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STATE OF LOUISIANA  
DEPARTMENT OF NATURAL RESOURCES  
OFFICE OF CONSERVATION

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THE WATER RESOURCES COMMISSION  
FIFTH REGULAR MEETING

THURSDAY, DECEMBER 18, 2014

\* \* \* \* \*

SOUTHWEST LOUISIANA ENTREPRENEURIAL AND  
ECONOMIC DEVELOPMENT (SEED) CENTER  
MCNEESE STATE UNIVERSITY  
4310 RYAN STREET  
LAKE CHARLES, LOUISIANA

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APPEARANCES

WATER RESOURCES COMMISSION MEMBERS:

HONORABLE SCOTT A. ANGELLE, CHAIRMAN

KYLE F. BALKUM

GLENN L. BRASSEAU

JONATHAN K. CAUSEY, P.E.

DAVID B. CULPEPPER

MARK S. DAVIS

PAUL D. FREY

KAREN K. GAUTREAU

JERRY V. GRAVES

CHARLES J. KILLEBREW, PH.D.

CHRISTOPHER P. KNOTTS, P.E.

BENJAMIN J. MALBROUGH

JAMES W. PRATT

BRADLEY E. SPICER

JAMES H. WELSH

LINDA G. ZAUNBRECHER

WATER RESOURCES COMMISSION STAFF PRESENT:

GARY SNELGROVE

MATTHEW REONAS

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APPEARANCES (CONTINUED)

PUBLIC SPEAKERS:

MATT THOMAS

HERSCHEL L. BOURQUE

NAVEEN ADUSUMILLI

LAUREN CHAUVIN

ANTHONY DUPLÉCHIN

1                   CHAIRMAN ANGELLE:  -- grow the economy.  
2                   So we're excited to be here.  And I thought we  
3                   would go ahead and ask Matt to call the roll and  
4                   go ahead and get started.

5                   MR. REONAS:  All right.  Thank you, Mr.  
6                   Chairman.  And before I call the roll, I would  
7                   like to clear up a couple of housekeeping details.

8                   First and foremost, we do have coffee in  
9                   the back courtesy of the SEED Center, as well as  
10                  water.  Downstairs, of course, is the coffee shop  
11                  with snacks and all to go along.

12                 The bathrooms, men's, down the hall to  
13                 the left.  Ladies, down the hall to the --

14                 MS. HARDISON:  Right.

15                 MR. REONAS:  Right.

16                 The wireless access, for those of you  
17                 that are interested, the wireless connection is  
18                 SEED, S-E-E-D, and there's no password.

19                 On that note, I will go ahead and call  
20                 the roll.

21                 Mr. Angelle?

22                 CHAIRMAN ANGELLE:  Here.

23                 MR. REONAS:  Mr. Balkum?

24                 MR. BALKUM:  Present.

25                 MR. REONAS:  Mr. Brasseaux?

1 MR. BRASSEAU: Here.  
2 MR. REONAS: Mr. Causey?  
3 MR. CAUSEY: Present.  
4 MR. REONAS: Mr. Cormier?  
5 Mr. Cramond?  
6 Mr. Culpepper?  
7 MR. CULPEPPER: Here.  
8 MR. REONAS: Mr. Davis?  
9 MR. DAVIS: Here.  
10 MR. REONAS: Mr. Dove?  
11 Mr. Frey?  
12 MR. FREY: Here.  
13 MR. REONAS: Mr. -- Ms. Gautreaux?  
14 MS. GAUTREAU: Here.  
15 MR. REONAS: Ms. Gonzalez?  
16 Mr. Graves?  
17 Mr. Killebrew?  
18 MR. KILLEBREW: Here.  
19 MR. REONAS: Mr. Knotts?  
20 MR. KNOTTS: Here.  
21 MR. REONAS: Mr. Leggett?  
22 Mr. Long?  
23 Mr. Malbrough?  
24 MR. MALBROUGH: Here.  
25 MR. REONAS: Mr. Morgan?

1 Mr. Owen?

2 Mr. Pratt?

3 MR. PRATT: Here.

4 MR. REONAS: Mr. Sagnibene?

5 Mr. Sawyer?

6 Mr. Spicer?

7 MR. SPICER: Here.

8 MR. REONAS: Mr. Welch?

9 MR. WELCH: Here.

10 MR. REONAS: Mr. Zaunbrecher?

11 Mrs. Zaunbrecher?

12 MRS. ZAUNBRECHER: Here.

13 MR. REONAS: Mr. Chairman, we have 14  
14 members, which I believe -- which does make a  
15 quorum.

16 CHAIRMAN ANGELLE: Good. Thank you very  
17 much.

18 Senator Long has contacted me. There's  
19 a Joint Legislative Committee on the budget this  
20 morning of which he is a member in Baton Rouge, so  
21 he could not be here. And I know that Vince  
22 Sagnibene has that same requirement to be in Baton  
23 Rouge this morning.

24 It's a tough time of the year. I want  
25 to personally thank -- well, it's not a tough time

1 of the year. It's a great time of the year. It's  
2 a tough time of the year for folks to have this  
3 kind of meeting on their calendar. But I do,  
4 again, want to thank all of the members that  
5 serve. Many of you serve in a voluntary capacity.  
6 Some serve as a result of the agencies that you  
7 work for. And I realize that you could be doing  
8 other things as your talent level is needed across  
9 the state. But I do appreciate the fact that you  
10 continue to work in a voluntary capacity to help  
11 us on a very, very serious issue.

12 What I would like to do is go to Item 2,  
13 and adopt what I hear is a previous meeting  
14 summary. And, Matt, you want to kind of take us  
15 through that?

16 MR. REONAS: Yes, sir. Again, it was  
17 a -- in terms of the previous meeting, everybody  
18 received a copy of the summary.

19 Were there any -- I know we had at least  
20 one change that we made. Were there any other  
21 changes to the summary as a whole from  
22 July 30th?

23 CHAIRMAN ANGELLE: Do you want to  
24 explain that change to us?

25 MR. REONAS: It was a technical change

1 in terms of -- I think it was Mr. Culpepper's --  
2 the title, geologist or engineer, geoscientist.

3 And, Charlotte, did we change it to --  
4 MS. HARDISON: Geoscientist.

5 MR. REONAS: Geoscientist. So it was  
6 just a very, a very minor change in the  
7 terminology. So nothing, nothing major in terms  
8 of -- or substantive.

9 CHAIRMAN ANGELLE: And that's all been  
10 provided to the commission members in advance?

11 MR. REONAS: Yes, sir.

12 CHAIRMAN ANGELLE: We entertain a motion  
13 to approve.

14 Motion by Gautreaux. Second by Spicer.  
15 Any objections? Any discussions?

16 Hearing none, that motion is adopted.

17 Item No. 3 is Mr. Kai Midboe with the  
18 Water Institute of the Gulf to give us an update  
19 on the Louisiana Water Resources Assessment for  
20 Sustainability and Energy Management.

21 Welcome, Mr. Midboe. And, again, thank  
22 you for your previous public service to the people  
23 of Louisiana in a variety of capacities. And we  
24 still see different memos that we kind of go back  
25 to and pull out of the file and say, oh, okay,



1           that's what we were thinking then. And we  
2           appreciate your work.

3                       MR. MIDBOE: Generally people I have to  
4           say, I'm sorry, I denied your LEQ permit.

5                       CHAIRMAN ANGELLE: We appreciate you.  
6           Okay.

7                       MR. MIDBOE: Okay. Matt has got my  
8           slides, and I think they're loading right now.

9                       MR. REONAS: And that's to advance, and  
10          to go back (inaudible).

11                      MR. MIDBOE: That's our usual  
12          disclaimer. I think most of you are now fairly  
13          familiar with the Water Institute of the Gulf. We  
14          are a Section 501(c)3 non-profit organization,  
15          which means we cannot engage in politics, we  
16          cannot lobby, we can't earn a profit. What we're  
17          basically looking at trying to develop are  
18          practical applications of science and engineering  
19          to water resources. Most of you are aware we have  
20          been heavily involved in dealing with coastal  
21          issues, but we are also involved in the water  
22          issues.

23                      Louisiana is traditionally blessed with  
24          an abundance of water. I want to say something,  
25          that I have been out of this process for basically

1           20 years in private practice, having served as  
2           Secretary of DEQ and Deputy Secretary of DNR, and  
3           in the Governor's office with Governor Treen.  
4           Huge, huge progress has been made on water issues.  
5           I mean, it's staggering to me to see the kind of  
6           progress you people have made. And it's largely  
7           the responsibility of this task force, this  
8           commission, and the members of it. And having  
9           been Deputy Secretary of DNR, I also want to point  
10          out the leading role that's been taken by the  
11          Office of Conservation and LDNR. I'm very proud  
12          of that.

13                        But just because we have made progress,  
14          doesn't mean we are not without concerns. And I  
15          heard this statement made by a lady up in Iowa,  
16          and I thought it was very applicable to what we  
17          have. We don't have the broken engine light on,  
18          an engine check light on. Our system isn't  
19          broken. What we have is the warning label. We  
20          need to be very cautious with how we deal with our  
21          abundant water resources, and make sure we are  
22          taking proper care of them.

23                        We have made, again, some significant  
24          strides toward responsible management. And I have  
25          read numerous studies that have been produced,

1           excellent studies. We are moving toward more  
2           comprehensive management of water.

3                         In fact, Senate Resolution 171 has  
4           directed the Louisiana Law Institute to develop a  
5           Water Code. And that water code is going to try  
6           to look at issues right now where you have diverse  
7           management systems for both groundwater and  
8           surface water. It's going to be probably  
9           controversial. That is part of the reason I think  
10          you need to be looking toward developing a water  
11          budget.

12                        Managing water is difficult, and it's  
13          difficult for a variety of reasons. One, it's  
14          vital to all living things and most economic  
15          activities. Thus, whatever you do concerning  
16          water is going to have major implications.

17                        Water also has features that make it  
18          difficult to regulate. It's mobile. It moves  
19          through the hydrologic units -- hydrologic cycle.  
20          It's often not within a single boundary. So one  
21          entity, one governmental entity, doesn't have  
22          control of it. It can -- its supply can vary by  
23          year, season or location.

24                        Importantly, a source of water can have  
25          many users, often leading to bitter conflicts over

1 the uses. Determining who has the right to  
2 manage, divert, use, or sell water can be very  
3 contentious. Attempts to regulate water often  
4 leads to taking rights.

5 So what, what's needed? Water managers  
6 require certain critical information. They need  
7 to know how much water they have. They need to  
8 know how much is being used, and how, when, and  
9 where, and what place the regular water supplies  
10 are being replenished. They want to know the  
11 amount of water that's there, where is it located,  
12 what's it input, output, and movement through  
13 surface and groundwater. How much is sustainable  
14 for various uses, both natural and human? What  
15 are the current and potential uses? And, most  
16 importantly, what is its future sustainability?  
17 And, in fact, we're talking about what the U.S.  
18 Geological Survey refers to as a Water Budget.

19 So we're looking at a project that I  
20 understand the, the -- has been assigned to,  
21 basically, take a look at how you go about  
22 addressing a water budget. This isn't a proposal  
23 to do a full-blown water budget. It is a proposal  
24 to develop what is the framework for doing a water  
25 budget, what needs to go into it, what information

1 is available to do that, that study, where do we  
2 need to find additional information.

3 And then after having developed that  
4 framework, having the framework, one that can be  
5 replicated across hydrologic units as needed to  
6 look at different issues. We are looking at --  
7 this project is going to be looking at both  
8 surface and groundwater. What -- it's being  
9 funded through a -- I'm not really sure exactly  
10 what project, but it involves energy. And energy  
11 is critical in this, because right now energy is  
12 the major user of water in this state, as it is in  
13 most other states. It's largely a non-consumptive  
14 use, but it's a very important use.

15 Plus, if you start depleting your  
16 aquifers, you're going to dramatically increase  
17 the depth you have to drill to get water, the  
18 amount of energy needed to pump that water back  
19 out. And as water becomes more scarce and harder  
20 to find, it's going to have to be taken from  
21 farther and farther locations and moved to  
22 wherever it's going to be used. So energy plays a  
23 major role in what we are going to be looking at.

24 Again, the concept is to develop a  
25 system for analyzing and communicating the facts

1 and figures to public and key managers. The  
2 concept, again, is to be applied. How -- once we  
3 develop all this information, once we develop this  
4 approach, how you communicate it to the people who  
5 need to have that information.

6 Basically, the project is divided into  
7 four activities. Let me just hit all four of them  
8 rather than do one at a time.

9 The first activity will be to develop  
10 the framework. Develop what needs to be looked at  
11 when you start to do a water budget for a  
12 particular hydrologic unit.

13 The next activity is to go out and look  
14 and see what sources of information is available.  
15 The Water Institute is not involved -- doesn't  
16 want -- it wants to act in a very efficient  
17 manner. It doesn't want to try to reinvent the  
18 wheel. Where an entity has the capability, or has  
19 the science, or has whatever, we want to  
20 incorporate that into what we are doing. And then  
21 we want to identify what is missing, what other  
22 things do we need to look at. Are we properly  
23 monitoring the things that need to be monitored?  
24 So that's, that's Activity 2.

25 Then we are going to try to identify

1 specific hydrologic units to apply the framework.  
2 It's, basically, taking activity and multiplying  
3 it, Activity 1 and multiplying it by Activity 2.

4 We are looking at hydraulic units which  
5 are -- are not in balance. They are unbalanced;  
6 that you have, basically, more use being made of  
7 the water than you have replenishment of the  
8 water. And, again, we will be looking at  
9 groundwater and surface water.

10 And then, of course, the final product  
11 will be a report that describes the framework, its  
12 application to specific hydrologic units, and the  
13 resulting assessment of those water units that we  
14 looked at.

15 And, again, this sort of summarizes it.  
16 One of the things that we are very interested in  
17 doing is working with stakeholders. There's going  
18 to be a lot of coordination with managers and the  
19 public, trying to find out what their needs are,  
20 what they know, where sources of information are.

21 It's so much writing up there, it's hard  
22 to say. But, basically, we're going to come up  
23 with example that signifies results and also  
24 incorporate water supply and energy and so forth  
25 into a final product.

1           I went over it fairly quickly. I'm sure  
2           you have a million questions. I'll be glad to try  
3           and answer them. That's the kind of framework we  
4           are working on to get the, the project done.  
5           Final product will be a report to both CPRA and  
6           the Office of Conservation. They will review the  
7           report prior to it being issued to address any  
8           issues they may have with it.

9           Do we have any questions?

10          CHAIRMAN ANGELLE: Okay. Couple  
11          questions here.

12          MR. MIDBOE: Yeah.

13          CHAIRMAN ANGELLE: Have we already  
14          executed the contract with you all to begin work  
15          on this?

16          MR. MIDBOE: I checked with Gary this  
17          morning, and he said, yes, it's been signed.

18          CHAIRMAN ANGELLE: Okay. So in terms of  
19          the housekeeping that needed to happen, us on the  
20          State level finding the necessary financial  
21          resources, going through the procurement process,  
22          making sure that we were complying with every  
23          requirement in the law, we feel very good that we  
24          now have a signed contract. We got a contractor  
25          that's out there, and is, is prepared to execute



1           according to this presentation?

2                       MR. MIDBOE: That's my understanding.  
3 Gary?

4                       MR. SNELLGROVE: That's correct. We  
5 have, we have completed the process through an  
6 interagency exchange, an IET. The transfer of  
7 funds from the, from the funds that we were able  
8 to get through DNR through the Petroleum Violation  
9 Escrow. We took that money and sent it over to  
10 CPRA. CPRA has a corporate endeavor agreement  
11 with the non-profit Water Institute. And we are  
12 going to work with CPRA as project managers for  
13 this project. Total cost of 220, \$220,000.

14                      CHAIRMAN ANGELLE: Not only did you send  
15 money over from the Department of Natural  
16 Resources to CPRA, but, as I appreciate it, CPRA  
17 added to that amount of money; correct?

18                      MR. SNELLGROVE: That is correct. They  
19 put up a hundred thousand under their existing  
20 agreement with The Water Institute.

21                      CHAIRMAN ANGELLE: So we would expect in  
22 the fourth quarter of 2015, first quarter of 2016,  
23 final report.

24                      Does the contract require -- Gary, does  
25 the contract require any periodic updates to, to

1 CPRA as the contracting agency?

2 MR. SNELLGROVE: It does, yes, sir. In  
3 the statement of work, the -- we will be getting  
4 monthly updates, as well as, of course, the final  
5 report, which will go through a formal process of  
6 review, including the agencies, both agencies.

7 CHAIRMAN ANGELLE: Right.

8 So, Mr. Midboe, one of the things I  
9 would ask is, state law requires that this  
10 commission meet at least twice a year. In some  
11 years we have met I think as high as six times a  
12 year, maybe four, but certainly we always going to  
13 meet at least twice a year to receive the  
14 information that we need, and to have the kind of  
15 debates that we need to have, and the discussions.

16 It would be my expectation that whether  
17 we have two, four or six, that we are receiving --  
18 at least we have the opportunity to request and  
19 would hope that you would fulfill that request to  
20 have yourself, or staff members who are working on  
21 that, to give Commission members the kind of  
22 updates that you would expect they would want to  
23 hear.

24 MR. MIDBOE: Yeah, we would be honored  
25 to come and make those kind of presentations.

1                   CHAIRMAN ANGELLE: Okay. Any questions,  
2                   comments?

3                   I believe this represents the next  
4                   evolution. If it was, if it was, you know, Word  
5                   Perfect 1.0 and then 2.0, and 3.0, as we are  
6                   moving through the, the things, all things water  
7                   right, the report that we gave to the legislature  
8                   in 2012, some of the things that we did from  
9                   evaluation monitoring and enforcement through the  
10                  years, this represents the next evolution. We got  
11                  other things that are going on in other parts of  
12                  the state with regards to Senate Resolution 171  
13                  dealing with, you know, looking at the framework  
14                  for a code. Again, that's another evolution going  
15                  on. So a lot of evolutions going on in a lot of  
16                  different times, if you would. And, you know, we,  
17                  again, would, would wish you the best of luck.  
18                  And we have a high, high level of expectation that  
19                  we are going to get a really, really good product.

20                  MR. MIDBOE: Yeah. And all of these  
21                  things you are talking about are interrelated.

22                  CHAIRMAN ANGELLE: Absolutely.

23                  MR. MIDBOE: And, you know, with the  
24                  information we're going to be developing will feed  
25                  into all of those processes.

