
 10 created the data that goes to these tree
 11 species. And they know that it's because of
 12 channel widening and deepening that USGS and
 13 all of these Florida agencies concluded that
 14 the floodplains have diminished these tree
 15 populations.
 16 But let's look at a paper written by one
 17 of Florida's expert in this case. Mathias
 18 Kondolf also recounted this history. At a
 19 time not long ago when Dr. Kondolf wasn't
 20 serving as an expert for Florida, he
 21 acknowledged that channel enlargement has
 22 meant more flow is contained within the
 23 channel, lowering water levels for the same
 24 flows from upstream such that overflows onto
 25 the floodplain and through the sloughs that

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1 Mr. Perry mentioned occur less frequently and
 2 for shorter periods of time.
 3 So let's flip back now to that USGS and
 4 Florida survey which explains what happens
 5 when the channel is widened and the riverbed
 6 is lowered. As a result of this -- as a
 7 consequence of this decreased inundation, the
 8 quantity and quality of floodplain habitats
 9 for fish, mussels, and other aquatic
 10 organisms have declined. And wetland
 11 forests, those trees Mr. Perry mentioned, of
 12 the floodplain are changing in response to
 13 drier conditions. And this is a key
 14 statement, and we will return to it
 15 throughout this case.
 16 Water level decline caused by channel
 17 change is probably the most serious
 18 anthropogenic impact that has occurred so far
 19 in the Apalachicola River and floodplain.
 20 All of these impacts were caused by Jim
 21 Woodruff Dam or by dredging activities along
 22 the river, not by Georgia, just as Florida,
 23 its regulatory agencies, and now its own
 24 expert had said time and again before Florida
 25 decided to sue Georgia.

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1 With that background, let's turn to what
 2 Florida claims is harm in the river. Florida
 3 has said that Georgia's consumption is
 4 threatening the very existence of mussels and
 5 other species in the river. The problem is
 6 there's absolutely zero evidence to support
 7 that claim. Most notably, Florida's expert
 8 Dr. David Allan, he did not even attempt to
 9 determine and offers no opinion on the
 10 population levels of the animals he claims
 11 are being harmed. He has not looked at how
 12 any of those populations have changed over
 13 any period of time.
 14 So let's focus on the mussels. There
 15 are three endangered mussels in the
 16 Apalachicola River. The Court might
 17 recognize these three. These are the purple
 18 bankclimber, the Chipola slabshell, and the
 19 fat threeridge. With regard to these three
 20 species of endangered mussels, Dr. Allan does
 21 not know how they are actually doing in the
 22 real world and didn't attempt to find out.
 23 Let's look at his testimony. He was
 24 asked, did you do any study to determine
 25 whether these three species of mussels are

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1 increasing or decreasing or stable?
 2 His answer. I did not do any population
 3 studies on these three species.
 4 That is a stunning admission in a case
 5 where Florida seeks to cap Georgia's water
 6 consumption on the theory that the mussels
 7 are in peril. In fact, for two of these
 8 three endangered species pictured on the
 9 screen, Dr. Allan conceded he has no evidence
 10 that Georgia caused them any harm. He
 11 admitted in his deposition and will admit
 12 here in court that he has no evidence Georgia
 13 did anything to harm either the purple
 14 bankclimber or the Chipola slabshell. He
 15 testified, quote, his analysis did not pursue
 16 the issue of harm to the purple bankclimber,
 17 and he admitted that the Chipola slabshell
 18 was, quote, not vulnerable to water level
 19 changes.
 20 That just leaves one endangered muscle,
 21 the fat threeridge. And on that one, Florida
 22 has proof problems that may be even worse
 23 than its oyster problem. When Dr. Allan
 24 decided to base his entire mussel study on
 25 the fat threeridge mussel, he didn't realize

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1 that research sponsored by the U.S. Fish and
 2 Wildlife Service had found millions more fat
 3 threeridge mussels than were previously
 4 thought to exist in the Apalachicola River.
 5 Yet, Florida advances Dr. Allan to say that
 6 the Supreme Court should find that they are
 7 on the brink of a catastrophe.

8 As your Honor can see on the screen, in
 9 a report released by U.S. Fish and Wildlife
 10 Service less than one month ago -- I just
 11 want to point out this was released several
 12 weeks ago in October -- the Service reported
 13 that there's 10 times the suitable habitat
 14 than previously thought to exist; and it
 15 offered the following conclusions: Based on
 16 these densities and the area of habitat
 17 mapped in each river reach, current estimates
 18 of the population size of fat threeridge in
 19 the action area range from about 6 million to
 20 18,650,000 individuals with a mean of
 21 approximately 12 million.

22 In fact, after two major droughts in
 23 2006 and 2008 -- 2011, the Fish and Wildlife
 24 Service reported in that report just a few
 25 weeks ago that considering the recent

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1 information, the fat threeridge population in
 2 the action area appears stable and may be
 3 increasing in size. Fat threeridge are
 4 abundant in the Middle Apalachicola and the
 5 Lower Chipola Rivers.

6 Florida realizes how difficult these
 7 facts are for its case. So to try and convey
 8 that there has been harm caused by Georgia,
 9 Florida's direct testimony points
 10 principally -- not exclusively, but
 11 principally -- to a single mortality event
 12 for the fat threeridge that took place a
 13 decade ago in 2006 in a location called Swift
 14 Slough. We will show in this trial that
 15 Georgia had nothing to do with what happened
 16 at Swift Slough but, more importantly, the
 17 mussel population figures in this 2016 report
 18 from Fish and Wildlife showed that the
 19 localized death of mussels in a single
 20 disconnected slough during a severe drought
 21 over a decade ago says nothing about the
 22 overall viability or population of the
 23 species.

24 Florida has been predicting irreparable
 25 harm to these mussels for years, and their

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1 dire predictions have not come to pass.
 2 And Dr. Allan is in no position to
 3 contradict Fish and Wildlife's finding that
 4 there are millions of these in Florida, and
 5 that the population is stable and doing well.
 6 As the Court can see on the screen, Dr. Allan
 7 was asked, do you have any idea how many fat
 8 threeridge mussels currently reside in the
 9 Apalachicola River Basin?

10 His testimony, I do not.

11 So Dr. Allan claims Georgia is killing
 12 the fat threeridge, but he doesn't even know
 13 how many there are or whether the population
 14 is growing or shrinking. And he has no
 15 explanation for why the federal government is
 16 finding millions of these creatures when his
 17 analysis predicts their demise. This is not
 18 the clear and convincing evidence of harm
 19 that Justice Cardozo had in mind.

20 Let's turn now to the Gulf surgeon,
 21 which Florida has also claimed is being
 22 harmed. Dr. Allan, once again, has no idea
 23 how many there are or how they are doing. As
 24 I show on the screen, he was asked, do you
 25 have any information about the change in

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1 population of the Gulf sturgeon over any
 2 period of time?

3 His answer was no.

4 The U.S. Fish and Wildlife Service has
 5 answers though. They weighed in, and it's
 6 not good for Florida's case either. The
 7 Service has recognized, as Florida itself has
 8 said in the past, that it was the
 9 construction of Jim Woodruff Dam above all
 10 else that changed the sturgeon's habitat and
 11 caused it to become endangered.

12 Georgia didn't build that dam, and
 13 Georgia didn't disrupt the sturgeon's
 14 habitat.

15 But Fish and Wildlife also looked at the
 16 sturgeon population itself. And, again, just
 17 last month, the Service issued its 2016
 18 biological opinion. And in that document,
 19 which takes into account the recent droughts,
 20 Army Corps operations, changes to the channel
 21 and every other argument Florida has made,
 22 here is what the Service concluded. It said
 23 that it characterizes the overall status of
 24 the species as stable and the status of the
 25 Apalachicola River system population as

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1 stable. And it was their biological opinion
 2 that the Corps' proposed changes in the new
 3 Water Control Manual will not jeopardize the
 4 continued existence of the Gulf sturgeon and
 5 will not destroy or adversely modify
 6 designated critical habitat.
 7 The sturgeon became endangered because a
 8 massive dam was built in the middle of its
 9 habitat, and the Army Corps dredged the
 10 river. Georgia did not cause that harm. And
 11 the federal experts charged with protecting
 12 the sturgeon undermined Florida's claim that
 13 the sturgeon is under present threat of harm.
 14 One final point on the river.
 15 Throughout its brief and its written direct
 16 and again today, Florida suggests that all of
 17 the species -- all of them -- in or along the
 18 Apalachicola River are at risk due to
 19 Georgia's water consumption. The truth is
 20 that Florida has zero expert analysis and no
 21 data to support that suggestion. In fact,
 22 they haven't even attempted to study it.
 23 Let's go back to Dr. Allan's deposition
 24 where he admitted again and again -- and I
 25 put it on the screen. You haven't studied

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1 any bird species?
 2 No.
 3 You haven't studied any amphibian
 4 species?
 5 No.
 6 Reptile species?
 7 No.
 8 Mammal species?
 9 No.
 10 So as the Court reads and hears
 11 testimony about the rich biodiversity of the
 12 Apalachicola region and how Georgia is
 13 placing that entire ecosystem at risk, please
 14 remember that after three years of litigation
 15 and with no fewer than 20 experts on their
 16 side Florida has no scientific evidence and
 17 no expert testimony to support that claim.
 18 Under the Supreme Court's decisions,
 19 Florida's failure to prove injury and
 20 causation by clear and convincing evidence
 21 requires judgment for Georgia. Equitable
 22 balancing is only conducted once that
 23 threshold burden has been met. While it has
 24 not been satisfied here, I will nonetheless
 25 address Georgia's water use since Florida has

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1 spent so much time criticizing it.
 2 Let me start with the two major
 3 categories of water use in Georgia, municipal
 4 and industrial, and agricultural.
 5 Before I do that though, I would like to
 6 take a step back and look at the total amount
 7 of water that Georgia consumes compared with
 8 the amount of water in the ACF system. First
 9 is a chart that I put up at the beginning of
 10 my remarks showing annual average flows at
 11 the state line. As I mentioned earlier, this
 12 shows that Florida receives the overwhelming
 13 majority of water in the basin.
 14 Now, I know Florida is sitting over
 15 there saying that annual data is unfair
 16 because it masks the impacts of seasonality
 17 in dry months; so we'll show you that, too.
 18 The next slide shows monthly average flows
 19 versus Georgia consumption, and the picture
 20 is the same. Florida gets the vast majority
 21 of the water.
 22 Now, this chart underscores really the
 23 absurdity of Florida's new request made for
 24 the first time two weeks ago in Dr. Sunding's
 25 new testimony, to impose a cap on Georgia in

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1 average and wet years. As this chart clearly
 2 shows, Florida already gets virtually all the
 3 water in nondrought years. A cap in those
 4 years would clearly punish Georgia with no
 5 possible benefit for Florida. But I'll come
 6 back to that later.
 7 I want to go one step further. And even
 8 looking at 2012, one of the driest years on
 9 record, when Georgia's consumption was at its
 10 peak and rainfall was at its lowest,
 11 Georgia's consumptive use is still small
 12 compared to the amount of water flowing into
 13 Florida. The blue is the total amount that
 14 actually flowed into Florida.
 15 Now, regardless of the weather or the
 16 hydrologic conditions, Florida receives the
 17 overwhelming percentage of water in the
 18 basin. And when natural inflows decline in a
 19 drought, the Army Corps supplements with
 20 releases from its reservoirs to deliver 5,000
 21 cfs regardless of how much Georgia consumes.
 22 That is why Florida's obsessive focus on
 23 stream gage data on Flint tributaries and the
 24 Flint itself is so misplaced. Even if
 25 streamflow were to drop in the Flint, Florida

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1 would not feel the impact of that at the
 2 state line during a drought. The Flint is
 3 just one piece of an integrated, managed
 4 water system operated by the Army Corps of
 5 Engineers. Florida has a built-in insurance
 6 policy in the Corps, and a cap on Georgia
 7 would do nothing to increase that minimum
 8 flow in drought while imposing significant
 9 pain on Georgia. That is why Georgia
 10 overwhelmingly bears the risk in this case.
 11 And to look at this from a slightly
 12 different perspective, we will show at trial
 13 that Florida loses far more water on its side
 14 of the border than Georgia could possibly
 15 consume within its borders. USGS gage data
 16 shows that Florida's contribution to
 17 streamflows in the Apalachicola has
 18 diminished by 4,000 cfs, meaning that
 19 Florida's contributions to Apalachicola
 20 streamflow over the last 40 years have shrunk
 21 from 20 percent of total flow to just 8
 22 percent. Florida has no explanation for its
 23 reduced contributions to streamflow and has
 24 produced no evidence in discovery that it has
 25 done anything to research it or reverse this

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1 trend. Their strategy instead has been to
 2 file lawsuits blaming others; first the Army
 3 Corps, and now it's Georgia's turn.
 4 Now, I will turn to Georgia's
 5 stewardship of this resource, which we are
 6 proud to defend. Stewardship in Georgia is
 7 important because Georgia has experienced the
 8 same challenging weather and hydrologic
 9 patterns that Florida seems to think only
 10 affect Florida. Georgia has seen droughts of
 11 increasing frequency and increasing lengths,
 12 just like Florida. And it has also seen
 13 wetter winters and drier summers, just like
 14 Florida. But Georgia has made significant
 15 investments to address those challenges and
 16 to promote conservation, and I'm going to
 17 turn to those now.
 18 Let us start with the metro district in
 19 the Atlanta region, which has a record of
 20 conservation that should be the envy of any
 21 municipality on Florida's side. In fact, it
 22 appears that Florida has all but given up on
 23 its efforts to claim that M & I use in
 24 Atlanta is causing harm to Florida. In its
 25 pretrial brief and, again, in its opening

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1 statement today, Florida barely mentions
 2 water use in the Atlanta metro region.
 3 That's a major retreat from Florida's
 4 complaint, and it didn't happen by accident.
 5 Discovery has shown that the Atlanta
 6 metro region is an outstanding steward of
 7 water recognized by the Environmental
 8 Protection Agency and other organizations for
 9 its conservation and efficiency. The metro
 10 district has imposed some of the most
 11 aggressive conservation measures in the
 12 country, including conservation pricing, leak
 13 abatement, incentives to install high
 14 efficiency fixtures for municipal and
 15 industrial use. In fact, the Georgia
 16 Stewardship Act of 2010 imposed a residential
 17 ban on outdoor watering between the hours of
 18 10 a.m. and 4 p.m.; and Georgia imposed a
 19 complete ban on outdoor watering in Metro
 20 Atlanta during the 2007-2008 drought.
 21 Those are just examples. The list goes
 22 on and on.
 23 These measures have had a significant
 24 positive impact on overall water consumption
 25 in Atlanta. Atlanta has seen decreases in

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1 per capita water consumption and even in
 2 overall water consumption. And these
 3 decreases have come as population has grown
 4 dramatically in the region.
 5 As the Court can see in this chart
 6 prepared by our M & I expert Peter Mayer, per
 7 capita use has plummeted from 155 gallons per
 8 capita per day to less than 100, a drop of
 9 more than 35 percent.
 10 Even more striking, Mr. Mayer's
 11 testimony will show that total consumptive
 12 water use has also remained generally flat
 13 and, in fact, slightly declined over the same
 14 period, even as Atlanta's population grew.
 15 The reason is that metro Atlanta's
 16 conservation efforts have worked. And while
 17 Florida suggests Atlanta can do more in terms
 18 of leak abatement or outdoor watering, the
 19 fact is that Atlanta has already aggressively
 20 addressed leaky pipes and already has strict
 21 drought rules that call for an outdoor
 22 watering ban when conditions warrant. Doing
 23 anything more would be astronomically
 24 expensive and would generate little to no
 25 streamflow benefit for Florida.

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1 Maybe that's why Florida for the third
 2 time dropped the expert they hired to
 3 criticize Georgia's M & I water use and
 4 conservation efforts. His name was John
 5 Dracup. And like Dr. Jenkins on the fish and
 6 Dr. Phaneuf on the economy, Florida is not
 7 bringing Dracup to trial either.

8 Now, I want to pause for a moment to
 9 highlight one of the more surprising
 10 statements in Florida's pretrial brief.
 11 Florida claims on page 17 of its brief that
 12 Georgia's M & I consumption in Atlanta will
 13 continue to grow significantly unless steps
 14 are taken to limit future consumptions. And
 15 Florida takes figures out of Georgia's
 16 pending water supply request with the Army
 17 Corps to suggest Georgia's water consumption
 18 in the Atlanta area will increase by 70
 19 percent by 2050.

20 Florida knows that there is a
 21 fundamental difference between water
 22 consumption and water withdrawal. The
 23 figures Florida cites in its brief are
 24 withdrawal numbers. And we don't want the
 25 Court to be confused. They don't take into

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1 account the fact that metro Atlanta returns
 2 between 75 and 80 percent of the water it
 3 withdraws back into the system for downstream
 4 users.

5 If the Court would look at its monitor,
 6 we show a chart prepared by Mr. Mayer that
 7 compares withdrawals and returns. The
 8 combined green and blue show how much water
 9 was withdrawn from the system in metro
 10 Atlanta. The blue portion, the overwhelming
 11 majority is what was returned. As the Court
 12 can see from this chart, only a small portion
 13 of the water withdrawn is actually consumed
 14 and not returned.

15 And I would just note that achieving
 16 return flows at these levels is not cheap.
 17 Georgia's municipalities have invested
 18 billions in this technology for the benefit
 19 of downstream users.

20 Florida knows all this, and it knows
 21 better than to pass off withdrawal numbers as
 22 consumption. Florida's own expert,
 23 Dr. Sunding, testified that Atlanta's water
 24 use is, quote, largely nonconsumptive.
 25 Consumptive use in Atlanta for M & I is not

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1 growing exponentially, as Florida alleges.
 2 It is also important to remember that
 3 before Atlanta can use any water from the
 4 federal reservoirs, it must seek approval
 5 from the Army Corps. Georgia has made those
 6 requests. And after careful study and
 7 consultation with Fish and Wildlife, the Army
 8 Corps has repeatedly concluded that its
 9 federal reservoirs have sufficient capacity
 10 to provide the Atlanta region with its
 11 requested water supply and any other project
 12 purposes, including the protection of
 13 endangered species in Florida.

14 With its claims about water use in metro
 15 Atlanta in deep trouble, Florida spends the
 16 majority of its pretrial brief and, again,
 17 its opening statement today focusing on
 18 irrigation in southwest Georgia. Florida
 19 will, we suspect, spend most of this trial
 20 trying to establish that Georgia's irrigation
 21 is excessive and should be capped. Florida
 22 is wrong on that, too. Most water used for
 23 irrigation comes from groundwater pumped from
 24 the Upper Floridan Aquifer. It is a highly
 25 rechargeable aquifer, which means that when

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1 it rains, it quickly refills. That makes the
 2 Floridan very productive for irrigation and
 3 very different from the aquifers that dry up
 4 in the western part of the United States.

5 And let me address head-on the
 6 allegation that Florida has made that Georgia
 7 officials have sat idly by and allowed this
 8 natural resource to be squandered. That is
 9 emphatically wrong, and it is an insult to
 10 the dedicated public servants who served as
 11 directors of the Environmental Protection
 12 Division in Georgia. Three of those
 13 directors who led the division for most of
 14 the last 20 years will come to this courtroom
 15 to testify. They will describe the steps
 16 they took to manage this resource in the
 17 southern part of the state, including the
 18 numerous conservation programs and measures
 19 that Georgia adopted over this time frame.

20 Beginning with Harold Reheis, whose
 21 picture is on the screen, in the late 1990's
 22 EPD began to focus intently on the
 23 relationship between irrigation pumping and
 24 riverflows. Modeling results Director Reheis
 25 had seen were concerning to him; but he also

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1 knew the data on groundwater at that time was
 2 incomplete, and the models he was using were
 3 rudimentary and of questionable validity.
 4 He didn't sit idly by though; he took
 5 action. As we put on the screen, during his
 6 tenure, he imposed a moratorium on new
 7 permits, persuaded the general assembly to
 8 pass the Flint River Drought Protection Act.
 9 He conducted two auctions to take acreage out
 10 of irrigation during the '01-'02 drought.
 11 And he initiated a sound science study to get
 12 better data and to develop better models.
 13 To build support for his initiatives, he
 14 did write memos warning of dire consequences;
 15 and Mr. Perry showed a few of them. He even
 16 said, the Flint may go dry. Mr. Reheis will
 17 acknowledge that he engaged in a bit of
 18 overstatement to drive support for his
 19 initiatives. And the Flint River has never
 20 come close to going dry.
 21 And while Mr. Perry did put up a number
 22 of Mr. Reheis's documents, he didn't show the
 23 dates on each occasion, which generally date
 24 back 15 to 20 years; and he did not mention
 25 what Georgia did to respond to Mr. Reheis's

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1 concerns or the improved data and policies
 2 that Georgia adopted in response to those
 3 memos.
 4 Then Director Carol Couch took over.
 5 And I have pictured Dr. Couch on the screen
 6 as well. She drove that sound science study
 7 forward, and she used the findings from that
 8 study to develop and adopt the Flint River
 9 Basin plan of 2006. That plan created a new
 10 permitting regime that divided the region
 11 into zones designed to protect areas that had
 12 the greatest interaction between irrigation
 13 pumping and streamflows. During Dr. Couch's
 14 tenure, Georgia also aggressively expanded
 15 the use of agricultural metering equipment
 16 and took steps to better map irrigation
 17 throughout the basin.
 18 In 2012 Director Jud Turner came to EPD.
 19 Director Turner took over in the middle of an
 20 historic back-to-back drought. And he
 21 immediately realized that an irrigation
 22 auction under the Act would not work. So he
 23 reinstated the moratorium on new permits, led
 24 the charge to amend the Act to improve its
 25 effectiveness and impose efficiency

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1 requirements on irrigation equipment, which
 2 happened, and launched a series of studies
 3 aimed at increasing water supply and reducing
 4 streamflow impacts. That 2012 moratorium on
 5 new permits remains in place today; and there
 6 is no reasonable prospect it will be lifted,
 7 putting to rest some of Florida's more dire
 8 predictions that agriculture is growing
 9 unchecked on the Georgia side of the line.
 10 Mr. Perry also played a video of
 11 Mr. Napoleon Caldwell, and I just want to
 12 briefly note that when Mr. Caldwell said that
 13 the sustainable yield criteria in his reports
 14 had been breached, we're going to come back
 15 and show the Court exactly what those
 16 criteria were and show the Court that they
 17 had no impact on flows in the Flint or at the
 18 state line.
 19 Georgia has engaged in good stewardship
 20 of the resource, stewardship that recognizes
 21 the ecology, but also recognizes it must be
 22 balanced with a vibrant and important
 23 agricultural sector. Georgia's EPD directors
 24 led their agency honorably and effectively,
 25 and they will be here live to testify about

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1 their efforts.
 2 Now, if I may, your Honor, I would like
 3 to turn for a moment to something that was
 4 not mentioned at all in Mr. Perry's opening,
 5 the Army Corps of Engineers and its role in
 6 managing water allocation in the basin. We
 7 raised the role of the Corps at the beginning
 8 of the case in our 12(b)(7) motion. And the
 9 Court found that there was insufficient
 10 evidence to conclude that the Corps was a
 11 necessary party at that time. But the Court
 12 also said Florida would have to bear its
 13 burden of demonstrating it could obtain
 14 relief without the help of the Army Corps and
 15 the federal reservoir system. The Order
 16 denying Georgia's motion, echoing the Supreme
 17 Court's warning in Idaho versus Oregon, said
 18 that the absence of the Corps would be a
 19 double-edged sword. The hard facts in this
 20 case now prove what Georgia has argued from
 21 the outset. There is no effective remedy
 22 without the Army Corps as a party.
 23 Under the Corps operating rules, water
 24 conserved during drought will be stored in
 25 federal reservoirs until the Army Corps comes

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1 out of drought operations. If water is
 2 conserved on the Flint, the Corps will reduce
 3 releases from the reservoirs on the
 4 Chattahoochee maintaining 5,000 cfs flow at
 5 the state line and storing water in northern
 6 reservoirs until drought operations are over.

