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STATE OF LOUISIANA  
DEPARTMENT OF NATURAL RESOURCES  
OFFICE OF CONSERVATION

WATER RESOURCES COMMISSION  
12TH REGULAR MEETING  
WEDNESDAY, JULY 25TH, 2018  
BATON ROUGE, LOUISIANA  
COMMENCING AT 11:00 A.M.

LASALLE BUILDING - FIRST FLOOR  
LABELLE ROOM  
617 NORTH THIRD STREET  
BATON ROUGE, LOUISIANA 70802

REPORTED BY:  
BRITTANY E. VIDRINE, CCR, RPR  
BATON ROUGE COURT REPORTERS, LLC

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COMMISSION MEMBERS IN ATTENDANCE :

KYLE F. BALKUM

LOUISIANA DEPARTMENT OF WILDLIFE AND FISHERIES

HONORABLE GLENN BRASSEAU

MAYOR OF CARENCRO, LOUISIANA MUNICIPAL

ASSOCIATION

DAVID D. CULPEPPER

GEOSCIENTISTS WITH EXPERTISE IN GROUNDWATER

RESOURCE MANAGEMENT

MARK S. DAVIS

TULANE INSTITUTE OF WATER RESOURCES POLICY AND

LAW

ANTHONY J. DUPLÉCHIN, JR.

CAPITAL AREA GROUNDWATER CONSERVATION DISTRICT

JOHAN FORSMAN

LOUISIANA DEPARTMENT OF HEALTH AND HOSPITALS -

OFFICE OF PUBLIC HEALTH

WARREN L. FOUNDS

SABINE RIVER AUTHORITY

BRANDON FREY

EXECUTIVE SECRETARY LOUISIANA PUBLIC SERVICE

COMMISSION

PAUL D. FREY

LOUISIANA LANDOWNERS ASSOCIATION

1           COMMISSION MEMBERS IN ATTENDANCE (CONTINUED)  
2  
3           KAREN GAUTREUX  
4           RESTORE COASTAL LOUISIANA  
5           LINDSEY K. GOUEDY  
6           SPARTA GROUNDWATER CONSERVATION DISTRICT  
7           TYLER P. GRAY  
8           LOUISIANA MID-CONTINENT OIL AND GAS ASSOCIATION  
9           THOMAS HARRIS  
10          LOUISIANA OFFICE OF THE GOVERNOR  
11          RICHARD P. IEYOUB, SR.  
12          COMMISSIONER OF CONSERVATION  
13          CHRISTOPHER P. KNOTTS, P.E., FASCE  
14          LOUISIANA DEPARTMENT OF TRANSPORTATION AND  
15          DEVELOPMENT  
16          SHERRI MCCONNELL  
17          LOUISIANA DEPARTMENT OF ECONOMIC DEVELOPMENT  
18          DAVID B. RABALAIS  
19          PORTS ASSOCIATION OF LOUISIANA  
20          BRADLEY E. SPICER  
21          AGRICULTURE AND FORESTRY  
22          JOHN P. STOSHAK  
23          RESIDENTIAL CONSUMERS  
24          ELLIOTT B. VEGA  
25          DEPARTMENT OF ENVIRONMENTAL QUALITY

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CALL TO ORDER

MR. REONAS: Mr. Balkum?

MR. BALKUM: Here.

MR. REONAS: Mr. Bishop?

MR. BISHOP: (No response.)

MR. REONAS: Mr. Bopp?

MR. BOPP: (No response.)

MR. REONAS: Mr. Brasseaux?

MR. BRASSEAUX: Here.

MR. REONAS: Mr. Chabert?

MR. CHABERT: (No response.)

MR. REONAS: Mr. Cormier?

MR. CORMIER: (No response.)

MR. REONAS: Mr. Culpepper?

MR. CULPEPPER: Here.

MR. REONAS: Mr. Davis?

MR. DAVIS: Here.

MR. REONAS: Mr. Duplechin?

MR. DUPLÉCHIN: Here.

MR. REONAS: Mr. Forsman?

MR. FORSMAN: Here.

MR. REONAS: Mr. Founds?

MR. FOUNDS: Here.

MR. REONAS: Brandon Frey?

1 MR. FREY: Here.  
2 MR. REONAS: Paul Frey?  
3 MR. FREY: Here.  
4 MR. REONAS: Ms. Gautreaux?  
5 MS. GAUTREAU: Here.  
6 MR. REONAS: Ms. Gouedy?  
7 MS. GOUEDY: Here.  
8 MR. REONAS: Mr. Gray?  
9 MR. GRAY: Here.  
10 MR. REONAS: Mr. Harper?  
11 MR. HARPER: (No response.)  
12 MR. REONAS: Mr. Harris?  
13 MR. HARRIS: Here.  
14 MR. REONAS: Commissioner Ieyoub?  
15 COMMISSIONER IEYOUB: Here.  
16 MR. REONAS: Mr. Knotts?  
17 MR. KNOTTS: Here.  
18 MR. REONAS: Ms. McConnell?  
19 MS. McCONNELL: Here.  
20 MR. REONAS: Mr. Rabalais?  
21 MR. RABALAIS: Here.  
22 MR. REONAS: Mr. Spicer?  
23 MR. SPICER: Here.  
24 MR. REONAS: Mr. Stoshak?  
25 MR. STOSHAK: Here.

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MR. REONAS: Sutcliffe?

MR. SUTCLIFFE: (No response.)

MR. REONAS: Mr. Vega?

MR. VEGA: Here.

MR. REONAS: Ms. Zaunbrecher?

MS. ZAUNBRECHER: (No response.)

MR. REONAS: So we do a have a  
quorum. We're good to proceed.

MR. HARRIS: Thank you.

Our first order of business, I'd  
like to welcome -- we have two new  
members. First, is Brandon Frey,  
Executive Secretary of the Public Service  
Commission, and he is replacing Eve  
Gonzalez. Mr. Frey, would you like to  
just say a couple of words and introduce  
yourself?

MR. FREY: I've been with the  
commission, let's see, almost 20 years  
now. I've worked on a lot of cases.  
Unfortunately, Secretary Gonzalez  
retired, but I'm happy to take her place.

MR. HARRIS: Thank you very much.

Second, we have J.P. Stoshak  
representing residential consumers. He's

1 an appointment of Representative Bishop.  
2 Would you like to introduce yourself?

3 MR. STOSHAK: Good morning. My name  
4 is J.P. Stoshak and I'm from Milton,  
5 Louisiana, Lafayette Parish. And I've  
6 been asked to served by Representative  
7 Stuart Bishop, and I must say, I'm ready  
8 and willing and honored to serve.

9 MR. HARRIS: Thank you. Welcome to  
10 the new members. Look forward to working  
11 with you.

12 Everyone has received a copy of the  
13 minutes, the summary from the December  
14 2017 meeting. Do I have a motion to  
15 approve those?

16 MR. RABALAIS: I move.

17 MR. HARRIS: Mr. Rabalais moves. Do  
18 I have a second?

19 MR. FOUNDS: Second.

20 MR. HARRIS: Thank you,  
21 Commissioner.

22 All in favor, say "aye."

23 ("Aye" in unison.)

24 MR. HARRIS: All opposed?

25 (No response.)



1 MR. HARRIS: Hearing none, the  
2 motion carries.

3 We do have one item that I'd like to  
4 add to the agenda, and that would require  
5 a motion by the Board to -- or Senator  
6 Long is here. He would like to give us  
7 an update of legislation from the past  
8 senator.

9 COMMISSIONER IEYOUB: (Makes  
10 movement.)

11 MR. HARRIS: Commissioner moves.

12 MR. SPICER: Second.

13 MR. HARRIS: Mr. Spicer seconds.

14 All in favor?

15 ("Aye" in unison.)

16 MR. HARRIS: All opposed?

17 (No response.)

18 MR. HARRIS: Motion carries. Thank  
19 you, Senator.

20 SENATOR LONG: Thank you. Thank  
21 you, Mr. Chairman.

22 Members, I'll be brief, but I -- I  
23 know that we all have been consumed with  
24 the work of government. I told someone  
25 recently that in my 11 years as the state

1 senator and my years as the president pro  
2 tempore of the Senate, I've never been  
3 challenged like we were to bring a  
4 consensus as to how we move forward. But  
5 I wanted to take about four minutes of  
6 your time and tell you that legislatively  
7 speaking, for the first time in many  
8 years we have stability. You see that  
9 played out in the bond market, the  
10 ratings for the sale of Louisiana have  
11 moved up, which allows us to borrow money  
12 at a much more competitive rate, which  
13 means we move projects. And as results  
14 of that, we're beginning to see great  
15 interest on the part of business. I just  
16 left Mark Cooper's office who is the  
17 chief of staff for the governor. I have  
18 an 11:45 meeting with the governor to  
19 discuss some of these issues.

20 But I wanted to tell you, and Paul  
21 Frey reminded me, that about five years  
22 ago I was the guest speaker at the  
23 Louisiana Landowners Association, and I  
24 made this statement: "One day we will  
25 talk about water as we talk about oil and

1 gas." That day is here. And we're going  
2 to take a very progressive position as a  
3 state Senator in my last year and a half  
4 to begin to put into play how we might  
5 use this valuable resource.

6 Many of you know, of course, that I  
7 represent the Sabine River Authority  
8 Toledo Bend. A staggering statistic of  
9 those 187,000 acres that comprise Toledo  
10 Bend. Here's what we know: 95 to 97  
11 percent of that water that enters Toledo  
12 Bend eventually enters the Diversion  
13 Canals or the Gulf of Mexico. We have a  
14 resource that we can market. We need to  
15 do it environmentally. We need to do it  
16 progressively, but we need to look at how  
17 we can market this particular commodity.  
18 Now, there may be other opportunities  
19 beyond Toledo Bend. But I can tell you  
20 this, when I was chairman of natural  
21 resources, I literally had people from  
22 Austin, Texas and other places in Texas  
23 meet with me to discuss how Louisiana can  
24 partner with them. Now, quickly, a side  
25 note, the State of Texas, their laws are

1 so convoluted, it's extremely difficult  
2 for Texas to move water within the State  
3 of Texas. Very complicated. But that is  
4 how their laws are set up.

