



A. Yes.
Q. Is it fair to say you meant by that sentence that it would be unwise to allow federal authorities to come in and enforce programs where the State was already in a role through cooperative federalism to do so?
A. As a -- the chief environmental regulator for the State of Georgia that took his responsibilities seriously, yes, I thought that was my job to do.
Q. And, indeed, your view was that a misdirected Environmental Protection Division would impose a direct threat to Georgia's economic health. Right?
A. Right.
Q. Now, I would like to focus for a minute on the specific applications of those principles to sectors of Georgia's economy. And, first, I would like to focus on the Ag sector, particularly in the ACF. It was your view, wasn't it, that the role of the director of EPD was to protect against external and internal threats to agricultural water use. Right?
A. Right. I used those terms before.
Q. Okay. So let's talk about external threats to agricultural water use. So I imagine your view THE REPORTING GROUP Mason \& Lockhart
is that litigation with Florida is one of those external threats; is that fair to say?
A. That might be fair to say.

I think when I said those statements, principally I thought about the Endangered Species Act concerns we were managing in Georgia. So we -- we -- so I really think litigation in general was more the comment.
Q. Okay. So an external threat might be, for example, U.S. Fish and Wildlife enforcing the Endangered Species Act in Georgia?
A. If you used that terminology, yes. That's what we were talking about.
Q. Okay. So I will have several other questions as we go through about what was an external and what was an internal threat to agricultural water use; but let me ask you just now as an initial matter what types of things were internal threats that you were concerned about to agricultural water use?
A. I don't recall specifically what I may have meant by internal. But certainly within the state and within our own borders, we -- we have various stakeholders that take issue with the balance we try to strike in environmental protection. And THE REPORTING GROUP
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so I think I was largely just grouping sort of internal Georgia-related interests that might -that might suggest a different way to balance environmental regulation in the state.
Q. So would the Flint riverkeeper be an internal threat to agricultural water use?
A. Again, I don't recall exactly. They are a stakeholder that often disagrees with management decisions. They have a specific role to play; and they do -- they do that advocacy very passionately. And so they often disagree with the balance the State tries to strike under its statutory obligations.
Q. How about your old Wildlife Resources Division, would they be an internal threat to agricultural water use?
A. Oh, I don't -- I don't think $I$ have ever thought of them as an internal threat to agricultural water use. I think the Wildlife Resources Division does have a more tailored responsibility than the EPD does; and, therefore, they tend to advocate certain positions, like other stakeholder groups that are more tailored in their responsibilities.
Q. So help me understand then what you mean when you THE REPORTING GROUP Mason \& Lockhart say internal threats to agricultural water use.
A. I don't think I have a good answer for you specifically what I meant back when those words may have been used. I don't -- I have given you what I have today.
Q. All right. So slightly different topic now. It's true, isn't it, that for coastal Georgia near the Atlantic that the State of Georgia has mandated reductions in groundwater withdrawals. Right?
A. Are you talking about where we did the red and yellow zones on the coast?
Q. I am. And in particular for the Floridan Aquifer. You have mandated reductions in withdrawals for the Floridan Aquifer to deal with the potential encroachment of saltwater into that aquifer. Right?
A. We have. But they were municipal and industrial withdrawals.
Q. Sure. And that was part of an agreement or a negotiation you had with South Carolina. Right?
A. No, sir. I think what we did there was we did a study to determine what we were seeing with saltwater intrusion into the aquifer. And what we had there was a cone of depression from THE REPORTING GROUP Mason \& Lockhart
municipal and industrial use in the aquifer that was depressing the aquifer. And so that salt wedge that was coming in -- and it was showing up in South Carolina and was headed toward -- the center of the cone of depression -- into Savannah. And we, as a regulatory action -- the directors before me, but then ultimately me, we took action under the regulatory authority of the director to do that.

We talked to South Carolina about it. It was not a negotiated settlement or a negotiation that led to that.
Q. I understand, sir. Can you turn, please, to the page that's marked on the bottom Florida Exhibit 54, GA 478438.
A. Yes.
Q. And in particular under C 1 , do you see where it says, evaluate and implement next stage of reductions in groundwater withdrawals?
A. I do.
Q. And do you see the bracketed material there, negotiation with South Carolina?
A. Sure. That was going on at that time.
Q. Okay. And do you -- were you here in the courtroom when we played the deposition

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designations for Mr. Napoleon Caldwell?
A. I was.
Q. And you recall he addressed this topic, too?
A. I recall that he addressed it; and $I$ think the one thought I had was is it's the M \& I point I made to you, that these were reductions in M \& I.
Q. Could you read with me just a bit down the page. And I'm going to try to follow the outline form to indicate where I am; but it's -- it appears to be C1b, little I, meaning one in Roman terms. Do you see that text?
A. I do.
Q. Protect against pushing too aggressively on industry, i.e., International Paper?
A. I do.
Q. You wrote that, sir?
A. I did.
Q. Did that reflect the type of balance that you struck between economic and environmental interests as director?
A. I think it illustrates that when we -- the way $I$ tried to do environmental protection in the state is to start with what are the regulatory and legal requirements. What do we need to do to be protective. And once we figured that out, which THE REPORTING GROUP

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is often the hardest part, we then look at the suite of options available to us to be protective of the environment. And my statutory charge from the State of Georgia is to do that in a balanced way.

And so this is a very short sentence; but what $I$ would say is it evidences, once we figured out, for instance, that we needed to do reductions, that we would do it in a way that did not go just to International Paper and shut them down. So we tried to do that in a balanced way.

But, again, the starting point is always what's protective of the environment as best we know from science.
Q. And that's a similar balance that you strike when in the past you have said, protect against external and internal threats to agricultural water use?
A. Again, I don't know that I talked about those two things together like that.

I systematically tried to approach environmental protection the way I described. If you do that well, I think you have a -- you have a better chance to sort of do what $I$ think is important for the people of Georgia, which is to THE REPORTING GROUP

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manage and protect the environment in a balanced way.
Q. Yes. Let me just make sure I understand. You're not suggesting in your last answer that you haven't said or written, protect against external and internal threats to agricultural water use?
A. No, I'm not saying that.
Q. Okay. Sir, can you turn with me to Joint Exhibit 154, please.
A. Where is that?
Q. That's at tab 5 .
A. Tab 5.
Q. Sorry. I should have said that.
A. I don't have the joint exhibits quite memorized, sir.
Q. By the end we might.

All right, sir. So this Joint Exhibit 154 has been the subject matter of some discussion in this proceeding, including yesterday. But it's titled Georgia Environmental Protection Division Drought Protection in the Lower Flint Basin, Stakeholder Meeting Summary. Have you seen this document before?
A. I have.
Q. All right. So I would like to focus on a

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Q. And that you recorded as a modest step. Right?
A. Well, I regarded it as modest. I think I put it in this grouping of descriptions. But $I$ think it is one that has real long-term impact and value.
Q. But although it -- the authority says that it can be 80 percent or greater, you're aware, aren't you, that nobody at EPD has required anything more than 80 percent at this point. Right?
A. Right. We see $\mathbf{8 0}$ percent efficiency as a pretty good efficiency requirement.
Q. Isn't it true that most irrigators wouldn't have to make major changes from the status quo to get to 80 ?
A. It is true that we have been doing a lot of work before we made these changes, a lot of work on cost-share to get efficiency equipment in place already. So Georgia had a very good efficiency adoption rate, something we were proud of, before we made these changes.

But like any regulatory program, there are often late adopters. And we wanted to make it law so that what we were seeing in the adoption rate was $\mathbf{1 0 0}$ percent and not in the 90 's, like we were seeing.
Q. Now, now all irrigators aren't required to be 80 .

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Right? Some could be 60; isn't that right?
A. That's correct. We -- we -- the center-pivot systems, which we have had pictures of here and are very obvious from the sky, the $\mathbf{8 0}$ percent applies to. But irregular-shaped fields and some of the older traveler linked systems were -- are not as efficient; and they were given a different efficiency requirement to -- relative to the infrastructure that those represent.
Q. Sir, are you aware that Florida in its part of the basin requires greater than 80 percent for new systems?
A. I'm not aware of that.
Q. Are you aware, sir, of best management practice publications by Georgia going back 10 years that suggest that 80 percent is a baseline and that more efficiency, higher efficiency can be reached?
A. I'm not aware of those publications.
Q. All right, sir. Back to Joint Exhibit 154, if I might. And there we're at tab 5.
A. Yes.
Q. Focusing, again, on modest steps, are you with me at the bottom of the page?
A. Yes.
Q. It's true also that you said more is needed to provide long-term solutions for low flows in the Flint River Basin. Right?
A. That's right. At this meeting in particular, late 2014, we were -- we had passed these changes
in the legislative session in February or April; and we were focused on what might be next. And so, yes, we were very much focused on other items.
Q. And, in fact, if you just continue with me on the first page of Joint Exhibit 154 at the bottom, you make a reference there to this action, the one we're participating in right now, being a challenge. Right? Do you see that?
A. I see that.
Q. Okay. And then -- and then on the next page you phrase it as overwhelming and suggest, don't you, that the State of Georgia should take steps today rather than freezing to see what happens. Is that your language?
A. Well, I said seem overwhelming. I think what we were -- this was maybe two weeks after the Supreme Court had granted leave to Florida to file a complaint; so it was very much on everybody's mind. The meeting was set before THE REPORTING GROUP

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that result came out. And so my main message was simply, look, I know this case is going to the Supreme Court now officially. And there is a lot of interest in it, but we have got work to do.

We had a big drought that was multi-year, and we think we need to work on this. And so I know that seems overwhelming, but let's keep working.
Q. Okay. And this was November 21, 2014?
A. That's right.
Q. So two years ago basically?
A. That's right.
Q. Okay. Now, I want to follow down the second page of Joint Exhibit 154, if I might, because I want to look at the very specific measures that you were evaluating and expressing or identifying for this group of stakeholders in November of 2014. So follow with me down to, please, the bullet points or the lines with indications in the middle of the page of a number of particular options. Do you see those, sir?
A. I do.
Q. Now, we talked about a number of these options yesterday with Dr. Sunding. But I want to see what, if any, progress has been made in the last two years of study.

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really wrestling with this as a director. I kind of drew this out on the back of a napkin and said, can you give me an idea, Gail, of what our present knowledge is? If we were to move people, how many acres and what sort of benefit would we get?

So we drew these different bands. And there is a different option that has a shorter band. But this one is the 4-mile corridor. And we got these results from -- again, very preliminary and back of napkin kinds of thing, just to see, okay, what's involved in this.
Q. Now, Dr. Cowie or perhaps others told you, didn't they, that shifting withdrawals from surface water or Floridan Aquifer to alternate groundwater sources would, indeed, provide long-term mitigation of irrigation impacts. Right?
A. I don't recall talking about it being a mitigation of irrigation impact. What I recall is that we are seeing these impacts in the -- in the streams during this multi-year drought, which is -- so the causation issue is a combination of principally-driven rainfall, but also irrigation is from these sources. So can we move folks THE REPORTING GROUP

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down?
And that I totally agree was an idea for long-term benefit because you move them down, and you don't have to do that auction every year.
Q. Sir, on the next page do you see the bullet under item IV, Roman IV, second bullet down that refers to long-term mitigation of irrigation impacts on streamflows?
A. I see that.
Q. Okay. I would like to go back to the -- I'm sorry, sir. Am I interrupting you?
A. No.
Q. I apologize.

I would like to go back to tab 5 again, which is Joint Exhibit 154. And we're on the second page still.
A. Okay.
Q. Now, we just talked about transferring water users to deeper aquifers. The second item there is augmenting streamflow from groundwater. All right. Do you see that?
A. Yes.
Q. And you're aware, aren't you, that the state geologist at the time, Dr. Kennedy, had studied that issue as early as 2011. Right?

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A. I'm aware through preparation for this matter that he had done some work back then. At the time I think I couldn't have told you what work he had done on that.
Q. Now, there are a number of other items on that list. Aquifer storage and recovery is the next. You know, don't you, that the State of Florida uses aquifer storage and recovery in multiple areas. Right?
A. Absolutely.
Q. And then the next is acquiring easements for permit removal. That would be buying irrigation rights from farmers?
A. Yes. We say it a little differently, I think, in a kind of regulated riparian world where the -you just have a -- that right to use it; but I think we talk about it in terms of conservation easements. And you're not -- you're buying -you're incentivizing to put the land in a conservation use, which has this condition of not irrigating.
Q. All right, sir. And then the last one is
temporary removal, which at least is one form of what the Flint River Drought Protection Act was intended to do. Right? THE REPORTING GROUP

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A. Right. We were still looking at how we might improve that function, too.
Q. By the way, it's a stage 2 drought right now in the Atlanta metro area. Right?
A. Drought level $2, I$ think is what we call it.
Q. Drought level 2.
A. Okay.
Q. And it's still drought level 1 in the Lower Flint. Right?
A. I think that was just bumped up, yes.
Q. Okay. And do you know of a University of Georgia climatologist named Pamela Knox?
A. Yes.
Q. And have you heard or seen her view that 2017 is likely to be a terrible drought?
A. I have not seen her view of that.
Q. Okay. We'll come back to that, sir.
A. Okay.
Q. All right. Now, I would like, if I could, to turn to your prefiled direct testimony. And now, I would ask -- do you remember Mr. Primis gave you that?
A. Got it.
Q. I would ask you to turn to paragraph 125 on page 37.