7 Dr. Wei Zeng, the head of Georgia EPD's
 8 hydrology unit, he works with these rules
 9 every day and will explain how Corps
 10 operations work. And Georgia's hydrology
 11 expert, Dr. Philip Bedient, will demonstrate
 12 that a cap on Georgia will not result in
 13 additional streamflow to Florida in drought
 14 times without a change to Army Corps
 15 procedures.

16 But maybe more importantly, as we
 17 explained in our pretrial motion, Florida's
 18 own hydrology expert, Dr. Hornberger, he ran
 19 his own version of the Army Corps hydrology
 20 model called ResSim, which stands for
 21 Reservoir Simulation. When he ran that
 22 model, Dr. Hornberger found exactly what
 23 Georgia has said in this case.

24 We'll put it on the screen. He found
 25 that in drought times, the Corps stores extra

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1 testify that the Corps has discretion and
 2 that it always uses that discretion to pass
 3 through additional water coming in from the
 4 Flint. The data just doesn't bear that out.
 5 Dr. Shanahan's own charts show that there is
 6 no correlation between increases in flows on
 7 the Flint during drought and flows released
 8 by the Army Corps at the state line.
 9 Instead, the Corps maintains state line flows
 10 at roughly 5,000 cfs while in drought
 11 operations even with a spike in the Flint.
 12 That's just how the system works, and those
 13 are the hard facts.

14 Florida cannot change the expert
 15 testimony, which brings us to the fourth
 16 Florida expert that didn't make the cut for
 17 trial. In addition to Dr. Shanahan, Florida
 18 hired James Barton to address Army Corps
 19 operations. Mr. Barton has 30 years of real
 20 world experience in reservoir management and
 21 operations and, in fact, he managed
 22 reservoirs for the Army Corps of Engineers.
 23 He just about summed up Florida's problem
 24 when he was asked, if you need a predictable
 25 flow at a predictable time, you have to have

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1 water in its reservoirs and does not pass it
 2 through. As we show on the screen,
 3 Dr. Hornberger found that for multiple months
 4 of drier drought years, even cuts of 50
 5 percent of Georgia's water use in agriculture
 6 produced zero benefit to Florida at the state
 7 line.

8 Now, Dr. Hornberger and Florida were
 9 unsatisfied with those results; so they put
 10 them in the back of its backup material and
 11 created a new model just for this litigation.
 12 That model is aptly called the Lake Seminole
 13 Model because the only reservoir it considers
 14 is Lake Seminole, the one that sits right at
 15 the border and has very little storage. And
 16 since that lake has limited storage, under
 17 his model excess water always flows through,
 18 which is exactly the result he was looking
 19 for in the first place. But that model has
 20 never been used by the Army Corps or by
 21 anyone else. It is a fiction created to
 22 generate a litigation outcome. It is not
 23 science, and it is not hard facts.

24 Florida will respond with yet another
 25 expert, Peter Shanahan, who was hired to

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1 the Army Corps deliver that flow. Right?

2 Answer. I don't see how else you would
 3 do it.

4 It was this moment of candor from an
 5 experienced Army Corps manager, we suspect,
 6 that eliminated Mr. Barton from the group of
 7 Florida experts who will testify at trial.

8 There is simply no possible way to
 9 deliver dependable and predictable minimum
 10 flow to Florida in times of drought without
 11 the involvement of the Army Corps of
 12 Engineers. That is why prior to this case,
 13 proposals to resolve this historic dispute
 14 always included changes to Army Corps
 15 operations and the management of the federal
 16 reservoirs. It is also why, until this case,
 17 Florida always sought its relief from the
 18 Army Corps, either by asking the Corps
 19 directly for more flow or by suing the Corps
 20 in federal court to compel the Corps to
 21 release more water.

22 With all this history, it is clear that
 23 Florida knows it needs the Corps to get any
 24 meaningful relief in this case. Florida
 25 knows that it is the Corps, not Georgia, that

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1 sets the minimum flows; and Florida knows
2 that the Corps has considered the appropriate
3 minimum state line flow for Florida twice in
4 the last five years. And both times it found
5 5,000 cfs to be sufficient.

6 Mr. Perry flashed up the 1999 EPA
7 guidelines with specified flows that he said
8 were significant. He didn't mention that
9 those were never adopted. He also didn't
10 mention that in the Army Corps and the U.S.
11 Fish and Wildlife review of the recent water
12 supply request, both times the Corps
13 conducted an extensive process with technical
14 input from the States; and both times the
15 Corps consulted with Fish and Wildlife, which
16 has now twice in the last five years issued
17 biological opinions signing off on the
18 Corps's minimum flows. Florida has already
19 weighed in and pushed for greater flows from
20 the Corps at every turn because it knows that
21 however this case turns out, it still needs
22 the Army Corps if it is ever to consistently
23 receive the additional water it seeks across
24 the state line.

25 The final point I would like to address
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1 decide.

2 The other reason the Court should be
3 skeptical is that Florida keeps changing what
4 it is asking for. At the beginning of the
5 case, Florida said it wanted to cap Georgia
6 at 1992 levels. Now, that request is nowhere
7 to be found. Then Dr. Sunding served his
8 first expert report in February of 2016. At
9 this point he had been working on the case
10 for four years. And what did he do? He
11 suggested four alternatives to generate 1,000
12 cfs. Suddenly that number doubled to 2,000
13 cfs in Dr. Sunding's next report issued just
14 a couple of months later. When asked why he
15 did that, Dr. Sunding had no explanation
16 other than discussions with lawyers.

17 It's also important to note that
18 Dr. Sunding never once, not until two weeks
19 ago, as I mentioned before, suggested a cap
20 on water use in nondrought years. In fact, I
21 will show on the screen that Dr. Sunding was
22 asked whether there is biological harm in the
23 normal and wet years? I was trying to find
24 out why he only had drought year remedies.

25 He said, virtually all the discussions
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1 in opening, your Honor, is Florida's
2 requested remedy or, more accurately, the
3 lack of one. Florida says it wants a cap on
4 Georgia, but it doesn't say at what level
5 Georgia's use should be capped. Florida
6 says it needs more water; but it never says
7 how much, when it's needed, or for what
8 duration. Florida also does not explain how
9 any remedy will actually alleviate the
10 claimed harms. So all we are left with is a
11 menu of options that Dr. Sunding says Georgia
12 can implement.

13 We understand that equitable
14 apportionment cases are rare, your Honor; but
15 we are not aware of any case in the history
16 of the Republic where a party or state
17 presented the Supreme Court with a menu of
18 options and said, you pick the streamflow you
19 think we're entitled to; and then our
20 opponent can pick off this menu of options to
21 get to whatever consumptive use level the
22 Court says. In presenting the Court with
23 that approach, Florida provides no details,
24 no guidance, no scientific basis to set the
25 cap that it seeks or even to help this Court

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1 that I have had with other Florida experts
2 have focused on dry years. I just haven't
3 heard any issues raised about average or wet
4 year problems.

5 That's why Dr. Sunding never previously
6 proposed before two weeks ago a cap for
7 nondrought years. And it's consistent with
8 what Florida has been telling the federal
9 courts for years while they were suing the
10 Army Corps on these same issues.

11 As Doug Barr, a long-time head of the
12 Water Management District for the
13 Apalachicola region, testified in his sworn
14 statement in federal court, which I will put
15 on the screen, Mr. Barr said, in years of at
16 least average annual flows, the Apalachicola
17 River's flows are more than adequate to
18 connect floodplain channels and inundate
19 aquatic habitat that is needed to sustain the
20 significant biological processes on which the
21 health of the river and the Apalachicola Bay
22 relies. And then he goes on to say, upstream
23 consumption is not significant enough to
24 interfere with those processes.

25 And that was submitted in federal court
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1 in 2009.
 2 One final point on Dr. Sunding's
 3 evolving numbers. Not a single other expert
 4 on the Florida side used those numbers to see
 5 if those cuts would improve the environment
 6 or the ecology. Dr. Allan never tested the
 7 river species against those numbers, and the
 8 bay ecology experts didn't use those numbers
 9 in their remedy scenarios. No one used those
 10 numbers. It was just Dr. Sunding developing
 11 different ways to cut Georgia's water use
 12 with no connection to hydrologic or
 13 biological change in the basin. Not a single
 14 biologist or ecologist on the Florida side
 15 evaluates the impacts of those cuts in the
 16 real world.

17 At the same time that Dr. Sunding is
 18 bouncing around with his numbers, there is
 19 another Florida expert, Mr. Flewelling --
 20 Dr. Flewelling. He's running something that
 21 he calls a remedy scenario. I want to pause
 22 on this. His remedy scenario calls for a 50
 23 percent cut in agricultural irrigation every
 24 year, not to mention other restrictions he
 25 would place on Georgia.

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1 Dr. Allan's analysis will bring a total of 29
 2 fewer low flow days to the tupelo trees.
 3 That's not very much. But when he admits on
 4 the stand that it's 29 days over 16 years,
 5 the Court might ask whether it makes any
 6 sense at all to crush Georgia's farmers for
 7 an average of less than two more days at
 8 optimal flows for the tupelo trees.

9 The other reason the Court should be
 10 very wary of Dr. Sunding's proposed cuts is
 11 that they are so extreme, they would
 12 effectively wipe out all water use in
 13 Georgia, both in metro Atlanta and the
 14 agricultural sector in the southwest part of
 15 the state. And that's true even if we use
 16 the inflated estimates of consumptive use
 17 developed by Florida's experts.

18 For example, on the agricultural side,
 19 Dr. Sunding now says that Georgia can cut
 20 irrigation by 1687 cfs. But Florida's own
 21 groundwater expert, Dr. Langseth, he
 22 testified at his deposition that Georgia's
 23 maximum irrigation in the worst drought on
 24 record was only 1200 cfs. As the Court can
 25 see on the screen, if the Court accepts

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1 The Court might see a reference in the
 2 testimony of Dr. Allan or Dr. Greenberg, who
 3 looks at bay salinity, and others -- and this
 4 is a quote -- to a very conservative remedy
 5 scenario. It's a little hard to follow in
 6 their testimony because it doesn't say what
 7 that scenario actually is or where it comes
 8 from. But make no mistake, their very
 9 conservative remedy doesn't come from
 10 Dr. Sunding; it comes from Dr. Flewelling.
 11 And it contemplates eliminating half of all
 12 agricultural irrigation in Georgia.

13 If that's their conservative remedy, I
 14 would hate to see the liberal one.

15 But what gets really interesting is what
 16 happens when the experts run this so-called
 17 conservative remedy. As the Court will see,
 18 even under the Florida expert analyses,
 19 wiping out half of Georgia's agriculture
 20 changes salinity in the bay -- this is under
 21 their other experts' analysis -- by a
 22 miniscule amount that won't change a thing
 23 for the species living there.

24 And the Court will see that wiping
 25 out half of Georgia's agriculture under

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1 Dr. Sunding's proposal, it would wipe out all
 2 agricultural water use in Georgia and then
 3 some.

4 Now, Florida did submit new numbers two
 5 weeks ago trying to increase their estimates
 6 of Georgia's consumption in the lead-up to
 7 trial, perhaps so the Court would have more
 8 to work with. And a number of Florida's
 9 experts filed new analyses generating even
 10 higher consumptive use numbers. Dr. Langseth
 11 was no exception, so I have put his new
 12 agriculture number on the screen, which
 13 exceeds 1400 cfs.

14 But even with this new supercharged
 15 number from Dr. Langseth, Dr. Sunding still
 16 calls for the elimination of more water use
 17 than even Florida's experts say we use.

18 It's the same story on the municipal and
 19 industrial front. This is a chart that shows
 20 Dr. Flewelling's estimate of M & I
 21 consumptive use in Atlanta. At the time of
 22 his expert report and deposition, Dr. Sunding
 23 said metro Atlanta could do leak abatement
 24 and reduce outdoor watering to generate 545
 25 cfs in additional streamflow. Comparing that

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1 to the chart that Dr. Flewelling created
 2 shows that Dr. Sunding would wipe out all
 3 consumptive water use in Atlanta for all but
 4 two of the last 20 years.
 5 Dr. Sunding realized he had a huge error
 6 in his analysis that couldn't be right, so he
 7 revised his remedy number for Atlanta down to
 8 315 cfs. But as the Court can see, it still
 9 wipes out most consumptive use in many years,
 10 and half or more in most.
 11 And Dr. Sunding's streamflow numbers
 12 aren't the only thing that he's changed over
 13 and over again. He keeps changing the amount
 14 he says it would cost Georgia to get those
 15 streamflows. His first report said it would
 16 cost Georgia about \$200 million to get a
 17 thousand cfs in streamflow in a dry year.
 18 Now, in his direct, Dr. Sunding says that
 19 Georgia can get double the streamflow for
 20 half the cost, 2,000 cfs for a hundred
 21 million.
 22 Georgia's expert economist, Dr. Robert
 23 Stavins, will explain that both of these sets
 24 of numbers are way off. The truth is that to
 25 get just 675 cfs in a dry year, Georgia would

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1 have to completely eliminate row crop
 2 irrigation at a cost of \$335 million a year.
 3 To get to 850 cfs, there would also have to
 4 be additional significant cuts in M & I usage
 5 sending the cost up over a billion dollars.
 6 These numbers and the way that
 7 Dr. Sunding casually proposes them and
 8 changes them should be deeply troubling to
 9 the Court. They are not the minor
 10 inconveniences that Florida would have the
 11 Court believe. And they change so quickly
 12 and so dramatically it appears they are
 13 almost made up on the fly. Certainly not
 14 based on facts and science.
 15 In conclusion, Florida has failed to
 16 produce the hard facts it needs on every
 17 element. Recall what the Supreme Court said;
 18 the state needs hard facts and clear and
 19 convincing evidence because when we are
 20 dealing with sovereign states and their
 21 citizens, the consequences of getting this
 22 wrong and cutting Georgia's citizens off from
 23 their water could be devastating.
 24 Over this trial we will show that
 25 Florida has not met its burden to prove

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1 injury, and whatever injury it claims is
 2 either speculative or unconnected to anything
 3 Georgia has done or could remedy. Under
 4 Supreme Court precedent, that's where this
 5 case ends.
 6 But even if the Court were to move to
 7 equitable balancing, Georgia will demonstrate
 8 that Florida still has no claim because
 9 Georgia is a good steward of water. It puts
 10 it to incredibly efficient and productive
 11 use. And after four years of litigation,
 12 Florida still cannot articulate how much
 13 water it needs and how it gets it without the
 14 Army Corps.
 15 Accepting Florida's position would
 16 effectively preclude any consumption of water
 17 in Georgia for no perceptible gain in
 18 Florida. The Supreme Court has never done
 19 anything like that before, and it should not
 20 start in this case. This case should be
 21 dismissed and judgment entered in Georgia's
 22 favor.
 23 Thank you.
 24 SPECIAL MASTER LANCASTER: Thank you.
 25 I want to commend counsel, Mr. Perry,

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1 Mr. Primis, on the quality of your argument,
 2 your opening statements, and especially
 3 because neither one of you used the full 75
 4 minutes.
 5 Do you want to start now or do you want
 6 to go to lunch or what do you want to do?
 7 MR. PERRY: Your Honor, we're fine going
 8 to lunch now. We are prepared to put on a
 9 witness, too; but lunch is fine with us.
 10 SPECIAL MASTER LANCASTER: Lunch?
 11 MR. PRIMIS: Your Honor, we can go in
 12 either direction.
 13 SPECIAL MASTER LANCASTER: Well, let's
 14 recess and go to lunch and come back here at
 15 12:30.
 16 MR. PRIMIS: Sounds good.
 17 (Time Noted: 11:22 a.m.)
 18 (Recess Called)
 19 (Time Noted: 12:30 p.m.)
 20 SPECIAL MASTER LANCASTER: Whenever
 21 you're ready.
 22 MR. QURESHI: Thank you, your Honor.
 23 We call Mr. Jonathan P. Steverson, the
 24 Secretary for Florida's Department of
 25 Environmental Protection.

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1 THE CLERK: Please raise your right
 2 hand.
 3 Do you solemnly swear that the testimony
 4 you shall give in the cause now in hearing
 5 shall be the truth, the whole truth, and
 6 nothing but the truth, so help you God?
 7 THE WITNESS: I do.
 8 THE CLERK: Please be seated.
 9 If you could please state your full name
 10 and spell your name for the record, please.
 11 THE WITNESS: Sure. If it please the
 12 Court, my name is Jonathan Paul Steverson.
 13 Spell it out?
 14 J O N A T H A N , P A U L , S T E V E R S O N .
 15 Thank you.
 16 MR. QURESHI: Your Honor, if I
 17 understand the process, I will now provide
 18 Secretary Steverson with a copy of his
 19 prefiled direct.
 20 SPECIAL MASTER LANCASTER: Please.
 21 DIRECT EXAMINATION
 22 BY MR. QURESHI:
 23 **Q.** Mr. Secretary, do you adopt the prefiled direct
 24 testimony that's provided to you and dated
 25 October 26, 2016?
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1 **A. I do.**
 2 **Q.** Thank you.
 3 MR. PRIMIS: Your Honor, Georgia has no
 4 cross-examination for Mr. Steverson.
 5 SPECIAL MASTER LANCASTER: I'm sorry?
 6 MR. PRIMIS: Georgia has no
 7 cross-examination for Mr. Steverson. We can
 8 move to the next witness.
 9 SPECIAL MASTER LANCASTER: You may step
 10 down.
 11 THE WITNESS: Yes, sir.
 12 SPECIAL MASTER LANCASTER: You got off
 13 easy.
 14 MR. PERRY: Good afternoon, your Honor.
 15 SPECIAL MASTER LANCASTER: Good
 16 afternoon.
 17 MR. PERRY: Florida would like now to
 18 play some videotaped deposition excerpts --
 19 videotaped deposition excerpts.
 20 SPECIAL MASTER LANCASTER: Yes. Thank
 21 you.
 22 May I ask counsel to keep their voices
 23 up. We have an extraordinary court reporter
 24 here who can read lips, but I have old ears.
 25 Thank you.
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1 MR. PERRY: Yes, your Honor.
 2 Might I just check with the technical
 3 people to see if we're prepared?
 4 Okay. It appears now that we are.
 5 Your Honor, if I might approach, we have
 6 prepared slides and videotape; but we have
 7 also prepared binders that have the documents
 8 that are addressed in the -- in the actual
 9 testimony so the Court can follow along in
 10 the documents.
 11 If I might approach, what we have
 12 endeavored to do, your Honor -- and this may
 13 be something that both parties embrace as a
 14 method for playing this throughout the
 15 trial -- is to have a series of slides that
 16 identify the document and then identify the
 17 testimony. Then we will play the testimony.
 18 Because there are perhaps 10 to 12
 19 documents here, I want to make sure that
 20 we're walking through this at the right
 21 place, make sure the Court can follow the
 22 documents that are the subject matter of the
 23 testimony.
 24 So this is deposition testimony of a
 25 gentleman named Napoleon Caldwell from the
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1 Georgia Department of Natural Resources
 2 Environmental Protection Division. And his
 3 responsibilities, which he'll describe,
 4 include water resources management.
 5 So the first three clips we're going to
 6 play, your Honor, are just Mr. Caldwell
 7 describing his background.
 8 (Whereupon the video was played.)
 9 MR. PERRY: Okay. Your Honor, next
 10 we're going to focus primarily on Exhibit
 11 Florida 24, which is the Lower
 12 Flint-Ochlockonee Regional Water Plan.
 13 Towards the end of these clips, we'll
 14 also focus on Florida Exhibit 259 briefly.
 15 And I'll say for these clips and others,
 16 in its presentation we have worked with the
 17 State of Georgia to combine the designations
 18 from both states for this testimony. So
 19 we're going to play them all now.
 20 So clip 2.
 21 (Whereupon the video was played.)
 22 MR. PERRY: And here, your Honor, on the
 23 same document, Florida Exhibit 24, the
 24 witness is asked about page 3-4.
 25 (Whereupon the video was played.)
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1 MR. PERRY: Your Honor, the next clip
 2 also pertains to Florida Exhibit 24, the same
 3 Georgia document. And this clip relates in
 4 particular to page 3-9.
 5 (Whereupon the video was played.)
 6 MR. PERRY: And in particular, on page
 7 3-9 this clip relates to table 3-3.
 8 (Whereupon the video was played.)
 9 MR. PERRY: And here in particular, on
 10 the last of the three rows on that page.
 11 (Whereupon the video was played.)
 12 MR. PERRY: Your Honor, the next page,
 13 again, in Florida Exhibit 24, is page 3-6,
 14 and in particular, table 3-1.
 15 (Whereupon the video was played.)
 16 MR. PERRY: Your Honor, the following is
 17 additional testimony on that same topic and
 18 that same table on page 3-6 of Exhibit 24.
 19 (Whereupon the video was played.)
 20 MR. PERRY: Your Honor, this particular
 21 clip is about the same topic, but also
 22 employs FX -- Florida Exhibit 259.
 23 (Whereupon the video was played.)
 24 MR. PERRY: Your Honor, the next set of
 25 clips addresses a proposal regarding
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1 consumptive use budgets in Georgia and
 2 sustainability. It involves Florida
 3 Exhibit 65 and then also Florida Exhibit 109.
 4 (Whereupon the video was played.)
 5 MR. PERRY: Again, testimony regarding
 6 Florida Exhibit 65.
 7 (Whereupon the video was played.)
 8 MR. PERRY: And here, your Honor, the
 9 testimony focuses on Florida Exhibit 65, page
 10 GA 16745.
 11 (Whereupon the video was played.)
 12 MR. PERRY: Your Honor, the next clip
 13 is, again, about Florida Exhibit 65, and in
 14 particular a slide in that exhibit which is
 15 numbered GA 126762.
 16 (Whereupon the video was played.)
 17 MR. PERRY: Your Honor, on the same
 18 topic, this clip relates to FX 109, which is
 19 an article where Mr. Napoleon Caldwell, the
 20 witness here, is a co-author entitled
 21 Ensuring Sustainable Water Supplies Into the
 22 Future, Perspectives on Managing Consumptive
 23 Use.
 24 (Whereupon the video was played.)
 25 MR. PERRY: Your Honor, the next set of
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1 clips relates to FX-4 titled 1999 Talking
 2 Points.
 3 (Whereupon the video was played.)
 4 MR. PERRY: Your Honor, on the same
 5 exhibit, Florida Exhibit 4, page GA 1419036.
 6 (Whereupon the video was played.)
 7 MR. PERRY: Your Honor, the next clip
 8 is, likewise, about Florida Exhibit 4. And
 9 the page number that's the subject matter of
 10 the clip is GA 1419039.
 11 (Whereupon the video was played.)
 12 MR. PERRY: Your Honor, the next set of
 13 clips deal with Florida Exhibit 18 which, as
 14 you can see on this page, is an e-mail from
 15 Mr. Napoleon Caldwell to the then director,
 16 Mr. Harold Reheis, of the Environmental
 17 Protection Division of Georgia.
 18 (Whereupon the video was played.)
 19 MR. PERRY: The next clip is about
 20 Florida Exhibit 18. And in particular, the
 21 text of that e-mail at GA 98806.
 22 (Whereupon the video was played.)
 23 MR. PERRY: Your Honor -- again, your
 24 Honor, this clip relates to that same e-mail
 25 at Florida Exhibit 18.
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1 (Whereupon the video was played.)
 2 MR. PERRY: Your Honor, again on Florida
 3 Exhibit 18, on the second page of that
 4 exhibit, that page is numbered GA 98807.
 5 (Whereupon the video was played.)
 6 MR. PERRY: Your Honor, the next group
 7 of clips relate to a file produced from
 8 Napoleon Caldwell's historic files by
 9 Georgia. It's Florida Exhibit 16. And you
 10 will see a file folder, and then the clips
 11 will examine and discuss the contents of that
 12 folder.
 13 (Whereupon the video was played.)
 14 MR. PERRY: Your Honor, this particular
 15 testimony is about a document in that file.
 16 It relates to an issue near the Atlantic
 17 coast of Georgia where a consumption cap was
 18 applied.
 19 (Whereupon the video was played.)
 20 MR. PERRY: Your Honor, the next clip,
 21 likewise, relates to Florida Exhibit 16.
 22 It's a different document in the same file
 23 from Mr. Napoleon Caldwell. And the page
 24 number is GA 477297.
 25 (Whereupon the video was played.)
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1 MR. PERRY: Your Honor, this clip has to
 2 do with the same exhibit, Florida Exhibit 16.
 3 And it's a later page of the same document,
 4 GA 477298.
 5 (Whereupon the video was played.)
 6 MR. PERRY: Your Honor, still on Florida
 7 Exhibit 16, a little bit farther in the
 8 document, the page number is GA 477308.
 9 (Whereupon the video was played.)
 10 MR. PERRY: Your Honor, the next set of
 11 clips relates to Florida Exhibit 66, which is
 12 a PowerPoint presentation created by the
 13 witness Napoleon Caldwell entitled The Link
 14 Between Science and Policy in Water
 15 Management in Georgia, the Flint River Basin
 16 Experience.
 17 (Whereupon the video was played.)
 18 MR. PERRY: In here, your Honor, again
 19 in Florida Exhibit 66, testimony focuses on
 20 GA 55244.
 21 (Whereupon the video was played.)
 22 MR. PERRY: Your Honor, the next set of
 23 clips deals with Joint Exhibit 21, which we
 24 have referred to as Georgia's Flint River
 25 Basin Regional Water Development and