1                   CHAIRMAN ANGELLE: Got you. Good  
2                   enough.

3                   MR. MIDBOE: Thank you.

4                   CHAIRMAN ANGELLE: Okay. Hearing no  
5                   questions, I'm going to go ahead and move to Item  
6                   4, and ask Dr. David Borrok with the University of  
7                   Louisiana at Lafayette to lead us through a  
8                   presentation on the New Study of Uses and  
9                   Alternatives for the Chicot Aquifer Underlying  
10                  Southwest Louisiana.

11                  DR. BORROK: So I want to, I guess,  
12                  thank the Water Commission here for inviting us to  
13                  come and give this presentation. I really  
14                  appreciate the opportunity to tell you about this  
15                  project.

16                  I'm David Borrok. I'm the Director of  
17                  the School of Geoscience at the University of  
18                  Louisiana at Lafayette. I'm also a professor of  
19                  geology. And on this project we have got a large  
20                  number of investigators. It's a joint project  
21                  between UL-Lafayette and McNeese State University.  
22                  We also have five or six students helping us out,  
23                  undergraduate students on this. So I wanted to, I  
24                  guess, head off and tell you a little bit about it  
25                  since it has some application, I think,

1 particularly in this region.

2 It's funded by the National Science  
3 Foundation. It's in their Water Sustainability  
4 and Climate directorate. The title here, you can  
5 read, is about managing surface water to offset  
6 groundwater use.

7 So the motivation for this, and I think  
8 this fits very nicely in the last presentation, is  
9 largely that most people don't realize that in the  
10 southeast, including parts of Louisiana,  
11 certainly, that groundwater is being overdrafted  
12 or overused. And what that means simply is that  
13 we're using it at a rate that is unsustainable  
14 because the recharge of that aquifer system is  
15 slower than the rate at which we pull it out. So  
16 you can imagine looking down the road 50 or a  
17 hundred years, we will have some super problems if  
18 we don't think about this now. And it doesn't  
19 occur to people, because we do have such abundant  
20 rainfall comparatively anyway with the rest of the  
21 U.S., and we have relatively large amounts of  
22 surface water as well.

23 So just to highlight this -- I don't  
24 know if it will make -- yeah. There was a recent  
25 investigation I just wanted to show you from the

1 Journal of Science where they did some very  
2 careful gravimetric measurements through  
3 satellites, and over the last decade they compiled  
4 these results. And the red and yellow areas  
5 indicated here are areas where groundwater and  
6 soil moisture have gone down significantly in the  
7 last decade. So surprisingly for some, anyway,  
8 the southeast part of the U.S. is in some trouble  
9 in that area. Of course, there's other areas, and  
10 we know why. So these are areas as well.

11 But, of course, with that motivation,  
12 there's, there's a huge opportunity here. I think  
13 that's really what sold this project to the  
14 National Science Foundation, is that really with  
15 the abundance of surface water and rainfall that  
16 we get, if we're careful about how we manage  
17 things and look at the most efficient ways to do  
18 it, we have a real opportunity to make a  
19 difference in the long run here. Whereas, if you  
20 go out to the southwest U.S., there's really not a  
21 whole lot you can do except conserve. But right  
22 here we have the ability to revisit the way we  
23 manage surface water resources to potentially  
24 offset these withdrawals.

25 And just to give you an idea, this is

1 the same location as the previous thing I circled  
2 on the other map. You can see the darkest green  
3 is the largest amount of precipitation. So the  
4 southeast gets more precipitation than most of the  
5 other parts of the U.S.

6 So that brings us to the Chicot Aquifer  
7 area, and I think that's one reason why it's a  
8 great meeting for us to be able to present this.  
9 The Chicot Aquifer we were able to convince the  
10 National Science Foundation was a great place to  
11 start because it highlights both the motivation  
12 and the opportunity. It's an area where the  
13 aquifer is being overdrafted, and it's also an  
14 area where there's a lot of surface water and  
15 rainfall where we can potentially do something  
16 about it.

17 So the Chicot Aquifer is outlined here  
18 in yellow. These are the surface water areas that  
19 are sort of evolved in the project. So you have  
20 the Sabine River Basin, Calcasieu, Mermentau,  
21 Vermilion, Teche and even a tiny little bit of the  
22 Red River Basins up there. So that's sort of  
23 what's involved in the project.

24 It's a very important aquifer for  
25 Louisiana, the most used aquifer in Louisiana and

1 relatively large. It is being overdrafted  
2 currently. That, of course, leads to some  
3 problems. Luckily not a lot of problems  
4 currently, but we're thinking longterm with these  
5 sorts of projects. And if you look at the three  
6 main uses, this is how they're distributed in this  
7 area.

8 CHAIRMAN ANGELLE: David, what is the  
9 350 million gallons per day of overdraft, what  
10 does that represent in a percentage?

11 DR. BORROK: Percentage of the total? I  
12 simply don't know. I guess I would look at it as  
13 at this point it's not problematic, but down the  
14 road it may be. And if you look at, I guess,  
15 century-wide, the groundwater levels in the  
16 aquifer have dropped substantially. But if you  
17 look at it on a decade basis, we're sort of stable  
18 right now. But we're looking, you know, 50 years  
19 down the road, that's probably not going to be the  
20 case if we continue.

21 So the goal of this study in this case  
22 is to create a geospacial modeling tool. It's one  
23 of these things I think is a lot of the talk  
24 today. Basically, looking at creating information  
25 and tools to help people make the right sorts of



1 decisions. That's the same sort of thing that we  
2 are doing.

3 We want to integrate the surface water  
4 availability, its quality and the needs of the  
5 water users to evaluate the different management  
6 scenarios. So one thing that we think is really  
7 important is to get out and talk to, to the people  
8 using the water, to find out specifically when  
9 they need water, what kind of water they need, and  
10 the quality of water they need, because we think  
11 that's important going into the decision-making  
12 process. So we will start with smaller watersheds  
13 within the Chicot area and hopefully expand out.

14 The components of this are going to be a  
15 social assessment then to understand the needs and  
16 attitudes of the key water users in the region.  
17 We have a sociologist actually who helped us with  
18 that component.

19 Integrated surface water quality  
20 database.

21 Some sort of a rainfall runoff type  
22 model supplemented with flow and transport models  
23 to help us determine the availability of water.  
24 The Nature Conservancy is doing some of this, and  
25 maybe we will partner with them on this part of

1 the project, for example.

2 We're also looking at expanding the  
3 historical climate record and doing some new  
4 climate projections for this region specifically.  
5 So we have people who are sort of experts in that  
6 area.

7 And then ultimately we are making a GIS  
8 platform for integrating all sorts of these ideas.

9 To give you a quick idea, this is a  
10 high-level view, very generalized here. Things  
11 may change, but it gives you a rough idea of the  
12 sort of thing we are trying to come up with.

13 The rainfall runoff model, basically, is  
14 an availability type model, transportation, how  
15 much rain is coming down, et cetera, et cetera,  
16 tied to how much water do we need in ecosystem  
17 services, because, obviously, you don't want to  
18 rob the environment of the water that's needed for  
19 riparian habitats and wetlands. So you have to  
20 consider that. Then we have climate projections.

21 So ultimately taking those things in  
22 sum, we can figure out how much available surface  
23 water is there. Then we can sort of filter that  
24 through the lens, if you will, of the water  
25 quality and user needs. As an example, User A, a

1           generic user, might not be able to tolerate high  
2           salinity for whatever the use may be. I guess,  
3           agricultural, for example. But perhaps, or  
4           maybe -- I guess I said that backwards. User A  
5           can tolerate any salinity, it doesn't matter,  
6           where User B can only tolerate low salinity. So  
7           different amounts of water are then available to  
8           different users based on the water quality aspects  
9           of that surface water. And then ultimately  
10          through these filters, you determine how much  
11          water is really useful to the surface for those  
12          user needs on the surface.

13                         And then, of course, the geospatial  
14          component then can divide up that water and try  
15          and put it in the user's hands, theoretically, of  
16          course, in the most efficient way possible. So  
17          the idea would be to optimize the geographic  
18          distribution of useful water in that system. And  
19          here's, again, just a rough example of you have  
20          some water here that you might want to distribute,  
21          how far is it away from the users that can use it,  
22          and how much water can they use, and so on and so  
23          forth. And so you can look then at different  
24          management scenarios for water availability. For  
25          example, if you had a pipeline here, or a weir

1           here to create a, a more useable water or a new  
2           reservoir, you could then re-optimize and figure  
3           out the difference between the various  
4           optimizations that you have done to see how many  
5           users can be, I guess, satisfied with that amount  
6           of water.

7                         So, so in closing here, we're hoping  
8           that the work can inform current and future water  
9           initiatives in Louisiana. Certainly we have a  
10          high level NSF lofty research goals that everyone  
11          has. That's one of those grants. But at the same  
12          time, we wanted this to be sort of practical and  
13          useful for our region. And I know it's a great  
14          time to do a project like this with, with the  
15          comprehensive water management plan and things  
16          like that being formed. So we wanted to draw  
17          attention to the need to look closely at the  
18          management tools for surface water, that  
19          technologies, policies and so forth that can  
20          preserve really the joints of this groundwater  
21          system.

22                        To give you an idea, we have only been  
23          at this for four months. So I don't have a whole  
24          lot to report, but we have been pulling together  
25          necessary data, databases, talking to the

1 stakeholders, and, you know, figure out the  
2 challenges, needs, and things of that nature. But  
3 I just want to say that if there are things that  
4 you think we might be missing or data sets you  
5 think are very important to us, certainly contact  
6 us and then let us know, and we will try to  
7 incorporate that information.

8 So I really appreciate you giving me the  
9 opportunity to talk about this project, and my  
10 contact information is up there. I would really  
11 like to thank the Water Resource Commission and  
12 our investigators in the project and things we've  
13 done. I'm happy to answer questions.

14 CHAIRMAN ANGELLE: Mr. Davis.

15 MR. DAVIS: First off, who was doing the  
16 social assessment work on the team?

17 DR. BORROK: Well, we had two folks.  
18 One of them recently actually passed away, Bob  
19 Graham, unfortunately, passed away. Joann Derowin  
20 is helping us. She's at UL-Lafayette.

21 MR. DAVIS: And where do you stand on  
22 the project now, and what are the next steps that  
23 you would envision?

24 DR. BORROK: Well, I mean, to be quite  
25 honest, we haven't done a whole lot except gather

1 data. We've put the GIS framework together. We  
2 have got the, you know, computers that we need to  
3 do it. We've hired the students we need to do it.  
4 We just recently integrated the U.S. Geologic  
5 surveys, surface water -- not just surface water,  
6 but water quality data set with the EPA water  
7 quality data set, which, since they're two  
8 different databases, was a bit of a task. So we  
9 have integrated that and we have that data  
10 available.

11 We're next step-wise looking at now some  
12 sort of modeling, like rainfall runoff type  
13 modeling, or a starting point there of water  
14 availability.

15 On the social assessment, we have been  
16 talking mainly to stakeholders at this point and  
17 getting the information we need. We're still yet  
18 to talk to the individual users of the system. So  
19 that's sort of where we're at.

20 MR. DAVIS: And my final question is,  
21 when you're looking at the groundwater situation  
22 are you looking beyond potable aquifers into  
23 brackish (inaudible.) West into Texas you run  
24 into some of the aquifers that we would consider  
25 almost disposal sites.

1 DR. BORROK: Wow.

2 MR. DAVIS: They're viewing as water  
3 supply sites. At least, you know, for industrial  
4 and agricultural purposes, you know, with  
5 desalination and the like. Are we looking -- how  
6 complete a picture are we looking at for our  
7 groundwater?

8 DR. BORROK: Well, I guess, the answer  
9 to that question probably is two-fold. One aspect  
10 of it is reality, although this is a project about  
11 the groundwater, as I say, the groundwater, we're  
12 focused on primarily the surface water at this  
13 point because the idea is that it's the most  
14 efficient management of those resources. So we  
15 haven't looked in depth into the groundwater  
16 issues.

17 In the Chicot area that we are focused  
18 on currently, we are not looking at alternate  
19 aquifer sources. I mean, you could potentially  
20 look at, I guess, deeper, more safety brackish  
21 aquifers, and there are some perched aquifers and  
22 femoral water sources above the Chicot as well  
23 here and there, but we are not focusing on those  
24 particularly at this time.

25 MR. DAVIS: Thank you.

1                   CHAIRMAN ANGELLE: Mr. Knotts.

2                   MR. KNOTTS: Yes, sir. From a -- I'm  
3 not a geologist. From a geological perspective,  
4 would the citing of future reservoirs be out of  
5 scale from a geographic or from a, a time  
6 standpoint to look at recharging some groundwater  
7 aquifers?

8                   DR. BORROK: Well, I know -- that's a  
9 tough one. I guess, time-wise I think certainly  
10 that's an option because, you know, we're looking  
11 at scales of sustainability of 50, a hundred  
12 years. And so having additional reservoirs and  
13 where those are located would certainly impact a  
14 project like this, is probably the short answer.

15                   I know that the Louisiana Department of  
16 Transportation has a reservoir priority program.  
17 And so they are -- I haven't spoken with them  
18 directly, but I know they are already --

19                   CHAIRMAN ANGELLE: You're speaking to  
20 him directly. He is, he is Mr. Reservoir DOTD  
21 Man.

22                   DR. BORROK: I can cross that meeting  
23 off the list then.

24                   In a little more detail certainly we  
25 should discuss, discuss that because I would like



1 to learn more about the program. But I am certain  
2 that that would be one area to look at, is, you  
3 know, water runs off so fast. I mean, really the  
4 management is centered around flood controls in  
5 most cases as opposed to just keeping the surface  
6 water that is in excess. So situations like that  
7 I think would be valuable probably.

8 MR. KNOTTS: I would like to discuss  
9 that further with you because that's kind of the  
10 things we were looking at was the strategic  
11 location of future reservoirs.

12 DR. BORROK: Yeah. This sort of a  
13 geospatial model is, in many ways, sort of made  
14 for that sort of citing of the water sources. So  
15 that would be great thing to talk about.

16 CHAIRMAN ANGELLE: Mr. Frey.

17 MR. FREY: You mentioned you were at a  
18 stage -- see if this is on. Check. Check.

19 I will just talk loud.

20 DR. BORROK: I can hear you.

21 MR. FREY: You were at a stage where you  
22 were interviewing stakeholders, and I would  
23 suggest that you make sure that you've got the  
24 farming community and coastal marshland owners  
25 involved, because those river systems in this area

1 from the Sabine over to Teche, Vermilion,  
2 Mermentau, Calcasieu, are all very important, both  
3 in the farming community as well as the sustaining  
4 those coastal marshlands.

5 DR. BORROK: Yeah.

6 MR. FREY: To that end.

7 DR. BORROK: Very good, very good  
8 advice.

9 We have met recently with ag extension  
10 agents and spoken about that. And they have  
11 certainly confirmed the, I guess, the sensitive  
12 nature of water, particularly for agricultural  
13 use. So we're very sensitive to that, and we will  
14 continue to talk to those agents and farmers.  
15 And, yeah, so coastal. So we'll be looking at  
16 both of those. Thanks.

17 CHAIRMAN ANGELLE: Mrs. Zaunbrecher.

18 MRS. ZAUNBRECHER: Yes. Recognizing  
19 that agriculture use is 70 percent of the  
20 groundwater, for you to be aware that we would  
21 love to use more of the surface water if it were  
22 available, if we could just get it where it needs  
23 to be.

24 DR. BORROK: Yeah.

25 MRS. ZAUNBRECHER: And as cultural

1 practices change, too, less water is being used on  
2 primarily rice, and we're trying to be as  
3 sustainable as possible.

4 DR. BORROK: Yeah. That's actually the,  
5 the exact same message we have had from the other  
6 agricultural -- the extension agents, that they  
7 and the farmers understand surface water is,  
8 really, I guess, the key to the future for the  
9 agriculture of the region, but at the same time,  
10 it's largely a proximity issue with them.

11 MRS. ZAUNBRECHER: And we've talked  
12 about that earlier, that surface water is a lot  
13 less expensive to access than the deep-water  
14 wells.

15 DR. BORROK: Oh, yeah.

16 MRS. ZAUNBRECHER: And so everybody  
17 would be happy. But where we live, it's very  
18 flat, as you know, and so reservoirs aren't always  
19 an option.

20 DR. BORROK: Yeah. Yeah. A lot of  
21 people have mentioned weirs and things of that  
22 nature as wells, special options. And, and,  
23 basically, the idea is to explore all of them, but  
24 I think you're right on target with what I have  
25 heard.

1                   CHAIRMAN ANGELLE: It certainly makes it  
2                   very important as we kind of look at surface water  
3                   options, that we are mindful of the water quality  
4                   that needs to be part of the equation, because  
5                   nobody wants to go from a great expensive source  
6                   to a cheap inferior source. That's not a  
7                   solution. And so, you know, we, we are sitting  
8                   at, at the intersection of all things water. And  
9                   quality is certainly one of those things that we  
10                  need to, we need to be aware of.

11                  I would say to you, Dave, that thank you  
12                  for being here, and we would view you as our  
13                  newest partner. No one up here has a monopoly on  
14                  all the solutions. And the State is going to  
15                  hopefully continue to surround itself with bright,  
16                  passionate folks who want to be a part of the  
17                  solution. And if we do that, then, you know, we  
18                  will be able to put the gold star that we checked  
19                  the box for sustainability, and we would view you  
20                  as part of our, of our team. And that team is  
21                  constantly changing. We are always looking for  
22                  new talent.

23                  So please inject yourself with any of  
24                  our agencies that are representative here. Push,  
25                  wiggle your room, yourself to the table. Whatever

1 the meeting is, I would ask that you would kind of  
2 ask for forgiveness rather than permission to  
3 participate. You know, you have got a bright  
4 group of folks who are helping you, and there's  
5 always room at the table for, for that. So,  
6 again, thank you.

7 And can you tell me a little bit about  
8 the NSF -- I'm assuming it was a competitive  
9 grant?

10 DR. BORROK: Yeah, yeah, it is. I can't  
11 remember the statistics now, but they usually have  
12 140 proposals or so, and there's 10 to 15 percent  
13 success rate. So we are very fortunate to have  
14 received the grant.

15 The exciting thing about it, and just to  
16 give you a little bit of history. My background  
17 is that I moved here to UL three years ago. I  
18 moved from a place where water sustainability is a  
19 huge issue in El Paso, Texas. I worked at  
20 University of Texas-El Paso, and I had a similar  
21 grant like this in El Paso. And you can imagine  
22 the difference between the two. But the amazing  
23 thing is, is that it's still some of the same  
24 sorts of problems in management. El Paso you  
25 can't do anything about it except conserve or

1 change saltwater to freshwater with desalination.