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A. Yes.
Q. And we discussed this issue with Dr. Cowie for a bit the other day. But paragraph 125 describes, doesn't it, the situation that occurred this August where the State of Florida notified the State of Georgia of potential noncompliance with Georgia's agricultural permits. Right?
A. That's right.
Q. And that noncompliance was up to 90,000 irrigated acres in the Flint Basin. Right?
A. I think that was the number that Florida shared with us.
Q. Okay. And, in fact, three months after that notice, the State of Georgia -- the Governor himself created a special task force. Right?
A. That's right.
Q. All right. So let's talk about that for just a few minutes.

I would invite your attention now to tab 9, which is Florida Exhibit 708.
A. Okay.
Q. And there, sir, you will find a list of -- a

56 -page list of 2,500 permits that tallies up the unpermitted irrigated acres. Have you seen this before?
A. I have not seen this; but I see that it -- I can tell from the front that it is a comparison of those databases.
Q. Okay. And this is -- do you know, sir, if this is the information that the special task force formed by the Governor has evaluated?
A. Yes. Generally I think what they are evaluating is to just confirm whether the apparent unpermitted acres are, indeed, unpermitted.
Q. All right. And so far in the last three months, there have been 30 notices of violation issued; is that right?
A. I am aware of an initial $\mathbf{3 0}$ that have been issued.
Q. And that's just a little bit more than 1 percent. Right?
A. Right. I think they are prioritizing it and looking at the bigger parcels and the parcels in the critical use areas -- capacity use areas. So there is some prioritization to that.

But, yes, if you just take the raw numbers, $I$ think it would -- I trust your math in that.
Q. All right, sir. So what you just said is what I want to focus on for a minute, and it's how these are being prioritized. And you write in

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paragraph 127 that the initial stages of this task force enforcement effort will focus on acres that have the greatest impact on streamflows. Do you see that?
A. I do.
Q. And by that you mean, don't you, that ceasing irrigation on these acres will have an impact on how much water is in the rivers flowing down to Florida. Correct?
A. Well, not on what's flowing to Florida. This is a -- I don't want to get us off on a tangent here about whether the water saved on the Flint arm will actually go to Florida. But as we have maintained, that's all due to the Corps operation where any savings would pass.

But if what you mean by your question is that the State takes this seriously and wants to look first at where science has told us irrigation will be most impactful of baseflow in streams and start there.
Q. All right. So let me rephrase my question. I recognize you have a legal position in the case. I don't need you to concede your legal position.
A. Good.
Q. But what you mean by greatest impact on

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streamflow is streamflow to Lake Seminole?
A. Right. Streamflow in the stretches of the creeks and tributaries in Georgia that will go to Seminole. That's right.
Q. So let's talk a little bit more about the priority setting for this task force, if we might.
A. Okay.
Q. And we have prepared what counsel call a demonstrative. I suspect you have tried cases, and you have done this yourself many times.

At tab 10.
A. Okay.
Q. Can you turn with me to tab 10 .
A. Okay.
Q. Now, sir, what we have done here is list the 20 highest acreage amounts that appear to us to be violations of the permit because they exceed the permitted acreage. And I would like to just ask you -- sorry, 200. If I said 20, I meant 200 -ask you to follow along with me, if you might, please, sir.
A. Okay.
Q. Do you see the column -- second vertical column over that says acres permitted?

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A. I do.
Q. And then that's associated with a permit number?
A. Yes.
Q. All right. And you know, don't you, that permit numbers that precede basically 1992 are likely grandfathered permits. Right?
A. Right. That's right.
Q. And grandfathered permits have very few restrictions, if any. Right?
A. Grandfathered permits have less restrictions than the latter-issued permits.
Q. All right. So for the first permit where it says A91-47, acres permitted 280; but actual acres irrigated are near 700. Do you see that?
A. I see that.
Q. You would agree with me, wouldn't you, that the Environmental Protection Division didn't understand that there were nearly 420 acres that were illegally being irrigated under that permit?
A. So, no, they didn't understand that. But they still may not understand it because I think we have got to make sure that every field irrigated that's shown in that wetted acre database doesn't have a supplemental permit or some other modification that's in-house.

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The permitted database is -- is a database that has some human error in it. It's an old database with input errors. So those things need to be confirmed.

But, yes, from that line with that one permit there appears to be that kind of noncompliance.
Q. So that's a very interesting point. Let me just explore that with you. If there were other permits that weren't in the permit database, that would mean that there's additional acreage out there that Georgia doesn't know about and that Georgia's experts haven't necessarily considered in this case. Right?
A. I think the amount of that would be small; but, sure, that possibility is there.
Q. Okay. All right. I would invite your attention down another two lines.
A. Okay.
Q. A00-46-0385, and the acres permitted are 20. Acres irrigated, 384. You would agree with me that's a pretty sizeable difference; wouldn't you?
A. Yes. I just -- what I don't know -- and I appreciate your demonstrative. I have no reason to question it. I just, in a compliance

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standpoint, haven't done compliance for four-and-a-half years. We have got to make sure that every field in that wetted acres database that's being assigned to this permit is correct.

This was a planning database. So the water use in the -- in the -- that Florida's experts have had is captured. It's just a matter of whether we have cross-walked it correctly to the permits that provide authority to irrigate those acres.
Q. All right, sir. We'll talk about the other databases in a minute. And we have been through and done that cross-walk.
A. Okay.
Q. Okay. So I could go down this list, but let me just do one more. Do you see the permit that's numbered A91-049-0390 for 40 acres. And there the acres irrigated are 369.
A. Yes, I see that on this.
Q. That's a pretty significant difference; wouldn't you agree?
A. Yes.
Q. And wouldn't you expect that a reasonably-staffed regulatory system would know if someone had that many excessive acres? THE REPORTING GROUP Mason \& Lockhart
A. I think that the system we had was one to check -- to check on complaints; and I think that's what this task force is really about. I'm not sure it's a resource issue as much as it is an understanding what we need in terms of reporting to get a better handle on it.

So I just don't know if it's resource, but that's what that Governor's task force has really been asked to look at.
Q. Now, I believe that Dr. Cowie indicated the task force may be headed by Mr. Allen Barnes; is that correct?
A. That's correct.
Q. And Mr. Barnes is -- was formerly a lawyer representing Georgia in litigation against Florida or the Corps or both?
A. I don't think that's right. I think he was EPD director previously. He is a lawyer. He did not represent the state. He was the EPD director.
Q. All right. I know he was EPD director roughly from 2009 to 2011. Is that right?
A. That's right.
Q. And before that, my understanding is that he was with King \& Spalding representing the State. Is that incorrect?

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A. That's incorrect.
Q. Okay. My fault. My mistake on that.
    So he is, indeed, the director that chose not
        to exercise the Flint River Drought Protection
        Act in 2011; is that right?
    A. That is correct.
    Q. Now, on that specific point, if I might, I would
        like to -- because your prefiled direct addresses
        2011 and what happened during that year --
    A. Sure.
    Q. -- I would like to invite your attention to
        tab 14, please.
    A. Okay. Okay.
    Q. And there you will find Florida Exhibit 77. And
        do you see the first page is an e-mail, and then
        the second page is another e-mail from Allen
        Barnes. Do you see that?
    A. Yes.
    Q. And in the To: line on Florida Exhibit 77 there
        is an indication for Linda McGregor and Dr. Zeng.
        Do you see that?
    A. I do.
    Q. Okay. Now, let's turn one more page in Florida
        Exhibit 77 to see what they're forwarding there,
        if I might.
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    A. Okay.
    Q. Can you tell me who Richard Royal is, please?
    A. Yes. Richard has a couple of hats. He had been
        in the legislature for a long time from Camilla,
        Georgia, down in Mitchell County in the basin.
        But he also serves and continues to serve on that
        Lower Flint Regional Water Council.
    Q. Now, drawing your eyes down the page, do you see
        the name Woody Hicks. Right?
    A. I do, yes.
    Q. And you're aware that Woody Hicks was one of the
        experts on Georgia's technical advisory committee
        in connection with the 2006 conservation plan for
        the Flint River Basin. Right?
    A. I'm aware of that, yes.
    Q. Joint Exhibit 21 that we have looked at several
        times in this case.
            But if you will read down to the bottom of
        the page in the Woody Hicks e-mail to Richard
        Royal and Mark Masters, the next to last
        paragraph -- if you can read that to yourself, I
        would appreciate it.
    A. Okay.
    Q. Now, during your time as director, did you rely
        on the NOAA climate predictor?
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    A. I think that was definitely one of the inputs that staff that prepared sort of the status gave me.
Q. And have you talked to former Director Barnes about whether or not he was aware of the results of the NOAA climate predictor when he decided not to declare a drought under the Flint River Drought Protection Act in 2011?
A. No. I did not talk to him about -- about what the NOAA prediction.
Q. All right. Now, let me ask just generally, if I could, about the Flint River Drought Protection Act. It goes back in time to 2000. Right?
A. Right.
Q. And you were a $30(\mathrm{~b})(6)$ witness on that particular issue. Right?
A. Correct.
Q. And you know, don't you, that Director Reheis regarded passage of the Flint River Drought Protection Act as an act of good faith to ensure that Florida flows -- flows to Florida would be protected in drought years. Right?
A. I knew he thought of it. It was very much a good faith effort to manage issues in the basin, particularly drought. I know he thought that was THE REPORTING GROUP

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## a good thing.

Q. And in your 30(b)(6) capacity, you have looked at some of the memoranda and perhaps the testimony of former Director Reheis; and you will agree with me, won't you, that his view was that the Flint River Drought Protection Act was a way to make a commitment to Florida in order to get the ACF Compact to work. Right?
A. I don't know that $I$ can speak to all of that. I think when I did my 30(b)(6) history and work, we looked at the different invocation of the Act. I don't know as much about during that Compact era what he -- what he thought this role played for anything, really.
Q. So I won't go back and replay your deposition designations because we have already played that for the Court. So I will, however, focus on -for a moment now on whether it is, indeed, feasible to predict drought under the Flint River Drought Protection Act.

And were you here for the testimony that we had from former Director Reheis?
A. I was not here for Reheis's testimony.
Q. All right. So you don't know -- I have his transcript here; but you don't know that he THE REPORTING GROUP Mason \& Lockhart

## A. -- that it's feasible?

Q. I'm sorry. I should have clarified. Yes, I am referring to exactly that.
A. Yes. I think Harold really did his best effort to work with the legislature to put a tool in place back then. And the bedrock of that tool was that you could predict drought fairly successfully.
Q. And you're aware, aren't you, that the director, either you or your predecessors or maybe your successor, has authority to change the way the drought protection mechanism works under the Flint River Drought Protection Act. Right?
A. I take it when you say mechanism, you mean the -what you look at in the considerations for drought?
Q. Yes.
A. Is that -- yes.
Q. And, in fact, there was a memorandum in 2011 from the state geologist suggesting that a revised protocol for predicting drought would be THE REPORTING GROUP Mason \& Lockhart appropriate. Right?
A. I know there were -- I think that Dr. Kennedy has -- has made some suggestions. I wouldn't be able to tell you when; but his thought about -staff are always trying to think about how to do this better.
Q. You know also, don't you, that as part of the ACF Stakeholder's process, Dr. Georgakakos of the Georgia Water Resources Institute and Georgia Tech wrote an entire paper explaining how drought can feasibly be predicted months in advance?
A. I couldn't have told you that, no.
Q. Sir, can you turn with me to tab 18 , please.
A. Okay.
Q. And have you seen the document that's marked Florida Exhibit 232 before?
A. I have not.
Q. So you haven't been apprised of this particular study by your staff when you were director?
A. Oh, absolutely not. I think -- I don't know -- I don't see a date. Again, $I$ think we have talked about that or this has been before the Court; but the ACF Stakeholders process occurred with Gail Cowie's participation on my staff that I certainly blessed until the time that those THE REPORTING GROUP Mason \& Lockhart
stakeholders got together and said we want to talk without the states.

And so I wasn't principally apprised of sort of the product coming out of the ACF
Stakeholders. So I certainly didn't review this, and this wasn't shared with me.

I don't know the date, but --
Q. I mentioned Katherine Zitsch before of the Atlanta Regional Commission of Governments. Did you have occasion to speak with her about the ACF Stakeholders process?
A. Sure.
Q. And did she tell you about her concerns representing the Atlanta Regional Commission of Governments about Dr. Georgakakos's work?
A. I don't know that $I$ can recall specific conversations about Dr. Georgakakos's work. I think maybe, if anything, around UIF, but just generally.
Q. And we discussed UIF at the outset.
A. Right.
Q. Now, at this point if we could, sir, I would like to focus for a moment back to our other topics about how you, as director, balanced economic and environmental issues.