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1 Conservation Plan from March 20 of 2006.
 2 (Whereupon the video was played.)
 3 MR. PERRY: This clip is, likewise,
 4 about Joint Exhibit 21.
 5 (Whereupon the video was played.)
 6 MR. PERRY: Your Honor, the next set of
 7 clips deals with Georgia's Drought Management
 8 Plan, which is JX-161.
 9 (Whereupon the video was played.)
 10 MR. PERRY: That same testimony
 11 continues in this clip.
 12 (Whereupon the video was played.)
 13 MR. PERRY: And, your Honor, this clip,
 14 likewise, relates to Joint Exhibit 161. The
 15 particular page that's the subject matter of
 16 the clip is GA 98980.
 17 (Whereupon the video was played.)
 18 MR. PERRY: Your Honor, the next set of
 19 clips addresses Florida Exhibit 85, a
 20 memorandum written in 2012 by Mr. Napoleon
 21 Caldwell, the witness here.
 22 (Whereupon the video was played.)
 23 MR. PERRY: The next clip is also about
 24 Florida Exhibit 85 and the same Napoleon
 25 Caldwell 2012 memorandum. The page number is

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1 GA 1120386.
 2 (Whereupon the video was played.)
 3 MR. PERRY: Your Honor, the next clip
 4 relates to Joint Exhibit 69.
 5 (Whereupon the video was played.)
 6 MR. PERRY: And, your Honor, the next
 7 clip is about the same document, JX-69. And
 8 it focuses on page GA 208715 at the bottom of
 9 that first page.
 10 (Whereupon the video was played.)
 11 MR. PERRY: The next clip, your Honor,
 12 deals with a 1995 study at Florida Exhibit 36.
 13 It's a study conducted by Georgia Department
 14 of Natural Resources Wildlife Resources
 15 Division in Georgia.
 16 (Whereupon the video was played.)
 17 MR. PERRY: Your Honor, the next clip
 18 relates also to the same document, Florida
 19 Exhibit 36. And in particular, the page
 20 number is towards the back of that exhibit at
 21 GA 100752. And it relates in particular to
 22 table 3 of that page.
 23 (Whereupon the video was played.)
 24 MR. PERRY: Your Honor, that is the
 25 conclusion of the clips for Mr. Napoleon

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1 Caldwell.
 2 I believe we're prepared to call a new
 3 witness live at this time.
 4 SPECIAL MASTER LANCASTER: Thank you.
 5 MR. PERRY: Or we're nearly prepared.
 6 MR. PRIMIS: Your Honor, I'm going to be
 7 cross-examining the next witness. May I just
 8 take one step out to prepare and then come
 9 right back?
 10 Thank you, your Honor.
 11 THE CLERK: Please raise your right
 12 hand.
 13 Do you solemnly swear that the testimony
 14 you shall give in the cause now in hearing
 15 shall be the truth, the whole truth, and
 16 nothing but the truth, so help you God?
 17 THE WITNESS: I do.
 18 THE CLERK: Thank you. Be seated.
 19 State your full name and spell your name
 20 for the record, please.
 21 THE WITNESS: Okay. My name is Theodore
 22 Scott Hoehn -- and the last name you will not
 23 get -- is H O E H N, as in Nancy.
 24 MS. WINE: Your Honor, as you can see,
 25 the State of Florida is calling its next

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1 witness, which is Mr. Ted Hoehn, who is a
 2 senior level biologist with Florida's Fish
 3 and Wildlife Conservation Commission. He has
 4 been a biologist for the State of Florida for
 5 more than 30 years.
 6 If I may approach, I would like to hand
 7 him his prefiled direct testimony.
 8 SPECIAL MASTER LANCASTER: Please.
 9 DIRECT EXAMINATION
 10 BY MS. WINE:
 11 Q. Mr. Hoehn, I have handed you what's labeled your
 12 prefiled direct testimony in this case dated, I
 13 believe, October 24, 2016. Do you adopt
 14 everything in this testimony?
 15 A. Yes, I do.
 16 Q. Thank you.
 17 SPECIAL MASTER LANCASTER: Mr. Primis?
 18 MR. PRIMIS: Thank you, your Honor.
 19 Your Honor, to try and facilitate things
 20 and be more efficient, we have prepared a
 21 book of exhibits that we intend to use on
 22 cross. We provided the Court and Mr. Dunlap
 23 with a copy. And I would like to walk up and
 24 hand one to Mr. Hoehn, if I may.
 25 SPECIAL MASTER LANCASTER: Please.
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1 MR. PRIMIS: May I proceed?
 2 Your Honor, may I proceed?
 3 May I begin?
 4 SPECIAL MASTER LANCASTER: Yes.
 5 MR. PRIMIS: Thank you, sir.
 6 CROSS-EXAMINATION
 7 BY MR. PRIMIS:
 8 Q. Mr. Hoehn, Ms. Wine said that you were a
 9 biologist for the State of Florida. Correct?
 10 A. That's correct.
 11 Q. And you have spent your career studying the
 12 Apalachicola River and the species that live
 13 there. Correct?
 14 A. That is correct.
 15 Q. You have observed the river, its tributaries, and
 16 sloughs. Right?
 17 A. Yes, I have.
 18 Q. And the floodplain?
 19 A. Yes, sir.
 20 Q. And you're familiar with the plant and animal
 21 species there?
 22 A. Yes, I am.
 23 Q. You're also one of the people at Fish and
 24 Wildlife who has been responsible for reviewing
 25 proposed actions by the Army Corps of Engineers.
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1 Correct?
 2 A. I have -- part of my job duties at the Fish and
 3 Wildlife Commission is to help coordinate the
 4 review, pass that information to our internal
 5 agency experts to have them help analyze the
 6 information, and then synthesize that information
 7 for responses back to either the relevant state
 8 agency or out to Fish and Wildlife Service or the
 9 Corps of Engineers.
 10 Q. Mr. Hoehn, I'm just reading from paragraph 57 of
 11 your testimony. Is it true that you are one of
 12 the state agency employees in Florida responsible
 13 for reviewing proposed actions by the Corps?
 14 A. Yes, I am.
 15 Q. Okay. Sir, could you refer to tab 1 in the book.
 16 It is marked as Georgia Exhibit GX-72. Do you
 17 see that document, Mr. Hoehn?
 18 A. Yes, I do.
 19 MR. PRIMIS: And, your Honor, to
 20 facilitate, I have given hard copies, but to
 21 highlight and direct the Court to the
 22 specific pages were going to focus on, I'm
 23 going to have Mr. Smith put some of the pages
 24 up on the screen. I think it will make it
 25 easier to follow.
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1 SPECIAL MASTER LANCASTER: Thank you.
 2 MR. PRIMIS: Thank you.
 3 BY MR. PRIMIS:
 4 Q. Now, Mr. Hoehn, you recognize this document.
 5 Correct?
 6 A. Yes. It's one that was a PowerPoint that I
 7 produced for something in the past.
 8 Q. Okay. And this document was produced from your
 9 files. Correct?
 10 A. As far as I can recall, yes.
 11 Q. And you had a role in creating this document.
 12 Correct?
 13 A. Yes, I did.
 14 Q. Okay. The title of the document is Apalachicola
 15 River Damage. Do you see that?
 16 A. Yes.
 17 Q. And that's the title you put on it?
 18 A. That is correct.
 19 Q. The picture that appears on the screen right now,
 20 that is the Jim Woodruff Dam. Correct?
 21 A. That is correct. It's taken from the catwalk on
 22 the eastern side of the river or the dam.
 23 Q. Mr. Hoehn, the Jim Woodruff Dam is the one that
 24 sits at the Florida-Georgia border. Correct?
 25 A. That's correct.
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1 Q. And Lake Seminole sits behind it?

2 A. **That's correct.**

3 Q. It's where the Apalachicola River begins?

4 A. **Currently, yes.**

5 Q. Okay. And in the ACF Basin, water coming from

6 Georgia goes through this dam that's here on the

7 screen before it becomes the Apalachicola River.

8 Correct?

9 A. **Currently that is correct.**

10 Q. Okay. Mr. Hoehn, I want to direct you to another

11 slide in this presentation. Let's go to page 3.

12 And we can put it on the screen. The title

13 for this slide is Damage in the Upper River. Do

14 you see that?

15 A. **Yes, sir.**

16 Q. And you're talking about the Apalachicola River

17 in this -- in this page. Right?

18 A. **That is correct.**

19 Q. Okay. And the chart on the right shows a change

20 in water levels at the Chattahoochee Gage from

21 1938 to 1998. Correct?

22 A. **That is correct.**

23 Q. And when it says Chattahoochee, that's referring

24 to the gage which actually sits on the Florida

25 side of the border. Right?

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1 A. **That is correct.**

2 Q. And just --

3 A. **Just downstream of the lock and dam.**

4 Q. Right. And since this is the first day of trial,

5 I'm going to do a little more stepping through

6 these points so that I can make sure everyone

7 understands exactly where things are.

8 So that Chattahoochee Gage is measuring the

9 water that has actually come across the border

10 through the Jim Woodruff Dam. Correct?

11 A. **Yes. It -- it measures the water that comes**

12 **through the dam and -- yes.**

13 Q. Now, Mr. Hoehn, there is a vertical dotted line

14 on the chart that appears in your document here.

15 Correct?

16 A. **Correct.**

17 Q. And that vertical line was put there to show

18 approximately the time when the Jim Woodruff Dam

19 was built. Correct?

20 A. **Correct.**

21 Q. And --

22 A. **And a copy -- just for your information, the**

23 **preceding picture is one showing when it was**

24 **actually being constructed.**

25 Q. Thank you, Mr. Hoehn.

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1 A. **It's a historical photo.**

2 Q. Now, with the chart and the vertical line, the

3 yellow bars just to the right of it, they go

4 down. Correct?

5 A. **That is correct.**

6 Q. And that is showing a decline in the level of the

7 riverbed after the building of Jim Woodruff Dam.

8 Correct?

9 A. **That's correct. And this is typical of any dam**

10 **that is constructed; you will have this change in**

11 **the riverbed.**

12 Q. And Jim Woodruff Dam is no exception. Right?

13 A. **It's no exception.**

14 Q. Now, the first bullet point on damage in the

15 upper river says, the down-cutting of the channel

16 5 feet. Do you see that?

17 A. **Correct.**

18 Q. And what that means is that the riverbed has been

19 lowered 5 feet. Correct?

20 A. **That's correct.**

21 Q. And it also means --

22 A. **At the time that this was developed, that's what**

23 **it was.**

24 Q. And this was developed at approximately 2006.

25 Correct?

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1 A. **I really couldn't tell you exactly when it was.**

2 **I would have had to look at the exact file as to**

3 **when it occurred.**

4 Q. Okay. Mr. Hoehn, with the channel being down-cut

5 by 5 feet, that means it takes more water to get

6 to the same depth of the river. Correct?

7 A. **That's correct.**

8 Q. Now, this 5 foot down-cutting the channel, that

9 damaged the upper river. True?

10 A. **It caused -- as you said, it requires more water**

11 **to reflood those portions of the river.**

12 Q. And your slide calls it damage in the upper

13 river. Right?

14 A. **Correct.**

15 Q. You're not saying it's not damaged?

16 A. **No.**

17 Q. Okay.

18 A. **I'm just saying it requires more water.**

19 Q. Now, another effect is that there is a lot of

20 hydrologic connectivity. Correct?

21 A. **That's correct.**

22 Q. And it also reduces populations of valued species

23 when you have a down-cutting of the river channel

24 like that. Correct?

25 A. **Correct. And the species that are referred to**

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1 **here are those that require some of the spring**
 2 **runs that are immediately downstream of where the**
 3 **dam is and are also referred to in the upper**
 4 **reach as part of the map that is in my direct**
 5 **testimony.**
 6 **Q.** One of the species that has a reduced population
 7 because of the down-cutting of the channel just
 8 south of the dam is the Gulf sturgeon. Correct?
 9 **A. That's correct.**
 10 **Q.** And in addition to needing more water to fill the
 11 channel to the same height, your presentation
 12 makes the point that more water is needed to
 13 reverse existing damage and prevent additional
 14 harm. Would you agree with that?
 15 **A. That's correct.**
 16 **Q.** Now, there's a map on page 5 of your direct
 17 testimony. And I would like to put that up on
 18 the screen right now. Do you have your direct
 19 testimony?
 20 **A. Yes, I do.**
 21 MR. PRIMIS: Your Honor, do you have a
 22 copy of that?
 23 SPECIAL MASTER LANCASTER: Yes.
 24 MR. PRIMIS: You know what; we're going
 25 to put it on the screen, so we'll see it.

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1 Matt, this is from his direct testimony,
 2 table -- map 5.
 3 There it is.
 4 BY MR. PRIMIS:
 5 **Q.** Now, Mr. Hoehn, this map that we have depicted on
 6 the screen, it breaks the river up into different
 7 segments. Correct?
 8 **A. That is correct.**
 9 **Q.** And those impacts -- those damaging impacts you
 10 were just describing on your PowerPoint, those
 11 are in the part marked upper reach on your map.
 12 Correct?
 13 **A. That's correct.**
 14 **Q.** Okay. So if --
 15 **A. But it is not the entire upper reach.**
 16 **Q.** If we expand that part -- I just want to let the
 17 Court know what section we're talking about --
 18 the Chattahoochee Gage is the one that sits up at
 19 Lake Seminole just south of there. Correct?
 20 **A. That's correct. It's labeled as a -- looks like**
 21 **kind of an orange triangle.**
 22 **Q.** And the upper reach goes from about river mile 80
 23 on the bottom all the way up to the Lake
 24 Seminole. Correct?
 25 **A. Correct. And river mile 80, for the way we**

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1 **consider it, is approximately Blountstown, the**
 2 **city of Blountstown.**
 3 **Q.** Okay. Mr. Hoehn, let's look at the next slide of
 4 your slide deck. Let's go back to that one.
 5 MR. PRIMIS: And, Matt, this would be Georgia
 6 Exhibit -- you have it, good -- 72.
 7 BY MR. PRIMIS:
 8 **Q.** Okay. So now, we're looking at the next page of
 9 your presentation. We're still in the upper
 10 river. Correct?
 11 **A. That's correct.**
 12 **Q.** And this one is entitled Destruction of Channel
 13 and Riparian Areas. Right?
 14 **A. The title of this one is Channel and Riparian**
 15 **Areas. But what I'm going to say is this is not**
 16 **related to just the upper river. The upper river**
 17 **had very minimal changes and dredging and sand**
 18 **deposition.**
 19 **Q.** Okay. You have called this slide Destruction of
 20 Channel and Riparian Areas. Correct?
 21 **A. That's correct.**
 22 **Q.** And when you say riparian areas, you mean the
 23 floodplain. Right?
 24 **A. No. Actually, I'm meaning the areas adjacent to**
 25 **the river.**

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1 **Q.** Okay. And the first bullet says one form of the
 2 destruction of the channel is channelization. Do
 3 you see that?
 4 **A. That's correct.**
 5 **Q.** Can you explain what channelization means.
 6 **A. Back in the 1940's when the Congress authorized**
 7 **the modern navigation channel, they basically set**
 8 **out that there would be a 100 foot wide by 9 foot**
 9 **deep channel. And then in the 1960's -- '50's**
 10 **and '60's, those plans were actually developed.**
 11 **And so the channelization is those designs by**
 12 **which the Corps then developed the modern**
 13 **navigation channel.**
 14 **Q.** And channelization has the effect of making the
 15 river wider and deeper. Correct?
 16 **A. It can.**
 17 **Q.** And then the next bullet under Destruction of
 18 Channel and Riparian Areas says, dredging and
 19 sand disposal. Correct?
 20 **A. That is correct.**
 21 **Q.** Now, a minute ago you said that dredging and sand
 22 disposal was more of an issue in the middle river
 23 than the upper river?
 24 **A. Middle and upper.**
 25 **Q.** Okay.

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1 **A. It has occurred, you know, in various locations;**
 2 **but the vast majority of any of the dredging**
 3 **occurred in roughly three areas. And they**
 4 **received, you know, the -- probably 80 percent of**
 5 **all the dredging and all the dredging activities,**
 6 **you know, throughout the entire time. And those**
 7 **were approximately right at Blountstown, right at**
 8 **approximately mile -- just south of**
 9 **the Wewahitchka Gage, which is about mile 40, and**
 10 **then a little bit further south than that in what**
 11 **we call the Orley Slough reach. Those received**
 12 **the vast majority of where disposal activities**
 13 **occur, and it's very limited.**

14 **Q.** Mr. Hoehn, just try and stay focused on the
 15 questions I'm asking you. Your counsel will have
 16 an opportunity to ask you follow-up questions.
 17 So --

18 **A. I'm trying to give you a full answer, sir.**

19 **Q.** I understand, sir.
 20 So dredging and sand disposal. Dredging is
 21 when the Army Corps actually goes in and digs up
 22 part of the river. Correct?

23 **A. Correct.**

24 **Q.** And sand disposal is when it leaves the sand on
 25 the side of the river that is dug during the

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1 dredging. Correct?

2 **A. At very specific designated, permitted locations.**
 3 **It is not willy-nilly anywhere along the river.**
 4 **Starting in -- pardon me if I -- my memory is**
 5 **not as good as I would like it to be on this; but**
 6 **I believe it is the navigation maintenance plan**
 7 **which was discussed and developed by the Corps**
 8 **with Georgia and the State of Florida. It**
 9 **designated specific areas that the Corps was only**
 10 **allowed to put material on. And even those were**
 11 **tightened up and -- you know, in fact, many of**
 12 **those were even eliminated from use as time went**
 13 **on as the State's permits got tighter and**
 14 **tighter.**

15 **Q.** Mr. Hoehn, just yes or no. When the Army Corps
 16 dredges, does it sometimes dispose of sand on the
 17 side of the river?

18 **A. It may put them on point bars or on certain parts**
 19 **of the side of the river.**

20 **Q.** And that is destructive of the channels and the
 21 riparian areas, and that's why you included it on
 22 your chart here; is that correct?

23 **A. That is correct.**

24 **Q.** Now, there is a photograph here on destruction of
 25 channel.

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1 MR. PRIMIS: And I would like to ask
 2 Mr. Smith to blow that up.

3 BY MR. PRIMIS:

4 **Q.** Now, this photograph shows the Army Corps
 5 personnel digging up the river and putting sand
 6 on the side. Correct?