5 I have a meeting on August the 9th  
6 in Many, Louisiana. I will create within  
7 the Sabine River Authority a study  
8 commission as to how we can move forward.  
9 But I will also offer a resolution next  
10 year asking you to be a participant in  
11 that. And as we establish that, I would  
12 ask Mr. Chairman that we have at least  
13 one member of your committee to serve on  
14 that.

15 Louisiana is rich in many resources.  
16 I think the one that goes most undernoted  
17 is water. And we need to be progressive  
18 as I suggested to you. So legislatively,  
19 I want you to know that because we have  
20 fixed the budget, and I think that is a  
21 correct assumption, there is a seven-year  
22 clause that provides permanent funding  
23 that one-half cent penny that was almost  
24 a half is locked in for seven years.

25 In meeting with Mark Cooper 20

1 minutes ago, I was amazed at the number  
2 of businesses and industries that are  
3 beginning to contact Louisiana because  
4 now they see permanency and they see some  
5 things that are very important to them.

6 When you look at the growth of the  
7 south, we follow only Kentucky as you  
8 measure growth economically and  
9 business-wise. Good things are happening  
10 in Louisiana. I think a big part of that  
11 is going to be how we move forward with  
12 this precious commodity that we all take  
13 for granted quite candidly. But it is a  
14 product. It is a marketable resource  
15 that we have, and I want you to know that  
16 as a state Senator it's very important to  
17 me that we share with where we're going.  
18 You have two excellent chairmen in  
19 Representative Bishop and Senator  
20 Chabert, who I work very closely with.  
21 But I think the thing I wanted to share  
22 with you is, first of all, thank you for  
23 being patient with the legislative  
24 process. Sometimes it doesn't work the  
25 way we want it to work. But I can tell

1           you, we're there now. Good things are  
2           ahead for us, and I just wanted to thank  
3           each of you, and particularly these  
4           commission members who serve. Extremely  
5           important. I always look forward to my  
6           Tulane update, great information, and, of  
7           course, everything you send out, I read  
8           and -- because it's important to me.

9           But, Mr. Chairman, I thank you for  
10          allowing me to take just a moment to give  
11          this brief report.

12          MR. HARRIS: Thank you, Senator  
13          Long. I appreciate you coming here  
14          today.

15          On a belated note, I'd like to give  
16          everyone an update on the work of the  
17          work group for the sale of surface water.  
18          We have met twice since the work group  
19          was formed last December -- by this  
20          commission last December. We have  
21          another meeting, we're trying to schedule  
22          that some time in the month of August. I  
23          do anticipate that I will be setting up a  
24          draft of our report to the commission  
25          some time between now and our next --

1 next meeting which will probably be late  
2 November, early December. I look forward  
3 to getting that out to all of you.

4 We made quite a bit of process  
5 looking at a lot of the issues with  
6 technical, legal and procedural and look  
7 forward to getting that report out.

8 Matt, we do have -- the next item is  
9 a presentation by Rusty Reeves.

10 MR. REONAS: Yep.

11 MR. HARRIS: Mr. Reeves is the  
12 Deputy Director of Louisiana Rural Water  
13 Association.

14 MR. REEVES: Mr. Chairman,  
15 Commissioners, thank y'all for this  
16 opportunity.

17 I'm Rusty Reeves, Louisiana Rural  
18 Water Deputy Director and Training  
19 Coordinator. I work for Mr. Pat Credeur.

20 My presentation today is going to be  
21 brief. And it is in regards to water and  
22 what we pay for, and I'm talking mainly  
23 consumer water, water to homes and at the  
24 businesses. Senator Long is going to be  
25 a tough act to follow, because he's

1           talked about how precious this commodity  
2           is. And we're going to find out today --  
3           or we already know that a lot of it is  
4           given away at a discounted rate to our  
5           consumers because it's thought to be a  
6           cheap commodity, and it's not.

7           Looking at these first two pictures  
8           here, that's some water buffaloes in some  
9           little communities that experience water  
10          issues, either boil advisories or no  
11          water to drink. And the National Guard  
12          furnished these buffaloes. And if you'll  
13          look here on the one to the right it  
14          says, "Free clean drinking water. Bring  
15          your own container." "Bring your own  
16          container." What is a container? What  
17          is a container? We think of a gallon  
18          jug, we think a five-gallon bucket, but a  
19          water system has many containers. They  
20          have tanks. They have piping throughout  
21          the community. That's all a storage  
22          container for that water system. We have  
23          neglected to maintain some of them  
24          containers, and it's caused us issues.

25                 When we look at water systems,



1           they're not all created equal. We have  
2           multiple forms of water systems. Some of  
3           them are municipalities. Some of them  
4           are private, not profit. It's a local  
5           co-op of residents that got together and  
6           formed the water system. Some of them is  
7           private for profit. Some of them are an  
8           association, that's a private, nonprofit  
9           situation. Some are a public water  
10          supply appointed by a local police jury.  
11          And then there's private water districts  
12          across the state. So one set of  
13          regulations don't apply to everybody.  
14          One water system may have water rates of  
15          12-dollar minimum and two dollars a  
16          thousand, and the water system 20 miles  
17          down the road they get 25-dollar minimum  
18          and six dollars a thousand depending on  
19          what kind of treatment they have and  
20          what's involved there.

21                 A few years ago the legislative  
22                 auditor put out a report in regards to  
23                 the water system, the rates, and one of  
24                 the things it addressed is the management  
25                 for the system, having the proper

1 management in there and possible training  
2 for some of these decision-makers.

3 A lot of people are of the consensus  
4 that, you know, water is cheap, it's  
5 readily available, you know, Sabine River  
6 Authority -- or the -- the Toledo Bend is  
7 full of water, but none of it's  
8 consumable unless you process it. And  
9 the treatment process costs money.

10 The other thing that's disturbing is  
11 in the 2017 American Civil Engineer's  
12 Report, our water infrastructure ranked a  
13 D in the needs of upgrades and repairs.  
14 When we look at these kind of reports,  
15 I -- actually our highway infrastructure  
16 ranked higher than our drinking water  
17 supplies.

18 USDA and the EPA have come up with a  
19 training course in regards to effective  
20 utility management, and some of the  
21 things that through this management  
22 training for decision-makers that they  
23 had us address is the product -- the  
24 quality of the water. That's what most  
25 people complain about or are dissatisfied

1 with is what the water looks like, the  
2 smell of it. Getting the proper quality  
3 of the product is very essential to be  
4 able to sell the product for a fair  
5 arrangement.

6 Customers satisfaction, we all know  
7 that they want the water as cheap as they  
8 can get it. Sometimes that may be a  
9 feasible option if you have a millage tax  
10 to support it or you have other means of  
11 supporting it. Your infrastructure  
12 stability, what is the condition of your  
13 infrastructure? How well are we going to  
14 maintain it? What's our plans for the  
15 future to improve it or upgrade it?

16 Community sustainability and  
17 economic development. Without good water  
18 and without good sewer systems, it's hard  
19 for the area to grow economically because  
20 that's services that has to be utilized  
21 in every business or every industry that  
22 comes into this state.

23 Stakeholder Understanding and  
24 Support, I don't think our consumers, our  
25 customers of our water systems understand

1           what truly is involved in getting the  
2           drinking water from the well or from the  
3           lake to their house and it be in  
4           compliance with DHH and EPA regulations.  
5           How do you educate your stakeholders,  
6           your community people? That's one of the  
7           things we discussed in that training.

8                        The next one is Water Resource  
9           Adequacy, and that's where y'all come  
10          into play. You know, 40 years ago we  
11          went up to it and drilled a well and we  
12          had water and we went to pumping. A lot  
13          of these wells that were drilled 40 years  
14          ago are not even metered. They're  
15          starting to meter more and more of them.  
16          But a lot of these systems when they get  
17          an issue, we get a phone call that says,  
18          "Hey, my well can't keep up. I've got a  
19          well problem." A lot of times we get  
20          there and find out that it's not a well  
21          problem, it's a leak problem, but because  
22          they're not monitoring that source, they  
23          have no way of telling that I produced  
24          50,000-gallons more today than I did  
25          yesterday and last week. We talk about

1           metering the sources and helping them get  
2           meters in place. But a meter is just  
3           like a gas gauge on a car, if you don't  
4           look at it and pay attention to it, it  
5           does you no good. So the other thing is  
6           getting them to monitor it and record the  
7           data on a regular basis.

8           Operational Optimization and Energy  
9           Efficiency, that's another thing that we  
10          look at quite often is trying to have a  
11          water system be sustainable in lower  
12          rates by lowering the electrical  
13          consumption, the chemical treatment, and  
14          part of that goes in curtailing the water  
15          wells of the system.

16          Operational resiliency. Do you have  
17          the capacity to make it through the bad  
18          times, when things is tough, disasters  
19          and stuff like that there, what is your  
20          contingency plans? And one of the things  
21          that we struggle with across the state is  
22          employee leadership and development. We  
23          have certified operators, but we notice  
24          more and more that there's more and more  
25          systems having a difficult time hiring

1           someone that's certified and qualified to  
2           run the water system, and we're  
3           especially seeing this in our little,  
4           small water systems that's, you know,  
5           two, three, four hundred customers. They  
6           just don't have the economy of scale to  
7           pay someone an adequate salary to take  
8           care of their water system.

9           And then the last one is Financial  
10          Viability. Most water systems operate  
11          strictly off of the water revenues that  
12          come in. Some of them happen to have a  
13          little tax base. Some of them may rob  
14          the sewer fund to pay for the water. But  
15          a lot of our little, small nonprofits in  
16          our water districts, operate strictly off  
17          of what the consumer pays and the higher  
18          qualified people who run it, they keep it  
19          in compliance and they maintain updates  
20          and stuff. We're starting to see water  
21          rates across the state of 25-dollar  
22          minimums, two, three, four, six dollars a  
23          thousand thereafter. That put average  
24          bills at 50 and 60 dollars a month. That  
25          sounds like a lot for drinking water.

1           But I laid a cell phone on that desk over  
2           there a while ago when I walked up here  
3           that probably cost \$100 a month. If my  
4           water system blinks under LDH  
5           regulations, I got to issue a boil  
6           advisory. That cell phone can drop me  
7           talking to President Trump if I was that  
8           lucky to get him on the line, and nobody  
9           is going to tell me the phone failed.