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A. Okay.
Q. So I would invite your attention to tab 19, please.
A. Okay.
Q. And here, sir, I'm focusing on the Flint River Drought Protection Act process in 2012.
A. Okay.
Q. And you started in early January of 2012; didn't you?
A. Right. January 1.
Q. So this was one of the first things you had to deal with; wasn't it?
A. That's right.
Q. All right. So at tab 19, Florida Exhibit 536, there is a document titled Wei's Modifications. Do you see that, sir?
A. I do see that.
Q. And Wei Zeng is, indeed, the head of the modeling unit -- hydrological modeling in Georgia EPD. Correct?
A. That's correct.
Q. And he was throughout the time that you were director?
A. That's right.
Q. So under the title Wei's Modifications, in the THE REPORTING GROUP Mason \& Lockhart

water use. Right?
A. Right. I think this is one of the other well-intended pieces of the statute that didn't work very well in reality because you had to first go through a voluntary auction and then not receive sufficient acreage, and then turn around and do the -- force the involuntary. And with the clock ticking in each growing season, it's just -- it's not workable in my estimation to do all of that and get acreage out where you need it.
Q. So the voluntary auctions were conducted in 2001 and 2002. Right?
A. They were.
Q. But if you had conducted a voluntary auction in 2012 and perhaps didn't get the type of voluntary takers that you wanted, you could have done an involuntary auction right thereafter. Right?
A. We could have. But if we had -- if we had done a voluntary auction like Harold did in 2001 and 2002 and we had gotten a scatter plot of parcels all over the basin like Dr. Reheis got, which wouldn't have had any impact, and spent that money, and then we turned around and went to target it and tried to get more, which -- it THE REPORTING GROUP
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would have been problematic. I just did not see that as a functional way to do it.
Q. And your decision was not to try. Right?
A. That is correct.
Q. Okay. Now, sir, if I can invite your attention, just to put this in further context, to tab 21, please.
A. Yes.
Q. And there I would invite your attention to the page particularly about Ichawaynochaway Creek which is GA 45746. It's several pages in.
A. Okay.
Q. Now, just to --

MR. PERRY: Mr. Walton, could you please take that down.

Thank you.
BY MR. PERRY:
Q. The reason I just took that down is because we redacted the numbers for GPS coordinates on the page to protect the sensitive location of endangered mussels and the like.

Let me, if I might, ask you to look at the first of these two pages which is titled Critical Stream Reaches. So it is GA 45745, one page in advance of what I just referred you to.

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A. I'm sorry. I lost you. Is it the map you're looking at?
Q. Let me describe this again so we make sure that we're talking about the same thing.
A. Yes.
Q. All right. So FX-97 --
A. Right.
Q. -- at tab 21 is a multi-page document. It's got e-mails among Mr. Wisniewski, Nap Caldwell, Dr. Cowie, and others. And about five pages in is a page titled Critical Stream Reaches in the Lower Flint Basin.
A. I have got it now.
Q. Okay. And I'm asking you for -- first, to go to the second page of that document. And do you see the indication No. 3 for Ichawaynochaway Creek, which is -- has been the subject matter of our discussion just moments ago. Do you see that?
A. I do.
Q. Okay. Then do you see in the last sentence there the statement that the reach represents habitat that may be critical to the recovery of the listed species?
A. I do see that sentence.
Q. And listed species means endangered species THE REPORTING GROUP Mason \& Lockhart
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listed by the U.S. Fish and Wildlife Service?
A. That's what I understand that to mean, yes.
Q. And, in fact, there are some species that are listed under state law by the Wildlife Resources Division; is that correct?
A. I don't know about whether they have a separate listing. They may have a -- I know, for instance, certain species that have been petitioned to Fish and Wildlife are listed that our WRD pays close attention to. I don't know if that's the kind of list you're talking about.
Q. Now, sir, when you were being briefed by staff a couple months after you arrived, when you were making your decision weighing economic and environmental benefits and costs and the like, were you informed about the potential impact on listed endangered species in Ichawaynochaway Creek?
A. Well, sir, the first thing is when we were doing this balance thing, we weren't, as you describe it, weighing economic. We were trying to figure out under the existing statute -- we had a drought; that was clear -- could we invoke the Act in a way that would help?

## I don't remember being briefed on a

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| 1 | particular mussel species in a particular stretch | 1 |  | two things. And they're both on page 4 of this |
| 2 | in Ichaway. I just remember asking if we go do | 2 |  | document. |
| 3 | this and I go get money from the legislature and | 3 |  | And we talked about this document at some |
| 4 | we spend the kind of money it's going to take | 4 |  | length with Dr. Cowie, so I won't go through it |
| 5 | with commodity prices, am I going to be able to | 5 |  | in detail. |
| 6 | go out to Ichawaynochaway Creek or Spring Creek | 6 |  | But do you see under Conclusions -- |
| 7 | and see water that would otherwise not be there? | 7 | A. | Yes. |
| 8 | And the answer consistently from our staff | 8 | Q. | -- observations of the minimum one-day flow of |
| 9 | was, we cannot tell you that given the condition | 9 |  | record in all history at Ichawaynochaway Creek in |
| 10 | of the resource, that you're going to see that. | 10 |  | July of 2012? |
| 11 | Q. Well, let's see what the water looked like later | 11 | A. | Yes. |
| 12 | in 2012 after the Flint River Drought Protection | 12 | Q. | Do you see that? |
| 13 | Act wasn't invoked. And there I would ask you to | 13 | A. | I see that. |
| 14 | turn with me to tab 23, Florida Exhibit 50. And | 14 | Q. | And do you see the impact graph for both |
| 15 | I'm going to focus here, if I might, on figure 3, | 15 |  | Ichawaynochaway Creek and Spring Creek in |
| 16 | which is on page 3. | 16 |  | figure 2 for mussel abundance? |
| 17 | But, sir, there's a blowup just at the end -- | 17 | A. | I see that. |
| 18 | blowup meaning larger picture so I can see it. | 18 | Q. | All right, sir. Can you turn back with me to |
| 19 | A. Okay. | 19 |  | your actual press release on the Flint River |
| 20 | Q. You can see it on the screen. | 20 |  | Drought Protection Act for March 1. It's at |
| 21 | And there do you see the first picture that | 21 |  | tab 22, Joint Exhibit 69. |
| 22 | says 116 cfs for pre-irrigation minimum flows? | 22 | A. | Yes. |
| 23 | A. I see that. | 23 | Q. | And there you do not see on that actual press |
| $\begin{aligned} & 24 \\ & 25 \end{aligned}$ | Q. Do you see the second picture which is 9 cfs for irrigation era minimum flows? | $\begin{array}{\|l\|} \hline 24 \\ 25 \end{array}$ |  | release any mention of Ichawaynochaway Creek. Do you? |
|  | THE REPORTING GROUP |  |  | THE REPORTING GROUP |
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| 1 | A. I certainly see that. | 1 | A. | Right. |
| 2 | Q. All right. And that's an indication of what |  | Q. | You do see an indication in the third paragraph |
| 3 | happened on July 12 of 2012. Do you see that? | 2 |  | towards the bottom that there are no funds |
| 4 | A. Right. But as you remember, you showed me the |  |  | currently appropriated to use the Flint River |
| 5 | document that I was -- that was being prepared. | 4 5 |  | Drought Protection Act. Right? |
| 6 | I think we were seeing some very low flows in | 5 | A. | That is noted in the phrase, yes. |
| 7 | Ichaway back in the spring before the growing | 7 | Q. | And then later you're quoted, aren't you, saying |
| 8 | season. |  |  | that there's currently no viable management tool |
| 9 | Q. Well, sir, let's turn, if we might then, to | $\begin{array}{r}8 \\ 9 \\ \hline 10\end{array}$ | 9 | to deal with the Flint River Basin? |
| 10 | tab 24, which is Florida Exhibit 51. | 10 | A. | Correct. |
| 11 | A. Okay. |  | Q. | And today, although you have taken some modest |
| 12 | Q. And you're familiar with the water resources |  | 12 | steps, it's true, isn't it, there is still no |
| 13 | conference that's every two years sponsored by | 13 |  | viable management tool to deal with low flows in |
| 14 | Georgia EPD? | 14 |  | the Flint River Basin? |
| 15 | A. I am aware of it, yes. | 15 A. |  | I think the -- that we are still in need of some |
| 16 | Q. And -- | 16 |  | further improvements to deal -- not really with |
| 17 | A. Sponsored by EPD, I think you said? | 17 |  | low flows. I know that we may have said that |
| 18 | Q. I believe it is. Do you think I have that wrong? | 18 |  | here. Certainly, that was your question, but to |
| 19 | A. No. I just think sponsorship -- I mean, I think | 19 |  | deal with these ever-increasing droughts in |
| 20 | we participate and help to present. | 20 |  | the -- in severity. |
| 21 | Q. So that -- | 21 |  | So it's a moving target, and I think we need |
| 22 | A. I don't know if there's any financial -- I'm | 22 |  | further improvement in our tools. |
| 23 | sorry. | 23 |  | MR. PERRY: Your Honor, it's about |
| 24 | Q. That's my fault. I interrupted you. | 24 |  | 10:20. Is a break appropriate now? |
| 25 | So there, I would invite your attention to <br> THE REPORTING GROUP | 25 |  | SPECIAL MASTER LANCASTER: How much THE REPORTING GROUP |
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A. Okay.
Q. -- I would like you to turn to tab 31, please.
A. Okay.
Q. And here, I'll have some questions about whether your staff advised you about certain things. But do you see the report there at FX-49g titled Indicators of Long-Term Hydrologic Change in the Flint River?
A. I do see that.
Q. And those gentlemen who are listed as authors were the experts from the -- from Georgia's 2006 plan. Correct?
A. I think as we talked about before, they were technical advisers on the plan.
Q. Okay.
A. On the -- not the only ones.
Q. And we can look back and -- at the language describing them. But, again, this is a reference to the Georgia water resources conference, this time in 2013. Do you see that?
A. Okay.
Q. Now, there is an abstract there, which we walked through with Dr. Cowie just the other day. But the attachment to this is Florida Exhibit 49h. And do you see that in this same tab?
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## A. I do.

Q. Okay. Have you ever seen the PowerPoint before at FX-49h?
A. I have not.
Q. All right. I would like to ask you if your staff -- and I believe Dr. Cowie said she attended the 2013 conference where this was presented -- has ever shown you or described for you the pages identified here at the -- or the PowerPoint presentation identified here on page 10 of Florida Exhibit 49h at the bottom?
A. You're asking about not only the overall, but that specific?
Q. The specific slide at the bottom. Do you see Palmer drought severity, and then it's got a mark for 1954 drought of record?
A. I see that.

I think your question was whether I had ever been shown that.
Q. That's correct.
A. No, I have not seen that.
Q. And, likewise, have you ever been shown the PowerPoint slide at the top of the next page, page 11 of Florida Exhibit 49h?
A. I certainly -- I know this is a -- I have seen THE REPORTING GROUP

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some USGS stuff before; but I don't recall this
particular screen shot or this particular record.
Q. Sir, were you here in the courtroom for the testimony of Florida's expert Dennis Lettenmaier?
A. No, sir.
Q. All right. Have you also seen the briefing prepared by Mr. Woody Hicks and delivered at the November 2014 stakeholders meeting you attended?
A. I have -- I was there for that; and I have seen that PowerPoint, yes.
Q. Could you turn to page -- to tab 34 with me, please.
A. Okay.
Q. And in particular, since we spent a lot of time in your deposition designations which we played by video on certain portions of this, I would like to turn to the very last slide here in Exhibit FX-49b of tab 34, which Mr. Hicks presented.
A. Okay.
Q. And you recall, don't you, Mr. Hicks presenting his conclusions labeled 4,5, and 6; don't you?
A. I remember the presentation. I know this sort of was at the end; but I don't specific -- couldn't have told you how he -- he kind of just presented THE REPORTING GROUP

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it quickly and sat down. So, no, I don't remember specifically.

Of course, I have since reviewed it.
Q. Well, sir, let's talk about a slightly different topic because I don't want to repeat everything we did --
A. Sure.
Q. -- in our deposition --
A. Sure.
Q. -- designations for you.
A. Sure.
Q. And there I would ask you to turn to tab 36 for just a moment with me.
A. Okay. Okay. I'm there. Tab 36.
Q. Now, we have talked quite a bit about this document so far in this trial, EPA and U.S. Fish and Wildlife Interim Flow Guidelines. And I just wanted to refer to this because I'm going to ask you about a particular slide that's at tab 37, which is an excerpt from this document at tab 36.
A. Okay.
Q. So tab 36 is FX-599. And I'm going to ask you now to turn to tab 37, which is an excerpt from Appendix A of Florida Exhibit 599 at page 14.

So, sir, are you with me in tab 37?
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A. I am, yes.
Q. Now, there we have a representation, an excerpt of one-day minimum flows exceeded in all years, of one-day minimum exceeded in 3 of 4 years, and of one-day minimums exceeded in 1 of 2 years for the Apalachicola River at the Chattahoochee Gage. Do you see that, sir?
A. I do.
Q. Now, this is -- this question is going to be a little different than what we have talked about so far today. Part of your prefiled direct testimony mentions past settlement negotiations. And I can't, because of our agreement with Georgia, talk about settlement negotiations in 2015 or 2016 . That's our agreement, and we are happy to continue to observe that agreement.

But what I want to talk to you about is settlement negotiations prior to 2015.
A. Okay.
Q. When you look at these minimum flows identified on this graph on this excerpt from Florida Exhibit 599 from EPA and U.S. Fish and Wildlife for the Apalachicola River, it's true, is it not, that Georgia prior to 2015 never offered any settlement to Florida that would have achieved THE REPORTING GROUP Mason \& Lockhart the flows identified on this page?
A. Well, I don't know -- I'm not as familiar with the -- this flow metric, monthly one-day minimum.
I'm very familiar with the Corps operation and the state line minimum and what we offered in the context of the state line minimum which would have increased flows to Florida. But I just -- I can't answer -- I know Dr. Zeng or someone would be able to help you with that; but that metric is just not a -- a monthly, daily minimum like that over all years, we're -- I think we're talking a little apples and oranges there.
Q. All right, sir. So could you turn with me, please, to tab 38, which is Florida Exhibit 67. And here, sir, we're back to the summer of 2014.
A. Yes.
Q. Do you see your name in the To: line of the e-mail in Florida Exhibit 67 from James Capp?
A. I do.
Q. James Capp worked for you; is that right?
A. Yes.
Q. In what capacity?
A. He was and still is the water branch chief. So he's in the water branch.
Q. And do you see in the preceding e-mail the

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From: line contains Gail Cowie -- Dr. Gail Cowie?
A. I do.
Q. All right. And she refers to an outline of activities for a 2016 legislative package?
A. I see that, yes.
Q. Okay. So I would like to ask you to turn to the next page, please, with the outline.