2 So we have a real opportunity here. And  
3 that was the exciting thing I think that the NSF  
4 decided to fund us on, is that, that opportunity  
5 that sold them. So I thank you for your kind  
6 words.

7 CHAIRMAN ANGELLE: Any other questions?

8 Okay. Thank you very much, and Merry  
9 Christmas to you.

10 And, Gary Snellgrove, if you could just  
11 make a note, all of the PowerPoint presentations,  
12 all the presentations if we could, following the  
13 meeting, they would be e-mailed to all the  
14 Commission members. And those --

15 MR. SNELLGROVE: You got it.

16 CHAIRMAN ANGELLE: Yeah. Okay.

17 Item No. 5 is Jim Pratt with the Sabine  
18 River Authority to give us an Update on  
19 Development and Management and Planning for the  
20 Sabine River Authority. Thank you, Jim.

21 MR. PRATT: Thank you, Mr. Chairman.  
22 Let me get this started, Mr. Chairman. And do a  
23 little introductory here.

24 I am Jim Pratt. Sabine River Authority  
25 is one of those few entities in Louisiana that has

1 jurisdiction over an entire river basin, which is  
2 Sabine River Basin. We do manage it jointly with  
3 the State of Texas since it is a bordering river.  
4 We are managed by -- or, actually, I'm managed by  
5 a Board of Commissioners that's appointed by the  
6 Governor. And, Mr. Chairman, I would like to  
7 introduce one of our Commissioners with us today  
8 that represents Calcasieu Parish, Mr. Gene Foret.

9 Most people when you talk about Sabine  
10 River Authority they think of Toledo Bend. That  
11 is one of our projects. The most significant  
12 project to the state today and, and continuing in  
13 to the future is a diversion canal project that we  
14 have here in Calcasieu. And I will give you --  
15 most of the information today will be specifically  
16 about our canal system and the growth we are  
17 experiencing here in southwest Louisiana. But I  
18 do want to give you some current events with the  
19 Toledo Bend Reservoir, and what we've worked  
20 through recently in the past few years in that  
21 reference.

22 Again, we're one of the nine basins,  
23 river basins, in Louisiana. And it is the  
24 bordering basin with the State of Texas.

25 We have over the past eight years gone

1 through a re-licensing project with the Federal  
2 Energy Regulatory Commission. Because the Sabine  
3 River is considered a fully navigable waterway of  
4 the United States, then we had to have a license  
5 to build the dam in the early '60s for hydropower  
6 production. That puts us under a very, very  
7 broad-reaching power act. It was done back in the  
8 1920s and '30s. It was a tremendous education  
9 process for us.

10 The good news is, the previous license,  
11 which was issued in -- in 1963 expired in 2013.  
12 We were issued a 50-year license, and that was  
13 issued on August 29th of 2014. The significance  
14 there is, is that typically 30-year license are  
15 the longest terms they issue now. And we had our  
16 Senator who was the Chairman of the Federal -- of  
17 the Senate Energy Committee, Senator Landrieu, and  
18 she was very adamant that they would give us a  
19 50-year license. They did. Now we're working  
20 through the fine print.

21 The challenges are that in the early  
22 '60s we didn't have a Clean Water Act. We did not  
23 have Endangered Species Acts. We had to show  
24 through the process that we were in compliance  
25 with all of those acts. And that's why we did



1 a -- everything from your invertebrate studies to,  
2 to this different species of organisms in the  
3 Lower Sabine. And most of the emphasis was on the  
4 Lower Sabine from Toledo Bend down to Sabine Lake.

5 The EIS, the Environmental Impact  
6 Statement, for the Toledo Bend project, which is  
7 required, was issued a year ago, December of 2013.  
8 That is available for anybody that might want to  
9 look at that.

10 We have applied for a re-hearing. And  
11 the reason for that is this. Those of you that  
12 are familiar with the Toledo Bend Reservoir and  
13 the various stakeholders we have, for many, many  
14 years we had issues with hydropower versus  
15 recreation, particularly in the summer months.  
16 Back in 2003, we had an act passed in Louisiana  
17 legislature that limited hydropower production out  
18 of Toledo Bend to an elevation of 168. Previously  
19 it was designed and engineered to have a power  
20 pool of 10 feet of elevation that could be used  
21 for hydropower. That conflicted with our  
22 stakeholders who were the recreation and residents  
23 on the Toledo Bend. So that was enacted in 2003  
24 with some specific exceptions.

25 Those exceptions are, in case the FERC

1       says we need to draw it down to inspect the face  
2       of the dam. Makes sense.

3               If there is basically to prevent a  
4       blackout or a brownout in the power grid, then we  
5       would go below 168.

6               And then, also, if we did not do that to  
7       maintain our downstream flows, and, again, we have  
8       industry down here that do rely on that.

9               And in addition, saltwater encroachment  
10       of the Sabine River, that regardless of the  
11       elevation at Toledo Bend, we could make some  
12       releases to mitigate that.

13              Also, if saltwater encroachment into our  
14       estuaries, not just Louisiana, but along the  
15       Sabine Basin on Texas and Louisiana sides.

16              And we've been living with that. That  
17       can work. Unfortunately, the Federal Energy  
18       Regulatory Commission reached farther. And as we  
19       interpret it, they reached into our water supply.  
20       And their exceptions were very specific that we  
21       shall maintain the reservoir elevation between 168  
22       and 172.

23              They did have some exceptions, but those  
24       exceptions are as follows: Due to storm or high  
25       water events. Obviously, we can't control Mother

1 Nature. We would get over 172, and then we may  
2 have to go below when we are near in drought  
3 years, low flow.

4 Due to reservoir drawdown, again, for  
5 public works, maintenance authorized by FERC.

6 For releases to make our continuous  
7 requirements under Article 402. Article 402 is  
8 seasonal releases that we had to make for specific  
9 species of spawning in the river below the dam in  
10 the spring when typically we're trying to get rid  
11 of excess water. So that does not harm anyone.

12 For releases needed to satisfy  
13 licensee's current water supply or other  
14 downstream obligations. We interpret that if we  
15 have a new SASOL come in to Lake Charles area, we  
16 would have to go to the federal government to get  
17 authorization to put them into our water supply  
18 budget. We feel like they are stepping on state's  
19 rights, not just Louisiana, but Texas. So we are  
20 asking for a re-hearing. We think they've  
21 overlooked that. And we will keep you posted.

22 CHAIRMAN ANGELLE: Has anyone in the  
23 Attorney General's Office or any other  
24 administration intervened on your behalf on that  
25 issue?

1                   MR. PRATT: No one has intervened, but  
2 they are fully aware, and we are keeping that  
3 dialogue open. We are using the, the firm of Van  
4 Ness & Feldman in Washington, D.C., which we're  
5 all familiar with, to help us with this.

6                   Now, what it also did not address is, is  
7 that in the reservoir itself -- it seemed to be a  
8 focus on downstream. And, and they did recognize  
9 we have customers downstream that we had to  
10 release. But the "shall maintain the reservoir  
11 between 168 and 172," we have two significant  
12 industries in DeSoto Parish directly out of the  
13 reservoir. And where I plan to shut them off,  
14 when we get to the magic 168 elevation. In  
15 addition, we have numerous rural and municipal  
16 water systems that continually take water from  
17 Toledo Bend.

18                   We think they made an oversight, but at  
19 the same time with the, with the aggressiveness of  
20 the federal government into our water business,  
21 we're not sure how that works out. But we feel  
22 like they are treading on state's rights  
23 specifically in dealing with our water supply  
24 issue. We understand the hydro, and we understand  
25 the Federal Power Act that relates to that. But

1 we're not willing to accept to water supply  
2 jurisdiction they have imposed.

3 CHAIRMAN ANGELLE: So given the fact  
4 that this is where we are -- and let's assume for  
5 purpose of this conversation that you fail to get  
6 a more favorable response and a re-hearing. Do  
7 you then get into the situation where you get into  
8 a low water event, and in order to meet the  
9 "shall" requirement of 168, you have to start  
10 denying folks who you are providing water to  
11 outside of the basin, like you talked about in  
12 DeSoto or other municipalities? You would have to  
13 start saying, in order to be in compliance with my  
14 license, I have got to tell you guys no?

15 MR. PRATT: That is our interpretation,  
16 Mr. Chairman. Now, if it comes down to where it's  
17 rigid, and the Federal Energy Regulatory  
18 Commission are going to continue to assert  
19 jurisdiction here, then there would be a process  
20 that we would ask for a variance, and they would  
21 hope that they would do that. But at this point  
22 in time, we have -- since we have filed for the  
23 re-hearing, today we're at the elevation of 168.2  
24 or so. So there's not much leeway. We have been  
25 doing everything we can as far as our management

1 to try not to get below that so we don't broach  
2 that prior to the re-hearing. But it's, it's a  
3 very challenge that we are having. We are going  
4 to keep, obviously, this Commission and all of our  
5 administration in Baton Rouge aware of this,  
6 because it has great significance to how we future  
7 manage our water supply here in Louisiana.

8 CHAIRMAN ANGELLE: So help me  
9 understand. The 168 that was a part of the 2003  
10 legislative act --

11 MR. PRATT: Yes, sir.

12 CHAIRMAN ANGELLE: -- was a number that  
13 was picked that would kind of represent a balance  
14 with regards to the recreational uses, right?

15 MR. PRATT: Yes, sir. And it was  
16 specific for hydropower only, because the  
17 hydropower does consume a large quantity that has  
18 an instantaneous impact on elevation.

19 CHAIRMAN ANGELLE: Right. So while I do  
20 understand why the legislature would take on that  
21 issue from a stakeholder's standpoint, where did  
22 the Federal Energy Regulatory Commission you  
23 believe find the authority to regulate 168 as a  
24 minimum in this way for, for their recreational  
25 balance?

1 MR. PRATT: Well, they had no studies or  
2 data or anything that they put in the record  
3 through this entire process, Mr. Chairman. We  
4 believe -- we want to believe it was an oversight  
5 on their part, but we're always suspect also. But  
6 the re-hearing we will be -- they will have to  
7 present their facts as to why they imposed those  
8 on us.

9 CHAIRMAN ANGELLE: Were there  
10 intervenors on -- in any of this --

11 MR. PRATT: No.

12 CHAIRMAN ANGELLE: -- that were pushing  
13 the 168 being hard and fast?

14 MR. PRATT: None. None. None.

15 CHAIRMAN ANGELLE: Well, I would urge  
16 you to consider asking, although, you have, you  
17 have kept folks abreast. This, obviously, has an  
18 impact beyond the Sabine River Basin.

19 MR. PRATT: Yes, sir.

20 CHAIRMAN ANGELLE: And I would urge you  
21 to consider asking the Attorney Generals of both  
22 Louisiana and Texas, because this would have a  
23 negative impact on, on the Texas situation as  
24 well, right.

25 MR. PRATT: They're probably even more

1 up in arms than we are. Even though we're up in  
2 arms, but when you consider the water situation in  
3 Texas and Louisiana, they will be right beside us  
4 fighting this all along the way.

5 CHAIRMAN ANGELLE: Well, I paid  
6 attention when Mark Davis made the presentation  
7 about the federal -- perhaps our biggest risk is a  
8 federal overreach.

9 MR. PRATT: Yes, sir.

10 CHAIRMAN ANGELLE: And I think it would  
11 be a mistake, a mistake, if the State of  
12 Louisiana, in addition to the Sabine River  
13 Authority, the State through its variety of  
14 agencies, not take this as the first, or a step, I  
15 should say, in that overreach, and push back  
16 really hard through intervention. And, and to the  
17 degree that you want to talk to me about that  
18 privately, and I realize that budgets are limited,  
19 but it's important for the State to be  
20 represented, not only through the SRA Louisiana,  
21 but through the other agencies as well. I feel  
22 strongly about that.

23 MR. PRATT: We agree with you,  
24 Mr. Chairman, and as such, we are keeping the  
25 Attorney General's Office abreast of this.



1                   CHAIRMAN ANGELLE:   Okay.

2                   MR. PRATT:   Our other focus here, of  
3                   course, at southwest Louisiana is impacted from  
4                   Sabine River Reservoir is our Diversion Canal  
5                   system.  And interesting to, to many of the  
6                   presentations had previously today, in the early  
7                   '70s, due to a decline in the Chicot Aquifer down  
8                   here, the Department of Public Works, under DOTD  
9                   now, actually built a Sabine River Diversion  
10                  system.  They transferred it to the Sabine River  
11                  Authority in the early '80s.  We have operated  
12                  ever since.  That actually talks about what the,  
13                  the system is.  It's, it's a very efficient  
14                  system; 35 miles of unlined, open canals,  
15                  four-and-a-half miles of underground pipelines  
16                  with pumping stations and control gates.  And, of  
17                  course, the reason was to divert the surface water  
18                  from the Sabine River into the Calcasieu,  
19                  Westlake, Sulphur, Lake Charles area for  
20                  agricultural, municipal and industrial needs, and  
21                  the USGS still monitors all these wells.  And you  
22                  can look at their monitoring charts, and these  
23                  industries all went on the Diversion Canal in the  
24                  early '80s, the groundwater levels spiked in the  
25                  Chicot Aquifer.  So it's, it's proven science.  We

1 don't have to test it. It works.

2 This is the outline noted. We actually  
3 take water from the Sabine River on the western  
4 border of Louisiana in the Starks area. We lift  
5 it 21 feet. The gravity flows most of the way  
6 into Sulphur. We have the control structures  
7 there. Then we split off, excuse me, into the --  
8 you can see we have pump stations. I may have a  
9 corner here.

10 So that being said, it actually goes  
11 under I-10 with a pipeline servicing industries  
12 there.

13 Got you.

14 CHAIRMAN ANGELLE: How big is that  
15 pipeline?

16 MR. PRATT: 35 miles.

17 CHAIRMAN ANGELLE: The pipeline  
18 diameter?

19 MR. PRATT: I think it's a hundred feet.  
20 A hundred feet wide and I forgot how deep it is,  
21 Mr. Chairman.

22 CHAIRMAN ANGELLE: No. The pipeline  
23 that goes under the interstate.

24 MR. PRATT: Oh. The pipeline under the  
25 interstate? I've got people that take care of

1           that, Mr. Chairman.

2                       CHAIRMAN ANGELLE: I love a man who  
3 knows how to delegate.

4                       MR. PRATT: There you are.

5                       This is the intake canal at the river,  
6 two-and-a-half miles north of Niblet's Bluff. You  
7 can see that we actually have to raise it from the  
8 level there. If you realize Sulphur and Westlake  
9 are not in the Sabine Basin. They are in  
10 Calcasieu. So it's a natural ridge we get over,  
11 and it's a natural flow, which is a very, very  
12 efficient system.

13                      This is what our pumps typically look  
14 like. Pump Station 1, three of them, 50,000 gpm.  
15 We keep two -- we have availability to have -- we  
16 do have three. We can add a fourth pump if our  
17 demand requires it. They do not run 24/7. We run  
18 to get our level at our canal at a sufficient  
19 level, and then the control gates take that from  
20 that.

21                      We actually have gone through quite a  
22 capital improvement process, I will tell you about  
23 that shortly, to modernize and take advantage of  
24 most of the technology available today.

25                      This is the discharge. Again, it lifts

1 to an elevation of about .2 MSL. We have  
2 automatic sensors that keep it level in that  
3 canal.

4 The control gates, themselves, there's  
5 no electricity. There's nothing. They're  
6 floating. And they control the level for that  
7 30-something miles throughout that system.

8 Pump Station No. 3 is located in  
9 Mossville. It's equipped with two 20,000 gpm  
10 pumps, variable speed. And those provide water to  
11 Air Liquide, Eagle US 2, Lyondell, Phillips 66 and  
12 Air Products.

13 Pump Station 4 is located north of the  
14 Citgo Wax plant. It has two 19,500 gpm pumps.  
15 They pump continuously, provide the pressure under  
16 10 to CITGO, Equistar and Louisiana Pigment.

17 The typical crossings. We have 37.  
18 Those are inverted siphons. Understand we have  
19 parish roads, plus we have highways and all that  
20 we have to go under. Those are inverted siphons.  
21 Also, we go under the KCS Railroad tracks.

22 There are two to three big concrete  
23 pipes. We -- this was done back in the '70s. So  
24 you can imagine it has aged. So we're into the  
25 capital improvement and maintenance stage as we

1 speak.

2 There were and are 109 irrigation  
3 floodgates. Those are for agricultural use. When  
4 we initially put the canal system in operation, we  
5 had a significant number of agricultural  
6 customers. Actually, we had 12 in the 1980s, but  
7 for the last several years, we have only had about  
8 four of them. And they do rice and crawfish  
9 located on Canal 2 within seven miles of Pump  
10 Station 1. So they are on the western edge of our  
11 canal system. The rest is all industry.

12 When it was first conceived, the  
13 quantity of water needed was primarily  
14 agricultural, but we have seen over the past 40  
15 years that transition from agricultural to  
16 industrial.

17 Here are our agricultural customers -- I  
18 mean, our industrial customers that we currently  
19 have contracts with. These are Air Liquide,  
20 129,000 gallons per day; Air Products, 1.7  
21 million; CITGO, 20 million; Phillips 66, 3.6  
22 million; Eagle US 2, 20 million; Entergy, 21  
23 million; Equistar, 734,000; Lake Charles Co-Gen,  
24 we have them under contract. We're questioning  
25 whether that's really going to come to pass or

1 not. Louisiana Pigment, 3 million; Lyondell,  
2 Matheson Tri Gas, Westlake Petro Chem, SASOL.  
3 That's our new one. They are going to be using 46  
4 million gallons per day. As you can see, they  
5 will be our biggest customer combined over CITGO  
6 and Entergy's power plant.

7 Total contracted is 141 million gallons  
8 per day. Our capacity under current design is 216  
9 million gallons per day.

10 Let me back up. This is -- in 2011. We  
11 saved down for our customers. We had a junction  
12 where our contracts were up for renewal. No bonds  
13 were against the system anymore. It was paid for.  
14 They wanted to see some improvements primarily for  
15 one reason, reliability. And so we agreed with  
16 them. Came up with a price structure.  
17 Understand, we're a non-budget unit of the State.  
18 We get no appropriations, no meeting, and we fund  
19 this all from enterprise funds Sabine River  
20 Authority. This is first phase of approximately  
21 10 million dollars that we have issued bonds for,  
22 and we are in the eleventh hour of completing  
23 those. Then we will move into Phase Two. We will  
24 look at that as to whether we want to issue  
25 additional bonds or cash flows.

1                   For instance, here's Pump Station 1 I  
2 showed you earlier that was built back in the  
3 early '70s. Upgraded those with all the latest  
4 technology. Pump Station 3, this is the remote  
5 operator's screen to where we can monitor these  
6 things 24/7, the operators in a remote area.