10           When we look at the overall scheme,  
11           you've got your system, the organization  
12           system, the makeup, what type of system  
13           it is. How many customers? What form of  
14           government manages that system? The age  
15           of the infrastructure. Then we look at  
16           the management, you know, again, we get  
17           to what type of government is there. We  
18           look at the debt service. Is it --  
19           in-house employees maintain it, or do we  
20           have it contracted out to other  
21           operations?

22           Our funding sources for water  
23           systems is either going to be loans or  
24           grants or every once in a while you get  
25           an industry coming in there and they'll

1           come in there and say, "Well, we're going  
2           to drill you a new water well, build you  
3           a tank if you will sell us water."  
4           There's a few systems across the state  
5           that have been very blessed with that  
6           opportunity. It's allowed them to take  
7           on customers and serve a higher capacity  
8           water for these customers but maintain a  
9           reduced rate for their customers as well.  
10          Some support it by taxes, and then others  
11          support it by other forms of income,  
12          whether it be grant dollars from the  
13          state or contributions from local  
14          agencies. And then our biggest  
15          operational cost is the operations. You  
16          know, what does it cost? You know, the  
17          water demand, how much water do we really  
18          need for that system? And I'm talking  
19          about the water we really need. I'm not  
20          talking about the 32 percent that we're  
21          letting run down the -- run on the ground  
22          out there through leaks and stuff. I'm  
23          talking about what we need to furnish the  
24          everyday demands for that system, the  
25          households, the businesses. Their water



1 source and their quality. You know, what  
2 kind of treatment has to come into play  
3 to make the water applicable and  
4 compliant with state and federal  
5 regulations. And then, again, we get  
6 into that personnel and labor cost. And  
7 a lot of times when we're working on a  
8 water system and we're looking at trying  
9 to cut cost, folks, it's like in any  
10 business, there's very few things you can  
11 cut and usually it comes down to labor.  
12 And a lot of times when you cut your  
13 labor, you cut your knowledge, because  
14 somebody else will come in and do it for  
15 cheaper but he don't have the 15 years  
16 experience.

17 Matt asked me to speak a little bit  
18 about the infrastructure -- the Rural  
19 Water Infrastructure Committee. It was  
20 formed by the governor just a few months  
21 ago. It's tasked at looking at water  
22 systems across the state and determining  
23 some of the needs of the water systems.  
24 It consists of representatives from the  
25 governor staff. Water system regulatory

1 agencies, funding agencies, technical  
2 assistant providers and other  
3 governmental associations. We meet  
4 periodically, but then also we actually  
5 have a, what they call, an initial  
6 response team that goes out and meets  
7 with water systems that's on the  
8 distressed list of systems to try to find  
9 out what the plan of action is.

10 And one of the primary functions of  
11 this committee is not so much to go  
12 hammer on the water system but to bring  
13 everybody to the table and let's work  
14 together to get these projects going to  
15 get the upgrades in place that needs to  
16 be, to pool the funding assets together.

17 And we had a meeting Monday, and one  
18 of the things they told us at the meeting  
19 through our -- through the committee  
20 being formed, the funding agencies are  
21 actually looking at their practices, how  
22 they went about approving projects for  
23 funding and stuff like that there.  
24 Through some of this committee work,  
25 we've discovered that there's some

1 funds -- forms of funding out there that  
2 the money goes to the system as a grant  
3 and the system is not required to put no  
4 resources aside to maintain or update the  
5 other parts of the system, and they're  
6 just continually operating off of one  
7 grant after the other. In the meantime,  
8 they got a water rate of 11- or 12-dollar  
9 a month minimum and two dollars a  
10 thousand and their neighbor just borrowed  
11 two million dollars and they have a water  
12 rate of a 25 minimum at five dollars a  
13 thousand, but they're upgrading their  
14 system. This other system is getting  
15 straight grant money and they're not  
16 putting no monies aside to try to  
17 maintain their improvements and keep up  
18 with it.

19 So the other agencies are currently  
20 reviewing their funding policies and  
21 basically telling some of these water  
22 systems, "We're going to get the money,  
23 but you've got to provide us that you're  
24 going to maintain your system with a  
25 sustainable rate and maintain the

1 upgrades that we're putting in place."

2 And as we come to the last slide,  
3 this is one of my grandchildren at a  
4 camping trip, a three year old. And our  
5 consumers are as innocent as this three  
6 year old. She went to the neighboring  
7 camp spot, started out washing her hands  
8 and eventually she was drinking water  
9 from that tap. Our consumers in the  
10 households trust us to have that water to  
11 that quality that they can drink it and  
12 it sustain them and it be healthy for  
13 them to drink.

14 We have a big challenge at hand.  
15 There is some places that -- our little  
16 rural water systems, our municipalities  
17 need some help. This presentation to the  
18 committee today was just to kind of  
19 update of the rural water systems in the  
20 state and the status that they're in.  
21 There's a report out that we got a few  
22 years ago that shows a lot of north  
23 Louisiana has a severe water loss issue.  
24 That's the systems we can get to  
25 participate in the survey that we've

1 done. And a lot of times, the  
2 information that we was given, I could  
3 look at it and say, "Really, do you think  
4 I need to believe this?" And we've been  
5 submitted some information that showed  
6 they sold as much water as they produced.  
7 And we all know we can't do that. We all  
8 know we lose some somewhere.

9 Any questions or comments?

10 MR. BRASSEAU: I've been working  
11 with the RWA for probably going on 16  
12 years, and, to be honest, the smaller  
13 systems, I don't know how they do it or  
14 how they could exist without Louisiana  
15 Rural Water. Our community is just  
16 under -- we're about 9,500 people, and so  
17 we -- our counsel understands that when  
18 that auditor says you need to raise your  
19 rates, they don't hesitate. But some of  
20 these smaller municipalities and rural  
21 systems, for some reason, they don't want  
22 to -- they don't want to bite the bullet  
23 and do what they have to do. But  
24 Louisiana Rural Water, you know, they  
25 provide so much technical assistance to

1 water systems throughout this state that  
2 if you have a problem, all you do is pick  
3 up the phone and within a matter of  
4 minutes you're going to have somebody on  
5 the phone or actually at your water plant  
6 giving you advice.

7 So I could go on forever, but I just  
8 wanted to commend them for what they're  
9 doing that -- for the people that aren't  
10 familiar with the Louisiana Rural Water,  
11 they really need to, you know, do some  
12 research and, you know, get up to snuff  
13 on that, so thank you.

14 MR. REEVES: Thank you,  
15 Mr. Brasseaux.

16 MR. FREY: Mr. Reeves?

17 MR. REEVES: Yes, sir.

18 MR. FREY: One concern I've had, I  
19 guess, over the years, we had a workshop  
20 several years back for this Commission,  
21 and I remember Mr. Credeur mentioning the  
22 leakage problem. And I can understand  
23 the lack of metering and how you address  
24 that, but are we making any progress with  
25 the leakage from these rural water

1 systems? I know it's in the millions of  
2 gallons daily, as I remember a number,  
3 or --

4 MR. REEVES: Yes, sir. And we're  
5 making progress because some of these  
6 systems are putting in meters at their --  
7 once they realize that the meter is  
8 utilized as a tool, some of them are  
9 starting to install them on their  
10 systems. Some of them are actually  
11 putting them in distribution legs for  
12 different areas so they can monitor  
13 different areas of the system. We still  
14 have a significant number of the systems  
15 that have not put meters on at the  
16 sources. And I was part of the design  
17 committee when we just reworked the  
18 design regulations, and Johan [Forsman]  
19 was in the meetings with us there, and  
20 that was one of the -- moving forward,  
21 one of the requirements that all of the  
22 sources would be metered. It may not be  
23 metered every well, but there would be a  
24 meter going into that plant to determine  
25 how much water was being produced from

1           that well or that supply of water. Some  
2           of it may come to where it's regulated  
3           that everybody put a meter on that  
4           supply. And a lot of them tell you first  
5           thing, "Well, it's going to run the cost  
6           up." The other thing some of them are  
7           scared of, "Well, if I got a meter there,  
8           somebody can come in there and tell me  
9           you're going to pay a penny a thousand  
10          gallon feet because now we can monitor  
11          the source." And, you know, you can  
12          monitor with our meters even, because we  
13          can put a flow meter on there and tell  
14          them what a well produces, and if we know  
15          it runs six hours a day on average, we  
16          can get a pretty close estimation.

17                 MR. CREDEUR: I'm going to jump in  
18                 here --

19                 MR. REEVES: Yes, sir.

20                 MR. CREDEUR: -- Rusty. Paul, to  
21                 answer your question, as far as the leak  
22                 problems are -- and I'm Pat Credeur,  
23                 Director of the Louisiana Rural Water  
24                 Association. The problem continues. We  
25                 constantly do water leaks across the



1 state. We turn in the information. It's  
2 up to that community to fix their own  
3 water leaks, and a lot of them do. But  
4 the ones that have really large problems,  
5 they have to go out for grants and try to  
6 repair this. The national average for  
7 water loss is somewhere around  
8 15 percent. Just a few years ago when we  
9 conducted a survey ourself, I think,  
10 Louisiana is somewhere in the 25 to 30 --  
11 32 percent range.

12 We can drive down any road -- any  
13 country road through any community and  
14 you're going to see water flowing in the  
15 ditches on a dry, dry day. A lot of the  
16 problems that we're told is that a lot of  
17 these utilities don't have enough staff  
18 to help them locate these leaks, which is  
19 why we come in there. We go in, we  
20 locate it, we give them the problems, we  
21 give them the pictures, we give them the  
22 address of where the problem is, and it's  
23 up to them to fix it. And, of course, we  
24 do that with sewer as well and we test  
25 the meters, we do rate studies. So we do

1 the whole nine yards.