Now, there have been no legislative activities in 2016; have there?
A. That -- that is correct.
Q. And although we're in a -- a growing drought period now, you don't anticipate any legislative activities through the rest of 2016; do you?
A. I do not.
Q. All right. Let's look at the second page of Florida Exhibit 67. And do you see under messages in the text the word impetus?
A. Okay. Yeah.

I'm sorry. I was one page beyond.

## I do see that, yes.

Q. And then it reads, extreme low flows observed in recent years, unlike those observed in previous drought periods. Do you see that, sir?
A. I do.
Q. All right. Here is my question. In the next THE REPORTING GROUP Mason \& Lockhart
subsection, the third bullet down, there is a mention of Florida. Do you see that?
A. Right. I see that.
Q. And it's true, isn't it, that a portion of this activity here, the subject matter of this particular outline and the meetings that followed was to increase low flows in streams that flow into Florida. Right?
A. Well, $I$ think, again, this is an e-mail from laying out an outline. And I don't -- I think Dr. Cowie used that terminology. I don't think there is any dispute that all these streams we're talking about flow into Lake Seminole. And then the water that flows from these streams is all going to come one way, which is at Apalachicola at the dam.
Q. Okay. So if you could turn with me to the text page. And there I'm interested in the first bullet. It's got two sentences. And it reads in the first bullet, potential streamflow benefits from irrigation removals. Do you see that, sir?
A. I do.
Q. But then in the next sentence it reads, note, this could be termed to causes of streamflow declines, therefore delete, with a question mark. THE REPORTING GROUP
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of half -- the state gets smaller, but that northern kind of half of the state.
Q. Is anything currently being planned to restrict agricultural irrigation in the event of a terrible drought in 2017?
A. I think -- I don't know -- again, that drought level 1 is down now in the southwest part of the state. From what I have looked at, EPD has put out some -- on its website has sort of given the condition of the basin now; and the streamflows are concerning. But the groundwater levels are at the mean still.

So I think they're going to need to look at the Flint River Drought Protection Act again. I don't know -- I know they are, because they're putting out those data, the well -- the health of the aquifer.

And it just shows you that we have -- we did have a very wet winter and very wet spring. That's what is really concerning about this drought is it came on very, very quickly. But the groundwater condition is fairly healthy still.

So they're going to need to look at that in the context of streamflows and the state of the THE REPORTING GROUP Mason \& Lockhart
aquifer.
Q. Will surface water and groundwater users be moved to lower aquifers before the summer of 2017?
A. No. I don't think there is any way to make a final determination on that and get those actions taken.
Q. Still studying?
A. I think that's right. Studying -- I mean, when we talk about studying, just for the Court's benefit, it's not like there is a bunch of data sitting on a shelf; and we just need to go look at it. These involve test wells in those lower aquifers to see what the properties are. And it does take some time to get those in the places you want scientifically to really have a grasp for the productivity of that lower aquifer.
Q. Will ASR wells be in place by the summer of 2017?
A. No, sir.
Q. Will permanent easements withdrawing land from irrigation be in place by the summer of 2017?
A. I doubt it.
Q. And you think there's some possibility that there might be temporary removal of irrigation land by the summer of 2017?
A. I do. Flint River Drought Protection Act is on THE REPORTING GROUP Mason \& Lockhart
the books; and I -- the director will, I'm confident, do his job to look at the conditions in the basin and explore triggering the Act by the required March 1 date.
Q. All right. Thank you, sir.

## MR. PRIMIS: Good morning, your Honor. REDIRECT EXAMINATION

BY MR. PRIMIS:
Q. Mr. Turner, are you all set?
A. I am.
Q. I see you're getting some water.

Mr. Turner, before -- before we get started, I just want to ask you quickly about a document that Mr. Perry had shown you at the beginning of your examination. It's FX-534. It's the Dr. Georgakakos report. I think it was --

MR. PRIMIS: Was it tab 1 ?
MR. PERRY: Yes.
BY MR. PRIMIS:
Q. I believe it was tab 1.
A. Yes. Okay.
Q. Now, Mr. Turner, did you say documents like this were kept confidential by the Stakeholder Group?
A. It is my understanding that they were confidential.

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Q. Can you look at the date on this particular document. What does that say?
A. October 2012, I guess, on the document; and then there's a sub-box that says November 13, 2012.
Q. Okay. And when did the ACFS plan ultimately get published?
A. I think it was around May of 2015.
Q. So the document Mr. Perry showed you here, FX-534, was two-and-a-half to three years earlier?
A. It does appear that way.
Q. You mentioned that there was a box --

MR. PRIMIS: And, your Honor, I'm just
on the cover of the document right now.
BY MR. PRIMIS:
Q. You mentioned there's a box at the bottom of FX-534 on the cover page. What does that say?
A. It says, working copy, not for general release. Content may not reflect the opinion of ACFS membership.
Q. Can you turn to the third page of this document. It's called acknowledgments. Do you see that?
A. I do.
Q. I think you looked at this one on your cross-examination. What does it say on the THE REPORTING GROUP Mason \& Lockhart

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| header of this page -- and it's repeated on every single page of this document. What does that say? <br> A. Well, there's the draft -- it says draft; but it also appears to say may not reflect ACFS views. <br> Q. And further down the page there's a section called Disclaimer. Do you see that? <br> A. I do. <br> Q. What does that disclaimer say? <br> A. The views expressed in this report are those of the authors and do not necessarily reflect the views of the ACFS or ACF Stakeholders or any other organization. <br> Q. Now, I want to show you the document that was the final product of the ACF Stakeholders. Are you -- you have seen that before? <br> A. I have. <br> Q. And the Court has asked numerous witnesses questions about it, so I figured we might as well put it on the table. <br> It's -- we have marked it as GX-1325. <br> MR. PRIMIS: And may I approach? <br> BY MR. PRIMIS: <br> Q. And before I turn to GX-1325, Mr. Turner, I believe you were asked some questions about the THE REPORTING GROUP <br> Mason \& Lockhart | Q. And we're in the executive summary here on page 2. Correct? <br> A. Okay. Yes. <br> Q. Do you see in the second paragraph development of the plan? <br> A. I do. <br> Q. And read it to yourself; but it's -- the sentence starts, modelers used ResSim, developed by the USACE. Do you see that? <br> A. I do. <br> Q. Is that the model you were just talking about that relies on the unimpaired flow dataset? <br> A. Yes. <br> Q. Is it your understanding that the UIF's were used by ACFS to conduct this study? <br> A. I think they -- yes. I think that's right, based on what they tell me here. <br> Q. Now, can you go in the second paragraph of The Audience there at the top of the page? <br> A. Yes. <br> Q. There is a section that starts with USACE has a large influence in how water moves within the ACF Basin. Do you see that? <br> A. I do. <br> Q. Can you read the first few lines of that THE REPORTING GROUP Mason \& Lockhart |
| unimpaired flow dataset or the UIF's that were being discussed at FX-534. <br> A. Yes. <br> Q. Now, I don't want to have a technical discussion about UIF's. I have had too many of those in this case. <br> A. Good. <br> Q. But just to set the table, what modeling exercise are UIF's used in? <br> A. Well, again, from a technical standpoint, I'm not the best to answer that. But I just know -- I think that it's a dataset that the Corps uses to see what consumptive use is so that it can best manage the system with the right data on consumptive use. <br> Q. Does the Corps have a particular model that relies on these unimpaired flow datasets? <br> A. I think that model is ResSim. <br> Q. Now, let's go to GX-1325, the ACF Stakeholders Sustainable Water Management Plan. And can you turn there to page 2. <br> A. Okay. <br> Q. And you said you read this when it was published? <br> A. I certainly read parts of it and the executive summary of it and discussed it. But, yes. | paragraph to yourself, and then I have a question for you. <br> A. Yes. <br> Q. Mr. Turner, what is your understanding of the role of the Army Corps in the package of recommendations that the ACF Stakeholders published in this plan? <br> A. Well, I think they -- they set a group of recommendations to -- that had to be taken together. They were very clear about that when they came to talk to me in person; but it's also very clear in the plan itself. Those recommendations, again, work together and had to be taken together. And they all involved -- the actions suggested involved changes in the Corps operations for the basin. <br> Q. Mr. Turner, I want to take a step back now and turn to your period as director. <br> A. Okay. <br> Q. And can you just remind the Court when did you become director of Georgia's Environmental Protection Division? <br> A. January 1, 2012. <br> Q. How long did you serve as director? <br> A. About four-and-a-half years until June 1 of this THE REPORTING GROUP |



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to the Corps so they could look at balancing the multiple purposes, and they could look at the impact of our request.
Q. Mr. Turner, you mentioned water supply. And I think it's obvious to those of us who have been involved in the case for a long time, but can you explain what water supply is and how it relates to the other project purposes.
A. Sure. So there are several -- depending on the -- the lake in question in Georgia, they all have original authorizing legislation; so that this does vary slightly by -- by lake. But generally, the other authorized purpose, the big one, was flood control, water supply, as we have mentioned, hydropower, navigation and recreational interests; and then to a lesser extent there are some water quality concerns that the Corps manages as well. And because of other federal -- other federal statutes, the Endangered Species Act issues related to ecological flows are always part of their obligation to consider.
Q. And so when you say water supply, what are you talking about? What does the Corps do?
A. When I say water supply, the Corps -- there are two ways that's applicable to -- for the way the THE REPORTING GROUP
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Corps operates the system. The first, how much water do you need out of the lake itself? How much storage needs to be dedicated in the lake to water supply?

And then, secondly, as the Corps operates the dams to release water downstream, how much do you -- how much does the region need to take out of the river below? And so the Corps needs to look at can it operate the dams such to give that flow downstream sufficient to meet the projected needs of the region.

So it's really -- it's a withdrawal request; but it's storage in the lakes, but it's dam operation to allow the water to come out below the dam.
Q. And I'm going to keep asking it until you say it. When you get water supply, what is it used for?
A. It -- oh, it's used for municipal and industrial use, which is for residential use and the faucet we turn on here; but also industrial uses for all the companies that use water in their processing procedures.
Q. Now, when the metro Atlanta area needs water supply for showers and cooking and all the other things you use water for, can it just withdraw

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that from Lake Lanier without going through the Corps?
A. No. The Corps controls the facility itself. EPD controls withdrawal permits, but the ability to get that amount of withdrawal out of the lake requires the Corps' consent and an easement to do it. And so it's not a decision by the State.
Q. So how do you go about getting that approval from the Corps to get water for, say, metro Atlanta?
A. So the first thing the Corps needs is, as I mentioned before, they need accurate information on what population, what M \& I amount of withdrawal you need. But they also need the other important component of that, which is the return of that water.

So on the -- in the M \& I world we return a great deal of that water. We treat it and put it back in either the lake or the river. And all of those return rates impact the actual consumptive use. And that net impact of withdrawals is what the Corps needs to know in order to model our request and determine whether they can, indeed, give Georgia what Georgia has asked for or not.
Q. Does the Corps just give you -- give the State what Georgia asked for, or is there some sort of THE REPORTING GROUP

Mason \& Lockhart review process?
A. I would say it's a rigorous review process. And we have not just gotten what we asked for, not yet anyway.
Q. What happens if Georgia submitted projections the Corps didn't agree with or thought were unreasonable?
A. Well, I think it's -- it's very clear they wouldn't just grant them. They would -- they rejected a water supply request based on improper reading of their authority, but they have already rejected a water supply request from Georgia before. And then in the drought years, they pretty much gave us less than what we had asked for originally.

But we have since reduced our request because we're seeing some good conservation numbers. So, actually, what they thought they could provide for us in this draft is more than we needed slightly. So -- but they don't just give it to you. It's a rigorous process to check our numbers.
Q. Mr. Turner, have you personally been involved in formulating Georgia's water supply request to the Army Corps?