7                   One of the learning curves we went  
8 through was when Hurricane Ike came up the Sabine  
9 River Basin, it pushed a storm surge of saltwater  
10 up way above our intake. We had no monitoring  
11 devices. We were happy to get the power back on  
12 at Pump Station 1, but we didn't know we were  
13 pumping saltwater in until two weeks later when  
14 that water got to the industries. We had to flush  
15 and purge the system. The good news is, because  
16 of the 35 miles of open canal, we have  
17 approximately two weeks of water in storage for  
18 all of our current industry. So if we have a  
19 power outage there, we've got two weeks to get it  
20 back on.

21                   At our other pump stations that do  
22 actually supply the industry, we have, through our  
23 capital improvement program, installed diesel  
24 bypass pumps. So whenever the power goes out, and  
25 most all of our industry have their own power

1 plants internally that they can kick on during  
2 those outages. So -- but they can't -- the power  
3 does them no good if they do not have the water.  
4 So we have installed bypass pumps if our two pump  
5 stations can't serve our industries.

6 The siphon -- this is a typical siphon  
7 crossing. They were concrete culverts, basically,  
8 40 plus years old. They had cracks. They had  
9 leaks. So we went through a process of  
10 de-watering and going in there and putting new  
11 liners in those siphons. And some of those  
12 siphons, one of which goes under the KCS tracks,  
13 are 72 inches in diameter. A very expensive  
14 process.

15 Lastly, as a result of the SASOL  
16 project, which we're all familiar with, this is  
17 the KCS rail yard. This is the existing canal  
18 system. KCS is going to have to expand this rail  
19 yard eastward, westward, and northward, and bring  
20 the discussions with them. As we speak, they are  
21 going to front the money to Sabine River Authority  
22 for \$8 million of improvements because they will  
23 actually extend our siphons here out this way, and  
24 put in new bulkheads, head walls. At the same  
25 time, we had to keep the water flowing. So this



1 is a project we will be beginning after first of  
2 the year. Again, no cost to the State of  
3 Louisiana Sabine River Authority. We are being  
4 challenged with our administration in Baton Rouge  
5 on just how to funnel the money, but we are going  
6 to require them to put up an escrow account, and  
7 we will do the engineering and actually supervise  
8 the construction.

9 CHAIRMAN ANGELLE: Jim, where is SASOL  
10 footprint in relation to that site, to this  
11 picture?

12 MR. PRATT: It's all around this area.  
13 They have several thousand acres is my  
14 understanding. Mr. Foret, who is my Commissioner  
15 from here, may can add to that.

16 MR. FORET: North of that.

17 MR. PRATT: North of the map there.

18 CHAIRMAN ANGELLE: How far?

19 MR. FORET: Right across that canal.

20 MR. PRATT: They are adjacent to our  
21 canal. They are purposely adjacent to our canal.

22 CHAIRMAN ANGELLE: Were you, were you or  
23 anyone with your organization part of the  
24 conversation when this company was contemplating  
25 expanding its footprint in Louisiana as they were

1           addressing their water needs?

2                   MR. PRATT: Absolutely. They came to us  
3 first. Came to us first.

4                   CHAIRMAN ANGELLE: Without that  
5 diversion --

6                   MR. PRATT: They wouldn't be here.

7                   CHAIRMAN ANGELLE: I was hoping that  
8 would be the answer.

9                   MR. PRATT: They would not be here.

10                   CHAIRMAN ANGELLE: Number two, number  
11 two, without -- help me understand whether or not  
12 the construction of the dam has robbed down  
13 water --

14                   MR. PRATT: No.

15                   CHAIRMAN ANGELLE: Downstream. The  
16 answer is no. I was hoping that was the answer.

17                   MR. PRATT: Here's, here's -- if you  
18 don't mind, Commissioner. This canal system is  
19 not reliable if you are just waiting on seasonal  
20 flows.

21                   CHAIRMAN ANGELLE: Got you.

22                   MR. PRATT: Toledo Bend Reservoir is, in  
23 fact, that. It is a reservoir of water. Now, for  
24 most of the time there's enough water to come from  
25 the tributaries below Toledo Bend Dam that we

1           establish with Texas the yield we can each take  
2           out of the river. But during low flow and  
3           drought, which we all have no control over, we can  
4           release water on a timely basis. We found out  
5           during 2011 and 2012 when we had our worst drought  
6           of record, that if we ran a generator two hours  
7           every other day, that gave us sufficient flow in  
8           the river at Starks, and for the Texas folks in  
9           Orange, to pick up water to put in this canal.  
10          And so we always have that background.

11                       Now --

12                       CHAIRMAN ANGELLE: Well --

13                       MR. PRATT: -- a river is not  
14           necessarily the best way to convey water. Because  
15           for the amount of water we release, based on how  
16           much we really need, is about five or six times.

17                       CHAIRMAN ANGELLE: Right. Well, I think  
18           part of the conversation about the, the South --  
19           was it -- SASOL is a South African company, I  
20           believe?

21                       MR. PRATT: Yes, sir.

22                       CHAIRMAN ANGELLE: That, you know, they  
23           had a lot of choices to do.

24                       MR. PRATT: Oh, yes.

25                       CHAIRMAN ANGELLE: And they picked

1           Calcasieu Parish, which is phenomenal. But part  
2           of their conversation needs to be that it was and  
3           is the fact that our partners on the Sabine River  
4           Authority, and folks who are no longer here but  
5           were part of that generation of leaders, is, is  
6           one of the reasons, because this, this 35-mile  
7           diversion channel would not have been constructed  
8           had it not been for the original project.

9                       MR. PRATT: That's right.

10                      CHAIRMAN ANGELLE: And from those  
11           decisions falls a potential of \$21 billion  
12           economic investment, the largest in the history of  
13           the state. And it just seems to me the State  
14           needs to celebrate the cooperation between the  
15           regions because it really is kind of a  
16           northwest/southwest global expressway here.

17                      MR. PRATT: Yes, sir, we agree with you.  
18           And, again, over the last few years, I would say  
19           at the advent of the Haynesville Shale and our  
20           abundance of natural gas, obviously, our, our  
21           ports that are going to be shipping the gas, we  
22           have the freshwater here. I think the  
23           potential -- we are just scratching potential.

24                      Now, SASOL did already have an ethylene  
25           plant on --

1                   CHAIRMAN ANGELLE: Right.

2                   MR. PRATT: -- in this area, but they  
3 use very little water and they use groundwater.  
4 But they are going to exclusively, with the  
5 expansion of that plant, to surface water.

6                   And, again, we, we are using -- what we  
7 have contracted out only represents about -- or  
8 what we are delivering represents about 40 percent  
9 of our capacity. So we have room for growth.  
10 But, but -- and that's just the engineering  
11 constraints of the canal, itself. We always have  
12 the backup which makes the reliability there,  
13 Toledo Bend Reservoir. So the connection is very,  
14 very apparent.

15                  CHAIRMAN ANGELLE: Is the fee, the  
16 amount that you are charging SASOL, is that a  
17 public record?

18                  MR. PRATT: Yes, sir.

19                  CHAIRMAN ANGELLE: And what --

20                  MR. PRATT: We charge all of our  
21 industries the same amount, and that's based every  
22 five years we renew that based on cost of  
23 operations specifically.

24                  CHAIRMAN ANGELLE: And what is that  
25 rate?

1 MR. PRATT: Twenty-three cents per  
2 thousand gallons. That's raw water.

3 CHAIRMAN ANGELLE: So do the math for me  
4 on what at SASOL's contracted rate, what's going  
5 to be --

6 MR. PRATT: About 3 million a year to  
7 the River Authority.

8 CHAIRMAN ANGELLE: So SASOL believes  
9 that it is appropriate public policy or  
10 appropriate policy for their company to spend \$3  
11 million --

12 MR. PRATT: Per year.

13 CHAIRMAN ANGELLE: -- per year to buy  
14 water as opposed to using groundwater?

15 MR. PRATT: Yes, sir. Yes, sir. And  
16 they are paying us 10 percent of that right now  
17 just to reserve it.

18 CHAIRMAN ANGELLE: Okay. I don't have  
19 any questions.

20 MR. PRATT: That concludes my  
21 discussion. Any questions?

22 MR. THOMAS: Can I ask a question? The  
23 first license agreement.

24 MR. PRATT: Yes.

25 MR. THOMAS: Will that prevent Texas

1 from taking water at Toledo Bend?

2 MR. PRATT: That will prevent Louisiana  
3 from taking water.

4 MR. THOMAS: I realize that, but does it  
5 prevent Texas--

6 MR. PRATT: Half the water is already  
7 Texas.

8 MR. THOMAS: That will prevent them from  
9 taking as part of that agreement, or no?

10 MR. PRATT: No. It won't affect them as  
11 far as that goes. But it can, if it comes -- I  
12 can't believe that this would make sense, but to  
13 stop anybody from taking a water supply at 168,  
14 then it's no longer a reliable supply of water.  
15 That's just where we're at.

16 There's always going to be contention,  
17 and we have stakeholders on the reservoir that had  
18 rather we did not enter into any more. Residents  
19 on the reservoir typically don't appreciate us  
20 releasing waters for the industry down here. So  
21 can't please everybody at one given time.

22 MR. THOMAS: Thank you.

23 MR. PRATT: Sure.

24 Yes, sir.

25 MR. BOURQUE: I have a question, or two

1 things. One, the Chicot could not have handled  
2 the industry that was using the water in the '60s  
3 and '70s. So without that canal, we, we --  
4 industry would be shut down.

5 MR. PRATT: We would not have it.

6 MR. BOURQUE: Right.

7 MR. PRATT: We would not have the  
8 industry. You're exactly right.

9 MR. BOURQUE: In the '70s at about  
10 140 feet below ground level. Now those are  
11 probably in the 70 to 80-foot. That's how much  
12 change it's done to the Chicot.

13 Second thing, where does the water go  
14 once it's released? It heads to Calcasieu?

15 MR. PRATT: Yes, sir. It's actually  
16 released into the Calcasieu Basin.

17 MR. BOURQUE: Does it change the sodium  
18 count throughout? Does it make any difference?

19 MR. PRATT: No, sir. But then, you  
20 know, our DEQ actually permits and authorizes  
21 those releases from those plants. You know, after  
22 they use -- that's all administered under DEQ.

23 Mark.

24 MR. DAVIS: The numbers you gave about  
25 the water use are very informative, but can you



1           tease that a little bit? How much of that is  
2           consumed, and how much of that is returned? And  
3           if it is returned, is it coming in at -- is it  
4           going to be a high, you know, temperatures or  
5           anything like that that we need to think about?

6                       MR. PRATT: You know, Mark, I can't give  
7           you that answer. I know we can certainly come up  
8           with it. I'm on the supply end, and, again, with  
9           DEQ, I'm sure we have those quantities and water  
10          quality parameters. I will take that as an  
11          assignment.

12                      MR. DAVIS: Thank you.

13                      MR. CULPEPPER: Yes, sir. Have you  
14          looked at the, the effect of all that water and  
15          recharge of the Chicot, and how much might help  
16          slowdown or reverse land subsidence as a result of  
17          overdraft or the formation?

18                      MR. PRATT: Particularly here in  
19          southwest Louisiana?

20                      MR. CULPEPPER: Yes.

21                      MR. PRATT: Yes, sir. What we have is  
22          the USGS gauges prior to and then up-to-date to  
23          today of the water levels in the, in the Chicot  
24          Aquifer down here. And as I said earlier, when  
25          you look in the 1980s when they put the industries

1 and what few agricultural customers they had on  
2 this surface water system, the water level did  
3 spike in the groundwater aquifer, and has remained  
4 higher than 1960 levels ever since.

5 Now, if new industry continues to come  
6 in, and we allow them to take groundwater in lieu  
7 of surface water, then we will be back to square  
8 one.

9 Thank you, Mr. Chairman.

10 CHAIRMAN ANGELLE: Thank you. Great  
11 presentation.

12 Okay. We go to Item No. 6, and ask  
13 Karen Gautreaux with the Nature Conservancy to  
14 update us on the Nature Conservancy's Freshwater  
15 Assessment Project.

16 MS. GAUTREAUX: Thank you, Mr. Chairman  
17 and Commissioners. I'm actually going to ask Dr.  
18 Bryan Piazza, our Director of Freshwater and  
19 Marine Science for the Nature Conservancy, to give  
20 the overview. We're very excited to present to  
21 you today. What I would like to do is give a  
22 little context for this project.

23 I guess about two-and-a-half years ago  
24 or so, Dr. Keith Ouchley and our staff were  
25 sitting around. For those that -- of you that,

1           that are familiar with Nature Conservancy, you  
2           probably know that we are a very science-based,  
3           site-based, consensus-based organization. And  
4           we've conserved about -- contributed to the  
5           conservation of about 300,000 acres in Louisiana  
6           with the help of private and public partners. And  
7           recognizing that water is such an important  
8           component, both quality and quantity of our rich  
9           resources in Louisiana, we started thinking, well,  
10          what kind of information do we need to make  
11          conservation strategy decisions. And then the  
12          conversation enlarged and said, well, how can we  
13          provide this great amount of information that we  
14          recognize as being valuable to decision-makers, to  
15          researchers, to stakeholder groups? And the idea  
16          of this Freshwater Assessment was born. And we  
17          are -- we started on this project a couple of  
18          years ago, and we are now what we would call we're  
19          getting pretty well functional according to the  
20          original vision, I guess. But I think one of the  
21          beauties of this project, and Bryan's going to  
22          give an overview of it, is that we want input  
23          on -- continuing from this point, but it can be  
24          updated with new information, and it can also be  
25          used for modules. So this tool we hope will be

1 very valuable and serve as a platform for  
2 decisions about our water resources into the  
3 future. So, again, we are very grateful.

4 We know, as Commissioner Angelle  
5 mentioned, we, we meet at least two times a year.  
6 So if we meet in six months, we wanted you to be  
7 aware of this, because we are getting to the -- to  
8 an important phase of this project to get your  
9 input. If you have some thoughts about modules  
10 that could be useful in water planning for  
11 whatever purpose in the future in Louisiana, we're  
12 interested in your input on that. So we thought  
13 this is a very timely opportunity, and appreciate  
14 the chance -- the opportunity to present to you  
15 today. Bryan.

16 DR. PIAZZA: Thank you, Karen. And  
17 thank you for inviting us to provide this update  
18 today.

19 I'll get right into it. So today I'm  
20 going to show you how quickly and easily we can  
21 use the best available science to inform decisions  
22 about Louisiana's freshwater resources. We have  
23 heard this all today, and you all know this. The  
24 stats on global water stress aren't good. We have  
25 seven U.S. states that are already running out of

1 water. We alluded to a lot of this today. I  
2 think Kai put it best when, you know, in Louisiana  
3 we have a lot of water, but the caution light is  
4 on. I really like that analogy. Because we know,  
5 as David was talking, we were -- we're  
6 overdrafting in some of our aquifer systems  
7 already. We have a \$50 billion plan for restoring  
8 our coast that's dependent on stable freshwater  
9 supplies. But we also know that other states are  
10 looking for water from, from places that have a  
11 lot of water.

12 And so we also know, and we have heard  
13 this, about how important water is today, and how  
14 complicated -- just listening to the talk today,  
15 just how complicated these decisions are, how  
16 vital our water resources are not only to our  
17 natural wells and our natural resources here, but,  
18 but that natural wealth and our world-class  
19 wetlands, they drive our economic and cultural  
20 wealth. I mean, we just heard a great talk about  
21 that just now.

22 And that these decisions, if we want to  
23 keep this, this wealth and this economic and  
24 cultural wealth, and have business and birds and  
25 thriving industry coming here, we are going to

1           have to make a lot of really important decisions,  
2           and a lot of very complicated decisions about  
3           water moving forward.

4                       And so that's why we developed  
5           Freshwater Network. This is an online system that  
6           provides comprehensive, scientific information  
7           about water as well as decision-support  
8           capability. It's free. It's open for use by  
9           anyone, and it's incredibly easy to use.

10                      So all you need is an Internet  
11           connection, and you can put the power of science  
12           directly into your hands to help you with your  
13           water decisions. This, this site is actually  
14           going public today. You can get online and visit,  
15           and visit the site today. So let's zoom in here.

16                      This Freshwater Network is custom built  
17           for individual states. I'm going to zoom in here  
18           on Louisiana. We are currently building the  
19           system in Mississippi as well. And so I'm going  
20           to zoom in here on Louisiana, and we are going to  
21           take a little tour about what we can do in  
22           Louisiana right now.

23                      So as Karen alluded to, we started this  
24           process in 2012. We, we wanted to start informing  
25           our conservation strategies internally. We also

1           wanted to help what we saw down the road as this  
2           very important decision-making, this  
3           decision-making effort and water-planning effort.  
4           And so we, we talked with a number of stakeholders  
5           and partners, the universities in Louisiana,  
6           agency and non-agency experts, to say, Do we need  
7           a system like this that puts all this scientific  
8           information together, helps with decision-making  
9           to help view science to inform decisions? Here  
10          are some of our ideas; help us shape them.

11                         We had overwhelming support for this  
12           idea, as well as we got a lot of input from  
13           stakeholders and helped shape and run down our  
14           ideas. And also a lot of stakeholders and  
15           partners provided data for our system that we now  
16           have in the system and wouldn't have had without  
17           their support.

18                         So we started building for the next two  
19           years. This -- we had to build what was under the  
20           hood. This is a very powerful system, very  
21           complicated to, to deliver this information. We  
22           had to build relational databases, web  
23           applications, modeling, surface flow modeling  
24           capability, ability to, to consume information  
25           from groundwater models, ability to provide

1           decision support applications and different  
2           things. So for the next two years, we built, and  
3           we are always building on this system. So this  
4           system continues to develop through time. Just  
5           because we released it today, we are building as  
6           we speak to keep our -- this system getting more  
7           and more powerful.

8                         So about a year ago, we released an  
9           internal development site that, that we went back  
10          to the partners and stakeholders, and we showed  
11          them our results, went through our second peer  
12          review process, and looked at some of how we were  
13          delivering information. And then today, now a  
14          year from there, we've released our first public  
15          site. But this is a circle because this process  
16          never stops. We're continually developing  
17          functionality and working with partners to  
18          reinvent and go through peer review processes, and  
19          releasing information to the demo site that we  
20          then upload to our public site. So this site, if  
21          you keep visiting it, keeps getting more and more  
22          and more powerful.