2 And the bottom line about all this,  
3 thank God for grants from state and USDA  
4 and EPA. We can do this at no charge to  
5 the communities. So the problem is still  
6 there. We can go into an area, and we  
7 can locate them, they'll fix them, but  
8 then because of the old pipes  
9 infrastructure, you're going to have  
10 breaks, which is why the governor put  
11 this committee together. And the ten  
12 worst systems in the state right now is  
13 Enterprise Water, Town of Tullos, Village  
14 of Clarence, Village of Powhatan, Hammock  
15 Water in Rapides Parish, Rogers Community  
16 in LaSalle, Town of Melville in  
17 St. Landry Parish, Town of Baldwin and  
18 Ozone Pines. Those are the top ten. Are  
19 those the only ones in the state, no.  
20 But those are the critical ones that this  
21 committee is working with to try to get  
22 them back into the 21st Century.

23 So we're here to help out. Anywhere  
24 in your communities if you hear of  
25 something, pick up the phone and call us

1 and we'll send staff out there.

2 Rusty, I'm sorry to take over.

3 MR. REEVES: That's okay. Did that  
4 answer your question, Mr. Frey?

5 MR. FREY: Yeah, that helps. I'm  
6 glad to see that we're making some  
7 progress in some areas. You know,  
8 Senator Long mentioned the fact that  
9 we've been blessed with an abundance of  
10 water and I think maybe the attitude  
11 probably statewide is one of the reasons  
12 why we're losing a little bit of water.  
13 Well, a little bit of water, you know,  
14 sometime in the future is going to be a  
15 very valued commodity. So just I wanted  
16 to make sure we're working on that.

17 MR. REEVES: Well, and to add to  
18 that there, we're talking about the  
19 funding committees and some of them  
20 reviewing their policies and stuff. USDA  
21 and SRF and Clean Water which is DEQ  
22 monies, they require a system to put in  
23 meters to get funding. Some of the other  
24 funding sources didn't require meters and  
25 they're looking at that process there to

1           require meters as well as part of the  
2           requirement to get the funding so that we  
3           can start getting a handle on some of  
4           this here.

5                     Yes, sir?

6                     MR. DAVIS: Rusty, I'm Mark Davis  
7                     from Tulane Water Institute and various  
8                     other places.

9                     First of all, thanks for that  
10                    presentation. It's dealing with work our  
11                    guys have been doing for a long time.  
12                    But I think it's important for the  
13                    committee to know this is not just a  
14                    rural problem. I live in the city and,  
15                    quite frankly, if we get the 25 percent  
16                    loss -- it's New Orleans -- it would be a  
17                    great day.

18                    MR. REEVES: Yes, sir.

19                    MR. DAVIS: So the overall issue of  
20                    how we manage water and how we pay for  
21                    the things that need to be paid for and  
22                    how we provide the professional services  
23                    is going to be a critical one. And I  
24                    think the first step for market value is  
25                    to put an actual value, not a price, but

1 a value on it. Price can come, you know,  
2 one day. But right now we are -- you  
3 know, we're treating it as though it's  
4 free or that someone else will pay for  
5 it.

6 The work you-guys are doing to  
7 encourage metering, I think maybe the  
8 single most important piece is that it  
9 was up against, you know, economic and  
10 cultural barriers but you cannot manage  
11 what you're doing -- you're not  
12 measuring.

13 MR. REEVES: That's correct.

14 MR. DAVIS: And we have to  
15 increasingly realize that that is the  
16 world we're going to.

17 And I also want to commend you  
18 because I think frequently the objection  
19 to things like, you know, metering and  
20 even, you know, regulating is strongest  
21 in rural communities, because it's not  
22 what they're from. But they will be the  
23 principal victims as the water becomes  
24 more of a commodity. We're already  
25 seeing that in neighboring states. And

1           for those of you that don't know, in  
2           Mississippi and Tennessee are litigating  
3           over the Sparta Aquifer in the US Supreme  
4           Court right now, because in Tennessee  
5           urban wells are draining Mississippi  
6           rural wells.

7                     We're seeing similar things  
8           happening between New Mexico and Texas.  
9           And these are the not anomalies. This is  
10          the future we should be preparing for.

11                    And so -- and also I'd like to -- if  
12          I can figure out how to get on the  
13          contact list for the new committee -- the  
14          infrastructure committee, I'd love to do  
15          that. I think I could learn a lot from  
16          it.

17                    MR. REEVES: Okay. Ms. Leslie  
18          Durham is the chairman of it.

19                    MR. DAVIS: We can figure a way.

20                    MR. REEVES: Yes. I can get that  
21          information to Matt.

22                    MR. DAVIS: Thanks.

23                    MR. REONAS: I've got it.

24                    MR. REEVES: Okay. I'll get that  
25          and make sure Matt has it.

1 MR. DAVIS: Appreciate it.

2 MR. HARRIS: Mr. Gray?

3 MR. GRAY: I have a question. It's  
4 a little obscure, but it's -- so I  
5 understand if you're not prepared to  
6 answer it. Is the Town of St. Joseph a  
7 member of the Rural Water Association?

8 MR. REEVES: Yes, sir.

9 MR. GRAY: I mean, I just want to  
10 report that the past couple of years,  
11 we've dealt with some legislative issues  
12 that Representative Marcus Hunter has  
13 introduced to make significant changes to  
14 the way that water is regulated. And  
15 part of that has to do with a town that's  
16 in his district of St. Joseph that had  
17 some problems, I believe, related to  
18 water. You know, I just wanted to make  
19 sure to bring that to the attention of  
20 the commission that basically you've got  
21 a representative within the legislature  
22 that's trying to make significant changes  
23 to the policy with one community, right,  
24 and, you know, I just didn't know if  
25 you-guys had ever dealt with that town or

1 if you had any thoughts or comments on  
2 how to manage or even help that isolated  
3 community rather than making significant  
4 changes to the overall water policy.

5 MR. REEVES: Patrick?

6 MR. CREDEUR: I'll answer that.

7 Yes, Marcus Hunter and I became very  
8 good friends. He comes up with a lot of  
9 these water bills that were going to more  
10 or less help out his district and St.  
11 Joe, but overall statewide it was going  
12 to actually hurt all of the water  
13 systems.

14 We listen to what the Department of  
15 Health tells us. And the Department of  
16 Health tells us there's really not a lead  
17 problem in the State of Louisiana. Yes,  
18 you're going to find some communities  
19 that have lead problems, but they're  
20 being taken care of individually  
21 throughout the state.

22 Marcus wanted statewide bills that  
23 were going to hit every water community,  
24 every water system and raise the rates  
25 from \$30 a month to \$100 a month because



1 of new treatment processes, and the small  
2 communities cannot afford that. We were  
3 never totally against what Mr. Hunter was  
4 proposing. But I have a thousand utility  
5 members that are members of our  
6 association, and the reason I bumped  
7 heads with him is because our members did  
8 not want this to happen. Even in the  
9 zoned districts, they did not want this  
10 to happen.

11 Some of the things that he proposed  
12 were good for water systems, yes, it was.  
13 But as an overall package to all the  
14 utilities including mine in Carencro,  
15 North Lafayette Water, it was going to be  
16 a problem and the water rates were going  
17 to -- going to climb tremendously.

18 Eventually, one of these days, we're  
19 going to pay \$100 a month, \$150 a month  
20 water bill. It's coming, and it won't be  
21 long. So it has nothing to do with  
22 Hunter or just that one district. We  
23 were opposed to it because of what our  
24 membership was telling us to say, wanted  
25 us to do. And it wasn't a fix-all for

1 the home state.

2 MR. GRAY: What I explained in the  
3 same -- just to share what our  
4 conversations were, as an industry  
5 representative we try to maintain that  
6 definition between the community water  
7 system and the public water. And so that  
8 was really where we tried getting the  
9 (inaudible), because I agree with you, we  
10 don't have a lead problem. And so to  
11 have that over extended authority, we  
12 were a little concerned with that. So  
13 I'm glad to hear that you-all have been  
14 working on that. Thank you.

15 MR. CREDEUR: After about 12  
16 amendments, 12 or 13 amendments, the  
17 health department and we as well, we  
18 didn't oppose it. He got one amendment  
19 in there to do one school in one parish  
20 for the next year to test for lead. So  
21 that's 12 schools for the whole year, and  
22 we'll see what comes about that.

23 MR. GRAY: Well, I would be  
24 interested in anything that does come  
25 from that, so hopefully I'll just get on

1                   that list or whatever I need to do.

2                   Thank you for your work.

3                   MR. CREDEUR: Yes, sir. Thank you.

4                   MR. HARRIS: Do we have any other  
5                   questions? Mr. Reeves, thank you --

6                   MR. REEVES: Thank y'all.

7                   MR. HARRIS: -- not only for being  
8                   here today, but also for what you do with  
9                   the Rural Water Association. Along with  
10                  air, both are just highly  
11                  underappreciated. Most of us don't even  
12                  think about it unless we don't --  
13                  wouldn't have it for some reason.

14                  MR. REEVES: Yes, sir. And if we  
15                  can help any of y'all with any situation  
16                  in your community or your district don't  
17                  hesitate to call us. Thank you.

18                  MR. HARRIS: Thank you again.

19                  Our next agenda item we're going to  
20                  have an update on the coastal lowlands  
21                  aquifer system project by Linzy Foster.  
22                  She's a hydrologist with the US  
23                  Geological Service. Welcome and thank  
24                  you.

25                  MS. FOSTER: Good morning. I'm

1           happy to be here to talk to you-guys  
2           about the update on the coastal lowlands  
3           aquifer system project. This is a  
4           five-year study that we're in the second  
5           year of. This is a congressionally  
6           mandated project to look at the regional  
7           aquifer system of the coastal lowlands.  
8           We developed a numerical model to  
9           understand groundwater flow. So we're  
10          not focused on water quality or  
11          contaminant transport, but really just  
12          water budgets, understanding how the  
13          regional groundwater flow and the system  
14          to answer -- basically to answer  
15          questions.

16                 MR. REONAS: Just for Commission  
17          members, we do have a copy of this  
18          presentation in your packets if y'all  
19          haven't found it yet. Hopefully  
20          everybody has.