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| 1 | policy. So now, in Georgia, whether there's a | 1 | that period. |
| 2 | drought or not, you're not to water -- outdoor | 2 | Q. And did you say the State is now at drought |
| 3 | water your lawns between $10 \mathrm{a} . \mathrm{m}$. and 4 p.m. So | 3 | level 2 ? |
| 4 | it doesn't matter whether we're in a drought or |  | A. The state is at drought level 2. |
| 5 | not; we're not watering in that period of time |  | Q. Okay. I want to shift gears now and talk about |
| 6 | all the time. | 6 | the drought in 2012 and how that affected |
| 7 | Q. Now, Mr. Perry pointed out that there's signs | 7 | agriculture. |
| 8 | that there's drought now. Right? | 8 | MR. PRIMIS: Your Honor, I think I could |
| 9 | Does -- during your tenure at EPD, did you do | 9 | go for another 15, 20 minutes and then have a |
| 10 | anything to address outdoor water use in the | 10 | natural breaking point, if that makes sense? |
| 11 | Atlanta metro area that relates to the drought | 11 | SPECIAL MASTER LANCASTER: Sure. |
| 12 | management rules? | 12 | MR. PRIMIS: Thank you. |
| 13 | A. So once the Stewardship Act passed -- and the | 13 | BY MR. PRIMIS: |
| 14 | biggest change was the one I mentioned in terms | 14 | Q. So you said when you came in in January of 2012 |
| 15 | of the drought rule. We had a previous drought | 15 | you were greeted by a drought. Correct? |
| 16 | rule that was effective. We had to use it during | 16 | A. I was, yes. |
| 17 | the 2007-2008 drought. But it was outdated | 17 | Q. And before we get to that, you were asked a |
| 18 | because it didn't sync with the new changes on | 18 | question about Director Barnes and whether he had |
| 19 | outdoor watering in particular that were in the | 19 | to declare a drought under the Flint River |
| 20 | Stewardship Act. | 20 | Drought Protection Act in 2011. Do you recall |
| 21 | So we did pass two regulations at EPD when I | 21 | that? |
| 22 | was director. One was an updated drought rule, | 22 | A. I do. |
| 23 | and one was an updated what we call efficiency | 23 | Q. I'm not sure; I don't think you were asked if you |
| 24 | rule, which picked up on another key piece of the | 24 | understood why Director Barnes didn't declare a |
| 25 | Stewardship Act which dealt with water loss <br> THE REPORTING GROUP <br> Mason \& Lockhart | 25 | drought under the Act. Can you explain that. <br> THE REPORTING GROUP <br> Mason \& Lockhart |
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| 1 | from infrastructure -- in water providers' | 1 | A. So it's my understanding -- and looking at the |
| 2 | infrastructure. | 2 | ocumentation you can see this -- that in |
| 3 | Q. Now, on these drought management rules that were | 3 | January, it was, indeed, troubling and some |
| 4 | updated, you mentioned there's three levels. | 4 | projections were troubling; and that was what |
| 5 | Correct? | 5 | Mr. Perry asked me about. |
| 6 | A. That's correct. | 6 | Q. January of 2011? |
| 7 | Q. Can you describe for the Court how that works. | 7 | A. January of 2011. |
| 8 | A. So the EPD, in consultation with a number of | 8 | However, that determination is made before |
| 9 | experts, is supposed to be monitoring -- and they | 9 | March 1. And as is typical, those directors are |
| 10 | are -- the conditions. And as things dry out, | 10 | pretty engaged in looking at the data and the |
| 11 | the rule calls for a series of progressive | 11 | conditions, conditions which can change on a |
| 12 | drought levels to be declared. And so they | 12 | dime, as we saw this year. And Director Barnes |
| 13 | declare drought level 1. So we have drought | 13 | was looking at all that, and there's some |
| 14 | level 1 , which is a really -- is designed to be | 14 | documentation to this effect. And it did -- |
| 15 | very -- to encourage transparency and getting out | 15 | there were a couple of really wet weeks, it |
| 16 | to the public that, hey, things are drying out. | 16 | looked like. And based on that, he made the |
| 17 | But there is no regulatory action that kicks in | 17 | decision not to declare a drought. |
| 18 | in drought level 1. | 18 | Q. Now, did those indications that the drought might |
| 19 | Drought level 2, outdoor watering is | 19 | be ending -- did that persist through the rest of |
| 20 | restricted to two days a week; and those | 20 | 2011 and into 2012? |
| 21 | alternate based on the different set of rules. | 21 | A. No. I mean, he was -- they went -- it went right |
| 22 | And then the drought level 3 is the -- is | 22 | back to that bad condition after the period of |
| 23 | the -- the final level in which, based on the | 23 | the drought declaration passed. So it didn't dry |
| 24 | geography that the director sets for the drought | 24 | out in 2011. |
| 25 | level 3, it's a total outdoor watering ban during THE REPORTING GROUP | 25 | Q. Okay. So what were you confronted with when you THE REPORTING GROUP |
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got there in 2012?
A. I was confronted with the situation where it was not -- I mean, that really -- the question of whether we were in a drought was pretty clear to me. I mean, we had a very dry winter. So it's one thing to have a dry summer; it's another thing to have a dry recharge period. And we had that.
Q. Can you pause and just explain why that's important. What happens in winter with the Floridan Aquifer in a normal year?
A. Sure. The Floridan is a really great resource for water for everybody. And the Floridan extends under the State of Florida, too. It recharges like very few aquifers $I$ know of in the country and the world. And so in the winter when you get normal rains or even a tropical storm in the summer or in the spring, it can really have a significant impact on the aquifer. Because of the deep sandy soils in Georgia that water passes through quickly and recharges the aquifer.

So why you want rain in the winter to fill up reservoirs -- like we think of in north Georgia, you want rain in the winter to fill up the aquifer in south Georgia.

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Q. And what happened in the winter of 2011 leading into 2012?
A. Right. So that was a very dry winter, and we did not see that level of recharge.
Q. How did you go about deciding whether or not to declare a drought under the Flint River Drought Protection Act when you arrived in 2012?
A. Well, they -- first, we had the normal course where the staff provided me sort of resource assessments. And they gave me that information in the normal course. And that really just confirmed what I knew to be the conditions. So it became very little about was it going to get better, was it going to be the end of the drought; and it was wholly about how does this Act work? If we trigger this, is it going to produce a benefit?

And that became my focus.
Q. But what did you ultimately decide to do?
A. I ultimately decided not to trigger the Act. And I did that because I -- the consensus of staff was for two different reasons that the Act wasn't going to have the desired effect on streamflows. One was because of the depletion of the aquifer, and the other because streamflows were so low THE REPORTING GROUP

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already that there wasn't going to be a lot of surface water irrigation anyway.
Q. Florida has suggested that you didn't declare a drought because you didn't have the funding, and it was too expensive. Is that your take, Mr. Turner?
A. No. It is true that we didn't have the funding, and it is true that we were open about that. But the cause for not having the funding is not having any confidence that it would work. I could have gone and gotten -- I mean, I don't want to overspeak here. I have a role. And the legislature appropriates funds. I could have gone over there and really sought to receive those funds. But the key was going to be, is this going to work?

And it was known by that point that some of the deficiencies in the Act, the nonability to target the -- some of the things that -- and the conditions that I was talking about, I would have really had to have shown the appropriators that it was going to work. And I couldn't do that.
Q. Now, Mr. Turner, did you do anything else to address the 2012 drought?
A. I did. In fact, you know, I think we forecasted THE REPORTING GROUP Mason \& Lockhart
that in that press release because I knew when we didn't declare a drought, I didn't want anybody to think things were good in the basin. So we told everybody why we weren't declaring the drought.

And then the first big thing I did was suspend new applications for farm -- for agricultural withdrawals in a large portion of the Lower Flint Basin.
Q. Was that the moratorium?
A. Yes.
Q. Before we do that, I also want to ask you this question. Mr. Turner, there's been a suggestion that you weren't transparent in your press release announcing that you weren't going to declare the drought. Do you have a response to that?
A. Yes. I mean, I -- I took that press release very seriously and wrote much of it myself. And I thought I was transparent both to the conditions were dry, that this -- the reason we weren't declaring was not a hydrologic condition; it was a challenge with the tool as it existed. I think I told them about the financial situation and explained as best $I$ could tightly why we weren't THE REPORTING GROUP

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doing it. And so I think we were quite transparent.
Q. Mr. Turner, I want to turn to the moratorium and show you a document. It's JX-73.

MR. PRIMIS: May I approach?
BY MR. PRIMIS:
Q. Can you please identify JX-73 for the Court.
A. Yes. This is the document in which $I$ announced the suspension of any consideration of new applications filed after this date.
Q. Can you explain how the moratorium worked.

And for the record, what date -- this was July 30, 2012?
A. That's right.
Q. Okay. What -- what were you doing in this memo? How did it work?
A. It worked by basically announcing that the regulatory action was not to consider new permits. Everybody that was already -- had an application in-house had certain -- and several of those applications were well along in the process, and resources had been expended through the letter of concurrence process to get the properties of wells. So you had -- you had applications in various stages in-house, so that THE REPORTING GROUP

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this action suspended anything filed with the State after that date.

And it had two principal regions where it applied, a groundwater geographic region and a surface water area that extended a little beyond the groundwater area because it extended to some stretches that didn't have the Floridan under it. The groundwater suspension was where it -largely where the Floridan Aquifer is.
Q. Are the regions you targeted identified on the second page of this document?
A. They are.
Q. And can you describe that map?

I think the Court may be looking at it.
A. Yes. This is a graphical -- a geographical depiction of the area of the suspension. And so the lighter -- the lighter-shaded region is where both surface water and groundwater applications are suspended. And then the darker-shaded in the sort of the left-hand -- upper left part is just where surface water was suspended because there's not a Floridan Aquifer that's interacting with surface water there.
Q. Is this moratorium on new permits still in place, Mr. Turner?
A. It is.
Q. And in your view as the EPD director who adopted this, did it have beneficial effects?
A. I think it absolutely has beneficial effects. I think what we have now is essentially -- from a permanent acres standpoint, we have really capped acreage in the basin.
Q. Mr. Turner, turning to the Flint River Drought

Protection Act amendments, you were asked about that on cross. You didn't declare a drought under the Act in 2012 for the reasons you have explained. But did you take any steps to address what you identified as some shortcomings in the Act?
A. Yes. So that was very much a large part of 2012 was to say, okay, since this statute didn't -wasn't employable in the way $I$ thought, what can we do.

So we worked not only on this suspension, but we looked at amendments -- we looked at some bigger, some more longer-term things that Mr. Perry asked me about as well. But we also looked at what we could do to amend the statute in the next session, which would have been -which was the 2013 session. THE REPORTING GROUP Mason \& Lockhart

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Q. And what steps -- what were the amendments that were adopted?
A. There were three basic amendments. One we talked about earlier, the shall to may. And we talked about the irrigation efficiencies as the second. The one we didn't touch on was we made clear how it would work if the State managed through the -helped manage through the drought by augmenting water like we do in the Spring Creek pilot.

If we need to talk about that, we can. But we have this pilot project with Fish and Wildlife where we do some groundwater augmentation in Spring Creek. I was thinking at the time what if we need to do this in a number of places, in a number of stretches in the basin? And if we do that, we need to be clear that when the State puts some water in the river for protected mussels, let's say, that nobody that has a pre-existing withdrawal permit could take that water.

So it was -- that's really what I mean by modest. That was an effort to help manage in that drought.

Now, we ultimately didn't pass these until 2014. It started raining again. But that tool THE REPORTING GROUP
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Floridan or surface water to that ASR field and let them irrigate out of the lower aquifers.
Q. Mr. Turner, are these maneuvers or options like moving to a lower aquifer or ASR, are those simple to do; or are they complex?
A. They are complex. These are -- again, I mentioned a little bit that our knowledge about these lower aquifers has grown. There was a time, I think in the Director Reheis era, when we didn't think there was any safe yield down there to speak of. But we do think there's some, but we need to be careful.

And so we have been putting in test wells around. And what we're learning is that the lower aquifers aren't uniform. So you might put in one test well, and as close as $\mathbf{9}$ miles apart get totally different productivity. So all of that goes to yield. All of that goes to safe yield, what we can put down there.

So it's complex, and we have got to study it. We have to get it right before we move on it.
Q. Mr. Turner, you were here in court for

Dr. Sunding's testimony; is that right?
A. I was.
Q. And as he laid out the options for -- options

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similar to what you're discussing, did you see him do that?
A. I did.
Q. And did you have a reaction to his assertion that there were significant benefits at low cost from the items that you have discussed?
A. My reaction to some of his discussion, particularly even around this particular one, moving people around, is both -- that he's underestimating the cost of those. These -- the deeper you go -- this makes some common sense. The deeper you go, the more expensive it is. So moving people down is expensive.

The other thing is just the benefits. We -as important as these options are, the things I have seen have been -- even that document we -Mr. Perry asked me about showed some streamflow benefits to moving down the number of people we were looking at or number of permittees we were looking at; but these are maximum months in the 130 cfs category. So these are a lot smaller benefits than what Dr. Sunding was projecting.
Q. Mr. Turner, I want to shift gears now and ask you about the time when you were working for Governor Perdue. Okay?

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A. Okay.
Q. And you mentioned that you assisted Governor Perdue in monitoring litigation between Florida, Georgia, Alabama, and the U. S. Army Corps; is that right?
A. That's right.
Q. What was your involvement in that litigation?
A. Well, as executive counsel to Governor Perdue and Georgia, at any rate, the Governor has a couple of lawyers typically in his office. And I was the executive counsel. And so even though I wasn't counsel of record in these matters, $I$ worked fairly closely with outside counsel, particularly as the drought came on, because not only were we involved in the litigation as it was progressing, but negotiations with the Army Corps, Fish and Wildlife over drought operations, and also discussions with our sister states about settlement, but also on just about what to do.
Q. Mr. Turner, do you have an understanding of the key issues in that prior litigation between the States and the Corps?
A. I do.
Q. And can you just -- at a very high level, but just kind of lay out a roadmap of how that THE REPORTING GROUP Mason \& Lockhart

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litigation unfolded for the Court so they can understand where we have been.
A. Sure. By this point, again, I know you have heard some testimony about the -- what started all of the tri-state litigation way back in 1990 and how the Compact developed and how some of the issues that were involved in those -- in that era. But if you get to about '06--2006, '7, and ' 8 , we -- by that point we had multiple lawsuits filed by the different states against the Army Corps of Engineers in different federal courts. So we had a lot of litigation about both what Lake Lanier was authorized to provide when Congress passed that authorizing legislation in 1946, and then it had a whole -- we had a whole separate set of cases relating to the Endangered Species Act issues that were -- that, again, all these were directed at the Corps to change operations or to accommodate in one way or the other related to those legal issues.
Q. Mr. Turner, when you were back working for Governor Perdue and then Governor Deal in that executive capacity, did you become aware of the positions that the parties were taking in those cases?