7 **A. That's correct. The exact location of it I can't**
 8 **remember. Most of the time -- this had to be a**
 9 **very old photo because most of the time they**
 10 **primarily used what is called a hydraulic dredge,**
 11 **which means it literally took the sand and the**
 12 **water mixture, put it into a big pipe, which then**
 13 **went up to wherever it is they needed to put the**
 14 **material. And then the water and sand mixture**
 15 **was then placed in the designated disposal site**
 16 **with the appropriate boundaries on the upper and**
 17 **lower end. And they were, in fact, required to**
 18 **have berms that would prevent it from going into**
 19 **the floodplain.**

20 **Q.** Sand disposal was not a good thing for the river.
 21 Correct?

22 **A. That's why the State of Florida finally, after --**
 23 **since 1979 to 2005 finally ended it.**

24 **Q.** Mr. Hoehn, sand disposal from dredging changes
 25 the habitat from highly productive ones to one of

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1 the least productive habitats in the main
 2 channel. Correct?

3 **A. When sand was -- fresh sand was put on habitats,**
 4 **that is what it did. However, we have not had**
 5 **any disposal activities since roughly 2000.**

6 **Q.** Mr. Hoehn --

7 MR. PRIMIS: Do we have Mr. Hoehn's
 8 deposition to refer to?

9 BY MR. PRIMIS:

10 **Q.** Mr. Hoehn, you gave a deposition in this case.
 11 Correct?

12 **A. Yes.**

13 **Q.** You testified under oath?
 14 Do you have a -- I'll give you a copy.

15 MR. PRIMIS: Your Honor, I just want to
 16 do a video impeachment. I'm happy to give
 17 him the transcript, but if I can play the
 18 video --

19 SPECIAL MASTER LANCASTER: Yes, sure.

20 MR. PRIMIS: Mr. Smith, could you play
 21 the video of Mr. Hoehn at 108, 12 to 21.
 22 (Whereupon the video was played.)

23 BY MR. PRIMIS:

24 **Q.** Mr. Hoehn, were you asked that question; and did
 25 you give that answer?

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1 **A. That is what I did. That's correct.**
 2 **Q.** Mr. Hoehn, one of -- now, going back to your
 3 chart --
 4 MR. PRIMIS: We can take that picture
 5 off.
 6 BY MR. PRIMIS:
 7 **Q.** -- one -- in fact, one other form of destruction
 8 of the channel is increased erosion. Correct?
 9 **A. That's correct.**
 10 **Q.** And one effect of increased erosion is also that
 11 it makes the channel deeper. Right?
 12 **A. That is correct.**
 13 **Q.** Now, each of these is caused by some form of
 14 conduct by the Army Corps of Engineers. Correct?
 15 **A. These were all ones that were done by dredging.**
 16 **Q.** Okay. Now, let's go to the next slide, which you
 17 have titled Damage in the Upper River to Biota.
 18 Do you see that?
 19 **A. Correct.**
 20 **Q.** One form of damage from the conduct that we were
 21 just talking about is that it limits the spawning
 22 areas for anadromous fish. Right?
 23 **A. Correct.**
 24 **Q.** And those are fish that need to swim up the river
 25 from saltier water to spawn. Correct?

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1 **go through the lock, but tracking some of the**
 2 **sturgeon that the State of Georgia would then**
 3 **monitor to see whether or not they would, in**
 4 **fact, go back up to their natal grounds on the**
 5 **Flint River.**
 6 **That was done this year. I have not seen the**
 7 **results. But it is an ongoing effort that we are**
 8 **cooperatively working to address.**
 9 **Q.** Mr. Hoehn, can you just focus on the questions
 10 that I'm asking. My question for you was did the
 11 dam block access to spawning areas that the
 12 sturgeon used to use?
 13 **A. Yes, it did.**
 14 **Q.** Did the dam also, as you point out here, reduce
 15 river habitats in size and quality?
 16 **A. Yes, it did.**
 17 **Q.** And the dam, you point out, also reduced mussel
 18 populations. Correct?
 19 **A. That's correct.**
 20 **Q.** And then the last point, the dam -- you would
 21 agree, wouldn't you, that it also degraded the
 22 floodplain forest?
 23 **A. Yes. In the upper part of the river; that's**
 24 **correct.**
 25 **Q.** Now, before we move to the other parts of the

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1 **A. They require freshwater to spawn. Correct.**
 2 **Q.** And you note here that access for the spawning
 3 areas was blocked by dams. Right?
 4 **A. That is correct.**
 5 **Q.** And that's the Jim Woodruff Dam. True?
 6 **A. That is correct.**
 7 **Q.** And it blocked access for fish like the Gulf
 8 surgeon?
 9 **A. Gulf sturgeon, shad, striped bass, several other**
 10 **species. But one of the things -- again, this is**
 11 **a dated presentation because while that is true,**
 12 **we have been working with both the State of**
 13 **Georgia Fish and Wildlife Commission or Georgia**
 14 **DNR Fish and Wildlife and U.S. Fish and Wildlife**
 15 **Service and the Nature Conservancy and the Corps**
 16 **of Engineers to work to allow and manipulate the**
 17 **lock system in the springtime that would allow**
 18 **the anadromous fish to migrate through the lock**
 19 **system to move into Lake Seminole and out into**
 20 **the Flint River or Chattahoochee.**
 21 **This current year, we have actually worked**
 22 **with them; and there are permits that were**
 23 **looking at is it possible that we would be able**
 24 **to move Gulf sturgeon over the dam. And these**
 25 **were done by handling them, not allowing them to**

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1 river, the next slide -- the next slide in your
 2 deck shows pictures of damage to habitats in the
 3 upper river. Correct?
 4 **A. That's correct.**
 5 **Q.** This slide shows dried-out riverbanks and
 6 floodplains; correct?
 7 **A. The upper left-hand slide is the Chattahoochee**
 8 **shoals where the sturgeon spawn. The bottom**
 9 **right-hand slide is, I believe, Flat Creek, which**
 10 **has seen some sedimentation.**
 11 **Q.** And the reason both of these pictures are in your
 12 presentation is to illustrate what it looks like
 13 when the dam causes damage to areas south of the
 14 dam. Correct?
 15 **A. This was just damage to the habitats. Again, it**
 16 **was not to my recollection strictly to the dam,**
 17 **although the dam was a significant cause.**
 18 **Q.** They could have also been caused by dredging.
 19 Correct?
 20 **A. Not here. There was no dredging.**
 21 **Q.** Okay. So let's go to the next slide -- actually,
 22 let's put your map back up from your testimony.
 23 And now, we're going to move to the middle and
 24 lower river.

MR. PRIMIS: Can we zoom in on the
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1 middle and lower.

2 BY MR. PRIMIS:

3 **Q.** And, Mr. Hoehn, does that, what appears on your

4 screen, look like the middle and lower river?

5 **A. Yes, it does.**

6 **Q.** Okay. I want to ask you questions about this

7 section of the river now. And I believe if you

8 go to the next page of your PowerPoint, you will

9 see a slide called Damage to Middle/Lower River.

10 Do you see that?

11 **A. That is correct.**

12 **Q.** Okay. The first form of damage you identified

13 here was channel down-cutting 2 feet. Correct?

14 **A. That's correct.**

15 **Q.** Is --

16 **A. At the time that this was done, it was estimated**

17 **to about 2 feet.**

18 **Q.** And that's additional lowering of the river in

19 this section of the river. Correct?

20 **A. At that point in time.**

21 **Q.** Okay. And you point out also that another form

22 of damage to the middle river and lower river was

23 25 miles of riverbank converted to sand.

24 Correct?

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

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1 **Q.** And there has been a greatly reduced hydrologic

2 connectivity in the middle river. Correct?

3 **A. At this point in time, that's correct.**

4 **Q.** Now, there are pictures on this slide, too.

5 MR. PRIMIS: Can we blow those up.

6 BY MR. PRIMIS:

7 **Q.** Okay. This picture shows piles of sand on the

8 side of the Apalachicola River. Correct?

9 **A. Yes. This is what is often called Sand Mountain.**

10 **It's site 40 -- disposal site 40. It is where --**

11 **it's one of the areas that when the Corps of**

12 **Engineers straightened part of the river or did**

13 **what is called a bend easing, they used the old**

14 **river channel and piled it -- all the material up**

15 **into that area. It ran out of space and was no**

16 **longer able to be used.**

17 **Q.** Mr. Hoehn, I want to show you the other picture

18 on the slide.

19 **A. This bottom picture --**

20 **Q.** Oh, actually, before we do, that picture with

21 Sand Mountain you had just testified about

22 previously, just to make sure we're talking about

23 the same thing, that sand is the least productive

24 type of habitat. Correct?

25 **A. Correct.**

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1 **Q.** Okay. So let's go back to the other picture.

2 And this picture shows disconnection of an

3 area that might otherwise be wetted. Correct?

4 **A. That's correct.**

5 **Q.** And --

6 **A. And I can't tell you exactly where that**

7 **particular picture came from.**

8 **Q.** There's sand and debris blocking the river

9 channel from reaching that part of the riverbank

10 or floodplain. Correct?

11 **A. That's correct.**

12 **Q.** Is this a slough, by the way?

13 **A. Without -- without knowing exactly where the**

14 **picture was taken, I can't tell you. It may be.**

15 **I don't know.**

16 **Q.** That's fine. Let's go back to the slide.

17 And the third bullet we focused on says that

18 one form of damage was hydrologic connectivity is

19 greatly reduced. Correct?

20 **A. At the time that was correct.**

21 **Q.** And that's what's depicted in the bottom right

22 there where the water can't reach the floodplain?

23 **A. Correct.**

24 **Q.** Let's go to the next slide.

25 This slide is also called Damage to Middle

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1 and Lower River. Correct?

2 **A. That is correct.**

3 **Q.** One form of damage that you identified was

4 species abundance and composition declines on new

5 sand habitats. Correct?

6 **A. That's correct.**

7 **Q.** And you also noted that threatened and endangered

8 mussel abundance was lower and their distribution

9 was limited. Correct?

10 **A. That is correct.**

11 **Q.** And then you go on to note that sloughs and

12 floodplains are harmed from disconnection and

13 sand. Correct?

14 **A. That's correct. At the time --**

15 **Q.** And the floodplain forest received less water?

16 MS. WINE: Your Honor, I think the

17 witness was still answering the question. I

18 would just ask counsel to let the witness

19 answer -- finish his answer.

20 MR. PRIMIS: I'm sorry. I thought he

21 was done.

22 **A. No.**

23 **Q.** Did you have something to add?

24 **A. Yes, I do. Because part -- one thing that -- and**

25 **I appreciate your going through and looking at**

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1 **all my slides here.**

2 **One thing that I must put in context here is**

3 **that you indicated this was probably from around**

4 **2004, 2005 when this was done. Many of the**

5 **effects that are depicted here are no longer**

6 **there. They have been remedied. They are not in**

7 **existence.**

8 **Q.** Mr. Hoehn, we'll come back to that in a moment.

9 Are you done with your answer now?

10 **A. Yes.**

11 **Q.** Okay. The floodplain forest received less water

12 inundation, correct, as a result of these

13 activities?

14 **A. Yes.**

15 **Q.** Okay. And less water would make it into the

16 floodplain because of that deeper channel.

17 Correct?

18 **A. That is correct.**

19 **Q.** And that harms the floodplain forest and the

20 trees because they get less water when that

21 happens. True?

22 **A. Correct.**

23 **Q.** Okay. Let's go to the next slide, Harm to

24 Valuable River Species. That's the next slide in

25 your presentation?

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1 **A. Yes.**

2 **Q.** And among them that had been harmed was the Gulf

3 sturgeon. Correct?

4 **A. Gulf sturgeon, striped bass, and the federal T**

5 **and E mussels.**

6 **Q.** Okay. And those had all been harmed at this

7 point in time -- I'll grant you that at this

8 point in time, those had all been harmed due to

9 the dam, channelization, and dredging. Correct?

10 **A. That was only part of the story because further**

11 **on in this presentation towards the very end,**

12 **that is where I'm also, again, talking about the**

13 **fact that much of this is due to low flow**

14 **conditions. And low flow conditions have a**

15 **significant impact upon all of these species.**

16 **Q.** Now, Mr. Hoehn, a moment ago you said that -- or

17 at least you tried to give the impression that

18 all of these problems that are identified in your

19 slide deck have been cured. Right?

20 They're not there anymore?

21 **A. Many of them are no longer present because, A,**

22 **the State of Florida denied in 2005 the dredging.**

23 **And as a result, between the last time it was**

24 **dredged, which is -- you know, the major dredging**

25 **was somewhere in 1999, 2000 time frame, much of**

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1 **the sand that was put into these permitted**

2 **disposal sites has gone back into the system.**

3 **And as such, when it has moved off of these**

4 **disposal sites, it has elevated the bed of the**

5 **river. It has, by our own FWC studies produced**

6 **for the Corps of Engineers, indicated that we're**

7 **starting to reclaim a lot of the species that**

8 **would be normally occurring on the bank of the**

9 **river that had received the sand. So without**

10 **that sand being there, the river has started**

11 **to -- within the banks started to recover. And,**

12 **therefore, that's why I say much of what is in**

13 **this dated presentation, the harm -- much of that**

14 **harm that was attributable to the navigation**

15 **dredging, it's nonexistent.**

16 **Q.** Mr. Hoehn, you can't tell me how much of the

17 effect of the dredging and the channelization has

18 been fixed. Correct?

19 You don't know how much?

20 **A. I'm not an expert in that. All I can tell is**

21 **what I have seen.**

22 **Q.** Okay. I --

23 **A. I can tell you that the three sites that**

24 **received -- and I'm trying to remember**

25 **approximately how many cubic yards; but one site**

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1 **was a 1-mile long site that was roughly 100 to**

2 **200 feet wide and received close to either 100 to**

3 **200,000 cubic yards, which -- that's hard to kind**

4 **of figure out what it is. That's about the depth**

5 **of a football field, 3 foot deep.**

6 **The sand on that site is now gone, and the**

7 **bank has started to recover. And, in fact, there**

8 **are threatened and endangered mussels that are**

9 **now recovering and are coming back to that site.**

10 **Q.** Let me just make sure I get a couple of points.

11 First point is you just said that the Army Corps

12 deposited about a football-size worth of sand at

13 some point in the past on the side of the

14 Apalachicola River. Correct?

15 **A. Absolutely.**

16 **Q.** Okay. And you would agree with me that you can't

17 tell how much of the effects of that dredging and

18 depositing of sand has been ameliorated.

19 Correct?

20 You can't tell me that?

21 **A. I cannot tell you, quantify it. I can tell you**

22 **what I have observed.**

23 **Q.** Now, Mr. Hoehn, I want to discuss with you your

24 understanding of the term harm.

25 MR. PRIMIS: You can take the document

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1 off the screen.

2 BY MR. PRIMIS:

3 Q. Harm to species, okay?

4 And you testified as a 30(b)(6) witness in

5 this case; is that correct?

6 A. **That is correct.**

7 Q. And you testified about harm to species.

8 Correct?

9 A. **Correct.**

10 Q. And your definition of harm refers to anything

11 ranging from death to disruption of any -- of the

12 requirements for the species' life cycle to

13 survive. Correct?

14 A. **That sounds like what I would have said.**

15 Q. And as a 30(b)(6) witness for the State of

16 Florida, you testified that even if a species has

17 been stable or increasing, it can still be

18 considered harmed. Correct?

19 A. **I believe that is probably what I said.**

20 Q. Okay. Now, I want to talk about the status of

21 mussel populations in the river today. Okay?

22 A. **Sure.**

23 Q. You know that the Fish and Wildlife Service just

24 released a new biological opinion. Correct?

25 A. **Correct.**

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1 Q. And that came out just a few weeks ago. Correct?

2 A. **It came out roughly one month ago.**

3 Q. And you have reviewed it?

4 A. **Yes, I have reviewed it.**

5 Q. Okay. So then you're aware that the Fish and

6 Wildlife Service has said that the mussel

7 population of the fat threeridge is stable or

8 improving. Correct?

9 A. **That is what they have indicated.**

10 Q. Okay. Can you turn to Exhibit 2 or tab 2 in your

11 book.

12 For the record it's marked as Joint

13 Exhibit 168. And this is the U.S. Fish and

14 Wildlife biological opinion on the update of

15 the Water Control Manual which came out a few

16 weeks ago. Correct?

17 A. **Yes, it is.**

18 Q. Okay. Let's turn to page 113, if you would, sir.

19 MR. PRIMIS: And, your Honor, I will put

20 this on the screen.

21 BY MR. PRIMIS:

22 Q. And I want to draw your attention to the bottom

23 paragraph starting abundance. And, Mr. Hoehn,

24 would you agree that the U.S. Fish and Wildlife

25 Service has said that the fat threeridge mussel

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1 is locally common?

2 A. **I would say that it is. In certain areas of the**

3 **river it is locally common.**

4 Q. Sir, my question was just that's what the Fish

5 and Wildlife said. Correct?

6 A. **That is what they said.**

7 Q. Okay.

8 A. **I need to clarify something, if I may.**

9 Q. Your -- your counsel will be asking you questions

10 on redirect in just a matter of moments.

11 I know you have a lot to say. I just want to

12 get through what the Fish and Wildlife Service

13 has said. All right, sir?

14 The Fish and Wildlife Service has said that

15 the population is seemingly large. Correct?

16 A. **That is what the document says.**

17 Q. And that recruitment is occurring. Correct?

18 A. **That is correct.**

19 Q. And recruitment of the population of fat

20 threeridge is sustaining or growing according to

21 the Fish and Wildlife Service; is that correct?

22 A. **That is correct.**

23 Q. And the Fish and Wildlife Service went on to say

24 that although periodic drought-induced mortality

25 may cause some localized population declines, we

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1 currently consider the species' status to be

2 stable or improving. Did they say that?

3 A. **That is correct. That's what's written.**

4 Q. And they also said that in suitable habitat, the

5 fat threeridge is common to abundant and

6 recruitment is occurring. Correct?

7 A. **That is what the document says.**

8 Q. Now, the document also says on page 124, if you

9 could turn there, in the second paragraph towards

10 the middle, Fish and Wildlife has also indicated

11 its view, have they not, that based on the

12 densities and the area of habitat mapped in each

13 river reach, current estimates of the population

14 size of fat threeridge range from 6,009,000 to

15 18,650,000 individual mussels. Correct?

16 A. **That is what it says. However, the State of**

17 **Florida has, as recently as August, indicated to**

18 **the Fish and Wildlife Service before this came**

19 **out and without us having reviewed the document,**

20 **indicated to them that we had -- and this is our**

21 **mussel experts within our agency as well as**

22 **myself -- had some significant issues with some**

23 **of the information that we suspected was going to**

24 **be part of this biological opinion of which**

25 **you're now quoting and also with the methodology**

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1 **in which they, in fact, did use.**

2 **And as you're highlighting here, I must point**

3 **out that it is based on the area that they**

4 **mapped, which is not the full range of the**

5 **Apalachicola population. And we also have**

6 **significant issues with how they mapped it as**

7 **well as the sampling that was done to generate**

8 **these numbers.**

9 **Q.** So Florida disagrees with the Fish and Wildlife

10 Service's conclusion that there is a mean of

11 approximately 12 million fat threeridge. That's

12 your testimony?

13 **A.** **We disagree with the basic premise of how they**

14 **calculated that number. We have not calculated**

15 **our own numbers.**

16 **Q.** So you don't have another number to offer.

17 Correct?

18 **A.** **I do not have another number to offer.**

19 **Q.** Okay. Now, also on page 124, the -- I think this

20 is what you're talking about. The Fish and

21 Wildlife Service refers to a study done by Smit

22 and Kaeser. Correct?

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

24 **Q.** Okay. And Mr. Smit, he's a graduate student or

25 was a graduate student at Auburn. Correct?

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1 **A.** **I believe Auburn is where he -- where he did his**

2 **thesis.**

3 **Q.** And he did research on the populations of fat

4 threeridge mussels. Correct?

5 **A.** **He spent roughly two, maybe two and a half years**

6 **on the river.**

7 **Q.** His research was supervised by someone named Adam

8 Kaeser. Correct?

9 **A.** **I don't know if it was supervised; but Adam**

10 **Kaeser worked for the U.S. Fish and Wildlife**

11 **Service as one of their researchers.**

12 **Q.** And Mr. Kaeser approved -- Mr. Kaeser of the U.S.

13 Fish and Wildlife Service approved Mr. Smit's

14 work. Correct?

15 **A.** **He used the work. I cannot -- I have no idea**

16 **whether or not he approved it or not.**

17 **Q.** Can you turn to tab 3 of the book we gave you.

18 And do you recognize what we have here as JX-109,

19 which is the paper by Mr. Smit?

20 **A.** **It appears to be what you presented to me at my**

21 **deposition.**

22 **Q.** And it says at the bottom that it was approved by

23 a number of people. Correct?

24 **A.** **Correct.**

25 **Q.** And one of them is Adam Kaeser of the United

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1 States Fish and Wildlife Service. Correct?

2 **A.** **Yes.**

3 **Q.** And you know Mr. Kaeser. Right?

4 **A.** **I have met Mr. Kaeser, and he is an acquaintance.**

5 **Q.** Now, on JX-109, this Smit paper, you had not seen

6 this before your deposition. Correct?

7 **A.** **No, I had not.**

8 **Q.** And --

9 **A.** **I had talked with both Reuben, Mr. Smit, and Adam**

10 **as they were developing this and had expressed --**

11 **they had given me some very basic information.**

12 **And I had expressed some concerns at that time**

13 **that they had some incorrect assumptions that**

14 **they needed to go back and check. I do not know**

15 **whether or not they ever did.**

16 **It doesn't appear that they -- in some of my**

17 **readings, that they adequately addressed a lot of**

18 **the concerns.**

19 **Q.** So if I hear you correctly, you raised issues

20 about this Smit paper that Mr. Kaeser approved.

21 You made those known to Fish and Wildlife. And

22 then Fish and Wildlife several weeks ago

23 published its findings that did not credit your

24 view. Right?

25 **A.** **I'm sorry. Would you repeat that?**

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1 **Q.** Sure. You had issues with the Smit approach.

2 Correct?

3 **A.** **Correct.**

4 **Q.** You raised them with Fish and Wildlife. Correct?

5 **A.** **That is also correct.**

6 **Q.** And U.S. Fish and Wildlife still published its

7 biological opinion relying on the Smit and Kaeser

8 work for counting these mussels. Correct?

9 **A.** **That is correct.**

10 **Now, what I will also point out is on**

11 **page 122 of the biological opinion, they do**

12 **acknowledge our agency's concerns, our questions,**

13 **and the fact that we, our agency, in coordination**

14 **with the U.S. Fish and Wildlife Service, using**

15 **the same mussel biologist who did the sampling**

16 **for Mr. Smit, found that, yes, what I had**

17 **suggested to Mr. Smit and Mr. Kaeser over my 30**

18 **years worth of experience of dealing with the**

19 **river as well as our mussel biologist's**

20 **experience with the river, that, in fact, some of**

21 **our questions about the numbers, the locations,**

22 **and the stability of some of their assumptions**

23 **were actually incorrect. And that's on the**

24 **second page of 122, right above table 9.4.**

25 **Q.** Are you finished, Mr. Hoehn?