21                 MS. FOSTER: So I'm a co-project  
22          employee along with Brian Clark. I'm  
23          actually in Austin, Texas. Brian Clark  
24          is some other colleagues in the room are  
25          lower Mississippi Gulf Water Science

1 Center, so this is a project combined  
2 with two water science centers to look at  
3 understanding the system.

4 So as I mentioned, this is a USGS  
5 Regional Groundwater Availability  
6 Project, so I've got a -- just a map here  
7 showing some of the other ongoing  
8 projects that have been completed and are  
9 in progress by the US Geological Survey.

10 The main goal of these regional  
11 groundwater availability projects are to  
12 really understand groundwater flow in  
13 these regional systems and document both  
14 anthropogenic effects on the water level  
15 storage and stream flow, but also explore  
16 climate variability impacts and  
17 predictions that we try to make, and also  
18 to evaluate the adequacy of our data  
19 network. So that tends to -- when we  
20 talk about data, we tend to talk about  
21 monitoring wells and water level data.

22 So a little bit on the coastal  
23 lowlands in general for those who aren't  
24 familiar with the principal aquifer, it  
25 is a 140,000 square miles, it covers five

1 states, so it goes from the Texas/Mexico  
2 boarder all the way to the Florida  
3 panhandle. So this includes for our --  
4 for Louisiana, the Southern Hills  
5 Regional Aquifer System, the equivalents  
6 of Chicot, Evangeline, Jasper aquifers.  
7 It is nationally fourth in groundwater  
8 for public supply and fifth as -- fifth  
9 in groundwater for private domestic  
10 supply. It includes the Houston area,  
11 which one major concern in the Houston  
12 area is land surface subsidence, which is  
13 also a concern in Louisiana as well. And  
14 that's actually something that we're  
15 focusing on the study in simulating  
16 subsidence. Other cities, Baton Rouge,  
17 New Orleans, Mobile.

18 So a little bit of what we're really  
19 primarily focusing on with this study, we  
20 obviously can't answer every potential  
21 problem or issue in this large regional  
22 study, so we've really chosen to focus on  
23 subsidence as like our one unique thing  
24 that we can look into. So we're going to  
25 be simulating land surface subsidence and

1           that's not from subsidence from natural,  
2           like, tectonic processes or losses of  
3           sedimentation, but it's from actual  
4           dewatering or depressurization or water  
5           pumping of the aquifer.

6           So another thing that's unique to  
7           this project that hasn't been done before  
8           with these large regional models is we're  
9           going to be applying something called  
10          uncertainty analysis. There are  
11          different forms of uncertainty analysis.  
12          We're going to be applying a couple of  
13          different kinds. There's what's called  
14          linear and nonlinear. So the real  
15          advantage with application uncertainty  
16          analysis is for anyone who's familiar  
17          with models, they are known to be  
18          nonunique. So there's a lot of  
19          uncertainty in the properties that go  
20          into the -- to the models, the data as  
21          well, and that uncertainty propagates  
22          through to the predictions that we try to  
23          make with the model, whether those be  
24          water levels, water budgets, draw downs  
25          or subsidence rates.

1                   So in an application uncertainty  
2                   analysis, we really move from moving from  
3                   a traditional -- making one estimate of  
4                   what water levels could be in one  
5                   particular area to considering things in  
6                   terms of normal distributions or ranges  
7                   of what plausible values could be for  
8                   that prediction.

9                   A further advantage to application  
10                  of uncertainty analysis is that we can  
11                  actually quantify the worth of improving  
12                  data sets. So what does that mean?  
13                  Well, that means if we were --  
14                  potentially were to have new wells that  
15                  we put in where we were gathering new  
16                  water level data information or perhaps a  
17                  new gauge was put on a stream or river to  
18                  collect discharge data, we can actually  
19                  quantify and assess what the value added  
20                  of that data is to the model and the  
21                  prediction that we're trying to make.

22                  So in the USGS we use some Python  
23                  scripting tools to do this. Most  
24                  notably, we use a package called pyEMU,  
25                  which has been developed by the USGS to



1                   quantify uncertainty.

2                   So a little bit on just the system  
3                   geometry. This is a historical  
4                   perspective. Most people are probably  
5                   familiar with the old RASA models that  
6                   were developed in the '80s and '90s for  
7                   the coastal lowlands, also the uplands in  
8                   Mississippi embayment regional aquifer  
9                   system and what is now actually being  
10                  continued to work on as well which is the  
11                  Mississippi alluvial plain project.

12                  The system was conceptualized for  
13                  the RASA model into what were termed  
14                  permeable zones, and these were basically  
15                  lumped based on having similar hydraulic  
16                  properties. So we had permeable zone A  
17                  down to the Vicksburg, Jackson confining  
18                  unit. So there were seven layers in  
19                  original coastal lowlands system  
20                  conceptualization. And just to show you  
21                  here it overlies -- the coastal lowlands  
22                  here overlies the Mississippi embayment.  
23                  And the Mississippi alluvial plain is  
24                  kind of this thin layer on top of the  
25                  embayment which actually abuts to the

1 coastal lowlands.

2 In our current approach we have  
3 really gone back to the drawing board to  
4 no longer use this conceptualization of  
5 permeable zones, but actually to go build  
6 the hydrogeologic framework based upon  
7 the aquifer units that we -- are known to  
8 exist now based on newer data. So those,  
9 in particular, are the Chicot, the  
10 Evangeline, and the Burkeville confining  
11 unit, the Jasper aquifer, and then the  
12 last unit, which is probably the least  
13 used is the Catahoula.

14 So we've done extensive work so far  
15 in compiling data for these different  
16 hydrogeologic picks, making  
17 determinations of these aquifer units  
18 across the study area. And that data  
19 release is going to be published this  
20 fiscal year, so in the next couple of  
21 months it should be readily available.

22 So one advantage of this data set  
23 for local and regional stakeholders, like  
24 this commission and like users in the  
25 State of Louisiana, is that there will be

1 a new data set of these determinations of  
2 these aquifer units for the state. So  
3 this will be independent of what's  
4 developed as part of the model. And once  
5 the model gets published, we may have  
6 updates to this that will be published as  
7 well.

8 It looks like my -- I had some  
9 videos in here and they're not working  
10 right now. So my apologies. A little  
11 bit more on the data compilation. You  
12 can see that for the State of Louisiana,  
13 we used a little network of about 1,400  
14 wells with about 17,000 picks, and I  
15 think we had about eight different data  
16 sources for this data to make these  
17 determinations for these units across the  
18 study area.

19 So, obviously, we know the geology  
20 is really complex. Coming from Texas,  
21 which is where I'm from and I work, we  
22 tend to have a more simplistic  
23 understanding of the Chicot, Evangeline  
24 and the Jasper. Coming into Louisiana,  
25 we have these 100-foot spans and the

1 geology is much more complex. So this  
2 has been quite a huge undertaking to make  
3 these correlations in a regional sense.  
4 And I just showed an old strat map here  
5 from the -- actually this is from John  
6 Lovelace report from the mid-nineties  
7 just to show some correlations of these  
8 different units. And as we see in just a  
9 preliminary cross section here, we've  
10 been able to extend these across the  
11 State of Louisiana and regionally for the  
12 model. So that data will release again  
13 by September 30th.

14 So I wanted to talk a little bit  
15 about our approach with this project and  
16 why it is different and what's  
17 traditionally done. So in a traditional  
18 model development we would come up with  
19 some kind of conceptual model, we would  
20 compile or maybe collect data, and then  
21 we would go through this exercise of  
22 calibration or what I like to call  
23 history matching, which is really just  
24 using data that's available to kind of  
25 massage the model to produce output

1                   that's realistic to the real word.

2                   Then we may go to some stakeholder  
3 meetings, like this meeting here, and  
4 talk about, Hey, we've made this model.  
5 We think it's going to be really useful.  
6 Hopefully you-guys will use it. And  
7 maybe from that meeting, we might come up  
8 with some forecast that we're interested  
9 in making like, what are water level  
10 declines going to look like in baton  
11 Rouge in the year 2075. So we've come up  
12 with some scenarios, developed models  
13 based on our calibrated models, run those  
14 scenarios to answer some questions, and  
15 then we would produce a report.

16                   The indifference in this approach is  
17 we have been trying to involve  
18 stakeholders earlier in the process to  
19 come up with areas of potential concern,  
20 what are issues that are known in the  
21 study area to help us identify what these  
22 quantities and interests are early in the  
23 process so that we can make sure when we  
24 develop the model those are in line with  
25 the questions that we're trying to

1 answer. So it's been a much more  
2 iterative process.

3 This is really based on a  
4 publication that came out recently on a  
5 new approach for groundwater modeling,  
6 which is called forecast first modeling.  
7 So you can't really see very well on the  
8 slides here, but I've included just a  
9 snippet from this publication, and it  
10 just basically says, by focusing the  
11 forecast on the predictions, a more  
12 robust analysis of the appropriate level  
13 of complexity can be undertaken. Where  
14 complexity is driven not only by the  
15 ability to reproduce the past or data,  
16 but also simultaneously by the need to  
17 provide robust estimates of forecast for  
18 prediction uncertainty.

19 So the real difference here is that,  
20 again, we come up with the questions that  
21 we're trying to answer early in the  
22 modeling process so that we can apply  
23 uncertainly analysis and see  
24 quantitatively how new data sets improve  
25 our ability to answer those questions.

1                   So the approach that we're taking  
2                   with the model is we've coined this term  
3                   the 85 percent model, not to mean that  
4                   we're leaving out 15 percent of the most  
5                   important part of the model, but we're  
6                   leaving out 15 percent of the part of  
7                   modeling that really is not informing the  
8                   prediction or the forecast that we're  
9                   trying to make. So the way that we have  
10                  approached this is we're using existing  
11                  models, which on the next slide I'll show  
12                  our existing models that we have. We're  
13                  pulling together historical data, of  
14                  course, water levels, base flows, also  
15                  water yeast estimates. And then we're  
16                  defining our quantities of interest. So  
17                  right now, we just have water levels,  
18                  subsidence, draw downs. And then  
19                  building forecast models. So this is  
20                  where we currently are with this process  
21                  as we're trying to fine tune the forecast  
22                  models that we're developing. We apply  
23                  uncertainty quantification. Again,  
24                  there's a couple of different forms of  
25                  this. Right now we're just doing a

1           simplistic linear based approach. And  
2           then we added new data sets to repeat and  
3           compare. So the real advantage this  
4           gives us is in this concept that most  
5           people are familiar with of diminish in  
6           returns is that we add the amount of  
7           complexity needed to answer the questions  
8           that we want to answer with the model  
9           without going past where we're really not  
10          being productive with development of the  
11          model, but we're kind of just wasting our  
12          time and effort.