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A. I did.
Q. Have you summarized that in your written direct testimony?
A. I have. I tried to do that in a -- I think in my written direct on page 5 , starting with paragraphs 22, really through about paragraphs 40, I think.

Yes, through paragraphs 40.
Q. So I want to focus you in particular around paragraph 32. And the Court has it obviously, and it was provided here, Mr. Turner, so I don't want you to go through it all chapter and verse. But while you're here live, can you just summarize your recollection of what Florida was telling the federal courts about what harm it was experiencing and who was responsible for that.

MR. PERRY: Objection, calls for hearsay.
A. Well, sure. I think the -- the principal legal issues involved were -- because this was -- these were lawsuits against the Corps, Florida wanted changes in operations that would produce more flow. And they certainly took positions about Georgia's consumption during that time. But what is significant is not only did they talk about THE REPORTING GROUP Mason \& Lockhart

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the species we're dealing with today, all of those were at issue and were referenced in these cases, but the remedies sought by Florida during those cases was for the Corps not just to release more water -- I think this is significant -their complaint was that -- that the Corps was storing too much water. It was an operational issue. And they certainly wanted more water, which they claimed would alleviate harm; but it was all based on the fact that the way the Corps operates in the summer and in droughts, it's storing too much water up in the basin. And it's doing it improperly. That was -- that was their claim.
Q. Mr. Turner, did the State of Florida make that type of argument to the U.S. Supreme Court?
A. They did. They -- I know they -- when they appealed the 11th Circuit's decision, they made much the same argument to the Supreme Court.
Q. Can you turn to paragraph 34 of your testimony -and give the Court a moment to catch up -- and take a look and read paragraph 34, if you can, Mr. Turner. And then I'm going to ask you some questions about it.
A. Okay.

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Q. Why did you select this legal argument from Florida to include in your direct testimony as an example of what Florida was arguing? What are they saying here?
A. This one sort of encapsulates it all because we had all these different stages of litigations. Sometimes it was embedded in -- and you can find the same argument embedded in phase 1 and phase 2, the different stages of the litigation that we had before Judge Magnuson when all the federal cases were consolidated through the MDL.

But this one really demonstrates that the claims Florida was making back then were about everything we're dealing with in this case. There's not a group of species or ecological harm that they weren't complaining about then. And that includes river and bay. Even though the bay didn't have the sort of Endangered Species Act issues that the river did, they -- all of that was before the Court. And they were saying -you know, and the main quote here is the resulting low flow conditions lead to devastating consequences for the ecology and species of the Apalachicola River and the Bay.
Q. And, Mr. Turner, what remedy was Florida trying THE REPORTING GROUP

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years we were -- we were talking to each other about state line flows.
Q. Who is the we you just referenced?
A. Very good.

The State of Georgia and the negotiators on behalf of the State of Georgia and the negotiators on behalf of the State of Florida were negotiating on a platform that was the change in Corps operations. So everything we negotiated on was based on what changes to the Revised Interim Operating Plan of the Corps could we agree to to then turn, as both states in agreement, and go to the Corps and say, okay, if you can do the following things, we can raise the minimum flow at the state line and get what would have the -- what would have the effect of getting Florida more water during certain times of the year.

Because this whole thing -- you understand the way the system works. It's not about the volume of water. In the winter when it's raining and we're in flood control operation in the reservoirs in a wet winter, it's doing down and into the Gulf of Mexico. And we're just trying to express the water. It's about timing and THE REPORTING GROUP

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flow. And so these negotiations were all about can we raise the minimum, is the only way, through the Corps to guarantee Florida increased flows in drought in the summer.

And we were negotiating on that chassis of the RIOP, the Corps' operations.
Q. Was there an amount that Georgia was willing to go with Florida to the Corps to advocate for to increase minimum flow?
A. There was. We -- we proposed a series of steps phased in over a 12-year period that would give Florida at the end of that phase-in -- now, to be clear, it was conditioned on changes in the way the Corps did things, but those -- those changes, once they were brought -- came on line, would trigger periodic increases.

And so we proposed to get Florida ultimately, when it was all phased in, an increase from that 5,000 minimum flow number we talked about, to 6.
Q. Did Georgia make that offer?
A. We did.
Q. Did Florida respond to it?
A. They did not.
Q. In this case, I think you're aware if you saw

Dr. Sunding, there are various measures proposing THE REPORTING GROUP Mason \& Lockhart
to get a thousand to $2,000 \mathrm{cfs}$ additional streamflow at peak summer months from Georgia. Right? You heard that?
A. I did.
Q. Mr. Turner, given your decade of experience in dealing with these water issues and the prior negotiations, what's your view on whether what Dr. Sunding was talking about is feasible without the support and involvement of the U.S. Army Corps?
A. I don't think it's feasible. I don't think it's possible without the Corps. You know, a thousand cfs like we were talking about was totally contingent on the Corps changing operations.

We looked at this ACFS Stakeholders plan. Those 50-some-odd stakeholders that worked on this said the only way to do this is to change Corps operations to give some more water. And so any notion that we would have these cuts that would produce flows that would eventually get to Florida, that won't happen unless there's a change in the Corps operations to do that.
Q. Thank you, Mr. Turner.

MR. PERRY: Good afternoon, your Honor. THE REPORTING GROUP Mason \& Lockhart

SPECIAL MASTER LANCASTER: Good afternoon, Mr. Perry. RECROSS-EXAMINATION
BY MR. PERRY:
Q. Mr. Turner.
A. Mr. Perry.
Q. In your binder could you please turn back to tab 22 .
A. Yes.
Q. Now, I believe you just testified a few -- maybe it was about an hour ago, before lunch, that it was your intent to be completely transparent when you put this document together that is JX-69 -it's the press release -- right?
A. That's correct. Yes.
Q. And you write, don't you, that EPD has analyzed data on streamflows and has determined that a reduction in irrigation that might be achievable would have a negligible impact on surface water flows this year.
A. Yes.

MR. PERRY: Your Honor, if I might approach to hand out an exhibit?

SPECIAL MASTER LANCASTER: Please.
BY MR. PERRY:
Q. Now, sir, I would like to focus on Florida

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firm opinions about whether it was valid.
Q. But wouldn't you, as the director of Georgia EPD signing an affidavit, want to get to the bottom of this issue before you sent this material to the U. S. Government?
A. Look, $I$ think that what $I$ did in this affidavit was rely on somebody $I$ had a lot -- and still do -- a lot of confidence in, Dr. Zeng.

And I know that you -- I know generally, as I mentioned before in my earlier testimony, that the UIF issue was a very technically-detailed thing that Dr. Zeng had a firm opinion on. And his advice I did, indeed, rely upon and still would.
Q. And that's true also with respect to Joint Exhibit 126, which Mr. Primis gave you, which is a -- another letter from Georgia EPD to the Army Corps; isn't it?
A. Yes.
Q. And by the time of this second letter that Mr. Primis gave you to the Army Corps, there still hadn't been work to correct the systematic and random errors in the UIF dataset in Georgia's consumptive use information. Right?
A. There had not been work to correct that. Whether THE REPORTING GROUP Mason \& Lockhart
it needed to be done for purposes of this submission is a wholly different issue.
Q. All right, sir. You remember earlier when I was
first up we talked about the agricultural withdrawal section of FX-534, the UIF report, on pages 9 through 10; don't you?
A. I remember that.
Q. All right. And I'm not taking your testimony to mean that you don't have concerns about inaccuracies in Georgia's estimate of agricultural water use. Those things do genuinely concern you; don't they?
A. I -- we have always wanted to do the best to improve our datasets. That is a story on the agricultural side of Georgia's management from the metering database that we put in place all the way through the studies that we're doing today. So, no; accurate data is very, very important.
Q. Are you considering now funding Dr. Georgakakos's study proposal here?
A. Not that I'm aware of.
Q. Let's turn to Joint Exhibit 73, which Mr. Primis also handed you.
A. Got it.

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Q. All right. I believe you referred to this as
your moratorium document in 2012. Is that right?
A. I think I first said suspension. And we have called it moratorium for short a number of times, yes.
Q. All right. That's fair. Let's go to the third paragraph from the bottom of the page, please.
A. Yes.
Q. If you could read that paragraph to yourself, I would appreciate it.
A. Okay.
Q. That's true, isn't it, that your suspension did not apply to applications that had already been received as of 2012. Right?
A. That's right.
Q. And a great number of applications were received in 2011 and 2012. Right?
A. I don't know the number. I have since looked at some -- some numbers; and there were several applications. Great number I don't -- I don't know what you qualify it as.
Q. It's true, isn't it, that in the Lower Flint Basin, the Environmental Protection Division granted permits totalling 70,000 new acres since the date of your suspension or moratorium.

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## Right?

A. I don't know the number of acres. But when we did this, and my testimony throughout this has been that the suspension applied prospectively on applications received after that date.
Q. And there are quite a number of applications received before that date that are still pending. Right?
A. I don't know how many are still pending. I would think that number is coming down because most of them have been processed. I don't know that I -I don't know about most.
Q. Are you --
A. At this point I would think most have been.
Q. Okay. I'm sorry for interrupting you, sir.

Are you aware of statements by Georgia in this case that it reviews whether or not to lift the suspension or moratorium every year in November?
A. I know that when we first did this -- and I think it's probably in this document -- yes, that is what we said we would do is review it every year. $I$ also know that we have been asked about it a number of times. And as we have wrestled with this, we have really been clear that we're not THE REPORTING GROUP

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lifting it until we know if there's anyplace that it could be.
Q. Now, sir, let's go back to the ACF Stakeholders process one more time. And I asked you earlier today about Ms. Katherine Zitsch who works with the Atlanta Regional Commission of Atlanta -Metro Atlanta Governments. Do you remember that?
A. Yes.
Q. All right. Now, you're aware, aren't you, that the ACF Stakeholders process is a consensus process. Right?
A. I am aware that that is the way they govern themselves.
Q. So if Ms. Zitsch opposed a particular recommendation, there would be no consensus; would there?
A. I see what you're asking.

I think the way it works is they would have to compromise with each other. They were very proud that the only way to go forward was consensus. So you might -- there was a lot of opposition, I suspect, in the room. But, yes, they wouldn't make a formal recommendation without everybody's vote.
Q. And that is the -- the formal recommendation is THE REPORTING GROUP Mason \& Lockhart
what actually gets published. Right?
A. That is correct.
Q. And you know that there are records of some of those deliberations and Ms. Zitsch's opinion on whether or not to disseminate certain information from that process. Don't you?
A. I haven't reviewed any records of which you speak.
Q. All right. But you're also aware that the consensus that was reached even with Ms. Zitsch on board was that the Apalachicola River and Apalachicola Bay should receive more water. Right?
A. I think -- and this is what was made very clear to me when they reported out after the period of confidentiality and told me what this was -they, as a compromise matter, proposed a number of changes; and one of the changes was pulse flow, two weeks in May, two weeks in July, they provided more water to Florida.
Q. Approximately $9,000 \mathrm{cfs}$ at least during those periods. Right?
A. For two weeks in May and two weeks in July.
Q. And if you were to parcel that same amount of water out across the 2012 summer, that would be THE REPORTING GROUP Mason \& Lockhart
more than a thousand cfs every week in the summer; wouldn't it?
A. I have no -- no idea about that. I have not done that math.
Q. All right, sir. Thank you.

MR. PRIMIS: No further questions, your Honor.

SPECIAL MASTER LANCASTER: Mr. Director --
I'll call you Mr. and Director.
THE WITNESS: Fair enough.
SPECIAL MASTER LANCASTER: I'm not sure
whether you were here or not when I explained that I have to speak into this microphone, and so I won't be looking at you.

THE WITNESS: No problem.
SPECIAL MASTER LANCASTER: I'm not trying to be rude.

You just were asked some questions about the ACF Sustainable Water Management Plan. Can you tell me whether you approve or disapprove of that plan?

THE WITNESS: Yes, your Honor. We -there are some things in that plan that we have been talking about for a long time that we think are real commonsense changes to the THE REPORTING GROUP Mason \& Lockhart
way the Corps operates. I cannot say that I have ever seen any scientific data to support the 9,000 pulse flows. But if you're going to compromise and if you're going to do that, you have got to change -- there are some commonsense things to do with the Corps operation to make for more storage. And so as a whole, there are some things in that plan that make some sense.

The reason -- there is a missing piece of the plan, having negotiated these issues for 10 years; and that's -- and I think in the plan they're clear on this. There's not a drought trigger. There is not a what do we do when we reach a drought worse than history?

And when I saw that, when I first got the plan, I said, well, that's the part to negotiate.

So the plan has got some really good things in it, but I think it's incomplete. And I think they think it's incomplete because they said that we still needed to do a drought trigger.