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1 Thank you.

2 Now, Mr. Hoehn, you were surprised when you

3 learned about this document at your deposition.

4 Correct?

5 **A. Yes, I was.**

6 **Q.** Because your understanding was that this research

7 was put on hold by Auburn University due to the

8 litigation in this case. Correct?

9 **A. That is what Mr. Smit had told me.**

10 **Q.** You thought the -- you thought that this

11 research -- scientific research was being put on

12 hold due to litigation. True?

13 **A. That is, again, what Mr. Smit had told me when I**

14 **asked him for a copy of this.**

15 **Q.** Okay. Mr. Hoehn, I want to shift gears now and

16 turn to a new topic. You recall that Florida was

17 involved in other litigation concerning the

18 threatened and endangered mussels and sturgeon

19 that had been raised in this case. Correct?

20 **A. That is correct.**

21 **Q.** That's called the tri-state litigation?

22 **A. Well, there's many -- I go back all the way to**

23 **the original -- I guess -- pardon me for not**

24 **remembering exactly which one; but whatever one**

25 **started in Alabama in 1989 through where we are**

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1 **today.**

2 **Q.** Okay. Now, Mr. Hoehn, I want to talk to you

3 about the -- well, first off, the litigation

4 you're referring to involved Florida suing the

5 Army Corps of Engineers. Correct?

6 **A. That was the -- that was the original 1989.**

7 **Q.** Okay. And that case lasted all the way up to

8 2009. Correct?

9 **A. I'll take your word on that.**

10 **Q.** Maybe even later.

11 Now, can you turn to tab 4 in your binder,

12 Mr. Hoehn. And for the record, what we have

13 here is the State of Florida's Third Amended

14 and Supplemental Complaint against the United

15 States Army Corps of Engineers. It's case

16 No. 1:90CV01331-KOB, document numbered 339 from

17 the Northern District of Alabama. Do you see

18 that?

19 **A. Yes.**

20 **Q.** And I want to focus on the part of the -- this

21 complaint where Florida claimed that Corps

22 operations were harming endangered species in the

23 river. Do you remember that being the claim made

24 in this case?

25 **A. If you will give me one moment just to refresh my**

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1 **memory of what was all in this, please.**

2 **Q.** In particular I'm going to direct your attention

3 to paragraph 207, which we can put on the screen.

4 Do you see the paragraph 207?

5 **A. Yes. But I'm still -- if you will give me just a**

6 **moment, please.**

7 **Q.** Certainly.

8 **A. Okay. Yes, sir.**

9 **Q.** Okay. In paragraph 207 of this complaint in

10 federal court against the Army Corps, would you

11 agree that Florida alleged the Corps is

12 jeopardizing the continued existence of the Gulf

13 surgeon, the fat threeridge, and the purple

14 bankclimber, and is adversely modifying and

15 destroying Gulf sturgeon critical habitat in

16 violation of section 7's substantive mandates.

17 Did Florida make that allegation?

18 **A. Florida made that allegation and -- let me, if I**

19 **may, just to verify with you once more, that this**

20 **document refers to the very first case in which**

21 **it was Alabama versus U.S. Army Corps of**

22 **Engineers with Florida intervenors; is that**

23 **correct?**

24 **Q.** It is a continuation. If you will see at the

25 top, this complaint was filed in September of

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1 2005. Do you see that?

2 **A. Okay. Yes.**

3 **Q.** Would you agree that in September of 2005 the

4 State of Florida made the allegation contained in

5 paragraph 207 of this document?

6 **A. That is correct.**

7 **Q.** And --

8 **A. And the reason why I ask, sir, is that this**

9 **particular case dealt with the Corps's pending**

10 **change to operations and authorization of the --**

11 **Georgia's request for additional water.**

12 **Q.** Mr. Hoehn, I'll let you talk as much as you want;

13 but just so you know how the process works, I ask

14 you questions. You try and answer the question I

15 ask. And then if you have something else, your

16 counsel can ask that. Is that okay?

17 Do you follow?

18 **A. Sure.**

19 **Q.** Now --

20 MS. WINE: Your Honor, he's sticking a

21 litigation document in front of the witness.

22 I think the witness is trying to --

23 SPECIAL MASTER LANCASTER: I'm sorry. I

24 can't hear you.

25 MS. WINE: I'm sorry, your Honor. He's

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1 sticking a litigation document in front of
 2 the witness. The witness hasn't reviewed the
 3 whole document and is just trying to orient
 4 himself as to what litigation action this is
 5 from and make sure he's on the same page
 6 about what litigation they're talking about.
 7 Not being a lawyer, I think there should
 8 be some latitude to make sure that they're on
 9 the same page.
 10 SPECIAL MASTER LANCASTER: In my court,
 11 the witness will answer the question. You
 12 then may add anything you want in your
 13 recross.
 14 MS. WINE: Yes, your Honor.
 15 MR. PRIMIS: Thank you, your Honor.
 16 BY MR. PRIMIS:
 17 Q. Now, Mr. Hoehn, Florida in this same case also
 18 brought a preliminary injunction. Correct?
 19 Do you recall that?
 20 A. **I -- I don't recall. There may have been one.**
 21 **If I'm allowed to look through this, they may**
 22 **have requested for a preliminary injunction.**
 23 Q. Mr. Hoehn, you filed a sworn declaration in
 24 support of a preliminary injunction. You don't
 25 recall that?

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1 **A. Yes, it is.**
 2 Q. And you signed this on November 30, 2005.
 3 Correct?
 4 **A. That is correct.**
 5 Q. Okay. Let's turn to page 6 of your sworn
 6 declaration, and let's look at paragraph 14.
 7 Okay?
 8 Let me know when you're there.
 9 **A. I'm right there.**
 10 Q. Okay.
 11 MR. PRIMIS: And, your Honor, we're
 12 putting up the call-outs on the screen just
 13 to make it easier to follow; but obviously
 14 the document is fully accessible to you as
 15 well.
 16 BY MR. PRIMIS:
 17 Q. You explained to the federal court here that part
 18 of your job at the Florida Fish and Wildlife
 19 Commission is coordinating with the U.S. Fish and
 20 Wildlife Service to protect and recover species
 21 listed under the Federal Endangered Species Act.
 22 Correct?
 23 **A. That is correct.**
 24 Q. And one of those species is the fat threeridge.
 25 Correct?

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1 **A. I would need to take a look exactly for what it**
 2 **was.**
 3 Q. Okay. Let's turn to tab 5 -- 5 in the booklet.
 4 And can you identify this as your Sworn
 5 Declaration in Support of Florida's Motion For a
 6 Preliminary Injunction?
 7 **A. That is correct.**
 8 Q. And if you need to orient yourself, you can tell
 9 it's the same case by the case number at the top.
 10 **A. Yes.**
 11 Q. Do you see that?
 12 **A. Yes.**
 13 Q. No dispute there?
 14 **A. No dispute.**
 15 **And the answer to your previous question is**
 16 **based on looking at this, yes.**
 17 Q. Okay. Now, you filed this -- this document,
 18 which is the same docket number I mentioned
 19 before, document 384-1. Do you see that at the
 20 top?
 21 **A. Yes, sir.**
 22 Q. And let's take a look at what -- first off, let's
 23 just make sure this is, in fact, your
 24 declaration. Can you turn to page 20 and confirm
 25 that that's your signature?

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1 **A. They were one of the two species of federal**
 2 **mussels that are listed further down in the**
 3 **paragraph.**
 4 Q. And you -- in paragraph 15 you state that you
 5 coordinated with federal agencies other than Fish
 6 and Wildlife regarding the impacts of their
 7 actions on imperiled species in the Apalachicola
 8 River. Correct?
 9 **A. That's correct.**
 10 Q. And you had firsthand knowledge of the Corps'
 11 activities on the river. Is that what you said?
 12 **A. That is correct. I'm familiar with the**
 13 **activities.**
 14 Q. Okay. And based on your firsthand knowledge, you
 15 submitted sworn testimony telling a federal court
 16 here in paragraph 15 that, quote, the Corps'
 17 operations have the potential to impact
 18 dramatically the well-being of the river
 19 ecosystem. Correct?
 20 **A. That is correct.**
 21 Q. You said that to a federal court?
 22 **A. That is correct.**
 23 Q. And then your sworn testimony further told the
 24 Court that the reason Corps operations could
 25 dramatically impact the river's ecosystem was

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1 that, quotes, the Corps operates the upstream
 2 dams and reservoirs that release water
 3 contributing to the flow of the Apalachicola
 4 River. Correct?
 5 **A. That is correct.**
 6 **Q.** And that was your sworn testimony in federal
 7 court?
 8 **A. Yes.**
 9 **Q.** Okay. Let's talk about your sworn statement as
 10 it relates to Corps operations on the Gulf
 11 sturgeon. Can you go to page 8, and I'll direct
 12 you to paragraph 18.
 13 You submitted sworn testimony to a federal
 14 court that said the Jim Woodruff Lock and Dam on
 15 the Apalachicola River completely precludes
 16 upstream Gulf sturgeon migration. Correct?
 17 **A. Correct.**
 18 **Q.** And the Gulf sturgeon used to swim all the way
 19 into Georgia to spawn. Right?
 20 **A. As far as we knew, yes.**
 21 **Q.** But they can't do that anymore because of the
 22 dam. Correct?
 23 **A. That is correct.**
 24 **Q.** Now, I think we established this before; but the
 25 Woodruff Dam causes entrenchment. Correct?

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1 **A. Correct.**
 2 **Q.** And just to level-set again, because these terms
 3 are a bit new, entrenchment means that the dam
 4 lowers the bed of the river. Right?
 5 **A. Correct.**
 6 **Q.** And it scours sediments below the dam; that's how
 7 it happens. Right?
 8 The water comes over, and the sediments get
 9 washed away?
 10 **A. Correct.**
 11 **Q.** And that's what you were describing earlier in
 12 the PowerPoint presentation that we looked at.
 13 Right?
 14 **A. Yes, sir.**
 15 **Q.** Now, when the riverbed is lower, it takes more
 16 water to reach the same water level than before.
 17 I think we established that. Right?
 18 **A. Correct.**
 19 **Q.** And that phenomenon has had an impact on species.
 20 Correct?
 21 **A. Yes, it has.**
 22 **Q.** Now, in addition to the Jim Woodruff Dam cutting
 23 off the surgeon habitat and causing entrenchment,
 24 you would also agree that the Corps has blasted
 25 away part of the Gulf sturgeon's habitat over the

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1 years to provide a navigation channel. Right?
 2 **A. They did remove rocks in the river. That is**
 3 **correct. Whether or not they were sturgeon**
 4 **habitat, I cannot tell you.**
 5 **Q.** Mr. Hoehn, do you recall giving a deposition in
 6 the tri-state case, the one that we're looking at
 7 right now?
 8 **A. I know I gave -- yes.**
 9 **Q.** After you submitted your declaration, you gave a
 10 deposition in support of the preliminary
 11 injunction. Correct?
 12 **A. Correct.**
 13 MR. PRIMIS: Your Honor, may I approach?
 14 BY MR. PRIMIS:
 15 **Q.** I'm handing you your deposition transcript from
 16 that case, sir.
 17 **A. Okay.**
 18 **Q.** Mr. Hoehn, can I refer you to page 145, line 24
 19 of this document, which I would also note has the
 20 same Northern District of Alabama case number.
 21 And it's document No. 414-3. And it's submitted
 22 in federal court filed on March 10, 2006.
 23 Mr. Hoehn, you were asked on line 23, can you
 24 elaborate on habitat loss?
 25 Your answer. Certainly. And I will be

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1 specific to the Apalachicola since that is what
 2 we are here to talk about. A large percentage of
 3 the sturgeon's former habitat is no longer
 4 available to it in order to reproduce or expand
 5 its population. It was cut off by Jim Woodruff
 6 Dam. It was also blasted away over the years to
 7 provide for a navigation channel, and what is
 8 left is an extremely small fraction of what
 9 originally there was available to it.
 10 Were you asked that question, and did you
 11 give that answer?
 12 **A. Yes, I did.**
 13 **Q.** Let's go back to the declaration that we were
 14 looking at, if you would, sir. I want to look at
 15 paragraph 36. It's on page 14.
 16 Now, in this paragraph you indicate that you
 17 had warned the Army Corps in 2002 that operations
 18 were resulting in significant drops in the river
 19 stage. Correct?
 20 Do you see the first sentence of your
 21 declaration?
 22 **A. Yes, I do. I wanted to read just a couple of the**
 23 **other paragraphs right before it just to --**
 24 **Q.** Take your time.
 25 **A. -- make sure I'm clear.**

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1 **Okay. Yes.**

2 **Q.** Okay. Would you agree that you told a federal

3 court under oath that on April 22, 2002, you

4 informed the Army Corps of your Commission's

5 concern that Corps operations were resulting in

6 significant drops in the river stage?

7 **A. That's correct.**

8 **Q.** And you also stated, based on your personal

9 knowledge, under oath that while the river

10 levels were dropping, the Corps was maintaining

11 the level of water in upstream reservoirs,

12 including Lake Seminole. True?

13 **A. That's correct.**

14 **Q.** Let's turn now to page 19 of your declaration.

15 And I want to direct your attention to

16 paragraph 51. I'll give you a moment to read

17 it.

18 Have you had a chance?

19 **A. Yes, sir.**

20 **Q.** Mr. Hoehn, would you agree with me that you told

21 a federal court under oath that Corps reservoir

22 operations directly and adversely impact the ACF

23 species at areas now designated as critical

24 habitat for the Gulf sturgeon?

25 **A. Yes, I did.**

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1 **Q.** And you stated under oath that Corps reservoir

2 operations had clear impacts on the ACF species.

3 Correct?

4 **A. Correct.**

5 **Q.** Mr. Hoehn, sticking with your declaration, let's

6 turn back to paragraph 23. And I want to talk

7 about mussels now. Okay?

8 Now, in paragraph 23 you're talking about the

9 effect of dams. Right?

10 **A. Yes. I was, in fact, quoting from a U.S.**

11 **Department of Interior document.**

12 **Q.** Correct. And you quoted that document for the

13 proper -- the proposition that dams, with their

14 altered flow regimes and attendant reservoirs,

15 have caused the extirpation of 30 to 60 percent

16 of the native mussel species in selected U.S.

17 rivers. Correct?

18 **A. That's correct.**

19 **Q.** And you cited that in support of a lawsuit that

20 Florida had filed alleging that Corps operations

21 were adversely affecting mussels. Correct?

22 **A. That is correct.**

23 **Q.** In fact, you submitted sworn testimony stating

24 that you saw dead mussels in areas dewatered as a

25 result of Corps operations. Correct?

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1 **A. Correct.**

2 **Q.** Let's go to page 15 now, Mr. Hoehn, paragraph 38.

3 And this is where you indicated what I just said,

4 which is that dead members of fat threeridge and

5 purple bankclimbers were located in areas

6 dewatered as a result of Corps operations, most

7 recently in 2002. Correct?

8 **A. Correct.**

9 **Q.** And your view, based on what we read in

10 paragraph -- the paragraph earlier, was that

11 those mussels were killed because Corps

12 operations lowered the water levels. Correct?

13 **A. That is correct.**

14 **Q.** And on that occasion you blamed the Corps for

15 killing mussels because the Corps controls the

16 water that flows into the Apalachicola. True?

17 **A. The Corps operations of the lock and dam**

18 **contribute to the flow into the Apalachicola**

19 **River.**

20 **Q.** Mr. Hoehn, I want to be very precise here. Do

21 you agree that the Corps controls the water that

22 comes into and flows into the Apalachicola?

23 **A. They control the water that they have available**

24 **to them. And of that water that is available to**

25 **them, the answer is, yes --**

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1 **Q.** Mr. Hoehn, can you --

2 **A. -- that is the amount.**

3 **Q.** Could you refer to your deposition that I gave

4 you before from the 2006 litigation.

5 **A. Yes, sir.**

6 **Q.** I want to refer your attention to page 61. I'm

7 going to read you the questions and answers, and

8 I want to know only if you gave that testimony.

9 Starting on line 23 of page 61 of your

10 deposition, question. Paragraph 38 of your

11 declaration, the one we were just looking at, you

12 refer to dead mussels in areas dewatered as a

13 result of Corps operations. What Corps

14 operations are you referring to?

15 Answer. Lowering the water in the

16 Apalachicola River.

17 Question. Can you elaborate on that, please?

18 Answer. The Corps controls the water that

19 comes into and flows into the Apalachicola.

20 Were you asked those questions, and did you

21 give those answers?

22 **A. Yes, I did.**

23 **Q.** And, Mr. Hoehn, as you indicate on page 39 of

24 your declaration in the 2006 litigation, you

25 filed your sworn declaration in support of

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1 Florida's lawsuit because you were trying to stop
 2 the, quote, potentially disastrous effects of
 3 Corps operation -- Corps reservoir operations on
 4 imperiled species in Florida. True?
 5 Is that what it says in paragraph 39, sir?
 6 **A. Paragraph 39?**
 7 **Q.** Yes.
 8 I'm sorry. I thought you were there.
 9 **A. I'm sorry. I wasn't.**
 10 **Q.** I'll ask a new question.
 11 Would you agree that at paragraph 39 of your
 12 sworn testimony you referred to the potentially
 13 disastrous effects of Corps reservoir operations
 14 on imperiled species in Florida?
 15 **A. That is correct.**
 16 MR. PRIMIS: Your Honor, I see it's
 17 2:45. I'm at a natural break point, if you
 18 wanted to take the afternoon break, but I can
 19 also keep going. It's up to you.
 20 SPECIAL MASTER LANCASTER: It's up to
 21 you, counsel.
 22 MS. WINE: Whatever works for him, I'm
 23 fine.
 24 MR. PRIMIS: We'll keep going, if that's
 25 okay.

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1 BY MR. PRIMIS:
 2 **Q.** Okay. Mr. Hoehn, I would like you to turn to
 3 tab 6 of your book now.
 4 MR. PRIMIS: Your Honor, for the record,
 5 tab 6 we have marked as GX-91. And it's also
 6 part of the docket in the Alabama litigation.
 7 It's document No. 383. And it is a
 8 Memorandum in Support of the Preliminary
 9 Injunction Motion.
 10 BY MR. PRIMIS:
 11 **Q.** Okay. Now, Mr. Hoehn, you understand that the
 12 declaration we were just looking at was filed in
 13 support of this motion. Correct?
 14 **A. That is my understanding.**
 15 **Q.** And do you see at the top of tab 6, it's document
 16 No. 383. Do you see that?
 17 Oh, yours may not have that. I'm sorry.
 18 Do you see how tab 6 is called the Memorandum
 19 in Support of Preliminary Injunction, and your
 20 declaration states in its title that it's in
 21 support of that motion. Correct?
 22 **A. Yes.**
 23 **Q.** Okay. Let's take a look at the brief supporting
 24 the motion. Do you see this was filed in
 25 January 31, 2006, at the back?

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1 **A. January 31, correct.**
 2 **Q.** Okay. Let's take a look at page 3 of this brief.
 3 **A. I'm sorry. What page, sir?**
 4 **Q.** I'm looking at page 3, if you could.
 5 **A. Okay. Thank you.**
 6 **Q.** Now, in the first full paragraph, do you see
 7 about five lines down there's a reference to the
 8 Hoehn declaration?
 9 **A. Yes, I do.**
 10 **Q.** It says, see generally appendix, Exhibit B, Hoehn
 11 declaration. Correct?
 12 **A. Okay. Yes.**
 13 **Q.** And that's you. Right?
 14 **A. That's me.**
 15 **Q.** Okay. And your declaration is being cited for
 16 the proposition that precedes it, which says,
 17 Corps operations specifically harm three species
 18 protected under the ESA: The threatened Gulf
 19 sturgeon, the endangered fat threeridge, and the
 20 threatened purple bankclimber. Do you see that?
 21 **A. Correct.**
 22 **Q.** And, in fact, your declaration was submitted to
 23 support that proposition. Right?
 24 **A. That's correct.**
 25 **Q.** And you mentioned those same species as being

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1 harmed in your testimony in this case. Right?
 2 **A. That is correct.**
 3 **Q.** Okay. Further down in that paragraph, Florida
 4 states in this brief filed in federal court that
 5 the Corps' retention of water upstream to support
 6 recreational uses and its implementation of
 7 navigation windows dewater areas known to
 8 support Gulf sturgeon spawning activities and
 9 populations of fat threeridge and purple
 10 bankclimber. Correct?
 11 **A. At that time that is exactly what it said.**
 12 **Q.** And your declaration is, again, cited in support
 13 of that proposition?
 14 **A. Yes.**
 15 **Q.** Let's go to page 5, if you would, sir, the second
 16 paragraph. Do you see paragraph 2 towards the
 17 bottom?
 18 It states that the Corps controls to a large
 19 degree the flows of the Chattahoochee River and
 20 operation of the ACF system impact flow
 21 conditions on the Apalachicola River.
 22 Do you see that?
 23 **A. Yes, I do.**
 24 **Q.** And it cites the federal defendant's answer to
 25 that proposition. Right?

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1 **A. Correct.**

2 **Q.** And you would agree Florida took that position in

3 litigation in federal court. Right?

4 **A. That is in part what they alleged.**

5 **Q.** Okay. Let's go to page 8. I want to look at

6 paragraph 7 and specifically the next to last

7 sentence. It starts, as in the case of the Gulf

8 sturgeon, Fish and Wildlife Service cited water

9 impoundment, dam operations, and navigation

10 channel maintenance as destructive to the

11 mussels' habitat.

12 Do you see that?

13 **A. Yes, I do.**

14 **Q.** And Florida took that position in litigation

15 against the Corps. True?

16 **A. Restate that.**

17 **Q.** Florida took that position in the litigation in

18 which you filed your declaration. Correct?

19 **A. Yes.**

20 **Q.** Florida further argued in the next sentence that

21 any adverse modification of mussel habitat would

22 likely jeopardize their continued existence.

23 Right?

24 **A. That's Fish and Wildlife Service -- U.S. Fish and**

25 **Wildlife Service.**

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1 **Q.** Right. And you understand Florida was advancing

2 that position in support --

3 **A. Yes.**

4 **Q.** -- of its case. Right?

5 **A. Yes.**

6 **Q.** Now, Mr. Hoehn, each of those mussels still

7 exist. Right?

8 **A. Yes, they do.**

9 **Q.** This is 10 years later. Correct?