23                        So I'm going to now lay out the entire  
24          scope of our project. So this, this system allows  
25          you to use unprecedented amounts of data about



1           freshwater. When the target -- when our target is  
2           fully implemented, you are going to be able to  
3           unlock information on the health of your  
4           watersheds; how much channelization or bayou or  
5           bayou straightening has occurred inside a  
6           watershed; how many canals are there; how many  
7           levees; what are the effects of dams. We'll be  
8           able to look at over 50 years of the nutrient --  
9           of nutrient data from the Department of  
10          Environmental Quality and the EPA; over 50 years  
11          of fish data for multiple sources, including the  
12          Louisiana Department of Wildlife and Fisheries,  
13          and Tulane University, and a number of different  
14          sources. You are going to be able to look at how  
15          fish populations have changed through time, how  
16          water quality has changed through time inside  
17          of -- at multiple scales. And you are going to be  
18          able to track that information with the touch of a  
19          button.

20                         You're also going to be able to access  
21          comprehensive information on how much water is  
22          flowing down our rivers, bayous, and streams, and  
23          how that water -- the past, present -- and how  
24          that water flow is affected by past, present, and  
25          future projected water use.

1           Likewise, you are going to be able to  
2           see how much water is in our -- groundwater is in  
3           our aquifer system, and how use of that water not  
4           only affects the aquifer, but how much use of that  
5           water affects the, the water flow down our rivers,  
6           bayous, and streams.

7           And this system interacts completely  
8           with the Nature Conservancy's Gulf of Mexico  
9           Resilience Decision Support Tool, which is an  
10          online friendly available site we built for  
11          coastal systems across all five Gulf states. So  
12          you're not only going to be able to see how our  
13          freshwater resources are doing, but you are also  
14          going to be able to see how use of that water  
15          affects our coastal wetlands and our coastal  
16          fisheries.

17          So now I'm going to show you what you  
18          can concurrently do, if you log on right now.  
19          First, you're going to be able to display massive  
20          amounts of data at several different scales. I  
21          alluded to some of the data, but we built the  
22          system on the back of a USGS data set that  
23          contains over 580,000 water features for  
24          Louisiana. So you'll be able to see rivers,  
25          bayous, and streams, canals, channelized streams,

1        reservoirs, wetlands, for example. You will also  
2        be able to see comprehensive land cover  
3        information, as well as all major protected areas,  
4        like wildlife management areas and national  
5        wildlife refuges. We just finished managing all  
6        of our water quality data, over 50 years. Very  
7        soon you are going to be able to pull up that  
8        information for any geographical area of the  
9        state.

10                In addition, we're building a statewide  
11        model that provides estimates of water flow in all  
12        of our bayous, rivers, and streams. So that,  
13        again, we can look at past, present and future  
14        projected use, even down to very small scales.  
15        And we're going to be able to display metrics of  
16        that information at multiple different scales.  
17        I'm going to get into that in a little bit because  
18        that's very important information for what we are  
19        talking about here.

20                So kind of a first level of usage. You  
21        are going to be able to take all of these data,  
22        and you are going to be able to summarize any data  
23        or metric that we have in the system at various  
24        scales.

25                So we built this for not only using the

1 hydrologic unit classification of USGS. So we'll  
2 be able to analyze at the HUC 12, which is the  
3 subwatershed. That's about 15 to 60 square miles.  
4 We are going to be able to provide surface flow  
5 estimates down to about one square mile, and we  
6 can already do that in some areas of the state.

7 We could also provide information at the  
8 HUC 12 layer -- watershed or subbasin scale. We  
9 can also look at LDEQ subsegments. We can look at  
10 parishes. We can look at U.S. Congressional  
11 districts. We're also looking at Louisiana  
12 precincts right now getting that information into  
13 the system. So you are going to be able to  
14 summarize by various, by various scales.

15 So on the screen you are showing -- we  
16 are showing just a summary at the HUC 12 layer.  
17 This is about 700 square miles. This is one of  
18 USGS's classification units. And we-- and this  
19 shows results of one of our, our tools that we  
20 built for -- to show hydrologic alterations of  
21 different kinds inside of watersheds. And this  
22 could be how much water is stored on the landscape  
23 and, and behind dams. It could be how many  
24 channelized streams there are; how much -- how  
25 many canals, or a number of different things. So

1           you are going to be able to see immediately what's  
2           happening in a particular watershed.

3                       Or you can look at a number of  
4           watersheds. This is, this is a compare watersheds  
5           tool we have developed. And what you can do here  
6           is take any of those scales that I just talked  
7           about, those classifications. You can click on a  
8           number of them and return a summary of any metric  
9           that we calculated in the system. So as we keep  
10          building and building, this list of metrics gets  
11          bigger and bigger. So you are eventually going to  
12          be able to see fish populations, water quality  
13          information, surface flow metrics, you name it.  
14          So you can click and go on now, click on different  
15          watersheds, or different political boundaries, for  
16          instance, and you can get a summary of this  
17          information.

18                      This information then is ready to insert  
19          into reports, project proposals, environmental  
20          assessment, permit reviews, white papers, you name  
21          it. So you can look at these areas. And as I  
22          said, and, and we're, we're currently trying to  
23          make -- we're working on making this information  
24          directly downloadable into a pdf. Right now it's  
25          not quite downloadable yet, but you can get this

1 information. And like I said, this list will keep  
2 growing and growing and growing as more  
3 information comes into the system.

4 This is another tool we developed that's  
5 available now. This performs custom analyses. We  
6 call this Drawn and Report. So you can take your  
7 mouse, outline any project boundary that you want,  
8 and you will instantly get a summary of any metric  
9 that we've calculated in the system. So you don't  
10 have to, to stay to those predefined boundary  
11 areas. So, so you can get a summary. And this  
12 information also is ready to insert into reports.  
13 And this is great for project citing, or looking  
14 at project proposals, things like that.

15 So I want to switch gears a little bit.  
16 This is also -- what I'm going to show you right  
17 now is also available. We -- the thing that  
18 really makes this system innovative is we did a  
19 few things because we built this system for  
20 decision-making, specifically for decision-making  
21 and to support that process. So I'm going to show  
22 you a couple of things right now that, that we've  
23 developed for that purpose.

24 So the first thing is that any analysis  
25 in our system can be simultaneously done in two

1 windows at the same time. So in, in this  
2 instance -- so anything that we have in the  
3 system. So up here on the screen, I'm just  
4 showing -- I think this is the amount of  
5 channelized streams that we have by, by parish on  
6 the left, and by LDEQ subsegment on the right.  
7 These are two pretty important delineations in  
8 Louisiana for decision-making. And, and so you  
9 can do these two analyses.

10 Then this -- so what we have done this  
11 for, is so that two different stakeholders or  
12 partners can put up information and get this  
13 information simultaneously so they can talk about  
14 how this information pertains to maybe their  
15 interest or maybe a project that they are working  
16 on together. And, and really facilitate  
17 communication about this -- about the decision or  
18 the data that are being, that are being displayed  
19 in the system.

20 So what you can do then is that you can  
21 not only discuss the information as it is on the  
22 screen, but this information is downloadable as a  
23 report, or you can send a web link to anyone, to  
24 anyone's computer, Smartphone, or tablet anywhere  
25 in the world. And when they click on that link,

1           this exact same screen would come up. They would  
2           be seeing exactly what you're seeing. So if  
3           you're on the phone, if you're on a conference  
4           call, you can send this information if you click  
5           on it, and they're immediately seeing exactly what  
6           you're seeing. So it promotes really remote  
7           stakeholder relations and decision-making in  
8           remote locations as well so everybody doesn't have  
9           to be at the table.

10                         One thing I forgot to mention early is  
11           that we have a Search By Address. So anyone can  
12           use this system. It doesn't have to be just  
13           decision-makers. You can go in, you can put your  
14           address in, and you can see what watershed you're  
15           in, any kind of information, right around your  
16           house, right around your camp, right around where  
17           you work. We -- business can use this. We have  
18           developed it so that it's useful by anyone.

19                         Now, the second thing we did to  
20           facilitate decision-making is we built the system  
21           to function with apps. Karen called them modules,  
22           but it's, it's plug ins. It's the same thing.  
23           And that's apps just like on your phone. So just  
24           like on your phone, these apps are designed to  
25           take massive amounts of data, provide either a



1 modeling, use a model or an analysis to take that  
2 massive amount of data and to transform it into a  
3 useful and user-friendly result.

4 So the other thing we can do then is so  
5 we can facilitate decision-making, we can custom  
6 make these things. So that if, if someone has a  
7 decision question or something that they are  
8 working on in their agency, or they're a planner  
9 or whatever, we can develop a custom app that,  
10 that gets right -- uses the data that is needed  
11 for that question and gets right at that question  
12 and, and presents a result.

13 The other thing we can do in the system  
14 is, is we can provide virtual workspaces that are  
15 password protected, for instance. So you can, you  
16 can develop apps and put them in a virtual  
17 workspace. So for water planning, for water  
18 budgeting as Kai was talking about earlier, we can  
19 actually develop the, the virtual -- the computer  
20 workspace for that to happen. So that you could  
21 use the science, target the questions, build the  
22 apps, and actually develop that environment that  
23 maybe has, has technical analyses or something  
24 that would be different from what's on the public  
25 site.

1           So I have showed you already three apps  
2           that we have. We have the hydrologic alterations;  
3           we have the drawn report; and we have the  
4           watershed comparison apps already in the system.  
5           Now I want to show you a couple of apps that are  
6           very close to development and very important for  
7           Louisiana.

8           The first is the surface flow app. I  
9           talked about the surface flow modeling we are  
10          going to be able to do, or that we already can do.  
11          These are the areas that we have already modeled.  
12          We are developing actually a surface flow model  
13          for the entire state of Mississippi as well. So  
14          we modeled the Pearl -- we have already finished  
15          the Pearl River Basin all the way from the source.  
16          That entire HUC 6 basin is finished. We have  
17          already done the Lower Ouachita and also the  
18          Sabine.

19          So, so what the flow app is going to do  
20          is be able to return information based on our  
21          surface flow, be able to return metrics and be  
22          able for a user to go in and, and work with the  
23          information from the surface flow model. And  
24          because surface flow modeling is important -- so  
25          important in Louisiana, I want to talk about our

1 surface flow modeling capability just a little bit  
2 more. But this app is on -- currently on our  
3 internal development site. We will be releasing  
4 it after a peer-review process. It will be  
5 publicly released. So when you go on the site,  
6 and you get into Louisiana, you are going to see  
7 on the left side of the screen, after we finish  
8 the peer review, you will see an icon like this  
9 that says surface flow, and you will be able to  
10 interact with that surface flow modeling. And as  
11 we complete the balance of the state, this app  
12 will continue to get more and more -- have more  
13 and more functionality.

14 So I'm going to talk really quickly  
15 about what we're doing with flow. We are working  
16 with the Research Triangle Institute  
17 International. They are in North Carolina. We  
18 are applying their waterfall model to Louisiana  
19 and to Mississippi. They have already used  
20 waterfall to model in North Carolina and a large  
21 part of the South Atlantic. So we've brought it  
22 into the Gulf of Mexico.

23 The first thing we are going to be able  
24 to do is be able to provide time series surface  
25 flow estimates and generate metrics at multiple

1 scales. So, for instance, we will be able to  
2 generate the flow estimates down to a square mile.  
3 We'll be able to return estimates at any of those  
4 geographical boundaries that I showed earlier.

5 So what metrics will we be able to  
6 calculate? We can right now -- we have developed  
7 the capability to calculate any of the USGS eFlow  
8 metrics. There's over a hundred of those. We can  
9 also calculate any of the index of hydraulic  
10 alteration metrics. There's about 64 of those.  
11 We can calculate commonly -- some commonly used  
12 metrics that are used for -- in regulatory  
13 programs, like the 7Q10, the 7Q2 which looked at  
14 seven-day average low flow over a return period of  
15 either 10 years or two years. And we can also  
16 generate a number of metrics -- I'm going to show  
17 you a couple of them -- that look at land use  
18 change, flow ecology relationships, or water use  
19 intensity, and can be used for water budgeting.

20 So this is one metric that we can  
21 calculate right now. This looks at how much water  
22 is being removed from our waterways, and how much  
23 water is being returned to our waterways. So it's  
24 a consumptive/nonconsumptive use. It's that type  
25 metric. And so what we can do is we can look at

1 water use intensity, and then we can look at how  
2 much water is being -- withdrawn from our surface  
3 water bodies and either returned or not returned.  
4 We can also look at the timing of return. And we  
5 can determine whether -- how those areas are doing  
6 in terms of water use intensity, and we can, we  
7 can very easily return a map that very easily  
8 shows which areas are stressed currently in red,  
9 which areas are on the verge of stress in yellow,  
10 and which areas are okay in green. And this, this  
11 is a result of some flow modeling we've completed  
12 in the Lower Ouachita. So we are going to be able  
13 to generate information that, that we can  
14 cross-check with some of the feedback we get from  
15 other efforts. We can then put this information  
16 on the screen and make sure that everything is  
17 lining up, and we can look at hotspots for water  
18 use intensity, and this can be used as part of the  
19 water budgeting process.

20 This is another analysis that provides  
21 estimates of how changes in land use affect flow.  
22 My point in this is that we can use this  
23 incredibly detailed scientific information and  
24 create an application that turns this into  
25 something that you can plug and play, that you can

1 ask a question, use this complicated information,  
2 and return a result. And this looks at -- up here  
3 this is in the Lower Ouachita -- portion of the  
4 Lower Ouachita, HUC 6, up in north Louisiana. And  
5 this looks at how an area that has been  
6 converted -- that was, you know, predevelopment  
7 was floodplain forest and then turned into an  
8 agricultural system. So it changed from one that  
9 stored water on the landscape and released it  
10 slowly to one that was designed to get water off  
11 the landscape as quickly as possible. Now -- then  
12 we can look at on the bottom how that affects  
13 flow.

14 We can also take this one step further.  
15 If it's deemed useful, we can take it one step  
16 further and we can develop the capability to  
17 estimate any future changes in landscape, such as  
18 conservation, or, or, or agricultural development  
19 or whatever, and we can estimate what those future  
20 changes in flow would be. So somebody would be  
21 using this information but never know that they  
22 were using that information.

23 And perhaps most importantly for our  
24 discussions about water planning, is that we can,  
25 we can now -- we have and will be able to very

1           shortly for the entire state have all the  
2           information, the technical information that we  
3           need to calculate water budgets. We'll have the  
4           consumptive versus nonconsumptive use information.  
5           We can ask the question how's water being used  
6           upstream, and is there enough left for our  
7           downstream needs. And this is very important.

8                         One thing that I haven't mentioned yet  
9           is that we have also took some time and resources  
10          and developed functionality to look at groundwater  
11          and surface water connectivity. So we essentially  
12          built a doorway in our model so that we can now  
13          take USGS groundwater models and run them, and put  
14          the output of those through the doorway into our  
15          surface flow models. So now we can, we can  
16          estimate not only the interaction between surface  
17          and groundwater, but we can start testing some  
18          scenarios about water use. And we actually  
19          developed this and tested it for the Sparta  
20          Aquifer system, and we found that by incorporating  
21          groundwater information into our model, we were  
22          able to statistically significantly improve the  
23          bit of the model, of the surface flow model. And  
24          that's important for two reasons.

25                         First, it tells us that there's a lot of

1           interaction in some of our waterways, between our  
2           aquifers and our waterways. And, second, it tells  
3           us that if we don't incorporate groundwater  
4           information into our water budgets, we could  
5           either be overestimating or underestimating our  
6           resources in the budget process.

7                         This is very quickly just an example of  
8           one of those water budget metrics. We can ask  
9           this question, and, and we can look at how much  
10          water is available now, estimate future uses, and  
11          run scenarios and determine how much water will be  
12          available in the future down to very small scales.

13                        And a very, very important thing is that  
14          we can custom-build apps with anyone. We built  
15          this system as a plug-and-play system. So we  
16          could set the app right in place. And -- and I  
17          want to highlight one of the things we're  
18          currently doing. We're right now working with  
19          Natural Resources Conservation Service on an  
20          application that helps them -- that uses you and  
21          interacts with over 50 years of water quality data  
22          from DEQ and from EPA. And we're going, we're  
23          going to help them target their conservation  
24          partnerships with agricultural producers to try  
25          to, to manage nutrients. That's just --



1                   And so I want to wind up right now by  
2                   giving you -- I've showed you what we can do. I  
3                   have showed you a couple of important apps that we  
4                   have close to development. The last thing I want  
5                   to do is give you a timeline for where we are on  
6                   our -- what we are developing currently, and when  
7                   it will be finished. And, and with the idea that  
8                   we can add apps, and we would like to expand this  
9                   list by working with you to, to help you with  
10                  water budgeting, water planning, or whatever the  
11                  needs may be.

12                  So the first thing, the Flow App, as I  
13                  said, it's on our development site. It will be  
14                  released soon after peer review.

15                  We will complete the flow modeling for  
16                  the entire State of Louisiana and for Mississippi  
17                  by July.

18                  We're aiming to finish the app that we  
19                  are working on with NRCS that I just told you by  
20                  September.

21                  And we are also working on some  
22                  applications that look at water use upstream and  
23                  the effects on downstream -- on coastal resources.  
24                  We are going to try to have that completed, a beta  
25                  version of that, by late 2015.

1                   And we are working now on, on managing  
2                   and getting the 50 years of fish information  
3                   managed and into an application that allows people  
4                   to interact and look at trends of fisheries, of  
5                   fish communities through time, and to get at some  
6                   indication of our aquatic systems. And as we  
7                   develop our flow modeling, we'll be able to start  
8                   working on -- we're working on some pilot flow  
9                   ecology, how does flow affect these communities.  
10                  We are working on some of that right now. And  
11                  that app will -- we will continue to develop  
12                  functionality in that after we get it finished.

13                  So I just want to leave this up. You  
14                  can go to either of these sites. They are live as  
15                  of today. And you can get information. If you --  
16                  we would love to partner with -- we're actually  
17                  working with ULL on -- we have talked to them  
18                  about incorporating into their project. We are  
19                  very interested in incorporating this science into  
20                  the, the great talks you have heard today. And I  
21                  learned a lot already today that got my wheels  
22                  turning on how we can make this even better and  
23                  more useful for Louisiana, because that's our goal  
24                  here. So consider us part of the team, and thank  
25                  you very much.

1                   CHAIRMAN ANGELLE: Questions? Mr.  
2                   Pratt?

3                   MR. PRATT: Yeah. Bryan, in looking at  
4                   this, you know, of course, the question is, is  
5                   that -- you're looking at, at probably historical  
6                   and, and maybe current data. But when you got a  
7                   situation like the Sabine Basin, and, and they  
8                   have -- or the Federal Energy Regulatory  
9                   Commission has mandated some changes in our  
10                  operations and releases, well, you don't pick  
11                  those up until it actually happens.