SPECIAL MASTER LANCASTER: Apart from THE REPORTING GROUP

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| Q. You were with EPD as the director in 2006. Right? <br> A. That is correct. <br> Q. And did you have occasion during that time period to speak with U.S. Fish and Wildlife about the draft 2006 plan? <br> A. I don't recall that I had a specific meeting with the Fish and Wildlife regarding the plan, no. <br> Q. And were you aware that U.S. Fish and Wildlife actually commented on the draft 2006 plan? <br> A. In a written communication from the field supervisor of Georgia, this not being the letter because it wasn't addressed to me, I became aware of those concerns. Yes. <br> Q. And if I could invite your attention to page 4 of this document, please. And I would like, if I might, to focus on the second recommendation on that page. And it's the second recommendation on that page from U.S. Fish and Wildlife. Could you read that text to yourself, please, No. 2. <br> A. I see that. <br> Q. Do you recall your staff advising you that U.S. <br> Fish and Wildlife's position was that current permits must be modified to eliminate overallocation of water in the Flint River Basin? <br> THE REPORTING GROUP <br> Mason \& Lockhart | specifically was poised to be considered in final draft is something that's reflected in this letter. <br> Q. You don't recall what the United States Fish and Wildlife Service's view was on the 2006 plan? <br> A. Well, I recall that I received a letter directly from the field supervisor in regard to the plan. <br> Q. Okay. We can talk about that, but let's first talk about -- <br> A. Which would be a better basis for, I think, your question than this particular letter. <br> Q. Well, if I had that letter, I would be glad to talk about it. But this is the letter that we have been talking about through trial. It was produced by the State of Georgia to us. And it made a number of recommendations that I would like to focus on now, if I could. <br> And so I would invite your attention to summary comments, please. <br> A. Yes. That's page 7? <br> Q. That is. And I would invite you to read that paragraph onto the next page, please. <br> A. Okay. <br> Q. Thank you for doing that. If I could invite your attention to the third line, I'll have a question THE REPORTING GROUP Mason \& Lockhart |
| A. I don't recall that. Also, the context of this seems interesting from the point of view of the presumption of overallocation along with the presumption of a take of mussels in the context of how to sustain. <br> Q. You never read this letter before? <br> A. No. <br> Q. I would invite you to read it; but in the interest of time, let's go to the summary comments, if we might, which are at page 7 near the end. <br> And before I invite you to read that, it's true, isn't it, that under your time as the director of EPD, you did not accept the recommendation we just looked at? <br> A. I'm sorry. This recommendation was not presented to me. I mean, reading it out of a letter, that was not the basis of something being presented such that I could make a decision on it or not. <br> Q. So your staff would have summarized this for you in some other context; is that what your testimony is? <br> A. More likely this would have been one of probably a large variety of public input and input from others agencies that we received. So how this THE REPORTING GROUP | about your understanding at the time. The text reads, current level of agricultural water withdrawals made the drought significantly deeper. <br> Do you see that in the text? <br> A. I do. <br> Q. Was it your view that the current level of drought withdrawals between 1998 and 2002 made those droughts significantly worse? <br> A. No. <br> Q. So you disagreed with the statements of U.S. Fish and Wildlife? <br> A. I have no basis to understand why they're making this particular claim. <br> Q. Okay. Did you know Director Reheis? <br> A. I did. <br> Q. Were you here for his testimony? <br> A. No. <br> Q. Have you read his deposition? <br> A. No. <br> Q. Have you watched or read the testimony of Mr. Napoleon Caldwell? <br> A. No. <br> Q. Can you turn to the next page, the last section of this particular paragraph. And there are a THE REPORTING GROUP |


A. Oh, got it. I see that written, yes.
Q. Okay. And could you turn with me to the last paragraph of the letter. And I would like to focus your attention, if I might, to the sentence beginning more fundamentally, however, which is about six lines down in the last paragraph.
A. Yes. I see it.
Q. What, if any, action did you take in response to this letter?
A. Very difficult to take a specific action in response to this letter in that a number of concerns are raised without any data, evidence, or other scientific information that would support a way to frame specific beliefs that have been raised in this letter.
Q. You're not aware of U.S. Fish and Wildlife work with the IHA model?
A. Yes, I am.
Q. Could you turn, please, to tab 7.
A. I'm there.
Q. All right. Napoleon Caldwell worked for you, didn't he, when you were director?
A. Napoleon Caldwell was a member of the staff of EPD, yes.
Q. And he was actually in your director's office

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staff; is that correct?
A. That's correct.
Q. Now, here we're looking at Florida Exhibit 65 at tab 7. And the first line refers to a state advisory committee. Can you explain what that is, please.
A. I can only surmise from the membership and context of this that this would be the state advisory committee formed under the statewide water planning process.
Q. Now, just to cut to the chase, can you take a look at the third page where your name appears, please. It's about two-thirds of the way down.
A. I do.
Q. Do you recall addressing a state advisory committee group regarding consumptive use budget concepts?
A. Not specifically, but if these minutes are accurate, then it would indicate that I did.
Q. And do you see the sentence there which reads, Dr. Carol Couch then addressed the group regarding a consumptive use budget?
A. I see the sentence, yes.
Q. You don't remember -- you don't have any recollection of this, I take it, from your last

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answer?
A. Well, you would have to give me a minute to read this. As these are minutes, at best it's a paraphrase of something $I$ might have said that day.
Q. As always, I would invite you to take as much time as you like to read any document we're looking at. So please do.
A. I have read the paragraph.
Q. Do you have any further recollection of the question that I asked?
A. Could you restate the question, please.
Q. Do you now remember this particular meeting and addressing the consumptive use budget concept with the committee?
A. What reading this refreshes my recollection about is the nature of the consumptive use budget and policy context in which we were having discussions both within this committee and otherwise.
Q. And do you see the reference in that line to a set of limitations Florida has in place?
A. Yes. There's reference to local sources first.
Q. And you worked with Mr. Napoleon Caldwell during your time as director on a consumptive use budget THE REPORTING GROUP

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framework for the State of Georgia; didn't you?
A. I would characterize that to say we worked within a broader policy team around the notion of consumptive use budgeting and how that would be incorporated into our guidance framework for original planning.
Q. Who was on that team?
A. There were probably four or five individuals. Certainly Nap Caldwell would have been one of them. Alice Miller-Kise would have been another one, Gail Cowie, an individual whose name escapes me at the moment, Linda McGregor.

One of the individuals I'm having a hard time recollecting at this point in time.
Q. Can you remind me if Linda McGregor was a branch chief on EPD?
A. She became branch chief at some point during my tenure, yes.
Q. And Dr. Gail Cowie was a contractor working with you at that time?
A. I think initially Gail worked in a contract context; and at some point -- I'm not remembering exactly when -- she became employed -- actually employed by EPD.
Q. Now, if I can invite your attention to the prior THE REPORTING GROUP Mason \& Lockhart
page at the top; and there is a paragraph there that talks about the proposed policy framework known as the consumptive use budget. Really, the first full paragraph on that page. Can you read that to yourself, please.
A. Which numbered page are you referring to?
Q. It's on page 2.
A. Page 2. Proposed policy framework, okay. Yes.
Q. Does that accurately summarize the concept of a consumptive use budget?
A. I think it does characterize two important -- two important elements specifically in this paragraph. One is that a-- the nature of the consumptive use budget would be crafted to the specific nature of the conditions within the watershed and that it provided a tool to understand and put in context present and future uses.
Q. So, for example, in a metropolitan context a consumptive use budget would evaluate the amount of water use in that particular municipal area. Is that fair?
A. On a watershed-specific basis, yes.
Q. And in the Lower Flint, a consumptive use budget THE REPORTING GROUP Mason \& Lockhart
would analyze and address the amount of agricultural water use. Right?
A. Regardless of watershed, the budget would take in consideration municipal, industrial, as well as agricultural uses of water which understandably vary depending on where you are in the state.
Q. And the idea would be, wouldn't it, that there would be some limits placed on the amount of consumption by all users within the watershed. Right?
A. No.
Q. All right. Well, let's turn then to page

GA 12657 of Florida Exhibit 65, please. It's a
PowerPoint presentation from that meeting.
I'm sorry. It's in the same tab, tab 7.
A. Okay.
Q. And let me explain, because I confused you; and I'm sorry. When I say GA, it's the bottom number on the right-hand side of the page.
A. I see those numbers.
Q. Okay. Now, I'm attempting to invite your attention to a document called A Draft Policy Recommendation on Water Quantity Management in Georgia presented to the Water Council on June 7, 2006. Do you see that? THE REPORTING GROUP Mason \& Lockhart
A. And what GA number should $I$ be referring to?
Q. I will now tell you.

GA 126756.
A. 756.
Q. Do you remember this presentation, Dr. Couch?
A. Not specifically. But it does appear to be the nature of a presentation that would have been prepared for the Water Council. And since I chaired that council, I --
Q. Would this have been presented by Mr. Napoleon Caldwell to the best of your recollection?
A. I don't have a specific recollection of the agenda of June 7, 2006, and whether he or another staff person presented this.
Q. Could I ask you to turn with me to the page that's numbered GA 126761 in Florida Exhibit 65.
A. I'm there.
Q. Do you see the bullets there ending with, in all caps, consumptive use matters, exclamation point, exclamation point?
A. Yes.
Q. All right. Now, the next slide, which is GA 126762 has a photograph. Do you see that?
A. Yes. It's hard to make out what that is, but there is something that appears to be a THE REPORTING GROUP

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photograph.
Q. Can you tell whether that is or is not irrigation equipment?
A. Looks like I'm seeing the arm of a center-pivot, but the remainder of it is hard to say.
Q. Okay. Rather than going through this painstakingly, I invite your attention actually to the next tab, which is an article titled Ensuring Sustainable Water Use Supplies Into the Future, Perspectives on Managing Consumptive Use, Florida Exhibit 109. Do you see that?
A. Under tab 8, yes.
Q. Tab 8. And do you see the name Nap Caldwell there?
A. I do.
Q. And he worked for you during this period of time; did he not?
A. The date of this is 2007 , so yes.
Q. Have you ever seen this article before?
A. I don't have a recollection, but I probably did at the time.
Q. Now, I would like, if I could, to refer you to page 2.

MR. PERRY: And, Mr. Walton, if you
could blow up the title at the bottom of the
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first column for just a moment.
And, now, go to the first paragraph,
please, on the next column.
BY MR. PERRY:
Q. So, Dr. Couch, could you read to yourself that first paragraph on the second column on page 2 of this article.
A. Okay.
Q. Now, I would like you, please, to -- about two-thirds of the way down that paragraph focus on the sentence that begins with for surface water, for surface water the approach would limit the amount of water that can be consumed.

Do you see that?
A. I see it.
Q. And it goes on to say, to quantities that would not significantly alter the character of a set of adopted flow regimes.

Do you see that?
A. I do.
Q. Okay. Is that a fair summary of the idea of a consumptive use budget in the State of Georgia at the time you were a director?
A. First of all, this wasn't an ongoing policy discussion; so I couldn't characterize that there THE REPORTING GROUP Mason \& Lockhart
was a settled policy in the state when this paper was being presented at a conference, No. 1.

No. 2, I would say that the ongoing policy context around consumptive use budgets and ultimately what was settled into state policy in our state water plan would have been different than what you see here.
Q. So you think Mr. Caldwell wasn't fairly summarizing what you had in mind for consumptive use budgets?
A. Well, my role was to chair a policy council. I might have had a personal opinion; but this wasn't reflecting -- there is nothing about this that should be taken as being my personal view.
Q. Was your personal --
A. The important point I would like to make about this is this is an active policy discussion, and it's incomplete.
Q. Now, your personal opinion was for or against consumptive use budgets in this period of time?
A. A personal opinion that I think resonates throughout some of the minutes that you have just reflected and maybe other documents is that modern water resource management needs to incorporate a complete understanding of water THE REPORTING GROUP
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budgeting, which includes the consumptive elements.
Q. So as a policy matter, your testimony is that you're -- at least your opinion at the time was that it was possible to impose a consumptive use budget regime in the ACF Basin?
A. No. That was not the intent of consumptive use budgeting. The consumptive use budgets were provided as a framework and a guideline to understand that each region of the state developed its understanding of current and future budgets for water use wherein the element of water use was current consumption and how would that consumption need to be managed in relationships to all the other elements of water use taken together such that the appropriate policies for a particular area would be done.
Q. What --
A. So this was a guideline. It was a flexible guideline. It was an approach that we used that was then integrated within modeling to help -- to help each region understand its consumptive use and to develop in the context of its own deliberations an understanding of its current and future water uses, and one of many water THE REPORTING GROUP
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management tools that would need to be -- come to bear to what degree and how much emphasis would be placed on consumptive use.

Every element of water planning or water resource has an inherent cost. In some areas of the state consumptive use might be the higher priority in the immediate 5-to-10-year period; and in other areas of the state it might not be completely relevant at this point in time.
Q. So your view at the time was consumptive use budgeting was a helpful tool, but it would be up to the specific region to determine how to use it?
A. Each region would need to come up with a recommendation of the tool of water management approaches, including consumptive use. So it wasn't left up to the region. Ultimately, the director of EPD would need to approve the specific plans.
Q. And was it your opinion at the time that a structure similar to what you're describing should be put in place?
A. What I am overviewing for you today I believe you will see as the policy framework adopted by our General Assembly when it approved the state water THE REPORTING GROUP Mason \& Lockhart
plan in 2008 setting forth the process of developing the regional plans that I'm referring to.
Q. And you weren't here to see Nap Caldwell's deposition designations, his testimony by video on that question. Right?
A. I was not.
Q. And is it your understanding that the sustainability limits in the regional water plans are, indeed, what occurred as a result of the consumptive use budgeting discussion?
A. Since I left the position in 2009, I have no knowledge of what finally were the content -approved content of the original plans.
Q. Let me see, if I might, if you agree with something from Director Reheis's testimony. And if you could turn to tab 10, please. And I would like to invite your attention in the prefiled direct testimony of former Director Reheis to paragraph 51. And I would ask, Dr. Couch, if you could read that, please.
A. I have read it.
Q. And you're familiar with the Flint River Drought Protection Act; aren't you?
A. I am.