10 **A. Correct.**

11 **Q.** And now, Florida is making the same claim about

12 Georgia. Correct?

13 **A. Correct.**

14 **Q.** Let's turn to page 10, paragraph 11. Here

15 Florida represented to the federal court in 2006

16 that, quote, the Corps operates a number of other

17 facilities in the ACF Basin in addition to Buford

18 Dam and Lake Lanier. Do you see that?

19 **A. Yes, I do.**

20 **Q.** And you understand that they're talking now about

21 the five dams that are on the Chattahoochee

22 River. Correct?

23 **A. I'm talking about the reservoirs, yes.**

24 **Q.** Okay. And do you see at the end of that

25 paragraph that Florida takes the position here in

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1 federal court that these reservoirs are operated

2 in conjunction with one another as a unified

3 system. Right?

4 **A. Yes.**

5 **Q.** And that was Florida's position in 2006. Right?

6 **A. Correct.**

7 **Q.** Okay. Now, I want to shift topics a bit, and I

8 want to talk to you about Swift Slough. Are you

9 familiar with Swift Slough?

10 **A. Yes, I am.**

11 **Q.** Okay. You highlight Swift Slough in your direct

12 testimony. Correct?

13 **A. Correct.**

14 **Q.** You included pictures of Swift Slough?

15 **A. Yes.**

16 **Q.** You have pictures of yourself at Swift Slough.

17 Correct?

18 **A. I have many pictures of myself at Swift Slough**

19 **and others.**

20 **Q.** And you submitted them to the United States

21 Supreme Court so it could see what Swift Slough

22 looked like. Correct?

23 **A. Yes.**

24 **Q.** You want this Court to know that something

25 important happened at Swift Slough. Right?

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1 **A. Yes, sir.**

2 **Q.** Okay. So let's put up the map of the

3 Apalachicola River from your page 5 of your

4 testimony. And Swift Slough is in an area

5 designated as lower nontidal reach. Correct?

6 **A. Yes.**

7 **If you would like and if it would assist your**

8 **Honor, the one on page 16 is a better map.**

9 **Q.** That's the next one I have in my notes.

10 MR. PRIMIS: Let's put up the slide on

11 page 16. Mr. Smith, can you do that?

12 BY MR. PRIMIS:

13 **Q.** Okay. Now, Mr. Hoehn, this is a map from your

14 testimony. Correct?

15 **A. Correct.**

16 **Q.** It's from page 16?

17 **A. Yes, sir.**

18 **Q.** And Swift Slough is right around river marker 40.

19 Correct?

20 **A. It's close, yes.**

21 **Q.** It is just south of the Wewahitchka Gage?

22 **A. It's about a mile south.**

23 MR. PRIMIS: And I'm sorry to the court

24 reporter. I said I didn't have any trick

25 words, but Wewahitchka qualifies. We'll get

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1 you the spelling on that one.

2 BY MR. PRIMIS:

3 Q. Okay. And you referred to something before.

4 There was a picture, you said, of Sand Mountain?

5 A. **Correct.**

6 Q. And Swift Slough is just south of Sand Mountain.

7 Correct?

8 A. **No. It's north.**

9 Q. It's north of Sand Mountain?

10 A. **Correct.**

11 Q. Now, Swift Slough is also downstream of the

12 Chipola cutoff. Correct?

13 A. **Correct.**

14 Q. And the Chipola cutoff is where the Army Corps

15 cut out part of the Apalachicola River. The

16 water goes over to Chipola and then comes back to

17 the Apalachicola River. Correct?

18 A. **No.**

19 Q. No. What is it?

20 A. **Historically the Chipola cutoff was a natural**

21 **part of the loop -- what is called a loop stream.**

22 **And may I explain what a loop stream is?**

23 Q. You know what; the Chipola cutoff line of

24 questioning was not that relevant to where I'm

25 going, so let's just stay on track here. You can

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1 come back to it later.

2 A. **Okay.**

3 Q. The Swift Slough contains mussel habitat.

4 Correct?

5 A. **Yes, it does.**

6 Q. And I want to put up a picture from your direct

7 testimony. It's paragraph 48, page 29.

8 Okay. And is that a picture that you

9 included of Swift Slough?

10 A. **Yes, it is.**

11 MR. PRIMIS: And, Mr. Smith, can you

12 enlarge that.

13 BY MR. PRIMIS:

14 Q. Okay. And then the caption says that this is a

15 picture of dead mussels stranded in Swift Slough

16 on July 3, 2006. Right?

17 A. **That's correct.**

18 Q. Okay. And you took this picture. Correct?

19 A. **Yes, I did.**

20 Q. On July 3, 2006?

21 A. **Yes.**

22 Q. And the reason you include this picture in your

23 written direct testimony is you want to show what

24 it looked like when Swift Slough was dewatered

25 and the mussels died. Correct?

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1 A. **In 2006 and anytime that it is dewatered.**

2 Q. Okay. And this one in particular was July 2006.

3 Right?

4 A. **That's correct.**

5 Q. Now, I want to take a step back and talk about

6 some history leading up to this incident, okay,

7 the one that's pictured here in paragraph 48 of

8 your testimony.

9 Can you turn to tab 7 of your book.

10 MR. PRIMIS: And we don't have an

11 exhibit number for this one; but for the

12 record, I'll just say it's an e-mail and

13 attachments that have the Bates number

14 FL-ACF-03671820.

15 BY MR. PRIMIS:

16 Q. Now, Mr. Hoehn, this is an e-mail that you sent

17 to Gary Warren. Do you see that?

18 A. **Yes, it is.**

19 Q. And Gary Warren is a colleague of yours.

20 Correct?

21 A. **Yes. He is currently head of our -- what is**

22 **called the Fish and Wildlife Research Institute.**

23 **And he is our head of the mussel program.**

24 Q. Now, you sent this e-mail on July 18, 2006.

25 Right?

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1 A. **That is correct.**

2 Q. And you're forwarding an e-mail that you received

3 from someone named Helen Light. Right?

4 A. **That is correct.**

5 Q. And Helen Light is with the -- at the time was

6 with the United States Geological Survey.

7 Correct?

8 A. **That is correct.**

9 Q. And she was sending a letter to someone named

10 Jerry Ziewitz at the U. S. Fish and Wildlife

11 Service. Correct?

12 A. **That is correct.**

13 Q. And she copied, among other people, a Mr. James

14 Hathorn, who works at the Army Corps. Right?

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

16 Q. And Joanne Brandt, who works at the Army Corps.

17 Correct?

18 A. **Correct. Joanne Brandt was head of the -- before**

19 **she retired, she was head of the environmental**

20 **compliance.**

21 Q. Can you tell us who Helen Light is?

22 A. **She was a researcher -- long-time researcher from**

23 **USGS who has spent from the mid-'70's to the time**

24 **she retired doing multiple lines of research on**

25 **the Apalachicola floodplain.**

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1 Q. One of the things she researched was the effect
 2 of channel change on inundation of floodplains in
 3 Apalachicola. Correct?

4 A. **If you're referring to what I consider the green
 5 document, which I think is one of her later ones,
 6 yes.**

7 Q. Okay. And Ms. Light is now a consultant for the
 8 State of Florida on this case. Correct?

9 A. **She has been, yes.**

10 Q. She sends her letter to Jerry Ziewitz. Who is
 11 Jerry Ziewitz?

12 A. **At the time Jerry Ziewitz was -- forgive me. I
 13 don't remember if he was in charge of the listed
 14 species or section 7 group; but he is the person
 15 that I worked with throughout the Comprehensive
 16 Study, the Compact, dredging issues, everything
 17 associated with the Apalachicola River.**

18 Q. Okay. Now, in the attachment to the e-mail that
 19 was originally from Ms. Light and then you
 20 forwarded it on, there's a letter from Marian
 21 Berndt, B E R N D T, to Jerry Ziewitz. Do you
 22 see that?

23 A. **Okay. Yes.**

24 Q. And it's dated July 13, 2006?

25 A. **Yes.**

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1 Q. Okay. And the letter says, dear Mr. Ziewitz. In
 2 response to a request from you and Ted Hoehn,
 3 Florida Fish and Wildlife Conservation
 4 Commission, Helen -- and Helen Light of our staff
 5 surveyed the controlling sill elevation of Swift
 6 Slough.
 7 Do you see that?

8 A. **Correct.**

9 Q. And it says that that survey was conducted on
 10 July 6, 2006. Right?

11 A. **Uh-huh.**

12 Q. Yes?

13 A. **Correct.**

14 Q. That's three days after the picture you took and
 15 submitted in your testimony in this court.
 16 Right?

17 A. **That's correct.**

18 Q. And it's true, Mr. Hoehn, that you did request
 19 the study that's referenced in this letter.
 20 Right?

21 A. **I would have to -- have to assume that that is
 22 the case since it references a request from me.
 23 I don't remember doing it.**

24 Q. But you don't dispute the statement from the
 25 acting office chief at the USGS that you

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1 requested this survey. Right?

2 A. **Correct.**

3 Q. And, in fact, you went on the survey. True?

4 A. **Correct.**

5 Q. And this survey was clearly connected to your
 6 prior visit where you had seen those dead mussels
 7 three days earlier. Correct?

8 A. **Correct.**

9 Q. Now, you say in the same -- this letter says in
 10 the same sentence that you provided field
 11 assistance to Ms. Light for the survey. Right?

12 A. **Correct.**

13 Q. So you were there when she was conducting the
 14 work that actually led to this report. Right?
 15 You watched it?

16 A. **And all -- in going through this, I will have
 17 to -- I don't recall it; and -- but I know I went
 18 with her on many of these surveys. And I know I
 19 did one with her on Swift Slough, which took
 20 quite a bit of time.**

21 Q. Now, I want to --

22 A. **And if I may, sir?**

23 Q. Yes. Go ahead.

24 A. **In reading the letter, it does indicate that,
 25 yes, I was there.**

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1 Q. Now, it says in the last sentence of the first
 2 paragraph that this survey was needed to estimate
 3 water depths in Swift Slough for various
 4 discharges higher than the disconnection flow.
 5 Right?

6 A. **Correct.**

7 Q. And the first paragraph had referred to a survey
 8 of the controlling sill elevation of Swift
 9 Slough. Right?

10 A. **Correct.**

11 Q. And just in plain English, the controlling sill
 12 is the height that the water from the river needs
 13 to get over in order to inundate that slough.
 14 Right?

15 A. **Simplistically, yes.**

16 Q. I'll take it.
 17 Thank you, Mr. Hoehn.
 18 The -- so the survey was done to find out
 19 what river flow was needed to determine when
 20 Swift Slough would become disconnected from the
 21 river. Right?

22 A. **That's correct.**

23 Q. Now, on the last -- on the next to last page of
 24 this document -- and before we do that, let's
 25 go -- there's a report attached to the Helen

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1 Light letter. Correct?

2 Attachment A, do you see that?

3 **A. Yes.**

4 **Q.** And attachment A is called Apalachicola River

5 Discharges Needed to Maintain Flowing Conditions

6 in Swift Slough. Do you see that?

7 **A. Correct.**

8 **Q.** And it's conducted by Helen Light, as indicated

9 on that page. Correct?

10 **A. That is correct.**

11 **Q.** Okay. And that's the one that you were there

12 for?

13 **A. Correct.**

14 **Q.** Okay. So let's go to the table on the next to

15 last page that Ms. Light created. And we'll put

16 it on the screen so everyone can see that.

17 Do you see table 1?

18 **A. Yes.**

19 **Q.** And it's called Disconnection Flows for Swift

20 Slough?

21 **A. That is correct.**

22 **Q.** And they were measured at three points in time.

23 Correct?

24 **A. Correct. 1993, 2000, and 2006.**

25 **Q.** Right. And then in the fine print underneath, it

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1 says who took those measurements. Right?

2 **A. Absolutely.**

3 **Q.** In '93 it was taken by Helen Light and someone

4 named Graham Lewis. Correct?

5 **A. Correct.**

6 **Q.** And then the 2000 measurement was made by

7 Mr. Ziewitz. Correct?

8 **A. That's what it says.**

9 **Q.** And the 2006 measurement was made by Helen Light,

10 you, and Rick Long?

11 **A. That is correct.**

12 **Q.** All right. Now, in October of 1993, the

13 disconnection shown in step 7 was 5100. Correct?

14 **A. That's what it reads.**

15 **Q.** Okay. Now, in August of 2000, the disconnection

16 flow for Swift Slough was 4500 cfs. Right?

17 **A. That's what it says.**

18 **Q.** So that means that on August 2, 2000, if there

19 were 4700 cfs flowing through Apalachicola River,

20 Swift Slough gets inundated. Correct?

21 **A. No. And this is a fine point that I need to make**

22 **very clear on the definition of connection and**

23 **disconnection. And this is one that we have had**

24 **significant discussion about with Ms. Light. And**

25 **that is connection can mean literally a trickle**

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1 **of water going over the sill and going**

2 **downstream. It doesn't mean that the entire**

3 **width of the slough has got water flowing in it.**

4 **All it means is that some water -- it may be half**

5 **an inch; it may be a quarter of an inch, but some**

6 **water is moving over that sill.**

7 **Q.** Okay. And so at step 7, Ms. Light reports in

8 this survey that the estimated disconnection flow

9 for Swift Slough, based on discharge at the

10 Chattahoochee Gage, is 4500 cubic feet per

11 second. Correct?

12 **A. Correct.**

13 **Q.** And in July of 2006, six years later, the

14 disconnection flow has increased to 5600.

15 Correct?

16 **A. Correct.**

17 **Q.** That's an increase in the amount of water needed

18 to connect Swift Slough of 1100 cfs. Right?

19 **A. That's accurate math.**

20 **Q.** And it's also accurate math to say that the

21 amount of water needed to inundate that slough

22 where you took all those pictures of the dead

23 mussels had increased by 25 percent over six

24 years. Correct?

25 **A. Over six years; that's correct.**

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1 **Q.** Now, Mr. Hoehn, you know why it took 1100 extra

2 cfs of water to connect Swift Slough as of 2006.

3 Right? You know that?

4 **A. All I know is things change.**

5 **Q.** Things change. Mr. Hoehn, you would agree that

6 certain reaches of the river were impacted by

7 channel erosion and lower water levels as a

8 result of the historical channel alterations for

9 navigation. True?

10 **A. Previously that is correct.**

11 **Q.** And one such location is Swift Slough. Correct?

12 **A. Previously that is correct.**

13 **Q.** And you have read Dr. Kondolf's direct testimony

14 in this case. Right?

15 **A. No.**

16 **Q.** You haven't?

17 **A. No.**

18 **Q.** Do you know who Dr. Kondolf is. Right?

19 **A. Absolutely.**

20 **Q.** He's an expert hired for Florida. Correct?

21 **A. And we have actually worked with him on other**

22 **restoration projects throughout the ACF system**

23 **or -- not ACF, but through the Apalachicola**

24 **system.**

25 **Q.** So you didn't recognize that I was reading from

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1 his testimony when I said that Swift Slough was a
 2 location that was impacted by channel erosion and
 3 lower water levels as a result of the historical
 4 channel alterations?
 5 **A. No.**
 6 **Q.** Now, were you aware that Dr. Kondolf submitted
 7 testimony that said Swift Slough is located in an
 8 area of the river that experienced significant
 9 historical dredging. Did you know that Florida
 10 submitted testimony on that here?
 11 **A. No, I'm not. But I believe I have already**
 12 **testified that that is -- precisely above that**
 13 **area is where there was significant dredging.**
 14 **Q.** Okay. So then you agree that Swift Slough has
 15 experienced significant historical dredging.
 16 Correct?
 17 **A. The area around Swift Slough, the main channel.**
 18 **Q.** That's right. Thank you for clarifying.
 19 **A. The main channel.**
 20 **Q.** Okay. So the main channel around Swift Slough
 21 has had significant historical dredging. Right?
 22 **A. Yes.**
 23 **Q.** And sand put into circulation by the disturbance
 24 caused by dredging was deposited at Swift Slough.
 25 Right?

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1 **A. Some sand has come into Swift Slough.**
 2 **Q.** So if Dr. Kondolf submitted that as his sworn
 3 testimony, you wouldn't disagree with that.
 4 Right?
 5 **A. I'm not the expert. Dr. Kondolf is.**
 6 **Q.** Well --
 7 **A. All I can tell you is I have seen some sand in**
 8 **Swift Slough.**
 9 **Q.** You have?
 10 **A. Yes.**
 11 **Q.** Now, when that sand is deposited in Swift Slough,
 12 it raises its bed elevation. Right?
 13 **A. In places.**
 14 **Q.** And it increases the flow needed to connect that
 15 slough to the main river. Right?
 16 **A. If the controlling sill -- and, again, this was**
 17 **one of those questions that on your graph that**
 18 **was on -- well, it's the -- it doesn't have a**
 19 **page number; but it is the graph on the**
 20 **attachment where it shows where the controlling**
 21 **sill is. Depending upon where that controlling**
 22 **sill is and where the sand comes, it may or may**
 23 **not impact how much water is needed to make it**
 24 **past that controlling sill. It may start in just**
 25 **the mouth of the slough; but it may not make it**

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1 **back to where that controlling sill is.**
 2 **Q.** Mr. Hoehn, do you agree or disagree with sworn
 3 testimony from Dr. Kondolf that the sand
 4 deposited in Swift Slough increased the flow
 5 needed to connect it to the main river?
 6 **A. I'm not the expert on that.**
 7 **Q.** You know that over six years the amount of water
 8 increased by 25 percent. Right?
 9 **A. But I can also look at the 1993, and it was not**
 10 **as much as that. So you have got a range between**
 11 **4500 and 5100 to 5600 cfs at which flows are --**
 12 **were needed.**
 13 **Q.** Is --
 14 **A. And I have no idea what it requires now.**
 15 **Q.** Mr. Hoehn, I'm talking about why the -- why the
 16 flow changed from 2000 to 2006. And you would
 17 agree with Dr. Kondolf it's because there was
 18 sand deposited there from dredging; wouldn't you?
 19 **A. Dr. Kondolf is the expert, not me.**
 20 **Q.** So, Mr. Hoehn, I want to stick with Swift Slough;
 21 but I want to show you another declaration that
 22 you signed. Okay?
 23 Can you turn to tab 8 of your binder. And
 24 can you confirm that this is a declaration that
 25 you signed on November 1, 2007?

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1 **A. Yes.**
 2 **Q.** And that's your signature on page 12?
 3 (Whereupon the video was played.)
 4 MR. PRIMIS: Sorry. We have a -- sorry
 5 for the disruption.
 6 SPECIAL MASTER LANCASTER: We'll take a
 7 break.
 8 MR. PRIMIS: Sure, your Honor.
 9 SPECIAL MASTER LANCASTER: 10 minutes.
 10 MR. PRIMIS: What rules would the Court
 11 like witnesses to follow while they're on the
 12 stand?
 13 SPECIAL MASTER LANCASTER: That's up to
 14 counsel. I don't care whether you want them
 15 not to talk to their counsel or not. So it's
 16 up to you.
 17 MR. PRIMIS: Okay. We'll discuss it off
 18 the record.
 19 I just wanted to ask because this is the
 20 first witness.
 21 SPECIAL MASTER LANCASTER: If there is a
 22 problem, you can ask me; and I will rule.
 23 But I would appreciate it if you could agree.
 24 MR. PRIMIS: Thank you, your Honor.
 25 (Time Noted: 3:10 p.m.)

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1 (Recess Called)
 2 (Time Noted: 3:21 p.m.)
 3 SPECIAL MASTER LANCASTER: Were counsel
 4 able to agree on the question you asked
 5 before recess?
 6 MR. PRIMIS: Your Honor, we -- I think
 7 we're going to table it until the end of this
 8 session. It didn't come up as an issue, but
 9 I just wanted to check with my colleagues
 10 first. We haven't had a chance to talk about
 11 it.
 12 SPECIAL MASTER LANCASTER: You let me
 13 know.
 14 MR. PRIMIS: We will. Absolutely.
 15 BY MR. PRIMIS:
 16 Q. Mr. Hoehn, I had given you a declaration that you
 17 had signed; but before we turn to that document
 18 I want to just talk for a minute more about
 19 the -- the depositing of sand at Swift Slough.
 20 Could you turn in your book to the 2016
 21 biological opinion. It's tab 2.
 22 A. Okay.
 23 Q. JX-168. And I'm going to refer you to page 130
 24 at the bottom of the page.
 25 MR. PRIMIS: I have got it up on the
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1 screen, too, if it's helpful for anyone.
 2 A. Okay.
 3 Q. Okay. Mr. Hoehn, three lines up from the bottom
 4 of 130 -- and to confirm, you did read this
 5 document, right, the biological opinion?
 6 A. Yes, I did. But I'll need to -- it's so large I
 7 still need to kind of orient myself as to what
 8 sections you're talking about.
 9 Q. That's fine. This was the one that was published
 10 a couple weeks ago. Right?
 11 A. Correct.
 12 Q. Now, three lines up from the bottom it says, in
 13 the RM 35-50 reach. Do you see that?
 14 A. Correct.
 15 Q. And that's talking about the river mile 35 to 50
 16 reach. Correct?
 17 A. Correct.
 18 Q. And so that means 35 to 50 miles north of the
 19 Apalachicola Bay. Correct?
 20 A. I'm trying to think. River miles and navigation
 21 miles don't always necessarily mean the same
 22 thing. So that's why I'm trying to verify it.
 23 And it's close enough.
 24 Q. Okay. Thank you. So would you agree that the
 25 U.S. Fish and Wildlife Service said that in river
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1 marker 35 to 50 reach, channel instability
 2 related to water diversion into the Chipola
 3 cutoff and recovery from maintenance dredging may
 4 be affecting mussel habitat and contributing to
 5 stranding. Do you see that?
 6 A. Correct.
 7 Q. And that was published just a couple weeks ago.
 8 Correct?
 9 A. Correct.
 10 Q. And then it says that that's happening especially
 11 in Swift Slough. Right?
 12 A. That's what it says.
 13 Q. And it notes that Swift Slough occurs in an area
 14 that required regular maintenance. Right?
 15 A. Correct.
 16 Q. And so you would agree that the U.S. Fish and
 17 Wildlife Service, like Dr. Kondolf, is saying
 18 that there's still effects of dredging on Swift
 19 Slough. Correct?
 20 A. I can't answer to Dr. Kondolf because I haven't
 21 read his testimony on this. This is what the
 22 Fish and Wildlife Service's opinion was.
 23 Q. And are you aware that the Fish and Wildlife
 24 Service also said that the inlet at Swift Slough
 25 continues to aggrade?
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1 At the top of page 133, that's where it says
 2 that.
 3 I'm sorry. Second line of page 133.
 4 A. That's what it says.
 5 Q. And the term aggrade, you understand that to mean
 6 to raise the grade or level of a river or
 7 streambed?
 8 A. I'll accept that as an appropriate definition.
 9 Q. And concluding by depositing detritus or
 10 sediment. Right?
 11 That's how it aggrades. Correct?
 12 A. I'll agree with that.
 13 Q. So the Fish and Wildlife Service reported just
 14 last month that Swift Slough continues, as of
 15 now, to have sediment deposited that causes the
 16 riverbed to raise -- to rise there. Correct?
 17 Is that what they're saying?
 18 A. The riverbed has --
 19 Q. I'm sorry.
 20 A. -- absolutely risen.
 21 Q. I'm sorry. I misspoke, Mr. Hoehn; and you seized
 22 right on it.
 23 It says the inlet at Swift Slough continues
 24 to aggrade. Correct?
 25 A. That's what it says.
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1 Q. And that's because of impacts of dredging,
 2 correct, according to Fish and Wildlife at least?
 3 True?