13                 So one further advantage of the  
14                 application of uncertainty analysis is we  
15                 can look at individual predictions that  
16                 we want to make and we can look at how  
17                 the data has actually reduced the  
18                 uncertainty of those predictions. So  
19                 potentially some water level prediction  
20                 we want to make in a well in Baton Rouge  
21                 we can look at how they calibration data  
22                 has reduced the prior uncertainty of that  
23                 prediction and provided a new  
24                 understanding of can the model really  
25                 make this prediction well, is the model



1                   reliable for use in this way.

2                   So our current model is a one  
3                   kilometer scale. It is in line with  
4                   what's being produced nationally. And  
5                   there's going to be a national water  
6                   model developed, so this is consistent  
7                   with the national water model. And it's  
8                   current just one layer, but we're going  
9                   to be splitting it into those aquifer  
10                  equivalents, so a minimum of five layers  
11                  to represent those different units.

12                  Previous modeling efforts, there are  
13                  several. So not only do we have the RASA  
14                  models that were developed, but we also  
15                  have GAM models which are the groundwater  
16                  availability models that were developed  
17                  in the State of Texas. We have more  
18                  local scale models such as for the Baton  
19                  Rouge, the Chuck Hayward model, other  
20                  USGS models, a hydrogeologic model for  
21                  northwest Florida. So we're trying to,  
22                  instead of, you know, starting from  
23                  ground zero, really utilize these models  
24                  as a jumping off point for what we  
25                  already know about conceptualization and

1 flow in the system.

2 The Texas groundwater availability  
3 models are the most thorough modeling  
4 data set that we have. These are one  
5 mile by one mile grids. I'm not sure how  
6 familiar the Commission is with these  
7 models, but they were developed from --  
8 they simulate predevelopment of water use  
9 all the way up to either 2000-2012. The  
10 layers are already consistent with the  
11 Chicot, Evangeline, Jasper units, and  
12 they represent a variety of different  
13 boundary conditions. So they're pretty  
14 thorough in regards to simulation of  
15 groundwater flow and water budgets.

16 In Louisiana, Mississippi, Alabama  
17 and Florida we have -- we don't really  
18 have any models that cover these entire  
19 areas outside of the original RASA model,  
20 so this is one area that we're working  
21 on. It's filling in these data gaps  
22 where we don't have models already  
23 developed for these areas. We're really  
24 having to utilize best available data in  
25 that sense.

1                   So this is a MODFLOW 6 model that  
2                   we're using. MODFLOW 6 for those --  
3                   hopefully everyone here is familiar with  
4                   MODFLOW which is USGS standard for  
5                   groundwater flow simulation. There's a  
6                   new version that's just come out and it's  
7                   really been rewritten from the ground up  
8                   to better kind of handle development of  
9                   local models within regional models. So  
10                  that's a further advantage of this model  
11                  for stakeholders in Louisiana is that  
12                  you'll be able to take this model when  
13                  it's finished and embed smaller local  
14                  scale models such as in Baton Rouge more  
15                  seamlessly into the regional model and  
16                  you'll already have an understanding of  
17                  your major components of the water  
18                  budget, groundwater flow directions from  
19                  that regional model. So we're hoping  
20                  that not only does this tool provide a  
21                  good understanding regionally of water  
22                  flow, but that it's useful as a tool for  
23                  local and subregional stakeholder as  
24                  well.

25                         So the current model is for

1           predevelopments. We're starting in 1900  
2           and we're going up to 2015. We've done  
3           some simple parameterization so far with  
4           just parameter set raised 60 kilometers  
5           to start to look at potential  
6           variability. And we're using some  
7           sophisticated software, pyEMU, that I  
8           mentioned before, but also PEST + +,  
9           which is being used to calibrate the  
10          model.

11                 Currently we just have water levels  
12           as kind of our data that we're using to  
13           constrain the model. We have not  
14           implemented subsidence data yet, but that  
15           is one thing that we're looking to do in  
16           the next couple of months is to begin to  
17           look at how a model is doing at  
18           estimating subsidence.

19                 So just a little bit more about  
20           forecast or prediction uncertainty. One  
21           really important thing that tends to fall  
22           out from this is that we can learn that  
23           some forecasts are more informed by our  
24           data than others. So what I've shown  
25           here is just a graph of some water level

1 predictions that we're making at  
2 different locations in the model. And  
3 what this graph is showing is that some  
4 of those predictions -- this is on the Y  
5 axis here -- is your percent uncertainty  
6 reduction. Some predictions have a large  
7 reduction of an uncertainty when we apply  
8 the data. And so what that tells us is  
9 that this location in general for this  
10 particular model and the data we have  
11 that the data has well informed that  
12 prediction that we're trying to make.

13 Other predictions such as this one  
14 next to it have just like a 25 percent  
15 reduction. So this is saying basically  
16 that the data wasn't as well informed in  
17 making that prediction.

18 You can further kind of take this  
19 analysis and now looking at a specific  
20 prediction of the water level we're  
21 trying to make, you can determine, well,  
22 what were the parameters that were most  
23 important in forming that prediction.

24 So this uncertainty analysis is  
25 really powerful, it provides us with a

1 much stronger understanding of how a  
2 model is doing, the questions that we're  
3 trying to answer and what those potential  
4 causable ranges could be, but also it  
5 drives additional questions like, where  
6 is the model doing poorly? What kind of  
7 data can we gather to improve our  
8 understanding of a model in that area?

9 And I apologize that my video -- my  
10 movie is not playing here, but another  
11 data set that we have independently been  
12 working on to put into the model is the  
13 WEL package. So this is all the  
14 groundwater withdrawals. So for the  
15 State of Louisiana colleagues here in the  
16 room actually have been working on  
17 putting together a data set for the water  
18 use component. I think it went by  
19 category, you know, municipal first,  
20 industrial, irrigation.

21 We've -- we're pretty close to  
22 having kind of our final product and the  
23 next step is going to be assessing our  
24 data gaps that we have in this data set,  
25 which we have noted so far are in our

1                   irrigation estimates.

2                   We're also using as far as the Grand  
3                   groundwater well locations data that's  
4                   readily available from the DNR website  
5                   from the viewer. And we're also  
6                   combining these with model -- available  
7                   model estimates as well.

8                   So for Texas we have models that  
9                   cover the entire time period, but, again,  
10                  outside of that, we're really having to  
11                  make some estimates to fill in data gaps  
12                  in Louisiana, Mississippi, Alabama and  
13                  Florida.

14                  So we're going to have this data set  
15                  available for -- in publication next year  
16                  probably within the first or second  
17                  quarter of next year.

18                  As I mentioned, we're going to be  
19                  focusing on land surface subsidence. And  
20                  our really unique question that we're  
21                  trying to answer outside of just  
22                  groundwater availability. So I've  
23                  included here a new viewer that actually  
24                  the Texas Water Science Center has  
25                  produced looking at land surface

1           subsidence, in the Houston area. We're  
2           are going to be utilizing this data and  
3           other data on subsidence in Baton Rouge,  
4           for instance, that's available in the  
5           National Water Information System. We're  
6           also working to compile additional  
7           subsidence data sets, such as remote  
8           sense InSAR data. I just wanted to let  
9           you-guys know about this in case you  
10          haven't looked at it. It's a really  
11          useful tool to look at spatially and  
12          temporally how subsidence has changed and  
13          how water levels have changed in the  
14          Houston area.

15                 As a further step in our modeling  
16                 with the new MODFLOW 6 there was not a  
17                 current package to simulate subsidence  
18                 processes, so as part of this product  
19                 we're also developing a new subsidence  
20                 package or subsidence process for the  
21                 model. And that should be coming out as  
22                 well on next FY.

23                 So really where we currently are is  
24                 we have a working model, we're  
25                 implementing our new framework right now.



1           We're coming up with those quantities of  
2           interest I've mentioned, you know, where  
3           we're going out to stakeholders and  
4           saying, what are the real concerns in  
5           your area. If you had questions you  
6           wanted to answer in this model, what  
7           would those be. We're compiling  
8           information on our understanding of the  
9           system from all of the available  
10          literature, from available models, and  
11          then we're kind of working on our next  
12          round of uncertainty analysis.

13                 One component that hasn't been added  
14                 yet is surface water routing. So the  
15                 Surface Water Network isn't implemented  
16                 in the model yet, so that, we're going to  
17                 be working on in the next coming months  
18                 as well. And then adding in the  
19                 additional subsidence process once it  
20                 gets published.

21                 So timeline, again, it's a five-year  
22                 project. We're wrapping up at the end of  
23                 2021. Not only are we developing a model  
24                 and applying uncertainty analysis and  
25                 calibrating the model, but we're also

1           going to be just looking from a regional  
2           perspective about what is the story of  
3           groundwater availability, groundwater  
4           sustainability moving forward with  
5           potential anthropogenic changes and  
6           pragmatic changes into the future. And  
7           that will be published in a professional  
8           paper in the last year.

9           So I've got a snapshot of our web  
10          page. You can go here for more  
11          information on our approach. People that  
12          are involved: My contact information.  
13          And, again, I really -- just wanting to  
14          get the word out more on this project,  
15          wanting to get feedback, wanting to hear  
16          from interested stakeholders on how they  
17          can see potential uses of this, if they  
18          have additional data that they can  
19          provide, what their concerns are. For  
20          that, I think that's all I have.

21          MR. HARRIS: Thank you, Ms. Foster.  
22          Do we have any questions?

23          Thank you very much. We look  
24          forward to you -- I'm sorry.

25          MR. CULPEPPER: Hi, Dave Culpepper.

1           And I'm also a treasurer of New Orleans  
2           Geological Society and been actively  
3           involved in the -- working on subsidence  
4           drivers in South Louisiana for the last  
5           few years.

6                    Are you going to have an open  
7           comment period for your report and your  
8           data, like a round two for questions and  
9           comments?