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Q. Now, do you see the reference there to a reverse irrigation auction at the end of the first sentence to that paragraph?
A. I do.
Q. Okay. Is it your view, as Director Reheis testifies here, that the Flint River Drought Protection Act, quote, made it much less likely that farmers would irrigate when they should not?
A. I don't have any experience to -- to judge whether I would agree with that statement or not.
Q. All right. Well, let's go back to your testimony then; and I would ask you to focus on paragraph 23.
A. I'm there.
Q. And do you see the reference in paragraph 23 to backlogged permits in the 2006 plan. It's about 8 lines down, 10 lines down or something.
A. There are several references to backlogged -several sentences with references to backlogged permits. Is there a particular one?
Q. Well, there it says, under the 2006 plan the backlogged permits issued in capacity use areas were required -- do you see where I'm reading?

About 10 lines down.
A. I do.
Q. And do you see it says, to have end-gun shutoff

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switches installed to prevent irrigation leaks?
A. Uh-huh.
Q. Now, yesterday Mr. Primis showed a photograph or two; and I'll do the same now.

I'm interested in particular in capacity use areas and end-gun shutoff switches. And I would ask you to turn to tab 15 with me, please.

MR. PERRY: Actually, can we advance to the next picture at tab 15, please, which I believe is the next picture, please.

I'm looking at Florida Exhibit 115, please.

There it is.
BY MR. PERRY:
Q. Now, Dr. Couch, I'm not sure if you know much about irrigation equipment. I'm just drawing on the statement in your testimony; so if you don't know the answer, please tell me.

This is a photograph taken on July 15, 2016, in the Spring Creek sub-basin, which is, I believe, a capacity use area. Is that right?
A. Portions of Spring Creek would be in a capacity use area, yes. The specific location of this photograph I would have no way of knowing.
Q. It's near Colquitt.

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Do you see --
A. You're on -- this is FX-115?
Q. It is.
A. I don't have 115 in my book. I'm sorry.

Yes, here it is. It's out of order. Found it.
Q. Yes. Thank you. It took me a minute to get the picture up on the screen. That's probably why it took you a second to find it.

So tell me; are you able to identify whether or not there's an end-gun shutoff on this piece of equipment in this capacity use area?
A. I am not. I am not able to identify whether there is one present, and I'm not able to identify this occurring in a capacity use area.
Q. So it's not fair to ask you a question like that because that's not your area of expertise?
A. No.
Q. Okay.

MR. PERRY: Your Honor, it's about 2:30.
And I would be pleased to take a break, if it's okay with the Court.

SPECIAL MASTER LANCASTER: How much longer do you think you'll be?

MR. PERRY: Not much longer if we take a THE REPORTING GROUP
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you explain to us the framework under which new permits were issued under the Flint Conservation Plan?
A. Yes. Anything shown in the lighter green color would be watersheds in the Lower Flint Basin that were determined not to be in contact with Floridan Aquifer such that there would be an interaction between groundwater use and streamflow rise. Those in red were identified as having -- having some connection, but the amount of use, if managed through conservation measures, would be -- would be at a level that would be acceptable given the analyses that we had done. Those that are in the pinkish or reddish color were prescribed as capacity use areas, wherein we would stay in place essentially a moratorium on the issuance of new permits and require conservation measures in all areas.
Q. All right. And during your tenure, Dr. Couch, were all new permits that were issued pursuant to the requirements of the plan?
A. That's correct. They were.
Q. Did you accept any new applications or permits in capacity use areas?
A. No.

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Q. Did you issue any backlogged permits in capacity use areas?
A. Yes.
Q. And were there conservation requirements for the backlogged permits that were issued?
A. Yes, there were.
Q. Did all newly-issued permits in the conservation areas that you have identified on this map have conservation requirements?
A. They did.
Q. Doctor, I would like to turn now to talk about drought management during your tenure. During your tenure, was it within the authority of the director of EPD to manage drought?
A. Yes.
Q. And under what authority did you have the prerogative to manage drought?
A. There were two authorities. One under the Drought Management Plan in the State of Georgia that was focused on managing municipal and industrial water uses under drought conditions; and the second under the Flint River Conservation Act, which is the Act that would be related to managing drought and conservation measures in the Lower Flint.

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Q. All right. Doctor, to assist your testimony about these two particular Acts/Plans we would like, with the Court's permission, to publish a demonstrative and to distribute copies.

Doctor, the demonstrative that we have put up on the screen and that we are distributing to the Court shows both the Drought Management Plan 2003, and the Flint River Drought Protection Act. Can you please describe these plans and any differences between them.
A. Well, as I have already mentioned, the Drought Management Plan is focused on conservation measures applied for municipal and industrial water use, potentially applicable statewide. The Flint River Drought Protection Act is focused on agricultural water use and would be -- would be applied within the Lower Flint region.

Both have a series of very prescribed processes that the director needs to engage in before making a decision about declaring drought or triggering management or conservation actions under each of these. And one includes, really, a series of progressive and stringent conservation measures under the Drought Management Plan. I think the Court has already heard regarding THE REPORTING GROUP

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levels 1 through 4 in the context by other -- by other witnesses and my successor, Mr. Turner.

The criteria that are used and considered in each are somewhat similar, but also somewhat different in terms of how they -- the sum total of information, evidence, and input is distilled to make a decision regarding the declaration of drought.

But I'll say that each include a series of prescribed criteria that help summarize existing understanding from the meteorological conditions, but also consultations with state climatologists, other federal agencies, and just real-world considerations that come to bear when none of these things take in consideration the very nature about which weather can change dramatically in a short period time.
Q. During your tenure as director of EPD, did you have occasion to declare a drought under the Drought Management Plan, which is shown on the left side of this demonstrative?
A. I did.
Q. And what years did you declare a drought under this plan?
A. I think the first time I did that was in 2006.

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And then we increased the level of drought in 2007.
Q. Do you recall the levels of drought that you declared in each of those two years?
A. I believe we were at level 2 , and then we went to level 4. Only in portions of the state, however.
Q. Now, let's turn to the Flint River Drought Protection Act, which is shown on the right side of this demonstrative. During your tenure, did you ever declare a drought under the Flint River Drought Protection Act?
A. No, I didn't. The sum total of all the criteria and information and input and other considerations were such that the declaration was required to be made by March the 1st. It was not one that I thought would be effectively implemented.
Q. Now, if you had decided during your tenure that drought needed to be declared under the Flint River Drought Protection Act, would the funding necessary to implement the declaration have been available to you?
A. I believe that to be the case. And when it had been declared under my predecessor, it was made available.

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Q. Dr. Couch, I now want to turn to correspondence with the U.S. Fish and Wildlife Service. And Mr. Perry has brought up some of this correspondence with EPD in the course of his examination of you.

In the course of correspondence that you had with U.S. Fish and Wildlife Service during your tenure, did you ever have any scientific evidence that Georgia's management of water resources was having impact on any endangered or other species in the basin?
A. No.
Q. Did USFWS -- U.S. Fish and Wildlife Service -- in particular ever provide you with any scientific evidence that Georgia's management of water resources was having an impact on any endangered or other species in the basin?
A. Well, I would just note in my prior testimony with Mr. Perry that the belief of the Fish and Wildlife Service is expressed in a direct letter to me. But that belief was never paired with any solid scientific evidence, studies, or research indicating a linkage between our levels of water use and the concerns regarding mussel mortality in particular in the Spring Creek Basin which, of THE REPORTING GROUP

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course, is fully within Georgia.
Q. Dr. Couch, during the years of 2003 to 2009 while you served as director of Georgia's EPD, how would you characterize Georgia's conservation and stewardship efforts with respect to water use?
A. Well, I -- I guess the way I would summarize it is that from 2003 through 2009 the ball was passed to me. And we continued with the development of scientifically-informed conservation measures, implementing them within the plan of the Flint River Basin, but also using that information within our statewide water planning process. The development of -- and institution of these conservation measures, $I$ think if you look at the Eastern Seaboard context of reasonable use water law, is among the best that are out there.

We have a unique situation, $I$ think, in the context of our conservation measures there. Our state water plan, which was developed and put in the -- approved in 2009 which resulted in the culmination of regional plans that were developed wall to wall in the State of Georgia after my tenure, again, reflecting continued intent of developing and progressing well-informed water THE REPORTING GROUP
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management practices has been used as a model in other states, particularly in our neighboring states of South Carolina and Alabama as they're considering how to structure water planning in their own states.
Q. Doctor, specifically what do you mean when you say wall-to-wall efforts?
A. All areas of the State of Georgia are now covered with regional plans that incorporate a variety of ways that water users and the general public in each of those regions now think about their current and future uses of water and ways to make choices in implementation of conservation measures and other practical things that need to be in place to address future economic as well as environmental uses of water. So it's wall to wall in that sense.

One thing I would say, while the Court would be very well aware of the north and south trending nature of the ACF Basin, all rivers in Georgia are trending generally in a north and south direction. So there is no river basin in Georgia where somebody isn't living downstream of somebody else. So the nature of transparency, equitable use, common understanding in a database THE REPORTING GROUP

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is inherent in how we have approached the state plan and I believe was bedded down in processes that developed original plans.
Q. Looking specifically at the ACF Basin, in the course of your tenure as EPD director, were you in dialogue with representatives of the State of Florida about water conservation in the basin?
A. I was.
Q. Did you have conversations with representatives of the State of Florida regarding Georgia's water use and any effects on the ecology in the Apalachicola Bay or floodplain?
A. Yes.
Q. Did you ever ask any representative of the State of Florida to identify a level of flow that would be necessary to protect the ecology of the Apalachicola Bay or floodplain?
A. Repeatedly and in repeated contexts, yes.
Q. Okay. And what were you told?
A. I never received an answer.

MS. DeSANTIS: I have no further questions.

## RECROSS-EXAMINATION

BY MR. PERRY:
Q. I'll be very brief, Dr. Couch.

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I may not have heard you correctly, but -I'm sorry. Can you hear me?
A. I can hear you. Thank you.
Q. I need to speak close to the microphone.

So I may not have heard you correctly, but I thought maybe you said something like you never had any scientific evidence that farming activities in Spring Creek affected aquatic species there. Did you actually say that?
A. That's not what I said.
Q. Okay. You agree that farming activities in Spring Creek have, indeed, had impacts on aquatic species in that area. Right?
A. No.
Q. Okay. Can you turn to the 2006 plan at tab 4.
A. The distinction -- I think it's an important distinction if you ask the question in that manner. We were looking at the interconnection of water use that could be translated through irrigation and streamflow. And at the point in time that I was being questioned about my understanding, that evidence had not emerged in any kind of a scientific manner.
Q. Okay. So you were director in 2006; were you not?

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A. Yes, I was.
Q. All right. Can you turn, please, at tab 4, Joint Exhibit 21 --
A. Uh-huh.
Q. -- to page 22 , which is the technical findings summary.
A. 22?
Q. 22 .
A. I'm on page 22.
Q. All right. Item 4 there, can you read that to yourself, please.
A. I see that.
Q. And you would agree with me that even as of 2006, Spring Creek had a -- exceeded its safe yield in terms of farm use withdrawals?
A. I think one -- one thing that you need to bear in mind in terms of this, this is a summary of a technical finding. The technical finding of Spring Creek is that that guidance that we were using from the Fish and Wildlife that we had evaluated in this document were found not to be useful in terms of understanding the relationship in Spring Creek. In fact, the statistical studies of stream discharge and biological studies indicate that there is an exceeded safe THE REPORTING GROUP Mason \& Lockhart 3150 yield in terms of farm use withdrawals. That statement is made, but you have to take a look at how the statistical indicators, the IHA statistics that I referred to earlier, are of use or not of use in Spring Creek.
Q. I'm --
A. So --
Q. I'm sorry. I interrupted you. I apologize.
A. Well, I'm just making the point here that the Spring Creek Basin, while we attempted to apply guidance provided by the Fish and Wildlife Service in the application of these three statistics, they demonstrated that in Spring Creek we were finding that these -- the relationship inherent between the presumed ecological benefit and the statistical summaries were not very strong or were not evident.
Q. Are you familiar with Dr. Golladay and Mr. Hicks?
A. I am.
Q. And they were both on your Technical Advisory Committee here in 2006?
A. They were members of the Technical Advisory Committee.
Q. Have you read their work --
A. I have not.

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hopefully, in jointly suggesting a recess on Friday afternoon.

MR. PERRY: I concur.
SPECIAL MASTER LANCASTER: Thank you.
Let me just say for the record that the weather, when I went home yesterday, was in the high 50's. It's predicted to go as high as 60 today. From my lay opinion, this is something of a trend. I simply can't comment on whether it is significantly --

MR. PRIMIS: Statistically significant?
SPECIAL MASTER LANCASTER: Yes, exactly.
MR. PRIMIS: We'll meet and confer and let you know on Monday.

SPECIAL MASTER LANCASTER: Thank you.
MR. PERRY: Thank you, your Honor.
(Time Noted: 3:15 p.m.)
(Proceeding adjourned to Monday,
November 21, 2016, at 9:00 a.m.)
(End of day) - - - - -



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