4 A. **All I can say is that that's what they have**
 5 **indicated is, you know, yes, it was an area of**
 6 **significant dredging. So that's what they said.**

7 Q. In 2016. True?

8 A. **That's correct.**

9 Q. Okay. Now, let's go back to your declaration,
 10 Mr. Hoehn. Can you turn --
 11 MR. PRIMIS: And, your Honor, do you
 12 have that? It's tab 8.
 13 Tab 8.
 14 BY MR. PRIMIS:

15 Q. I want to turn, if you would, Mr. Hoehn, to
 16 paragraph 10. Actually, before I do, just to set
 17 the stage, this declaration on the front page has
 18 a caption called In Re: Tri-State Water Rights
 19 Litigation. Do you see that on the first page of
 20 your declaration?

21 A. **Oh, I'm sorry. You're -- wait a minute. Is**
 22 **this -- all right. You're on a different one.**
 23 **So what tab am I on?**

24 Q. Tab 8.

25 A. **Tab 8.**

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1 Q. Okay.

2 A. **And this one is -- and, again, forgive me on this**
 3 **because I have a different way of trying to**
 4 **remember which one of these cases were ones that**
 5 **were filed. This is the Middle District Court of**
 6 **Florida. Correct?**

7 Q. Correct.

8 A. **Which was in the -- the way I remember it, it was**
 9 **more dealing with the listed species.**

10 Q. This one certainly does.

11 A. **Okay.**

12 Q. And, Mr. Hoehn, you understand that the Alabama
 13 case that you had previously signed a declaration
 14 in, that that was combined in a multi-district
 15 litigation into this tri-states case. Do you
 16 know that?

17 A. **Yeah. I mean, it's -- the way -- the way --**
 18 **again, this is why I'm asking these questions is**
 19 **there were so many cases put out there**
 20 **individually that were then combined. So I have**
 21 **to try and compartmentalize them.**

22 Q. Okay. So this is your November 1, 2007,
 23 declaration. And I would like to turn your
 24 attention to paragraph 10. And in paragraph 10,
 25 you stated in this sworn declaration that part of

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1 your job includes coordinating with the U.S. Fish
 2 and Wildlife Service and other Commission staff
 3 to protect and recover species listed under the
 4 Endangered Species Act. Correct?

5 A. **Correct.**

6 Q. And these species you say include two freshwater
 7 mussels, the fat threeridge and the purple
 8 bankclimber?

9 A. **Correct.**

10 Q. And then in paragraph 11 -- and this is, again,
 11 in tab 8 -- you state in the second sentence,
 12 other than Fish and Wildlife's activities, you
 13 are perhaps most familiar with U.S. Army Corps of
 14 Engineers' activities. Correct?

15 A. **That is correct.**

16 Q. And you understood that to be a true statement
 17 when you swore to it. Correct?

18 A. **Yes.**

19 Q. Okay. Then you say the Corps' operations impact
 20 dramatically the well-being of the Apalachicola
 21 River ecosystem because the Corps operates the
 22 dams and reservoirs, e.g., Lake Lanier and Buford
 23 Dam, that release water into the Apalachicola
 24 River.
 25 And you included that in your sworn

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1 testimony. Correct?

2 A. **Yes, sir.**

3 Q. Now, in paragraph 16 on page 5 of your
 4 declaration -- I'll give you a minute to get
 5 there.

6 A. **Okay.**

7 Q. You reference an entity called EnviroScience.
 8 Correct?

9 A. **Correct.**

10 Q. And that's a consulting firm that you worked with
 11 in evaluating the mussel die-off in Swift Slough.
 12 Correct?

13 A. **They actually reviewed and did surveys all up and**
 14 **down the river in 2005. They did surveys all up**
 15 **and down the river, and Swift Slough was one that**
 16 **were done. And they also established some**
 17 **long-term, what we call tagging sites on the**
 18 **mainstem.**

19 Q. And just to make sure we have a clear question
 20 and answer, EnviroScience, among its other
 21 responsibilities, conducted a survey of Swift
 22 Slough in 2005. Correct?

23 A. **As far as I recollect, yes.**

24 Q. And in paragraph 16, the last sentence, you
 25 participated directly in reviewing

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1 EnviroScience's work. Right?

2 **A. What I -- my review of their work was reviewing**

3 **the outcome of it and what they had to say. I**

4 **did not participate in the diving. I'm not --**

5 **even though I am a certified diver, I'm not**

6 **allowed to dive for the State of Florida.**

7 **Q.** You directly reviewed their work, sir. Correct?

8 **A. That is correct.**

9 **Q.** And as of this point in time at the end of 2007,

10 you had continued to work closely with

11 EnviroScience since 2005 to document mussel

12 status in Apalachicola River. Correct?

13 **A. That is correct.**

14 **Q.** So let's go to paragraph 17. And that's where

15 you stated in a sworn declaration in the second

16 sentence that during the summer of 2006,

17 EnviroScience conducted mussel monitoring at the

18 Apalachicola River mainstem at river mile 44.3

19 and Swift Slough. Correct?

20 **A. That is correct.**

21 **Q.** And you report there that nearly all, greater

22 than 90 percent -- I'm sorry. This is in the

23 next sentence -- nearly all, nearly -- more than

24 90 percent of the endangered mussels at these

25 locations died that summer. Right?

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1 **A. That is correct.**

2 **Q.** Following one month of flows measuring about

3 5,000 cfs at the Chattahoochee Gage?

4 **A. Correct.**

5 **Q.** Okay. Let's flip now to page 8, paragraph 23.

6 Now, in paragraph 23, you point out that you

7 went back to Swift Slough in 2007 with the

8 EnviroScience team. Correct?

9 **A. Correct.**

10 **Q.** And you resurveyed the sites there?

11 **A. Correct.**

12 **Q.** And that included Swift Slough. Right?

13 **A. That is correct.**

14 **Q.** And when you went back there, you found that

15 almost all mussel habitats within Swift Slough

16 were dewatered.

17 That's in the middle of the paragraph.

18 Correct?

19 **A. Correct.**

20 **Q.** And you said in this sworn declaration that it

21 was apparent that large volumes of sand had

22 entered the slough at the inflow and buried a

23 large expanse of the upper reach of Swift Slough.

24 Right?

25 **A. That is correct.**

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1 **Q.** And you also said in this sworn declaration that

2 that sand buried pools known to contain large

3 numbers of fat threeridge with several inches to

4 several feet of sand.

5 **A. That is correct.**

6 **Q.** Now, you understand, Mr. Hoehn, that after you

7 filed this declaration in 2007, the litigation

8 between Florida and the Army Corps in federal

9 court continued. Right?

10 **A. I'm aware that there was, you know, the combined**

11 **effort, yes.**

12 **Q.** And you know that in 2009 the State of Florida

13 moved for summary judgment on its endangered

14 species claims against the Corps. Correct?

15 **A. I recollect that that happened.**

16 **Q.** And it was in the same federal court in which you

17 had signed this declaration, Middle District of

18 Florida; right?

19 **A. I don't know if it was the Middle District of**

20 **Florida, but I remember a court did.**

21 **Q.** Okay. Now, Mr. Hoehn, in tabs 9, 10, and 11 of

22 your binder, I have three submissions from the

23 summary judgment briefing on the Endangered

24 Species Act claim. Okay?

25 I just want to identify them with you first.

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1 In tab 9 we have the State of Florida and City of

2 Apalachicola's Joint Motion and Memorandum in

3 Support of Joint Motion for Summary Judgment on

4 Phase 2 Claims. Do you see that?

5 **A. Yes.**

6 **Q.** Okay. And that was filed, if you look at the

7 top, on December 9, 2009.

8 **A. Okay.**

9 **Q.** Okay. The next page -- next tab, tab 10, is a

10 factual appendix in support of that motion. Do

11 you see that?

12 **A. Yes, I do.**

13 **Q.** Also filed on December 9?

14 **A. Yes.**

15 **Q.** And you know you received a copy of that factual

16 appendix back around the time it was filed.

17 Right?

18 **A. I -- no, I don't know.**

19 **Q.** You don't recall?

20 **A. I don't recall.**

21 **Q.** Okay. And then tab 11 is a declaration from

22 Mr. Barr that was attached to that factual

23 appendix. Do you see that?

24 **A. Okay.**

25 **Q.** And on top it also says that it was filed on

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1 12/9/09. Do you see that?

2 **A. Correct.**

3 **Q.** Okay. I want to walk through these documents

4 with you, Mr. Hoehn.

5 **A. Okay.**

6 **Q.** Now, let's start with the factual appendix, tab

7 11 -- tab 10. I'm sorry.

8 Let's start with tab 11 -- sorry about

9 that -- Mr. Barr's declaration that was

10 attached. Okay?

11 **A. It's the one that starts Exhibit 3?**

12 **Q.** Yes.

13 **A. Okay.**

14 **Q.** And you know Mr. Barr. Right?

15 **A. I am familiar with Mr. Barr, yes.**

16 **Q.** At the time of this declaration in 2009, he was

17 executive director of the Northwest Florida Water

18 Management District. Correct?

19 **A. Correct.**

20 **Q.** And you know he was knowledgeable about the

21 hydrology of the ACF River Basin. Correct?

22 **A. Correct. He participated all through the.**

23 **Comprehensive Study and the Compact.**

24 **Q.** And let's take a look at Mr. Barr's declaration.

25 And specifically I want to go to paragraph 42

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1 on page 17. And, Mr. Hoehn, you will agree that

2 Mr. Barr said in his sworn statement submitted in

3 federal court that the sensitivity of the Corps'

4 reduction of flows in the Apalachicola River to

5 5,000 cfs cap during low water events and

6 particularly extended droughts can be exhibited

7 by specific instances. Right?

8 **A. That's what it says.**

9 **Q.** And he refers to a 5,000 cfs cap during low water

10 events. Right?

11 **A. Correct.**

12 **Q.** And further down that paragraph, another -- skip

13 one sentence; and then he says, at flows of 5400

14 cfs Swift Slough is barely connected to the

15 mainstem of the river at the inflow and

16 disconnected downstream. Right?

17 **A. That's what it says.**

18 **Q.** And you knew that was true based on the study

19 that you had done with Helen Light a year

20 earlier. Correct?

21 **A. This isn't mine, so I have to assume he used that**

22 **information. But this is not my declaration.**

23 **Q.** Okay. In the next -- in the next sentence,

24 Mr. Barr states that the Corps could have

25 released 6300 cfs. Correct?

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1 **A. That's what it states.**

2 **Q.** And they could have done that, he said, without

3 excessive lowering of Lake Lanier for storage for

4 water supply. Right?

5 **A. That's what the document says.**

6 **Q.** And that back in 2006, you yourself were

7 monitoring lake levels at Lake Lanier. Correct?

8 **A. I monitor the lake levels all the way up and down**

9 **the system.**

10 **Q.** And, in fact, you submitted another declaration

11 in federal court where you provided the federal

12 district court with information on lake levels

13 and releases from the dams in connection with

14 Florida's claims concerning endangered species.

15 Didn't you do that?

16 **A. If it -- would you like to point me to which**

17 **particular one so that I can --**

18 **Q.** Certainly.

19 **A. -- answer correctly?**

20 MR. PRIMIS: Your Honor, may I approach?

21 SPECIAL MASTER LANCASTER: Sure.

22 MR. PRIMIS: We have another

23 declaration.

24 **A. The answer to your question is yes.**

25 **Q.** Okay. And just to identify it for the record,

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1 Mr. Hoehn, I handed you a supplemental

2 declaration that you filed in the federal

3 district court in Alabama. Correct?

4 **A. That is correct.**

5 **Q.** And it's document 437 on that docket?

6 **A. Correct.**

7 **Q.** And in this submission, this sworn statement,

8 you're providing lake levels and dam releases in

9 connection with a claim concerning Army Corps

10 operations and its impact on endangered species.

11 Correct?

12 **A. This is regarding the operations and the effects**

13 **of the low flows on the species, yes.**

14 **Q.** And that's Army Corps operations. Right?

15 **A. When I say Corps, yes, I am referring to the U.S.**

16 **Army Corps of Engineers.**

17 **Q.** And going back to Mr. Barr's declaration now,

18 the one at tab 11 -- and we're back at that

19 paragraph 42. And he goes on in that same

20 sentence, he goes, which 6300 cfs would have

21 fully watered Swift Slough. Do you see that?

22 **A. Correct.**

23 **Q.** And then he says, as noted, the Corps refused to

24 agree to that flow. Correct?

25 **A. That's what the declarations says.**

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1 Q. Now, you know, based on your work with Ms. Hoehn,
 2 that 6300 cfs would have watered Swift Slough.
 3 Correct?

4 **A. Did you mean Ms. Light?**

5 Q. Sorry. You know, based on your work with
 6 Ms. Light, that 6300 cfs would have watered Swift
 7 Slough. Right?

8 **A. At that -- I can tell you right now that 6300**
 9 **will keep Swift Slough inundated.**

10 Q. And in 2006 when you did the work, 5600 would
 11 have watered the slough. Right?

12 **A. It would have connected it. It would not have**
 13 **necessarily provided all the water it needed.**

14 Q. That's a fair clarification.
 15 Now, Mr. Barr is telling this federal court
 16 for Florida in a sworn statement that if the Army
 17 Corps would release more water, that it could
 18 fully water Swift Slough. Right?

19 **A. That is what the declaration says.**

20 Q. And Mr. Barr's declaration is also telling the
 21 federal court that the Army Corps had the power
 22 and the ability to do just that. Correct?

23 **A. In 2006, that is correct.**

24 Q. He goes on to say that because the Army Corps
 25 would not release that additional water, in the

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1 next to last sentence, over 30,000 fat threeridge
 2 mussels died. Do you see that?

3 **A. Yes.**

4 Q. And he said in the prior sentence that the Corps
 5 is obligated to protect them. Right?

6 **A. That is correct.**

7 Q. Okay. Mr. Hoehn, now I want to go to tab 10,
 8 which is the factual appendix to the summary
 9 judgment motion, document 310 in the Middle
 10 District of Florida document. Are you there?

11 **A. Yes, sir.**

12 Q. Now, this is a very lengthy document; but I want
 13 to refer you -- well, first, before I do, this
 14 was filed December 9, 2009. Do you see that?

15 **A. Correct.**

16 Q. Okay. I want to refer you to paragraph 430 on
 17 page 158.

18 **A. 430 on 158, is that what you said?**

19 Q. Yes.
 20 I'm sorry. 430 is on 154.

21 **A. Okay.**

22 Q. Are you there?

23 **A. Yes.**

24 Q. Okay. So now, this is being filed in support of
 25 Florida's claim that the Army Corps was

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1 endangering these species. And in paragraph 430
 2 it says, in the summer of 2006 the USGS concluded
 3 Swift Slough required not less than 5700 cfs flow
 4 at the Chattahoochee Gage to remain shallowly
 5 connected.
 6 Do you see that?

7 **A. Correct.**

8 Q. And not less than 6200 to maintain a connection
 9 depth of a half a foot. Right?

10 **A. Correct.**

11 Q. And as support for that, the State of Florida
 12 here in this court filing cites that letter to
 13 Jerry Ziewitz, the one that you were copied on.
 14 Correct?

15 **A. Correct.**

16 Q. And the one that included the Helen Light survey
 17 that you went on. Right?

18 **A. Correct.**

19 Q. So there is no -- no dispute in this court filing
 20 Florida is talking about the work that you and
 21 Helen Light did. Right?

22 **A. This is -- whoever filed this -- let's see. Yes,**
 23 **I -- the title is State of Florida and the City**
 24 **of Apalachicola.**

25 Q. Right. What we're -- the letter at 430 is the

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1 letter that you were copied on; and that reflects
 2 the work that you and Helen Light did. True?

3 **A. Yes.**

4 Q. Okay. Let's now go to paragraph 433, okay.
 5 Paragraph 433, the State of Florida and the City
 6 of Apalachicola in this submission is referring
 7 to the EnviroScience work. Correct?

8 **A. Correct.**

9 Q. And in this first sentence they say that
 10 EnviroScience estimated that several thousand
 11 mussels, nearly 31 percent, of fat threeridge in
 12 Swift Slough died during low flows experienced in
 13 the summer of 2006. Right?

14 **A. Correct.**

15 Q. And you were -- this is the same EnviroScience
 16 entity that you were supervising. Right?

17 **A. I was not supervising them.**

18 Q. It was work you directly reviewed. Correct?

19 **A. I reviewed their work, but I was not their**
 20 **supervisor.**

21 Q. Just -- I just want to make clear this is the
 22 same EnviroScience that you're familiar with and
 23 whose work you reviewed. True?

24 **A. Correct.**

25 Q. Now, let's look at the brief that this was

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1 attached to. That's in tab 9.
 2 MR. PRIMIS: And for the record, I will
 3 just note that tab 9 is document 309 in the
 4 Northern District -- I'm sorry, in the Middle
 5 District of Florida case, case No. 307-MD-1.
 6 BY MR. PRIMIS:
 7 **Q.** And do you see that this is a Memorandum in
 8 Support of a Joint Motion For Summary Judgment on
 9 Phase 2 Claims?
 10 **A. Yes, I do.**
 11 **Q.** And you understand that the Phase 2 claims
 12 related to endangered species. Correct?
 13 **A. If -- okay. I'm just trying to read the**
 14 **part here just to verify it because Phase 1,**
 15 **Phase 2 -- not being a lawyer, it gets me kind**
 16 **of confused as to which one was which.**
 17 **Q.** If I told you Phase 1 was water supply and
 18 Phase 2 was species, would you take my word for
 19 it?
 20 **A. I'll accept that.**
 21 **Q.** Okay. I just wanted to cut through that.
 22 Okay. Now, Mr. Hoehn, you understand that
 23 one of the grounds on which Florida based its
 24 Endangered Species Act claims against the Corps
 25 was the 2006 mussel die-off in Swift Slough.

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1 Right?
 2 **A. That that was -- was part of it. Correct.**
 3 **Q.** Okay. And can you go to page 47 of this brief.
 4 In the bottom paragraph, do you see where it says
 5 that the Service found -- Fish and Wildlife
 6 Service had found that, quote, locations
 7 previously containing the highest mussel density
 8 were the ones most affected by mortality in 2006
 9 and 2007 during Corps operations under prior
 10 Service-approved versions of the IOP. Do you see
 11 that?
 12 **A. That's correct.**
 13 **Q.** And the IOP you know to be the Interim Operating
 14 Plan?
 15 **A. Correct.**
 16 **Q.** That's the Army Corps' -- at the time their
 17 operating plan for the reservoirs and dams.
 18 Right?
 19 **A. That was correct.**
 20 **Q.** Okay. The next sentence -- in the next sentence
 21 the State of Florida represents to the federal
 22 Court in that case that among the mussel species
 23 impacted was the entire population of Swift
 24 Slough. Did I read that correctly?
 25 **A. That's correct.**

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1 **Q.** And do you see how it cites to the FA-2, factual
 2 appendix 2?
 3 **A. Yes, I do.**
 4 **Q.** And it states paragraphs 428 to 440. Right?
 5 **A. Whatever that is.**
 6 **Q.** Well, we were just reading through together
 7 paragraphs 433, 432. You recall that; right?
 8 **A. If --**
 9 **Q.** You can refresh yourself if you want.
 10 **A. Okay. If that's -- if that's what that is, okay.**
 11 **Q.** Okay.
 12 **A. I will accept that.**
 13 **Q.** Now, Mr. Hoehn, I want to turn to the next page.
 14 And up at the top, it -- there is a reference to
 15 the Service. We are talking there about the
 16 federal agency, the U.S. Fish and Wildlife
 17 Service. You understand that; right?
 18 **A. Yes, I do.**
 19 **Q.** Okay. In this sentence the State of Florida says
 20 that the Service allowed this to happen, that
 21 Swift Slough incident, by abandoning its official
 22 strategy for protecting and restoring the
 23 mussels. Do you see that?
 24 **A. Correct.**
 25 **Q.** And you know Florida took that position in this

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1 litigation against the Corps. Right?
 2 Do you have any reason to dispute what it
 3 says in that sentence?
 4 **A. No, I do not have any reason to dispute that.**
 5 **Q.** Okay. Now, I want to turn to the last paragraph.
 6 MR. PRIMIS: And I'm going to ask
 7 Mr. Smith to blow this up on the screen.
 8 BY MR. PRIMIS:
 9 **Q.** And turning to the last paragraph on page 48,
 10 would you agree with me, Mr. Hoehn, that in this
 11 submission to the United States Federal District
 12 Court, the State of Florida said the following:
 13 With the Service's approval, the Corps reduced
 14 flows in the Apalachicola River to 5,000 cfs for
 15 extended periods during 2006 and 2007, and killed
 16 essentially all of the mussels in Swift Slough.
 17 Do you see that?
 18 **A. Yes, I do.**
 19 **Q.** And you would agree with me that the State of
 20 Florida told the federal court that the Army
 21 Corps killed essentially all of the mussels in
 22 Swift Slough in 2006 and 2007. True?
 23 **A. That's -- that is correct.**
 24 **Q.** Now, I want to put back up that picture that you
 25 have in your direct testimony, that terrible

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1 picture with all the dead mussels.

2 MR. PRIMIS: Can we do that, Mr. Smith?

3 BY MR. PRIMIS:

4 Q. Remember this one?

5 We looked at it at the beginning. You said

6 you wanted the Court to know something bad

7 happened at Swift Slough. Right?

8 A. **Absolutely.**

9 Q. And this picture was taken on July 3, 2006.

10 Correct?

11 A. **Correct.**

12 Q. Can we put the brief on top of that. And I just

13 want to confirm, Mr. Hoehn, when the State of

14 Florida tells the federal court that the Corps

15 killed essentially all of the mussels in Swift

16 Slough in 2006 and 2007, they're talking about

17 the same mussels in the picture you have advanced

18 in this court. Correct?