10                   MS. FOSTER: Well, in the  
11           publication process, we probably submit  
12           the report to interested stakeholders to  
13           get their feedback, and then we tend to  
14           have these stakeholder engagement  
15           meetings a couple of times a year. So  
16           we've got a mailing list that you can  
17           stay tuned. We'll be having, you know,  
18           ongoing presentations to get feedback.  
19           So as far as printing the report online  
20           to get feedback, that won't be happening  
21           until publication. But we will be  
22           providing, you know, early kind of draft  
23           copies to interested stakeholders.

24                   MR. CULPEPPER: I'll just say, I'd  
25           be happy to try to work with that around

1 on the professional geoscience community  
2 in Louisiana, some other people.

3 MS. FOSTER: Yeah, that would be  
4 great.

5 MR. BALKUM: Linzy, great  
6 presentation. I appreciate that. I'm  
7 Kyle Balkum with the Department of  
8 Wildlife and Fisheries. I had a question  
9 about surface water routing. What do you  
10 hope to find out from that.

11 MS. FOSTER: So we're not going to  
12 be focused on like flood inundation,  
13 those types of processes, but really  
14 we're going to be looking at estimating  
15 base flow from groundwater into the  
16 surface water. So we're going to be  
17 doing at best monthly stress periods  
18 within the model, probably many of the  
19 years of the study period will be annual  
20 stress periods, really trying to get at  
21 what's the base flow component into the  
22 stream.

23 MR. BALKUM: Okay. Thank you.

24 MS. FOSTER: All right. Thank you.

25 MR. HARRIS: Thank you very much.

1                   Look forward to your final report.

2                   Our next presentation will be from  
3                   Dr. Alyssa Dausman. Am I --

4                   DR. DAUSMAN: Yes, Dausman. Yes.

5                   MR. HARRIS: Welcome and thank you.

6                   DR. DAUSMAN: Thank you. Thanks for  
7                   having me.

8                   So this project hasn't officially  
9                   even started. It's been approved. So  
10                  it's very new. So I was just going to  
11                  give you a quick overview of the  
12                  production of the strategic plan and  
13                  partnership that The Water Institute of  
14                  the Gulf has undertaken with the Capital  
15                  Area Groundwater Conservation Commission.

16                  So just to give you a little bit of  
17                  background, because some people are  
18                  familiar with the Water Institute as far  
19                  as some of their surface water work  
20                  that's been done with the master planning  
21                  effort and the Coastal Protection  
22                  Restoration Authority. But I just want  
23                  to give a little bit of background about  
24                  who the Water Institute is other than the  
25                  building down the street that you see

1 when you come across the bridge.

2 Post Hurricane Katrina there were a  
3 series of meetings that happened between  
4 the Governor's office. At the time Mary  
5 Landrieu and some others were saying, you  
6 know, we need to start up a Deltares type  
7 institute that can help us solve some of  
8 our water problems. And they -- Deltares  
9 is a research institute in the  
10 Netherlands that's been going on and, as  
11 you know, they dealt with lots of  
12 problems in the Netherlands, everything  
13 from subsidence to surface water problems  
14 to groundwater problems. And so  
15 Louisiana leaders were looking for a new  
16 approach. They took a number of trips  
17 and they found a need to set up an  
18 institute similar to that model.

19 And so the Water Institute was  
20 founded in 2011, and we're a nonprofit,  
21 independent research and technical  
22 services for -- and really our goal is to  
23 think about resilient coast, sustainable  
24 water recourses. And the work of that  
25 institute is to help livable communities,

1           you know, really thrive in coastal  
2           systems, right. And so Louisiana being a  
3           coastal state, having a lot of those  
4           issues, as part of being stood up in the  
5           State of Louisiana, you know one of the  
6           things that were thought is the  
7           Governor's office and other  
8           decision-makers were trying to make  
9           decisions. They wanted an unbiased  
10          research perspective. And so even though  
11          we are a nonprofit, we are not advocacy.  
12          And so that's really important for me to  
13          point out. We don't advocate for or  
14          against anything other than sound science  
15          that supports resource managers and  
16          decision-making.

17                 And so -- and that's an important  
18          point to point out because as we  
19          develop -- start to develop a  
20          relationship with the Capital Area  
21          Groundwater Conservation Commission, I  
22          think that was an important distinction  
23          as we talked about embarking upon this  
24          work together.

25                 And so the Water Institute of the

1 Gulf was founded. That's a picture of  
2 our building. I'm sure you've seen it.  
3 It's not far away. You're welcome to  
4 come visit. Maybe when the construction  
5 is over across the street, it will be a  
6 little better. It's been very loud as of  
7 late.

8 And so the approach of the Institute  
9 is an integrated approach. We do  
10 modeling and monitoring, physical systems  
11 and sediment system processes. We have a  
12 human dimensions group, which is  
13 important to point out. So we have -- we  
14 have people. We have anthropologists on  
15 staff and social geographers, and so that  
16 they're really thinking about how water  
17 resources decisions affect people and  
18 vice versa, and that is taken into  
19 account in the decision-making or the  
20 research process when you're providing  
21 science to support decision-makers.

22 We have Coastal Ecology Group and we  
23 also do some policy research. We do not  
24 do -- we do not write policy and we don't  
25 advocate for policy. That's also really



1           important, right. We just do research  
2           related to policies and what those might  
3           have resulted in. But it's really -- we  
4           take an approach that it's up to  
5           decision-makers to make decisions. It's  
6           not up to us to make decisions. We just  
7           provide sound science and information to  
8           make those decisions.

9           And so when having these discussions  
10          and talking to the Capital Area  
11          Groundwater Conservation Commission -- so  
12          my background -- so I'm the  
13          Vice-President for Science at the  
14          Institute, and I have been there since  
15          October of last year. And my technical  
16          background, actually, is in groundwater.  
17          So saltwater intrusion modeling is my  
18          background, that's my -- my Ph.D.  
19          research was done in South Florida. I  
20          worked with Linzy [Foster] for many, many  
21          years down there, and now she's in Texas  
22          and I'm up here. And so as -- but I was  
23          raised in Mississippi. I went to school  
24          in Louisiana. And so I have a real  
25          passion for groundwater and water

1 resource issues. And after taking this  
2 job, I thought -- I started to look  
3 around and say, "Are there ways" -- "are  
4 there things that we as the Institute can  
5 do to help move some of these issues  
6 along," right? So there's clearly been  
7 some issues, otherwise, people wouldn't  
8 be having this conversation for 40 years  
9 about what -- is our groundwater resource  
10 sustainable in this community? What do  
11 we need to be doing about it? And so we  
12 started having some conversations with  
13 the Commission, with the chairman of the  
14 Commission, and talking about are there  
15 ways that we could help. And so with  
16 that, through the conversations, we  
17 started talking about how we can work  
18 with the Commission to support a  
19 strategic longterm planning process.

20 And so the overall objectives in  
21 that long-term planning process is to  
22 work with the Commission and stakeholders  
23 to identify and evaluate, like,  
24 reasonable realistic longterm  
25 alternatives to meet longterm water

1 resource needs. And I don't have a  
2 definition for "longterm," right. That's  
3 going to actually be decided with the  
4 Commission. Does longterm mean 10 years,  
5 20 years or 50 years? I think that's yet  
6 to be said, right?

7 Taking a look at the state of the  
8 science, and it's interesting that Linzy  
9 talked before me talks a lot about the  
10 modeling. There's been a lot of  
11 modeling, a lot of investments that the  
12 USGS has made overall, salt intrusion  
13 modeling and at the same time are there  
14 things that are missing, are there other  
15 things that need to be looked at. And  
16 then also, you know, how do the natural  
17 resource economics tie into that. How  
18 does the human dimension component tie  
19 into longterm water resource, and the  
20 environment and sustainability of the  
21 aquifer. And then really looking to  
22 identify management alternatives that are  
23 economically feasible and acceptable to  
24 development a longterm plan.

25 And so, okay, so it's a plan. Is it

1           planning to plan? I mean, I think people  
2           talk about planning a lot. I was doing a  
3           lot of reading, you know, over the last  
4           six months related to some of the  
5           problems, and there's a lot of  
6           discussions about planning. And so what  
7           has happened or why hasn't the planning  
8           really moved forward? And I don't --  
9           it's not that there aren't amazing  
10          scientists in the State of Louisiana that  
11          haven't done amazing work, but a lot of  
12          times it's getting people to come  
13          together to decide how they want to move  
14          forward.

15                 And so with that, I have some  
16          background in what we call structured  
17          decision analysis, which really tells us  
18          let's take a step back and work together  
19          to frame what the actual problem is. And  
20          to some people you would say, "Well, it's  
21          easy, the problem is," and I would say to  
22          you that, if I asked every person here on  
23          this commission what the problem is  
24          related to water -- or related to  
25          groundwater, I might get 10 to 20

1 different answers. I might get  
2 everything from, it's the environment or  
3 it's industry or it's saltwater intrusion  
4 or it's this or it's -- I mean, people  
5 all have a lot of different opinions on  
6 what an actual problem is. And so to be  
7 able to move forward with a longterm  
8 strategic plan, you actually have to be  
9 on the same page at the very, very  
10 beginning.

11 And so the ProACT framework which  
12 goes to problem framing, objectives, then  
13 alternatives and consequences and  
14 tradeoffs and then decide to take action,  
15 it seems like it's actually a long -- it  
16 could be a relatively long process. I  
17 mean, this process could take up to 30  
18 years or longer. I'm not going to  
19 pretend like it's that easy, because, for  
20 example, you know, the Commission, the  
21 Capital Area Groundwater Conservation  
22 Commission has 17 members, right. And  
23 so -- and it recently added one, right.  
24 So that's a lot of people to figure out,  
25 like, how do we move forward on the same

1 page. So identifying the problem and  
2 actually detailing out what your longterm  
3 objectives are, are very important into  
4 framing a strategic plan. Any and so  
5 that's where I would call the human  
6 dimension component of this comes in, and  
7 thinking about it in that way. Because a  
8 lot of times in science -- and I've been  
9 in science a long time, and I did  
10 modeling for a long time. I haven't  
11 modeled very much in the last seven or  
12 eight years, and part of it was because I  
13 realized that I was producing a lot of  
14 models but nobody was using them to make  
15 decisions, and that's very frustrating as  
16 a scientist. And a lot of times -- I see  
17 a couple of people smiling because  
18 they've probably seen that before. Like  
19 we run off and we do all our science; we  
20 think it's really cool, and then we throw  
21 it over the fence and we ask somebody to  
22 catch it and maybe they'll use it to make  
23 a decision, and that's not a great way to  
24 operate, right.