12                  DR. PIAZZA: Yes.

13                  MR. PRATT: And so how do we make that  
14                  connection as to -- you know, I guess what I'm  
15                  saying is, how can we collaborate? And it's just  
16                  not, you know, our basin. I mean, all of these  
17                  basins. There's going to be events taking place  
18                  that, that will impact parameters within your  
19                  models. And I guess what I'm saying, your model  
20                  is only going to be as good as the data that you  
21                  have.

22                  DR. PIAZZA: Right.

23                  MR. PRATT: And I don't know how you can  
24                  reach necessarily all of the, the specifics. But,  
25                  you know, from, from a higher level, it's a great

1 tool, and, and I can see it being great benefit to  
2 us. But at the same time, we need to compare  
3 notes so that you know what we are doing.

4 DR. PIAZZA: So two things. The beauty  
5 of the system is that we can work from that high  
6 level.

7 MR. PRATT: Yeah.

8 DR. PIAZZA: We can also scale down very  
9 close.

10 The second thing is when you were doing  
11 your talk, I leaned over to my colleague and said,  
12 we need to make a trip over, because this is  
13 highly complicated the way you're holding water,  
14 releasing water, storing water for, for the  
15 future. It's very complicated stuff, and there's  
16 a lot in this. I mean, there's legal  
17 ramifications, there's socioeconomic  
18 ramifications, there's ecological. And so I think  
19 working together would be great. And we can talk  
20 offline on how to do that.

21 MR. PRATT: Yeah.

22 DR. PIAZZA: But that message went two  
23 ways, because I picked the same up when you were  
24 talking.

25 MR. PRATT: Okay. Thank you.

1                   MR. ADUSUMILLI: Bryan, I think I'll  
2 follow what Jim has to say. The model, the  
3 modeling is perfect. Good. It looks good. But  
4 from addition-making standpoint let's say we're  
5 talking about water use for (inaudible). Use a  
6 model like that. It's as good as the data is, but  
7 can we make additions how much water survives for  
8 the next season, what are the river flows, so on  
9 and so forth. So I think what, what is the way  
10 that we could work on that kind of communication,  
11 and use this model to make addition like that, and  
12 give first-hand information to producer on field?  
13 Say, okay, this is the water that's available, and  
14 you got to make a crop decision based on what  
15 you've got.

16                   DR. PIAZZA: That's right. And that's  
17 exactly the point. That we're providing a first  
18 estimate of -- this is for gauged and ungauged  
19 streams, right. So this is a first estimate.  
20 We're not saying this is the answer. We're  
21 saying, we're saying this is the best modeling  
22 information. Now how can we work together? A  
23 perfect example is with David, and is getting in  
24 and saying, all right, we have this information  
25 available. You're working at a smaller scale.

1           How can we put this information into your project,  
2           and then how can we work on it together to make --  
3           to take our investment and help you push your  
4           investment farther? Because we already have some  
5           information, and how can we make this very  
6           relevant to the questions you have?

7                         So that's part of, of this whole effort,  
8           and that's part of why we make this so modular.  
9           So that we can take this. And, and we have done  
10          this with the communities, for instance, on the  
11          Gulf of Mexico coast where we have gone into  
12          communities in our coastal system, and they said,  
13          wow, you have great data, but we have some very  
14          site-specific data that we think would be useful.  
15          Let's -- help us -- and their situation was help  
16          us protect our infrastructure with sea level rise.  
17          So it's a coastal question.

18                        But we went in and we said, okay, let's  
19          build that app. Let's take your very specific  
20          information, add it to ours, and then we make  
21          something that's useful for you. So that's one of  
22          our, our main objectives here, is to provide  
23          something that we can continually improve on. Not  
24          saying this is the way it is, but here's our first  
25          estimate, and let's all go forward, because this

1 information doesn't exist for the state.

2 So we're saying, here it is, let's work  
3 together, and let's make this better and better  
4 and better.

5 So I'm happy to talk to anyone offline  
6 about how we can do that because we're very  
7 interested in that.

8 Are there any other questions?

9 CHAIRMAN ANGELLE: Bryan, I want to  
10 thank you for a really robust presentation. And I  
11 know that you and I have visited before, and I  
12 appreciate all the work that you are doing.  
13 Certainly, Karen, I would say to the Nature  
14 Conservancy, obviously, there's a lot of dollars  
15 that are invested in getting to this point. And  
16 you had a choice to call it a proprietary product,  
17 and, and shop it around to see if you could get  
18 some sponsorship for it, but what you chose to do  
19 instead is make it available to the public in a  
20 public capacity and a public space. And that's  
21 phenomenal.

22 So, you know, on behalf of the Water  
23 Resource Commission, please share with Nature  
24 Conservancy management how much we appreciate it.  
25 I think it is, again, you know, as I said to

1           Bryan -- was it -- I'm sorry. David, I said to  
2           David earlier, that David was the newest member of  
3           our partnership and our team. And before the ink  
4           was dry on that statement, you know, you, you also  
5           are a new member of our team. And we would ask  
6           that you would be very aggressive in seeking out  
7           all the folks here, and interact. And, again,  
8           nobody has a monopoly on, you know, all the  
9           answers. I'm very confident, after I have kind of  
10          been in this spot for now some four years, that we  
11          finally have got some traction, and some wheels  
12          are rolling, and we're surrounding ourselves with  
13          smart people, and stakeholders are paying  
14          attention, and we are not pushing the panic button  
15          with both hands and causing fear, but we are  
16          trying to be smart. And I appreciate you being a  
17          part of that.

18                   DR. PIAZZA: Thank you. And I would  
19                   like to thank my team, because I'm standing up  
20                   here, but this is the effort of a lot of people  
21                   besides myself.

22                   CHAIRMAN ANGELLE: Absolutely.

23                   DR. PIAZZA: Thank you.

24                   CHAIRMAN ANGELLE: Question for Kyle --  
25                   by Kyle Balkum.



1 MR. BALKUM: Bryan, I appreciate that  
2 presentation. You spoke so fast, my brain hurts.

3 DR. PIAZZA: Yeah, I'm sorry. I get  
4 fired up.

5 MR. BALKUM: Look, really, really  
6 impressive.

7 A quick question. Any chance for a  
8 tutorial, or is there -- will there be an online  
9 tutorial with it with the different modules?

10 DR. PIAZZA: Yeah, there will be.

11 MR. BALKUM: Okay.

12 DR. PIAZZA: There will be both -- we're  
13 following the model of we will develop a tutorial  
14 and a user guide. Also, all of our methods, all  
15 the meta data, where we got everything, is, is  
16 available on site. And we will develop a user  
17 guide. We will also probably eventually develop a  
18 training program. We're doing that for our Gulf  
19 of Mexico products. So we will probably follow  
20 that model.

21 MR. BALKUM: And a quick comment. You  
22 know, as Nat Resource managers, when we're  
23 making -- whether we're developing water budgets,  
24 as Mr. Midboe had discussed earlier, or we're  
25 looking at maybe a proposed user that's going to

1 use a lot of water, you know, we can oftentimes  
2 quantify industry and business use of water,  
3 quantify what our citizens need for drinking  
4 water, but quantifying the need of our ecosystems,  
5 our aquatic life, the wildlife, sustain those  
6 habitats, and not to mention our recreational  
7 users.

8 Can this tool -- and I'm sure you  
9 touched on it in your presentation -- will this  
10 tool also allow us to identify what are those  
11 needs for the ecosystem when we also -- we already  
12 know the needs for business and --

13 DR. PIAZZA: Yes. I didn't include that  
14 because I would have had to talk even faster, but  
15 we call it the flow ecology relationships. We're  
16 already developing, a student at Southern Illinois  
17 University through the National Science  
18 Foundation, they're a partner on this project, he  
19 is, as we speak, developing -- taking our full  
20 information from those areas that I showed you  
21 that we modeled in state, and, and all of the  
22 history and the information that, that your agency  
23 provided as well as all our other partners, and  
24 we're looking to see how those communities have  
25 changed over time and getting relationships on

1           just that. How much water do we need to leave in  
2           a stream so that we don't kill all the fish and we  
3           can still use, use that water and, and for, for  
4           different uses?

5                         And then the other capability that I  
6           talked about with Dr. Ouchley was the ability to  
7           start looking at that groundwater/surface water  
8           interaction. That's where that comes in. Well,  
9           basically, we have seen that there's a time that  
10          we are drawing down a bayou too much, but maybe  
11          that's a time when we need to switch. If their  
12          capability is there, to switch to groundwater  
13          until we get our seasonal flows back up, and then  
14          maybe we can switch back over to surface water.  
15          So we're investigating all of those questions  
16          right now. Our pilot project is working on that  
17          right now. We will probably begin to implement a  
18          state-wide investigation of that using our flow  
19          data as soon as the surface flow models are  
20          completed in July.

21                         MR. BALKUM: Excellent.

22                         DR. PIAZZA: And I will keep you  
23          up-to-date on, on that. And I really want to  
24          thank your agency for all the data and support  
25          that we have gotten for the project.

1                   Is that it? Thank you very much.

2                   CHAIRMAN ANGELLE: Okay. Seeing no  
3 other questions, again, thank you very much.

4                   We will move on to Item 7, which Matthew  
5 Reonas will give us an update on Agency Water  
6 Management and Regulatory Actions.

7                   MR. REONAS: All right. Thank you, Mr.  
8 Chairman.

9                   For the record, I would like, would like  
10 to note that we have 15 members here so -- rather  
11 than 14. So pardon my miscounting there. Don't  
12 hold it against me.

13                   I would like to go ahead and give sort  
14 of an update today on -- we had a couple of agency  
15 updates that were submitted to us as part of this  
16 presentation, as well as an update from the Office  
17 of Conservation on, on our groundwater management  
18 review process.

19                   First up, first update is from CPRA,  
20 Coastal Protection and Restoration Authority.  
21 These are listed projects that were submitted by  
22 the CPRA Board in their meeting. I think it was  
23 here in this very room, wasn't it, Chuck?

24                   DR. KILLEBREW: Yes.

25                   MR. REONAS: In November. For

1           consideration for funding under the councils like  
2           the Restoration Component of the RESTORE Act. So  
3           these are projects that the State of Louisiana is  
4           submitting for funding out of the RESTORE Act.

5                       The Golden Triangle Marsh would  
6           create -- Creation Project would create 600 acres  
7           of new wetland habitat within Bayou Sauvage  
8           National Wildlife Refuge just east of New Orleans.  
9           Estimated cost of about \$50 million.

10                      The Mississippi River Reintroduction  
11           into the Maurepas Swamp Project. Again, that's  
12           the name sort of implies, would help maintain  
13           about 45,000 acres of land over 50 years by, by  
14           diverting water or reintroducing Mississippi River  
15           water into the Maurepas Swamp. Again, protecting  
16           about 45,000 acres. That's in the regional  
17           subbasin there at a cost of about \$187 million.

18                      The Biloxi Marsh Living Shoreline  
19           Project. Again, all these notes are -- all the  
20           fact sheets and plan proposals are here at this --  
21           at the website below, listed below online. So, so  
22           for review by, by -- in more detail by everyone.

23                      Biloxi Marsh Living Shoreline to create  
24           a bioengineered marsh oyster reefs. So create  
25           approximately 45 -- 47,000 feet of oyster barrier

1 along the Eastern Shore of Biloxi Marsh east of  
2 the MR-GO in New Orleans area at a cost of about  
3 \$57 million.

4 The West Grand Terre Beach Project.  
5 Again, to restore dunes and back barrier marsh on  
6 West Grand Terre Island or Grand Terre Island. A  
7 cost of about \$65 million.

8 And the Lower Mississippi River  
9 Management Program is more, more of a study or  
10 review of, of past management practices, and how  
11 those should be altered in light of, you know,  
12 recent developments and more data and more  
13 knowledge about the subject.

14 Chuck, anything on -- does that  
15 sufficiently cover it?

16 DR. KILLEBREW: Yeah. Let me just  
17 comment that these projects are significant, I  
18 think, in another way. They, they really  
19 represent CPRAs choices for initial funding under  
20 the RESTORE Act. And as well-known, that act was  
21 established as a mechanism for funding in the Gulf  
22 region for restoration of ecosystems and local  
23 economies based on the amount of damage done by  
24 the, the Deep Water Horizon oil spill.

25 We're looking at partial funding from

1 the RESTORE Act at best for all of these projects.  
2 Most of them have other funding sources, so it's  
3 multiple funding for them. And I might add, too,  
4 that these are long-term, large-scale projects  
5 that are not going to happen overnight. For  
6 example, the, the Reintroduction of River Water  
7 into Maurepas Swamp Project has been on the books  
8 for about 20 years now. I can recall talking  
9 about that when I first came into state  
10 government.

11 But at any rate, the RESTORE Act funds  
12 will be used. There's going to be about \$800  
13 million deposited into a category for funding for  
14 these in the next two years. So we are going to  
15 see some money right away. In 2015 we are going  
16 to have about 30 percent of that amount available  
17 so that monies will be coming in.

18 After these funds are, are provided on a  
19 long-term basis and subject to ongoing litigation  
20 in the oil spill project, the State could realize  
21 potentially about 1 billion to \$4.9 billion  
22 long-term from that source. And that will  
23 certainly -- that will, of course, depend on how  
24 the, how the Court rules on the damages for the  
25 spill and what actions were taken or not taken.

1           So I just want to mention that. This is just the  
2 beginning, really. This is the first, first cut.

3                     And, and on a long-term basis, there are  
4 other projects that will be funded. They're on a  
5 higher priority list held right now in abeyance  
6 until we can see some funding coming in.

7                     MR. REONAS: Thank you, sir.

8                     The next update is from the Department  
9 of Agriculture and Forestry. This is sort of an  
10 update on the southeast -- a project that  
11 northeast Louisiana, in coordination with various  
12 entities in Arkansas as well as -- and southeast  
13 Arkansas. It's a study for a project to introduce  
14 Arkansas River water into some local water ships,  
15 the Boeuf River, Bayou Bartholomew, in those  
16 subbasins for ecosystem restoration as well as for  
17 irrigation supply.

18                     Again, a study project that's being done  
19 by the Corp of Engineers. Arkansas Natural  
20 Resources has chipped in some money along with a  
21 water distribution district in southeast Arkansas.  
22 And the local Soil and Water Conservation  
23 Districts in northeast Louisiana banded together  
24 and formed the northeast, Northeast Louisiana  
25 Surface Water Management Committee to funnel



1 another 150,000 into this study project. It's  
2 just getting underway, but, of course, the issues  
3 up there are issues all across Louisiana. It's a  
4 huge farming district. Approximately a billion  
5 and a half dollars annually in terms of crop, in  
6 terms of crop value. You have ecosystem stream  
7 degradation, ecosystem degradation, drought  
8 issues, saltwater encroachment supply problems.  
9 So these are all -- this is a study to sort of see  
10 if this is a feasible project for development down  
11 the road. And this was, again, submitted from  
12 Department of Agriculture and Forestry. Mr.  
13 Spicer, if you...

14 MR. SPICER: All right. If there's any  
15 questions, I would be glad to try to answer them.  
16 But this is also -- and Chris may want to address  
17 this, regarding -- this is part of the Red River  
18 Compact area. And so we're trying to achieve what  
19 the compact has required ever since it was  
20 approved back in the '80s to get a portion of that  
21 water out of Arkansas in these streams that you  
22 mentioned earlier, and this may achieve that if  
23 the water is available out of the Arkansas River.  
24 They plan on moving that water about 60 miles  
25 south of Pine Bluff, southeast Pine Bluff, into

1           these streams that's already in existence. So  
2           that would gravity flow. Pump it out of the river  
3           now, gravity flow it into southeast Arkansas and  
4           northeast Louisiana.

5                         Chris, did you --

6                         MR. KNOTTS: Right. Some people may not  
7           realize, but the Red River Compact is the  
8           four-state interstate compact with Texas,  
9           Oklahoma, Arkansas and Louisiana. As always,  
10          we're on the bottom end. We receive our flows  
11          from the other three reaches. We don't give water  
12          to anybody. But per the Compact, there are named  
13          streams that when the flows get to a certain  
14          minimum, the upstream entity has to demonstrate to  
15          the downstream entity that they are getting a  
16          certain percentage of the flow that's coming in.

17                        This study is part of that in the  
18          northeast Louisiana where we pressed the State of  
19          Arkansas to demonstrate to the State of Louisiana  
20          that we were getting the flow we were entitled to.  
21          This study is aimed at trying to get that. We  
22          agreed to do that. If this doesn't work out, we  
23          will pursue other measures. But that's part of  
24          the we think you have a lot of water, but you --  
25          some places you really don't.

1 MR. REONAS: Right. And having traveled  
2 in that area extensively, I mean, I can attest  
3 first-hand to how much agriculture is up there  
4 across the board. So what a huge impact it is on  
5 the state.

6 I guess, any comments on these two  
7 before I move into, into Office of Conservation  
8 update?

9 All right. This is -- again, this is an  
10 update from my agency. This is --

11 CHAIRMAN ANGELLE: Just to be clear.  
12 Are we on Item 8 now? Are you moving to Item 8?

13 MR. REONAS: No, sir. This is all sort  
14 of part of the agency update.

15 CHAIRMAN ANGELLE: All right.

16 MR. REONAS: So this is -- being that we  
17 are here in Lake Charles today. Again, with the  
18 expected industrial development of the region, we  
19 thought it would be important to talk about or to  
20 sort of go through a process of review of the  
21 groundwater management, how we manage groundwater  
22 in Louisiana through the Office of Conservation.  
23 Of course, groundwater is important for Lake  
24 Charles and southwest Louisiana. You have two of  
25 the largest consumers of groundwater in the state

1           in Jeff Davis and Acadia Parish. Of course, we  
2           have already heard talks today about uses of the  
3           Chicot Aquifer, Sabine River Diversion Canal and  
4           the importance for industry and agriculture. So,  
5           so this is more of a refresher, I guess, for the  
6           Commission and the audience on how we manage  
7           groundwater in the Office of Conservation.

8                         In particular, I guess, because in Lake  
9           Charles and southwest Louisiana there is this  
10          projected massive increase in industrial  
11          development. This is a note from the Baton Rouge  
12          Business Report a couple months back. Of course,  
13          our main source of -- one of our main sources of  
14          info in Baton Rouge. I'm sure Lake Charles is  
15          more attuned into it, but expect \$73 billion in  
16          announced industrial projects, which exceeds the  
17          capital investment of cities like Dallas, Atlanta,  
18          and Baton Rouge over the next five years. And  
19          with that, of course, industrial development, a  
20          huge surge of population growth. The estimates --  
21          again, these are going to vary over time, but a  
22          jump from potentially 6500 new workers in August  
23          of 2014 later this year to 10,000 plus in August  
24          of 2015. And then potentially an expected total  
25          of 25,000 temporary workers and some 20,000

1 permanent workers potentially with all their  
2 families right over the next decade or so.