19 A. **That is correct.**

20 MR. PRIMIS: No further questions.

21 MS. WINE: Your Honor, we have a blowup

22 of the map of the Apalachicola River that it

23 might be easier for Mr. Hoehn to refer to

24 during his testimony. Would it be okay if we

25 set it up --

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1 SPECIAL MASTER LANCASTER: Sure.

2 MS. WINE: -- by the witness?

3 Okay. Thank you.

4 REDIRECT EXAMINATION

5 BY MS. WINE:

6 Q. Good afternoon, Mr. Hoehn. Thank you for being

7 here today.

8 A. **Good afternoon. Thank you.**

9 Q. I want to pick up on some of the questions that

10 Georgia's counsel was asking you about prior

11 Corps activities. Okay?

12 He asked you a number of questions about

13 dredging. Do you recall that?

14 A. **Yes, I do.**

15 Q. Why did the Corps dredge the river?

16 A. **Dredging was authorized to provide navigation**

17 **from Columbus, Georgia, Bainbridge, all the way**

18 **down to the Apalachicola primarily to serve**

19 **commerce in Georgia.**

20 Q. Did the dredging benefit Florida?

21 A. **Very little. About the only -- the biggest**

22 **tonnage was actually in the upper -- or about a**

23 **total of 12 miles from the upper part of Lake**

24 **Seminole to basically right at the Chattahoochee**

25 **Gage, which was sand and gravel. All the rest of**

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1 **it, that tonnage, went to either Bainbridge, some**

2 **of the mills, I believe, at Fort Gaines, and over**

3 **in Columbus.**

4 **Fort Gaines is in Georgia.**

5 Q. I was just going to ask you if you could clarify

6 for those of us that are not as familiar with the

7 geography, those last areas that you just

8 mentioned are all areas in Georgia?

9 A. **Correct.**

10 Q. Okay. So if I understood you correctly, it was

11 primarily for the benefit of commerce in Georgia?

12 A. **Correct.**

13 Q. And when did this dredging take place?

14 A. **The very -- I don't have my document with me; so**

15 **I'll try and do this from memory. Some of the**

16 **very first -- very limited dredging occurred in**

17 **the 1800's when it was a not modern-day**

18 **navigation channel. And, in fact, Blountstown**

19 **was where they had the very first dredging**

20 **occurring. And it, again, was a very narrow and**

21 **very shallow channel.**

22 **Dredging really -- and it occurred off and on**

23 **up through the Civil War; and after the Civil War**

24 **occurred dredging had to occur. And then the**

25 **modern navigation channel, again, started**

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1 **actually in -- somewhere in the '50's, '60's,**

2 **early '70's time frame with the State of**

3 **Florida's first permit right around 1979 until we**

4 **killed it in 2005.**

5 Q. And where did this dredging take place along the

6 river?

7 And I know it's hard for you since you don't

8 have a pointer. If it's easier, if his Honor is

9 okay with it, to stand up and show.

10 THE WITNESS: May I stand up?

11 A. **Okay. As I indicated earlier, the main dredging**

12 **occurred right around Blountstown. And right in**

13 **through here is a -- highway 20, U.S. highway 20.**

14 **Right in here was the first major problem reach.**

15 **Then you had various minor dredging down through**

16 **the middle reach. But the next really major**

17 **reach was this bend right here. And then -- this**

18 **is site 53. And that's the one that I mentioned**

19 **earlier that had several football fields of sand**

20 **that are now gone down the river. And then right**

21 **in here is -- in the Chipola cutoff area that is**

22 **labeled on the map, that is about where the Sand**

23 **Mountain area -- that particular reach also**

24 **received, again, the vast majority of it.**

25 **All through the upper reach, most of it did**

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1 **not require dredging because, as you can see,**
 2 **it's fairly straight, and doesn't -- it doesn't**
 3 **really need dredging until you start getting the**
 4 **sinuosity, or bends, in the river.**
 5 Q. And so it's -- I know it's hard for everybody to
 6 see; but the areas that you were pointing out
 7 where the dredging occurred, if I'm right in
 8 terms of reaches, is that the middle reach and
 9 the very upper portion of the lower reach?
 10 A. **Right. This would be the middle, and then**
 11 **usually down to right about here, which would be**
 12 **Corley Slough. Some occurred further south, but**
 13 **it was relatively minor.**
 14 Q. And on about how many miles of the river did the
 15 dredging occur?
 16 A. **It varied from year to year. But we could always**
 17 **count on those three reaches which -- you know,**
 18 **the area at 53B, Wewahitchka, that's about a**
 19 **mile. The area around Corley Slough is maybe**
 20 **about three-quarters of a mile to a mile. And**
 21 **the area of Blountstown, again, maybe about a**
 22 **mile to three-quarters of a mile, if that.**
 23 Q. And so if I'm following your math, that's about
 24 2 to 3 miles roughly of the river?
 25 A. **Correct. Where they had the vast majority every**

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1 **year.**
 2 Q. And what is the length of the entire Apalachicola
 3 River?
 4 A. **106 miles. But when you count banks, you're**
 5 **talking 212.**
 6 Q. And you mentioned earlier that Florida killed the
 7 dredging. Correct?
 8 A. **That is correct. We -- the State of Florida**
 9 **denied the dredging permit.**
 10 Q. And when was that?
 11 A. **2005.**
 12 Q. And has any dredging occurred since 2005?
 13 A. **Dredging actually hasn't occurred since early**
 14 **2000. They were unable to dredge due to low**
 15 **water conditions prior to 2005 to roughly 2001, I**
 16 **believe. And there hasn't been any dredging**
 17 **since.**
 18 Q. So the permit was denied in 2005, but the
 19 dredging activity actually stopped around 2000?
 20 A. **Correct.**
 21 Q. Okay. Roughly --
 22 A. **Give or take a year.**
 23 Q. Roughly 15 years ago?
 24 A. **Correct.**
 25 Q. And has Florida done anything to restore the

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1 river after the cessation of dredging to address
 2 any impacts that the dredging had on the river?
 3 A. **Yes, we have. You know, the first things that,**
 4 **you know, we tried to deal with were in the upper**
 5 **part of the river, although it isn't due to**
 6 **dredging, is we opened up and allowed some of the**
 7 **cold water that some of these anadromous fish**
 8 **need to make sure that they had cold water**
 9 **available to them. We have also gone in one of**
 10 **the cutoffs and -- I'm trying to see if I can**
 11 **kind of pick it out. It isn't very easy to pick**
 12 **out, but it's in the lower tidal reach. It's a**
 13 **cutoff that is commonly called Battle Bend**
 14 **where, because of low water and the lack of**
 15 **recreational use and fishery habitat at -- during**
 16 **low water, we went in and did a multimillion**
 17 **dollar effort to open up both the lower end of**
 18 **this cutoff and with the help of some**
 19 **geomorphologists that did some studies for us,**
 20 **they designed work that needed to be done in the**
 21 **upper end to help ensure that we would have some**
 22 **sort of life expectancy for our work.**
 23 Q. Do you know what the term dredge spoil disposal
 24 means?
 25 A. **Yes, I do.**

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1 Q. And has Florida done any -- why don't you tell us
 2 what that is. Sorry.
 3 A. **Dredge spoil disposal is, as I indicated to the**
 4 **other gentleman, is when they were taking the**
 5 **hydraulic dredge, where they were sucking up the**
 6 **sand with water. They would then put the pipe**
 7 **over onto a sandbar or -- and if I may clarify**
 8 **when I say sandbar, I'm talking about sand that**
 9 **is on the inside bend or point of the river as**
 10 **opposed to what one would normally have in the**
 11 **ocean as a sandbar. So I'm -- if you will grant**
 12 **me that clarification.**
 13 **They would put the sand up onto these**
 14 **designated and approved cites. And those cites**
 15 **would then receive the amount of -- X amount of**
 16 **material that were calculated that the cite could**
 17 **hold with the concept that, A, they would not go**
 18 **into the floodplain, but that the sand would be**
 19 **removed and stay within the system during high**
 20 **flows so that at high flows the water would take**
 21 **the sand away and keep it within the -- within**
 22 **the system.**
 23 Q. And has -- what has happened to the dredge spoil
 24 disposal now, to bring ourselves current?
 25 A. **As I indicated, you know, we have got many of**

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1 **these areas, you know, over, you know, however**
 2 **many years it is, 18, you can go out to areas**
 3 **like the cite around and just north of Swift**
 4 **Slough, and what used to be a desert of sand has**
 5 **now gone back to the natural gently sloping bank**
 6 **habitat, and other areas that we have also seen**
 7 **this happen, you know, up and down the system.**
 8 **So much of the sand material has been**
 9 **recaptured by the river, and the river is**
 10 **actually now using that sand to reconfigure**
 11 **itself in, you know, some -- it's trying to get**
 12 **back to some sort of equilibrium. It's not there**
 13 **yet.**
 14 **And we're also seeing in areas such as**
 15 **Blountstown and Wewahitchka and other areas**
 16 **where, in fact, you know, the bed of the river**
 17 **has actually risen; and, you know, we're now**
 18 **getting water back into the floodplain in areas**
 19 **that we were concerned about previously.**
 20 **Q.** Sir, do you still have the exhibits in front of
 21 you that Georgia's counsel gave you?
 22 **A.** **Yes, I do.**
 23 **Q.** Could you turn to Georgia tab 1, which is GX-72.
 24 **A.** **Yes.**
 25 **Q.** And if you would please turn to page 3, slide 3,
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1 which is titled Damage in the Upper River. Do
 2 you see that?
 3 **A.** **4?**
 4 **Q.** The third slide titled Damage in the Upper River.
 5 **A.** **Okay. Yes.**
 6 **Q.** If you will recall that Georgia's counsel asked
 7 you about down-cutting. Do you recall that?
 8 **A.** **Correct.**
 9 **Q.** And where does down-cutting or did down-cutting
 10 occur on the river?
 11 **A.** **Down-cutting occurred, you know, for -- primarily**
 12 **in this particular slide, you know, we're looking**
 13 **at the upper part of the river where it was the**
 14 **5 feet. And so it's highest right at the dam and**
 15 **decreases as you come down. So, you know, where**
 16 **the -- where the actual 5 foot occurs, I can't**
 17 **tell you precisely.**
 18 **Q.** It is in the upper reaches. This relates to the
 19 building of the Woodruff Dam; is that correct?
 20 **A.** **Correct.**
 21 **Q.** And the down-cutting that was necessary related
 22 to the construction of that dam?
 23 **A.** **I would say as a result of construction of the**
 24 **dam, yes.**
 25 **Q.** And you said to Georgia's counsel that at the
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1 time of this presentation -- which is roughly
 2 2005; is that correct?
 3 **A.** **Correct. I believe that's when it is.**
 4 **Q.** -- that the information here was accurate at the
 5 time, that the down-cutting of the channel was
 6 approximately 5 feet. Do you recall that?
 7 **A.** **That's correct.**
 8 **Q.** And I think that you said that that has changed;
 9 is that correct?
 10 **A.** **That's correct.**
 11 **Q.** And in what way has that changed?
 12 **A.** **And, again, the down-cutting, we're seeing**
 13 **changes in where the bed of the river is. You**
 14 **know, when I go down with some of our fisheries**
 15 **people in the boats, you know, there are areas**
 16 **where at low flow the bed of the river is high**
 17 **enough that even a jon boat has some issues**
 18 **trying to get through it. And a jon boat has a**
 19 **very shallow draft.**
 20 **And so we're seeing that, you know, while**
 21 **there has been down-cutting in the river -- in**
 22 **the upper river, it's there. It's not going to**
 23 **change. But, you know, where it is down the rest**
 24 **of the river, it's changing because, you know,**
 25 **we're no longer dredging. The sand in the river**
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1 **are trying to narrow. It's trying to find where**
 2 **it wants to go.**
 3 **Q.** So what is the impact today, if we move down to
 4 the middle and lower reaches, of down-cutting?
 5 **A.** **In the middle and lower reaches -- and lower**
 6 **meaning the nontidal lower reach -- you know,**
 7 **we're -- in my observations -- and I'm not the**
 8 **expert on this; but in my observations, I have**
 9 **seen the river elevation -- the bed of the river**
 10 **come up substantially. And, you know, at low**
 11 **flow, it has come straight up.**
 12 **Q.** And why has the bed of the river come straight
 13 up?
 14 **A.** **Because we have had a lot of -- the sand that**
 15 **used to be piled on the banks in the designated**
 16 **areas or on point bars, it's been recaptured. It**
 17 **is becoming more stable because the Corps is no**
 18 **longer creating this artificially deep channel.**
 19 **And, as such, you know, we're starting to get the**
 20 **habitats of the river becoming more stable,**
 21 **becoming more natural to what they used to be.**
 22 **Q.** Okay. This is all due to the cessation of the
 23 dredging and navigation activities?
 24 **A.** **That is correct, in my opinion.**
 25 **Q.** Sir, if you could please flip to slide 14 of this
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1 same exhibit, which is not one that Georgia's
 2 counsel showed to you. Do you see it's titled
 3 Additional Effects of Low Flows?
 4 **A. Correct.**
 5 **Q.** Sir, why did you use this slide in this
 6 presentation?
 7 **A. This slide depicts probably some of the most**
 8 **important habitat that is on the mainstem of the**
 9 **river, root structures. And when you start**
 10 **dropping the level of the river, more and more of**
 11 **these roots become dry and not in the water.**
 12 **These roots provide shelter for a wide range of**
 13 **species. They serve as habitat for what a lot of**
 14 **species eat, insects. They gather algae, which a**
 15 **lot of invertebrates need in order to grow, which**
 16 **then become food for other species. They**
 17 **stabilize the bank. And, you know, they -- they**
 18 **also serve as -- in some areas for some species**
 19 **of mussels, they serve as a habitat for where you**
 20 **can find some species of mussels.**
 21 **And when you start dropping the water level**
 22 **down and you start getting down to below 7, 6,**
 23 **5,000 cfs, you're decreasing -- you know,**
 24 **depending on where you are in the river, you can**
 25 **lose the entire root structure that is available**

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1 **to these species; and so it is totally out of**
 2 **water.**
 3 **And, you know, even a 6-inch rise in water**
 4 **provides habitat.**
 5 **Q.** But, sir, if you see in the next couple slides,
 6 slides 16 and 17 -- I know they're not numbered;
 7 but the next two slides also detail additional
 8 effects of low flows. Do you see that?
 9 **A. Yes.**
 10 **Q.** Why were you focusing on effects of low flows in
 11 this presentation?
 12 **A. Because, you know, we're starting to see low**
 13 **flows -- the first part of this talked primarily**
 14 **with what's happening with dredging. And low**
 15 **flows have always been a concern that we have had**
 16 **going back to even, you know, when I first**
 17 **started in state government in the early -- in**
 18 **the mid-1980's where we have looked at what**
 19 **happens during low flows, what happens that**
 20 **contribute to those low flows, which include what**
 21 **is being consumed upstream.**
 22 **And so when I talk about low flows, I'm**
 23 **talking about flows that are coming down the**
 24 **Apalachicola system. And, you know, it includes**
 25 **the full suite of what is affecting the river**

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1 **system.**
 2 **Q.** And when you were talking about low flows, are
 3 you just talking about impacts from Corps
 4 operations?
 5 **A. Not at all. Corps operations are a component.**
 6 **This is something that the State of Florida and,**
 7 **you know, our agency has for years said that it**
 8 **is operations; it is consumptive use upstream.**
 9 **In fact, it -- we often refer to it as human**
 10 **landscape changes or changes in what's happening**
 11 **within the human landscape.**
 12 **So, you know, we're -- we have always talked**
 13 **about, you know, the full everything.**
 14 **Q.** And, sir, if you could actually flip to the last
 15 slide on the presentation --
 16 MS. WINE: It's slide No. 20.
 17 The next one, please.
 18 BY MS. WINE:
 19 **Q.** -- that says, have we been harmed?
 20 Do you see that, sir?
 21 **A. Yes.**
 22 **Q.** And I see in -- it starts out, without a doubt,
 23 yes. And then the next bullet uses the phrase
 24 that you just used in your answer. Do you see
 25 that it says, by human changes in upstream

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1 landscape?
 2 **A. Correct.**
 3 **Q.** And what did you mean by that, and why did you
 4 include it in this slide?
 5 **A. Again, it's -- what happens upstream affects us.**
 6 **Whether it is changes in agriculture, whether**
 7 **it's changes in municipal and industrial use, you**
 8 **know, growth, all of these things consume water.**
 9 **And whenever any of those things happen, that**
 10 **amount of water is not available to Florida as**
 11 **part of the river.**
 12 **Q.** And, sir, just because there have been
 13 restoration activities from the Corps operations
 14 on the river, in your view does that mean that
 15 there is no continuing harm to the river?
 16 **A. Oh, absolutely not.**
 17 **Q.** And why is that?
 18 **A. When we look at restoration, we're looking at it**
 19 **from a point of view of, you know, are there**
 20 **still things from, you know, dredging activities**
 21 **that we may need to address; but the river is --**
 22 **as I indicated, is starting to find its new**
 23 **equilibrium. And as such, you know, while it is**
 24 **finding its new equilibrium, it's still being**
 25 **affected by low flows. And when we get continued**

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1 **low flows, ones that historically we have never**
 2 **seen, that is a harm to the system.**
 3 **Q.** And in what way do low flows harm the
 4 Apalachicola River system?
 5 And if it's easier to break it out into the
 6 different reaches of the river, that's fine.
 7 Whatever is easier for you, sir.
 8 **A. In the upper reach, you know, I have indicated**
 9 **that --**
 10 THE WITNESS: You know, if I may, sir,
 11 I'll kind of point these out because these
 12 are the important ones here.
 13 **A. These primarily -- these right in here are spring**
 14 **runs. And those are, again, cited by the U.S.**
 15 **Fish and Wildlife Service as part of, you know,**
 16 **restoration and planned recovery of the sturgeon**
 17 **and are extremely important, you know, because**
 18 **they supply cool water. The same with the**
 19 **striped bass.**
 20 **As you move further south -- and let me also**
 21 **back up. You also have bank habitat in the upper**
 22 **river. The upper river is really -- and, in**
 23 **fact, the entire river you can kind of -- the**
 24 **reason why it's broken up into all these various**
 25 **reaches is because it changes in its form.**
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1 **Q.** Do you need a minute, sir?
 2 **A. The upper river has very steep sides, very narrow**
 3 **floodplain, which is green. The banks there are**
 4 **very susceptible to changes in flow. And we have**
 5 **got various species that -- that are only found**
 6 **in that particular reach that are in that little**
 7 **area, that within-bank area.**
 8 **The middle reach, as the river is coming**
 9 **down, it starts to flatten out. You know, upper**
 10 **reach, it's coming fairly quickly. It's starting**
 11 **to flatten out. It's in what used to be the**
 12 **historic seashore. It's very much sand. And so**
 13 **this is where you're starting to get a lot of the**
 14 **changes and sinuosity. And you're starting to**
 15 **get what are called loop streams, which are**
 16 **streams that come off of the mainstem. They go**
 17 **out into the floodplain, feed the floodplain,**
 18 **connect with bigger streams, and then come back**
 19 **into the river maybe 10 miles further down. So**
 20 **that water moves all the way across this**
 21 **floodplain as it's going down.**
 22 **The lower reach -- the lower nontidal, again,**
 23 **we're flatter. The river changes, and it starts**
 24 **to widen out. And it's also starting to get the**
 25 **influence of flow from the Chipola River, which**
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1 **is its largest tributary. And as it comes in,**
 2 **you know, the floodplain is widening out.**
 3 **And so here, you know, we're -- we're seeing**
 4 **changes in -- this is the -- this is the Corps**
 5 **area where the Service has done most of their**
 6 **work. But this -- this is where we're starting**
 7 **to see the widening of the floodplain and, you**
 8 **know, where we get a lot of -- a wide variety of**
 9 **species.**
 10 **And then it starts hitting the tidal reach**
 11 **where, again, you're getting 6 miles of**
 12 **floodplain that goes all the way through there.**
 13 **Q.** And, sir, how is it that persistent and extreme
 14 low flows are impacting the Apalachicola River
 15 today?
 16 **A. When you start -- top to bottom, you start losing**
 17 **these habitats. You start losing where fish**
 18 **spawn. You lose where many of the turtles,**
 19 **they're not able to climb up these steep banks in**
 20 **order to nest up in some of the sandy or**
 21 **floodplain areas because, you know, some of them,**
 22 **they're this big. And they can't climb up all**
 23 **this area.**
 24 **We're seeing changes in the within-bank**
 25 **habitat where a lot of mussels -- and it's not**
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1 **just the endangered ones. In one of my slides I**
 2 **have got, you know, some pictures of where -- and**
 3 **I mentioned this earlier -- where we had**
 4 **long-term tagging at river mile 46.9. It's got**
 5 **what is called a hook and bay system where you**
 6 **have got the river coming down and then a semi**
 7 **point bar; but it's not -- it's a straightaway,**
 8 **and it comes down. And the mussels are typically**
 9 **found on this, you know, out of the current, into**
 10 **the sand, on top of the sand, and back behind.**
 11 **And when low flow happens, all of the mussels --**
 12 **they have a brain; but their brain is really,**
 13 **where is water?**
 14 **And so, yes, they can move. And I was quite**
 15 **surprised, you know, they can move pretty quick,**
 16 **some of the species. And they're going to try**
 17 **and find water. And if they go the wrong way and**
 18 **they go behind, they're going to go into areas**
 19 **that are going to get very hot. The dissolved**
 20 **oxygen, which they need to survive on, is going**
 21 **to get very low. And in many cases, those areas**
 22 **will actually dry up and --**
 23 **Q.** And have you seen a change in the pattern of low
 24 flows over the last decade or two?
 25 **A. Absolutely. We have -- since 2000 even we have**
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1 **seen more frequent, longer term extreme low**
2 **flows, close to 5,000 cfs, than we ever have in**
3 **the historical record.**

4 MS. WINE: Your Honor, if I may, this
5 might be a good breaking point for today.

6 SPECIAL MASTER LANCASTER: Sorry,
7 counsel?

8 MS. WINE: It's 4:30. I was just saying
9 this might be a good breaking point for
10 today, your Honor.

11 SPECIAL MASTER LANCASTER: It's fine by
12 me.

13 MS. WINE: Thank you.

14 SPECIAL MASTER LANCASTER: Sorry about
15 it for you.

16 THE WITNESS: I'm here at your pleasure.

17 (Time Noted: 4:34 p.m.)

18 (Proceeding adjourned to Tuesday,
19 November 1, 2016, at 9:00 a.m.)

20 (End of day)

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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 25th day of November, 2016.

12
13
14
15
16

/s/ Claudette G. Mason
Claudette G. Mason, RMR, CRR
Court Reporter

17 My Commission Expires
18 June 9, 2019.

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