25 And so a lot of times as a scientist

1           we move stright into alternatives because  
2           we assume as scientists that we know the  
3           alternatives that all of you should be  
4           using to make your decisions or the  
5           Capital Area Groundwater. And,  
6           oftentimes, we're not even looking at the  
7           right alternatives, because we didn't  
8           have a conversation with them at the  
9           beginning about what their problems or  
10          actual objectives are, and then you craft  
11          that as part of the process in moving  
12          forward. And so that's the idea behind  
13          taking a step back.

14                 And so currently -- and I'm not  
15                 going to pretend that -- this ProACT  
16                 framework for structured decisions is not  
17                 new. I mean, people have been using this  
18                 for 20 or 30 years, but it's not always  
19                 applied. You really have to have the  
20                 right facilitators and experts. When I  
21                 say "experts," I mean people who are  
22                 really good at taking people, moving them  
23                 together and framing a problem and  
24                 objectives.

25                         And so it's not easy, right. It's

1 not easy to get a bunch of people in a  
2 room and be like, "We're going to sit in  
3 here and we're going to talk until we can  
4 actually come to consensus on what the  
5 problem is." That's not easy, and a lot  
6 of people don't want to do it and don't  
7 like to take the time to do it. And  
8 so -- but the Capital Area groundwater  
9 Conservation Commission has decided now  
10 is the time to take that on.

11 And so currently, phase one has been  
12 approved for funding. And, like I said,  
13 we haven't officially started because  
14 we're actually still working on moving  
15 the funding through. It was just  
16 approved in June. And so we're going to  
17 start with these facilitative workshops.  
18 And looking at a scientific review in the  
19 state of science, because as you do these  
20 workshops and frame the problem and  
21 objectives and especially as you think  
22 about the alternatives, the scientific  
23 review in the state of science becomes  
24 very important. Because I actually think  
25 there's been a tremendous amount of work



1           in the state of science related to  
2           groundwater. You can read a lot of  
3           reports. But has it been well connected  
4           or are there additional things they need  
5           to do to tie it to natural resource  
6           economy and population growth over time,  
7           you know, because I'm sure no one here  
8           thinks that the Baton Rouge area is going  
9           to stay static over time. It's probably  
10          going to grow, so water resource needs  
11          are going to grow. All of those things  
12          happen. And so that's how we're going to  
13          tackle that at the beginning.

14                 And so I just wanted to provide an  
15                 introduction and then open it up to any  
16                 questions that I may or may not be able  
17                 to answer until we actually move forward.

18                 COMMISSIONER IEYOUB: Dr. Dausman, I  
19                 want to commend you on your report, and I  
20                 will tell you that I'm very encouraged  
21                 and, in fact, relieved that someone is  
22                 going to begin to work on the plan to  
23                 achieve longterm sustainability of the  
24                 aquifer. That's what needs to be done,  
25                 and I'm glad that we're on the road to

1           try to do that.

2           You mentioned that you'll be mostly  
3 working with the Capitol Area Groundwater  
4 Conversation Commission, but I want you  
5 to know that you can depend on the Office  
6 of Conservation to help you in any way  
7 that we possibly can, because actually  
8 statutorily we have a main responsibility  
9 of ensuring the sustainability of the  
10 aquifer. So that's our responsibility,  
11 and we certainly want to work with the  
12 Capitol Area Groundwater Conversation  
13 Commission and you on this particular  
14 plan, if we may.

15           And also in your report you  
16 mentioned something about working with --  
17 that you will seek out, quote, technical  
18 stakeholders, end quote. I hope that you  
19 will define that broadly and allow local  
20 governmental officials and members of the  
21 public to be involved in the planning  
22 process, because I think that you have a  
23 lot of individuals that are interested in  
24 this particular subject. And in order to  
25 generate public interest and helping

1           forming these plans, I think it would be  
2           good to include as many people as we can,  
3           you know, in various areas. So please  
4           let us know -- and the Office of  
5           Conservation -- if we can be of  
6           assistance. We definitely want to be  
7           involved, because I think it's called  
8           for.

9           DR. DAUSMAN: Thank you. And we  
10          definitely will. I've had a few  
11          conversations with a couple of folks of  
12          what does that mean. And, you know, if  
13          you've seen the more detailed scope of  
14          work in the phased approach, we're  
15          both -- and with our objectives, we're  
16          both talking about the structured  
17          decision analysis and the state of the  
18          science. And so I know that we'll be  
19          also incorporating technical stakeholders  
20          and experts as part of looking at the  
21          state of the science, and that is broadly  
22          interpreted. So, for example, thinking  
23          about the natural resource, economics is  
24          a part of that, right. It's not only  
25          just looking at, is there enough water in

1           the ground and -- and also thinking  
2           about, are there other areas of the  
3           country that have tackled these problems.  
4           So Tampa Bay Water had some -- 30 years  
5           ago were pretty much in a point where  
6           they're like we have to start thinking  
7           about things differently, and since 1998  
8           through very structured facilitated  
9           consensus, lots of stakeholder engagement  
10          from 1998 up to now they've reduced their  
11          groundwater withdrawals by 50 percent.  
12          And part of that is because they worked  
13          for a lot of other solutions to find  
14          other sources of water really being  
15          creative, pulling everyone together but  
16          that didn't happen overnight. It took  
17          them -- you know, a bunch of local  
18          governments coming together standing up  
19          and, you know, overall the process was  
20          between 20 and 30 years for them to get  
21          there. And so it takes -- it takes a  
22          long time. And -- but it doesn't mean  
23          that it's not possible. And so that's  
24          part of it. Like, it's possible to be  
25          done if people work together to get

1                   there.

2                   MR. HARRIS: Thank you.

3                   DR. DAUSMAN: Thank you.

4                   MR. DUPLECHIN: Alyssa, Tony  
5 Duplechin. I'm the Director of Capital  
6 Area Groundwater.

7                   Commissioner Ieyoub, does that  
8 assistance include financial assistance  
9 that you're offering?

10                  COMMISSIONER IEYOUB: I wish we had  
11 the financial assistance, but, if  
12 possible, it would.

13                  MR. DUPLECHIN: Okay.

14                  COMMISSIONER IEYOUB: I'll ask the  
15 legislature to give me the finances to  
16 try to help them.

17                  MR. DUPLECHIN: Thank you.

18                  DR. DAUSMAN: Thank you.

19                  MR. DUPLECHIN: One of the things  
20 we're looking to do when we approach the  
21 Water Institute was to bring in a well  
22 respected body in doing this work. There  
23 are a lot of people who question what the  
24 Capital Area Groundwater Conservation  
25 District has done over the last 40 years.

1           It's always, "Why are you doing another  
2           study? Why are you doing another study"?  
3           And I have one little thing I'd like to  
4           say, and I know it's not politically  
5           correct, but I bet Custer wishes he would  
6           have done two or three more studies  
7           before he went down that hill. We need  
8           to make sure what we're doing is right,  
9           and we feel it will be going this path.  
10          There are a lot of people who look at us  
11          and think they're experts. Well, they  
12          are experts, they're just not experts in  
13          hydrology and management of groundwater  
14          resources. So we're really looking  
15          forward to getting started with this  
16          project. Thank you.

17                 DR. DAUSMAN: Thank you.

18                 MS. GOUEDY: Dr. Dausman, Lindsey  
19                 Gouedy with the Sparta Groundwater  
20                 Commission. Good to see you.

21                 DR. DAUSMAN: It's good to see you.

22                 MS. GOUEDY: I'm excited to hear  
23                 about what the Capital Area Commission is  
24                 working towards. Over the last year the  
25                 Sparta Commission and the Capital had a

1 lot of mirroring conversations, so to  
2 speak. The Sparta Commission has  
3 recently begun similar conversations, and  
4 I would like to visit with you, in  
5 particular, further about the scope of  
6 this work. I've visited with your  
7 colleague, Ryan Clark, on this same topic  
8 a couple of weeks ago.

9 I would be interested, and I think  
10 it would be interesting especially since  
11 our two commissions work so closely  
12 together, if there were some ways to link  
13 two potential plans covering large  
14 regions of the state. And Commissioner  
15 Ieyoub, since we're discussing money, if  
16 you want to throw the Sparta in the mix  
17 of that, we would be eternally grateful.

18 But in all seriousness, the Sparta  
19 Commission is looking towards this area,  
20 we're gathering support within our 16  
21 parishes. With our one thick project  
22 right now on the edge in Union Parish and  
23 Lincoln Parish, even that entity is  
24 involved in discussions about creating a  
25 regional plan. So I would love to

1 discuss that with you further.

2 DR. DAUSMAN: Thank you. We'll set  
3 up a time. That will be great. And I  
4 think it's definitely possible. I think  
5 you've seen the scope, and if not, I'm  
6 sure --

7 MS. GOUEDY: We've got it.

8 DR. DAUSMAN: You've all got it?

9 MS. GOUEDY: Yeah.

10 MR. HARRIS: Any other questions for  
11 Dr. Dausman?

12 (No response.)

13 DR. DAUSMAN: Thank you very much  
14 for having me.

15 MR. HARRIS: Thanks for coming. We  
16 appreciate it. We appreciate your input.  
17 Do any of the commission members  
18 have any questions, comments? Members of  
19 the public, any comments?

20 (No response.)

21 MR. HARRIS: Well, I guess this  
22 would be a good time to entertain a  
23 motion to adjourn.

24 MR. SPICER: (Makes motion.)

25 MR. HARRIS: Motion by Mr. Spicer.



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MS. GAUTREAU: (Makes motion.)  
MR. HARRIS: And second by  
Ms. Gautreaux.  
All in favor?  
("Aye" in unison.)  
MR. HARRIS: All opposed?  
(No response.)  
MR. HARRIS: Motion carries.

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