3 That's going to be a huge increase not  
4 only, of course, in jobs and tax revenue, but also  
5 in demand on water resources. Of course, we're  
6 looking at surface water. We're looking at  
7 groundwater. Water for industrial processes;  
8 water for public supply. Where is that water  
9 going to come from? Might Sabine River Diversion  
10 Canal? Groundwater? We are already taking -- and  
11 one of the reasons we thought this might be  
12 important to review here in Lake Charles was  
13 because we are already fielding calls regarding  
14 water sourcing in the area. So, so it's an  
15 important issue and one that we are going to be  
16 very much -- Office of Conservation very attuned  
17 to over, over the coming years.

18 Just to kind of give background. Again,  
19 the Office of Conservation is vested by law with  
20 very wide authority to regulate groundwater  
21 patrols in the state within certain bounds. For  
22 instance, the installation of most water wells,  
23 industrial, irrigation, public supply, there are a  
24 few exempt classes, but these are the big boys,  
25 the largest high-volume consumers. Installation

1 of most water wells require 60-day prior  
2 notification to allow us, the Office of  
3 Conservation, to put together an evaluative  
4 process, to evaluate the use and its impact. What  
5 the Office of Conservation does when they get  
6 these notifications, we'll conduct an evaluation  
7 on the proposed withdrawals, on the potential  
8 impacts, within an area view. Where are these  
9 people presenting? Where are these entities  
10 proposing to pull groundwater from, and what's the  
11 impact going to be? And we have a whole set of  
12 guidelines that we work from in terms of, in terms  
13 of making this evaluation. And then, of course,  
14 at the end of the evaluation process, we're either  
15 going to have action that we are going to request  
16 be taken, or, or no action.

17 And I'll just, for example sake, I'm  
18 just going to have one for our geologist pull up  
19 -- create a fictitious -- this is, for the well  
20 drillers in the room, this is not, this is not a  
21 real irrigation well. But create a fictitious  
22 irrigation supply well request in Jeff Davis  
23 Parish where Ryan, of course, one of the top  
24 two -- Jeff Davis is first or second, I can't  
25 recall, in terms of groundwater use in the state.

1           So it's a already well-established pattern of use  
2           in that particular parish.

3                       So ABC Farms No. 1 here in Jeff Davis  
4           Parish. What we are going to look at, first,  
5           we're going to create an area of review based on  
6           aquifer transitivity general use in the area.  
7           This is a quarter-mile buffer zone that was  
8           created, our geologist created, for ABC Farms No.  
9           1. There it is right there.

10                      And what -- this is, this is utilizing  
11           our DNR SONRIS/GIS system. Most of you are  
12           probably familiar with it. And this enables us to  
13           really pull all the known registered wells in a  
14           particular area and look at their use, their  
15           status, whether they're active, inactive, plugged  
16           and abandoned, right, to get a better concept of  
17           what's going on in a particular area.

18                      What we are looking for, again, four  
19           main areas: Adverse impact on neighboring wells.  
20           All these guys right here. How's, how's the pull  
21           from this particular well built to impact those?

22                      Are there known water quality or  
23           environmental contamination issues that would  
24           impact, right, water -- groundwater use from this  
25           particular well?

1                   Are those known saltwater encroachment  
2                   issues, right, that would, perhaps, be exacerbated  
3                   by, right, pull from this particular well?

4                   Now, likewise, are there known water  
5                   level decline or subsidence issues?

6                   Of course, in Jeff Davis, you do have a  
7                   tremendous pull of groundwater. So those are all,  
8                   in this particular area, that's something we would  
9                   look at very strongly.

10                  Here you can see a close-up sort of our  
11                  area of review. Again, a quarter-mile buffer  
12                  around it. What, what SONRIS enables us to do is  
13                  to pull up, right, all the surrounding wells. And  
14                  here they are, all the different wells, their  
15                  status, their depth. The -- if we have volumes,  
16                  there's the diameter of the well itself. All this  
17                  information is there for us to review as part of  
18                  our process, our evaluation process. And that  
19                  will help us, of course, again, understand what  
20                  the impact would be of this particular proposed  
21                  well and what action might be necessary for us,  
22                  Office of Conservation, to make sure that this  
23                  well doesn't have a negative impact on other  
24                  neighboring wells.

25                  CHAIRMAN ANGELLE: Let me ask you a



1 question.

2 MR. REONAS: Yes, sir.

3 CHAIRMAN ANGELLE: Inasmuch as every  
4 landowner has a right of capture, and I'm assuming  
5 this kind of -- since this is an irrigation well.  
6 Okay. So, so what happens if, if you, you find  
7 that in your evaluation the proposed well is going  
8 to have a negative impact on someone that's  
9 already there?

10 MR. REONAS: Well, I'm going to get to  
11 that in the following slides, if that --

12 CHAIRMAN ANGELLE: Okay. Sure.

13 MR. REONAS: Okay. Another great tool  
14 that we have in terms of outside DNR SONRIS system  
15 is the Expanded Statewide Monitoring Network that  
16 this Commission helped push through, and Office of  
17 Conservation, DNR, were able to secure funding  
18 for. This is a, a tremendous system. Again, as  
19 this Commission noted in its 2012 report, the  
20 State's monitoring network, groundwater monitoring  
21 network, had degraded significantly since the  
22 1980s. Basically, we lost our understanding of  
23 really or, or a comprehensive understanding of  
24 what our groundwater sources -- the health of our  
25 groundwater systems across the state.

1           The process here, what USGS, DNR/USGS  
2           partnership, has provided is up-to-date  
3           information, greater well density. More than 500,  
4           more than 500 wells in this network across the  
5           state were added into a comprehensive network.  
6           More comprehensive statewide coverage. That is,  
7           the original process was for energy development,  
8           or the original network as it was conceived was  
9           for energy development; that is, looking for water  
10          use issues in shale-play areas around the state,  
11          the Tuscaloosa Marine Shale, Haynesville. When  
12          those were added into the already existing USGS  
13          networks, again, we get this total of more than  
14          500 wells across the state where we're actively  
15          pulling data on a quarterly, sometimes daily  
16          realtime basis. And from that, of course, new  
17          potentiometric maps are going to be able --  
18          up-to-date potentiometric maps are going to be  
19          available going forward.

20                 Again, I'm just going to walk you  
21                 through the portal here as I did with, as I did  
22                 with our SONRIS system.

23                 You would just go to USGS, Louisiana  
24                 Water Science Center, their front page, down here,  
25                 Groundwater under WaterWatch, and that will pull

1           you up the network, the statewide network. And  
2           what you see here, all the wells are listed and  
3           the various status across the state. The color  
4           key provides relative water level, right, from  
5           very low to satisfactory. The symbols provide  
6           measurement schedule; that is, quarterly,  
7           continuous, and so on.

8                         As you can see, a lot of the, a lot of  
9           the wells around the state are still sort of a  
10          dark gray, which basically means we don't have  
11          enough data, enough of a data set, enough  
12          measurement, for USGS to really make a call as to  
13          the relevant water level. Is this low; is it  
14          high; is it about right historically?

15                        CHAIRMAN ANGELLE: Are those gray ones  
16          part of the 532 number?

17                        MR. REONAS: Yes. Yes. And those  
18          are -- most of those were added as part of, as  
19          part of the DNR/USGS Expanded Statewide Monitoring  
20          Network.

21                        CHAIRMAN ANGELLE: How many of them are  
22          gray?

23                        MR. REONAS: Well, I would have to --  
24          probably 200 or so. I would have to look at them.

25                        CHAIRMAN ANGELLE: So 40 percent of our

1           532 is not yielding data that is usable at this  
2 point?

3                   MR. REONAS: Well, we've got at least  
4 eight borders we've got -- we've got two years of  
5 data in right now with the Expanded Network. And,  
6 and at the end of this, a third year, we will have  
7 12, 12 borders in. So I wouldn't say it's not  
8 usable. It's just USGS, by their standards, don't  
9 feel that it's a long enough data set, right,  
10 within their standards. Some of these wells go  
11 back 80 years.

12                   So in that big picture perspective,  
13 USGS, you know, has their criteria. But in terms  
14 of useable data, I mean, eight cores, two years'  
15 worth of data, we can start making evaluations  
16 based on that.

17                   Again, I'll take the example from Jeff  
18 Davis Parish. And here you can, you can click it.  
19 It will pull you down to Jeff Davis, the region.  
20 Here's Jeff Davis right here. Neighboring  
21 parishes all around. It lists all the, all the  
22 wells. And, again, you can pull down even more  
23 right into your individual well. And this has all  
24 the relevant data, the measurement set.

25                   This particular well, again, is one of

1           those that has 80 years. I think the first, the  
2           first measurement was in, in the 1930s at some  
3           point in time, 1938. And it will give you all the  
4           measurements, will even graph out the measurements  
5           over time. Okay. So 1938 was roughly 1940, 70  
6           plus years of measurements. And you can see,  
7           here's 1940, right. The water level through time,  
8           right, that's drawn down extensively. And that's,  
9           and that's what you would expect in that  
10          particular parish with the heavy withdrawals of  
11          groundwater.

12                        Again, so all this will go into not only  
13          the SONRIS information, right, but we're  
14          utilizing, right, this expanded monitoring  
15          network, the wells, the network wells around the  
16          state, as part of our evaluation process which  
17          gets us to the action point. Another one -- I'll  
18          skip this.

19                        The Water Use Program, also from USGS,  
20          which provides -- previously was every five years.  
21          Basically, an evaluation of water use by aquifer,  
22          by basin, and by parish. As part of this Expanded  
23          Network Program, we're getting it for -- on a  
24          yearly basis, which provides a lot better coverage  
25          of different trends within that five-year period.

1 MS. CHAUVIN: I have a question.

2 MR. REONAS: Yes.

3 MS. CHAUVIN: The expanded monitoring is  
4 based on a oil and gas in Tuscaloosa Shale, that's  
5 where y'all are focusing on?

6 MR. REONAS: Right.

7 MS. CHAUVIN: And then you are using it  
8 for usage. Does that view -- would that usage  
9 reflect only in an area --

10 MR. REONAS: This is actually -- the  
11 Water Use Program was, was actually run through  
12 DOTD previously. And all this did was just  
13 basically bring it from five years to, to one  
14 year. So this was a program that's already in  
15 existence.

16 MS. CHAUVIN: So they weren't -- they're  
17 not using the additional wells that were added?

18 MR. REONAS: Well, I guess it's two  
19 different -- they are connected, the two different  
20 programs, but they have a process, actually, in  
21 terms of, of providing -- soliciting usage numbers  
22 from individual companies, farms, industries,  
23 things like that, that was already in place.  
24 Actually, they use Office of Conservation  
25 authority, right, to solicit that information on

1 groundwater use around the state.

2 MS. CHAUVIN: So you're not using the  
3 monitoring network?

4 MR. REONAS: Oh, no, no. We are using  
5 those. But this is for water use. The monitoring  
6 network is primarily for water level and water  
7 quality, chlorides, you know, saltwater  
8 encroachment. So in terms of it's -- in some ways  
9 it's two different programs. So...

10 So we'll use this as well, and this will  
11 give sort of a big picture view of water use in a  
12 parish, or in a aquifer, or by a basin. Again, by  
13 public supply, industrial, power generation,  
14 general irrigation, total groundwater use, and  
15 total surface water use. Again, in Jeff Davis  
16 Parish you have a heavy, heavy rice irrigation,  
17 agricultural irrigation use of groundwater. So  
18 we'll take all this into account as well, which  
19 brings us to our action.

20 Again, Office of Conservation has wide  
21 authority in regulating groundwater use in the  
22 state. In most cases, or in many cases, no action  
23 is necessary, and this is what this letter is.  
24 This is actually a public supply well request from  
25 Calcasieu Parish from 2012. Office of

1 Conservation completed the review, provided --  
2 based on data available to us, has been determined  
3 that the water withdrawal from the well would not  
4 have an adverse impact. There are no issues that  
5 we are aware of. However, we reserve the right,  
6 again, to review this at a later date.

7 However -- okay. That's a no action.

8 The action side, of course, based on all  
9 the criteria that we evaluated previously, could  
10 lead to restrict -- restricted or limited  
11 withdrawals.

12 Requirement of spacing safeguards; that  
13 is, moving a well into different areas away from  
14 other wells.

15 Alternative source studies requiring  
16 additional information, especially monitoring of  
17 water level and water quality.

18 As part of the management plan,  
19 implementing triggers; that is, if the water level  
20 hits a certain stage or, or level, right, that you  
21 would cease, cease draw -- cease drawdown and let,  
22 let the aquifer recharge.

23 Also, of course, developing a mitigation  
24 plan.

25 And here's an example of an action



1 letter from that. This is from Lincoln Parish,  
2 was oil and gas activity in Lincoln Parish.  
3 Again, that's primarily in Sparta. Lindsey, you  
4 can attest to that.

5 So the things we require, a detailed  
6 report of all efforts by WildHorse to secure  
7 surface water in lieu of groundwater. And this  
8 goes back to the Office of Conservation's  
9 advisories going back to the Haynesville Shale.  
10 Commissioner Welsh issued advisories that oil and  
11 gas, oil and gas producers look to surface water  
12 rather than groundwater. Again, recognizing that  
13 some of the aquifers around the state, especially  
14 in north Louisiana, have management challenges.

15 CHAIRMAN ANGELLE: So, Matt, can we go  
16 back to the actions. Are you -- are there  
17 additional slides that can -- I don't want to cut  
18 you off, but I want to get into the  
19 decision-making process. Do you have additional  
20 slides on that?

21 MR. REONAS: Just this one.

22 CHAIRMAN ANGELLE: Okay. So in terms of  
23 the value to this Board to know that, two things.  
24 Number one, that there's a process?

25 MR. REONAS: Yes.

1                   CHAIRMAN ANGELLE: It's comprehensive?

2                   MR. REONAS: Yes.

3                   CHAIRMAN ANGELLE: It's robust? It's  
4 based on science?

5                   MR. REONAS: That's correct.

6                   CHAIRMAN ANGELLE: You've convinced me  
7 that we got that done.

8                   MR. REONAS: Yes, sir.

9                   CHAIRMAN ANGELLE: I want to have some  
10 conversation with you about --

11                   MR. REONAS: Okay.

12                   CHAIRMAN ANGELLE: -- the authority that  
13 exists.

14                   MR. REONAS: Yes.

15                   CHAIRMAN ANGELLE: And the actions that  
16 can be taken pursuant to that authority.

17                   MR. REONAS: Yes, sir.

18                   CHAIRMAN ANGELLE: I've got a couple  
19 questions for you.

20                   MR. REONAS: Okay.

21                   CHAIRMAN ANGELLE: I'm assuming that all  
22 domestic wells are exempt from any of this. That  
23 the 60-day notice requirement does apply, but if  
24 Farmer Brown or Boudreaux or Thibodeaux is  
25 drilling a water well, there's no, there's no real

1 big deal as far as that's concerned.

2 MR. REONAS: All wells have to be  
3 registered.

4 CHAIRMAN ANGELLE: Is that a yes or no  
5 on domestic wells?

6 MR. REONAS: On domestic wells, yes,  
7 sir.

8 CHAIRMAN ANGELLE: So we start with a  
9 population of all the wells, and then we have, I'm  
10 assuming in terms of number of wells, a large  
11 population of those wells that are exempt from  
12 this process?

13 MR. REONAS: Right, from the prior  
14 notification, yes, sir.

15 CHAIRMAN ANGELLE: So if a domestic well  
16 notification comes in, do you do this kind of  
17 robust study on them?

18 MR. REONAS: Usually those would not  
19 have an impact, but we could if, if we needed to.

20 CHAIRMAN ANGELLE: But do you?

21 MR. REONAS: Not to my knowledge.

22 CHAIRMAN ANGELLE: Okay. So, so we  
23 start with a hundred, a hundred percent. Can you  
24 tell me what percent of applications we get are  
25 domestic wells?

1 MR. REONAS: I don't have those numbers.

2 CHAIRMAN ANGELLE: Does anybody?

3 MR. REONAS: I can get those for you.

4 CHAIRMAN ANGELLE: Can anybody have  
5 that?

6 MR. SNELLGROVE: What category are you  
7 looking for? Domestic wells?

8 MR. REONAS: Right.

9 MR. SNELLGROVE: Probably about 2500 or  
10 so. Percent wise.

11 CHAIRMAN ANGELLE: Percent wise.

12 MR. SNELLGROVE: Four thousand annually.  
13 Total number of UR wells that are installed.

14 CHAIRMAN ANGELLE: So is that 60?

15 MR. SNELLGROVE: Percentage of domestic.

16 CHAIRMAN ANGELLE: So 60 percent,  
17 60 percent of the applications or the  
18 notifications kind of go onto this side?

19 All right. So the remaining, the  
20 remaining 40 percent fall into irrigation?

21 MR. REONAS: Right.

22 CHAIRMAN ANGELLE: Industrial? Public  
23 water supply? Right.

24 MR. REONAS: Right.

25 CHAIRMAN ANGELLE: Help me fill in the

1 blanks.

2 MR. REONAS: Yes, sir. Also, frac  
3 supply, which counts as industrial.

4 CHAIRMAN ANGELLE: Is there a separate  
5 category for frac supply, or is --

6 MR. REONAS: No. Counts as industrial,  
7 yes, sir.

8 CHAIRMAN ANGELLE: So industrial?  
9 Public water supply?

10 MR. REONAS: Irrigation.

11 CHAIRMAN ANGELLE: Irrigation. So is it  
12 fair to say that this process applies mostly to  
13 those type of wells?

14 MR. REONAS: Yes, that's correct.

15 MR. SNELLGROVE: And the reason why is  
16 because these are the large-volume wells.

17 CHAIRMAN ANGELLE: Got you. So the --

18 MR. SNELLGROVE: That's the small,  
19 small --

20 CHAIRMAN ANGELLE: Got you. I'm asking  
21 some rhetorical questions to kind of frame it up  
22 for everybody.

23 MR. REONAS: Yes, sir.

24 CHAIRMAN ANGELLE: Okay. So in the  
25 process when, when -- what is this, the ABC Farm

1 Company made an application?

2 MR. REONAS: Right. Yes, sir.

3 CHAIRMAN ANGELLE: Okay. So I guess  
4 this is also for the attorneys here. So the ABC  
5 Farm Company makes it application. And through  
6 the process of application of science, you say,  
7 whoa, wait a minute, we got a problem here.

8 MR. REONAS: Right.

9 CHAIRMAN ANGELLE: And we may have a  
10 saltwater encroachment issue that may come up here  
11 if we drill at this well, we may have a subsidence  
12 issue with this well, all those things, right?

13 What authority exists -- is it a  
14 first-come-first-serve basis? So, so does the  
15 Commissioner have authority to then say to, to the  
16 next well owner in line, you have to do things  
17 different?

18 MR. REONAS: Well, the Commissioner is  
19 authority. Now, of course, we are a  
20 right-of-capture state. So if you put a well -- I  
21 want to put a well in my backyard, I'm going to  
22 put it in there, and any water I pump up to the  
23 surface is going to be mine and mine alone. I can  
24 do whatever I want with it. However, if I damage  
25 the environment or damage the aquifer because of

1 known, right, environmental issues, saltwater  
2 encroachment, subsidence because too much pump as  
3 you're coming to press in and you're getting the  
4 aquifer is being, basically, crushed from the, the  
5 layers above, right. The Office of Conservation  
6 has authority to protect the environment. That's  
7 our goal.

8 CHAIRMAN ANGELLE: So do you protect the  
9 environment through the next guy in line, or  
10 through everybody that's already in line?

11 MR. SNELLGROVE: That would depend.  
12 With the Governor, I mean -- the Commissioner has  
13 the broad authority to issue different -- he has  
14 different tools. This is just one tool for a  
15 site-by-site, case-by-case analysis evaluation.  
16 If there's an issue in an area, and it's bigger  
17 than just one --

18 MR. REONAS: Well.

19 MR. SNELLGROVE: -- well, one use, we  
20 can, we can look at issuing an emergency. We can  
21 be very restrictive and prohibitive of use to  
22 bring the system back into sustainability, or we  
23 can look at entertaining applications for areas of  
24 groundwater concern right down to north Louisiana.

25 CHAIRMAN ANGELLE: Right. I get when

1           you have the area of groundwater concern, and, and  
2           that box has been checked, and now there's this  
3           caution light that's gone off that says, all  
4           right, it's big, it's broad, it's public, it's  
5           been identified. That's not what I'm asking, and  
6           I appreciate you going there.

7                         But what I'm saying is, we've got the  
8           ABC Farm Company that wants a well. And they've  
9           made application, and you have done, you have done  
10          your work. There's no area of groundwater  
11          concern. There's no -- any of those things don't  
12          exist. But when you, when you run it through your  
13          science, you see, whoa, wait a minute here, I'm  
14          not sure this is sustainable.

15                        MR. SNELLGROVE: So if somebody -- if  
16          BCD comes in next-door to ABC, after ABC has  
17          already gone through our process, and he sends us  
18          prior notification, we would look at it and see  
19          that he may be in too close proximity to ABC. So,  
20          therefore, he -- we would impose some type of  
21          restriction because this other guy, he's already  
22          in there.

23                        CHAIRMAN ANGELLE: That's what I'm  
24          trying -- I'm trying -- so, so... You answered my  
25          question.



1 MR. SNELLGROVE: Next guy's going to be  
2 regulated.

3 CHAIRMAN ANGELLE: So if you get in the  
4 room and the door closes, you all right, because  
5 everybody else is on the outside?

6 MR. SNELLGROVE: That's the way it's set  
7 up.

8 CHAIRMAN ANGELLE: I'm trying to make  
9 sure we totally understand what's going on. That  
10 that right -- you don't have any right, any legal  
11 authority, to go back to the five or six or seven  
12 that are cumulatively impacting the situation?

13 MR. SNELLGROVE: No, we do. We do have  
14 a right to do that if it's determined that there's  
15 an issue in the area more generally speaking.

16 CHAIRMAN ANGELLE: Okay. But just in --  
17 again, not going into area of groundwater concern,  
18 but just in that general area, if Farmer Brown  
19 shows up and he wants his well to be drilled, and  
20 he makes his application, and you look at it, and  
21 you say that's a little bit too much, you'd rather  
22 do it, we don't -- we think we're going to have  
23 some problems, you then impose a limit on that  
24 person who is making that application as opposed  
25 to everybody --

1 MR. SNELLGROVE: Right.

2 CHAIRMAN ANGELLE: -- who is going to be  
3 impacted by that; correct?

4 MR. REONAS: Yes, BCD well would have to  
5 be limited. We couldn't retroactively go back and  
6 limit ABC and everybody else that was there  
7 before.

8 CHAIRMAN ANGELLE: I'm sorry, but that  
9 was a lot of questions to get to that point. I  
10 was trying.

11 I didn't give up.

12 MR. REONAS: The important thing is we  
13 got there.

14 So our action, in the action letter,  
15 again, this was, this was a oil and gas activity  
16 in Lincoln Parish. Again, based on our knowledge  
17 of aquifers around the state, especially in north  
18 Louisiana, as far as the Carrizo-Wilcox, the  
19 Commissioner issues advisories like recommending  
20 that the oil and gas companies for their oil, for  
21 their energy exploration needs, pursue surface  
22 water sources to the extent practicable. And we  
23 have had great response to that. We have also  
24 issued that to the Tuscaloosa Marine Shale. Oil  
25 and gas companies have been very responsive.

1                   So that is basically where that is  
2                   coming from, right. "Secure surface water in lieu  
3                   of groundwater." Show us that you have made that  
4                   effort.

5                   The other one was, again, because of,  
6                   again, local issues in Chicot Aquifer, detailed  
7                   groundwater use impact study and plan to describe  
8                   the proposed maximum drawdown addresses water  
9                   level decline and potential well interference  
10                  issues. Give us some data that we could use.  
11                  And, of course, we could also impose monitoring  
12                  and other issues and other requirements as part of  
13                  the process.

14                  In terms of recent -- just to kind of --  
15                  we went over this at the last Commission meeting  
16                  in July. Since then in terms of water well  
17                  notification enforcement, we have had a  
18                  reorganization of the section to streamline  
19                  efficiency. We have also issued 43 compliance  
20                  orders issued to water well drillers, and five to  
21                  water wells owners, 51 notices of violation to  
22                  submit prior notification as well. And, again,  
23                  this is just an example on those of the particular  
24                  citation.

25                  And, again, contact information, my boss

1 here, Gary Snellgrove. And any questions sort of  
2 on through the overall process?

3 CHAIRMAN ANGELLE: Mr. Frey?

4 MR. FREY: Turn it on first.

5 MR. REONAS: Yeah, turn it on first.

6 MR. FREY: All right. I've got it on.

7 CHAIRMAN ANGELLE: Operator error.

8 MR. FREY: Commissioner Angelle opened  
9 the can. So I'm going to kick it down the road a  
10 little bit.

11 In looking at the ABC Farm thing, I  
12 notice a number of the domestic wells. I don't  
13 know if that was an example or an actual.

14 MR. REONAS: It was an example. A  
15 fictitious.

16 MR. FREY: It's just fictitious?

17 MR. REONAS: Yes, sir.

18 MR. FREY: You showed the number of  
19 domestic wells that were now P & A'd, and it made  
20 me wonder, just thinking about where I was born  
21 and raised in a rural area where just about  
22 everybody had their own water well. Now, you have  
23 rural water systems that are supplying their  
24 public water supply, and a lot of those wells have  
25 since been abandoned.

1                   Do we have numbers that can go back and  
2                   look at, you know, 1960s and '70s, how many  
3                   domestic supply wells we had versus the number of  
4                   rural water systems now in effect, and comparing  
5                   those? That may not be available. I don't know.  
6                   It triggered that thought.

7                   MR. REONAS: The State did not have  
8                   water well registration requirements until the mid  
9                   1980s, 1985, I believe. So anything done before  
10                  then is -- now, of course, we work all the time,  
11                  as wells come to our knowledge, we work to get  
12                  those registered and in the system. But there  
13                  could be -- there probably are tens of thousands  
14                  of, like you say, every tenant farmer or  
15                  small-time farmer across the state probably had a  
16                  water well at some point in time. And you're  
17                  talking about thousands and thousands of people.  
18                  And so those wells are still out there.

19                  Many of them -- I probably -- I'm pretty  
20                  sure I have some right behind my house. I mean,  
21                  literally I can look out the back window and look  
22                  at them. I'm pretty sure those are not registered  
23                  because they were built in the 1970s. And that's  
24                  all across the state, especially in rural areas.

25                  Now, of course, what we have seen -- and

1 we have the stats on this in terms of the number  
2 of well registrations -- what you have seen since  
3 Katrina, Katrina and Rita especially, has been a  
4 tremendous dropoff in the number of domestic well  
5 registrations because of the expansion of the  
6 rural water supply system. So that's, that's a  
7 fact. We have got data and statistics on that.

8 CHAIRMAN ANGELLE: But I guess I would  
9 jump in and say while it's always important for  
10 resource managers to have data, and we've been  
11 working on that, I think the reality of it all is  
12 that although it may be a lot of wells and it  
13 maybe 10,000, whatever number somebody wants to  
14 throw out there, the use of that as it bears to  
15 the total, the volume, is extremely small. And  
16 so, obviously, it would be good to know.

17 My concern, actually, is, is more to --  
18 for the environmental concern because they all,  
19 basically, are, if you would, straws within, you  
20 know, drinking straws into, into an aquifer. But  
21 I kind of struggle with that whole issue of since  
22 we, since we, you know, the State got into it,  
23 what year you said, '80?

24 MR. REONAS: '85.

25 CHAIRMAN ANGELLE: And we don't have all

1           that data, and we try to go back and get it. It's  
2           worth trying to get it. But at the same time, I  
3           think you've got to just basically say, understand  
4           they were all very small users.

5                       MR. FREY: Well, I think as we, you  
6           know, look at a water budget in the future, or the  
7           potential for one, we know we need all that kind  
8           of information. Because I remember when we had  
9           the, we had the workshop in Baton Rouge a couple  
10          years ago, or whatever -- and I don't think he's  
11          here, Mr. Pat Credeur, rural water gentleman. I  
12          remember Pat making a statement, I wrote it down  
13          somewhere and I dug in my notes and I couldn't  
14          find it. But he talked about the amount of  
15          leakage that occurs from these rural water  
16          systems. And that stuck in my mind, too. I mean,  
17          we need to get a handle on that and figure out how  
18          we correct that problem because, you know, we  
19          can't afford to have leakage occurring in these  
20          systems.

21                       The other thing is there are a number of  
22          rural water systems now that don't, that don't --  
23          they meter at their facility but the actual  
24          consumer doesn't have any metering device. They  
25          just pay a flat charge.

1                   CHAIRMAN ANGELLE: So one of the things  
2                   on that issue, the 2012 report to the legislature  
3                   kind of identified that issue. And one of the  
4                   things that we are working on is a, is a fiscal  
5                   policy that says all systems above a certain size  
6                   have to have a master meter, and have to have some  
7                   leak monitoring kind of system before they could  
8                   be eligible for the next round of capital outlay  
9                   and/or federal funds. So not trying to be, you  
10                  know, penalizing folks, because some folks would  
11                  say, well, I need that money to fix my problem.  
12                  So we got a chicken and an egg and I get that. We  
13                  ought to try to work around that. But all rural  
14                  water systems are built with either federal or  
15                  state money in addition to ratepayer money, and it  
16                  can't be built without that federal money and that  
17                  state money. It's just not possible.

18                  And so the concept we had was, well,  
19                  let's put a requirement, if you want this money,  
20                  you're going to -- we're going to make you do  
21                  certain things so we can manage the resource  
22                  better. I think we're -- that's starting to kind  
23                  of be part of the culture of the operation, but  
24                  there's a little pushback there. That was a good  
25                  point. You know, we -- if it's 10 percent of



1 leakage, then, you know, that is something that we  
2 need to cap.

3 Chris.

4 MR. BOURQUE: I bring one thing up.  
5 Calcasieu Parish, Lafayette Parish, a lot of rural  
6 areas of Baton Rouge have a lot of abandoned  
7 wells. These wells were made in the '50s. And an  
8 average well will last 30 years. After that, it's  
9 no good. It needs to be abandoned. And water  
10 wells (inaudible) contamination. And irrigation  
11 is just as bad.

12 We have a protection like, like real  
13 estate, when properties change, real estate tends  
14 to make sure (inaudible). So it's a small issue  
15 that's getting attended to. We went back with  
16 DOTD and tried to get something built after these  
17 hurricanes come in to look for this, but we don't  
18 have it. And (inaudible) force anyone to plug a  
19 well. It's just very dangerous. It's there.  
20 It's going to be an issue in years to come.

21 I would suggest or ask some of these  
22 rural waters once they come in, get the money to  
23 abandon wells when they do the service water.  
24 They don't. Nobody wants to do that. They just  
25 want to (inaudible) and so on.

1                   CHAIRMAN ANGELLE: Well, I don't  
2 think -- I think you make some good points. I  
3 don't think anybody says that we don't want to get  
4 the funding to, to provide money for abandonment  
5 of local wells. What I would say is they are  
6 scratching the coin to get enough money to build  
7 the system that they need to build, and there's  
8 really no leftover money to go ahead and, and take  
9 care of the abandonment of those wells.

10                   And I think a lot of homeowners who go  
11 from water wells to being a part of a rural system  
12 still want to have that water well in the backyard  
13 for other uses. And, and I know we did as a kid.  
14 That's what happened to us. Okay. Until such  
15 time that it was like, you know, we've got to  
16 spend some money on the well, and it was, like,  
17 well, just let it go.

18                   And, you know, my hope is that through  
19 transactions, through the legal, through, through  
20 real estate transactions -- you know, I know that  
21 DHH is doing an incredible job on, on the sewer  
22 systems. And when you go to make a transaction on  
23 a home, if you had an old sewer system in there,  
24 as I appreciate it, there's -- the closing  
25 attorneys are saying you have got to upgrade that

1 sewer system at this time, or the property can't  
2 be sold. So over time those things happen.

3 You bring up a good point. And I don't  
4 think there's an easy solution. I just think  
5 we've got to just, you know, keep plowing the  
6 field one row at a time. And before you know it,  
7 we're going to miss a few weeds, but we will come  
8 back and get them.

9 MR. BOURQUE: Also have NRCS that puts  
10 out money to abandon wells. People apply for  
11 this. If it's a big funding thing, well, the  
12 funds are getting a little low, but in the last  
13 10, 12 years, they have invested a lot of money  
14 back to farmers to upgrade, make better wells, and  
15 dispose of them. A house has only got five or  
16 10 feet of conduit between the water. Irrigation  
17 well's got 80 feet of big stuff that could take  
18 500 gallons a day, thousand gallons a minute back  
19 into the system.

20 CHAIRMAN ANGELLE: Good point. Okay.  
21 Any other questions?

22 I want to move on to Item 8. And my  
23 hope was that we would, we would go through 8 in a  
24 very abbreviated manner, and get to 9 so we can  
25 take some public comments and be on our way.

1 MR. REONAS: Yes, sir. Your, your hope  
2 will be fulfilled in that regard.

3 This is -- the Commission issued out  
4 yesterday afternoon an update on the 2012 report.  
5 We have done two of these in the past, in June of  
6 2013 and then again last January, January of 2014,  
7 where we took the 2012 interim report to the  
8 legislature on groundwater management, went back  
9 through and looked at the major issues, the  
10 recommendations that the commission, the  
11 Groundwater Resources Commission, now, of course,  
12 this Commission, made at that point in time and,  
13 and evaluated progress towards meeting those  
14 recommendations.

15 So we sent out this, which is sort of  
16 the most recent one for January of 2015,  
17 basically, again, revisiting all the  
18 recommendations that were made back in 2012.  
19 Progress forced those. Of course, a lot of those  
20 at the time were concrete -- were concrete  
21 recommendations. Many of those have been  
22 achieved. Progress towards all have been made, at  
23 least to the best of our abilities based on  
24 budget, and staff, and other agency  
25 considerations. And what I would like to -- I

1 would like to task the Commission with, if  
2 possible -- I know that's really your duty, Mr.  
3 Chairman -- was to review these, go back and look  
4 at -- review this one, go back and reference the  
5 2012 report, the 2013 update, the 2014 update, see  
6 where we're at, send us any comments,  
7 recommendations.

8 Again, you know, we have gone through  
9 this three times now. We have done everything we  
10 can do to this point in time based on our staff,  
11 and budget, and all those things. And so I know a  
12 lot of these are, are still in progress. I won't  
13 say unfulfilled because we have, we have taken the  
14 time to try to meet each one of the  
15 recommendations to the best of our ability. Take  
16 that into consideration. We would like to get  
17 comments back by January 16th, which is Friday.  
18 Friday, January 16th close of business. And then  
19 do as we have done with the previous reports,  
20 finish it up, include those comments, and send  
21 them over to the Natural Resource Committees in  
22 the legislature, in the House of Representatives  
23 and Senate. So...

24 CHAIRMAN ANGELLE: Thank you very much.  
25 I had a chance to look at it. I thought y'all did

1 a great job. And it does represent a body of work  
2 over time that, again, you just keep plowing the  
3 field one row at a time, and you continue to do  
4 that, and as the State feels, it's capability over  
5 time without pushing the panic button. So I  
6 appreciate you doing that.

7 We will move to Item No. 9.

8 MR. DUPLECHIN: Can I ask a question?

9 CHAIRMAN ANGELLE: Yes, sir.

10 MR. DUPLECHIN: Matt, is that a public  
11 document, or is that just for the Water  
12 Commission's review?

13 CHAIRMAN ANGELLE: I'm fine to let  
14 anybody have it.

15 MR. DUPLECHIN: Yeah, I would like to  
16 have it.

17 MR. REONAS: Yeah, I tell you what. We  
18 will post it on the website, send it out to the  
19 distribution list and go from there.

20 CHAIRMAN ANGELLE: As a draft.

21 MR. REONAS: Yes, as a draft.

22 CHAIRMAN ANGELLE: Item No. 9, Review of  
23 Surface Water Management in Louisiana.

24 I don't want to put you on a time limit,  
25 but what are you thinking about, Jim?

1 MR. DEVITT: Five to 10 minutes.

2 CHAIRMAN ANGELLE: Okay. I'm going to  
3 hold you to seven.

4 MR. DEVITT: This is to touch up on the  
5 Surface Water Management Program. Just to remind  
6 you of this Commission's duties, statutory duties,  
7 and responsibilities for surface water. This  
8 comes directly from the statute. A lot of it is  
9 fact gathering, inventorying, investigating, et  
10 cetera. Just a reminder.

11 Two primary ongoing processes going on  
12 with, with the Department of Natural Resources and  
13 surface water. One is coordinating comments, and  
14 the other is dealing with surface water  
15 agreements. So the surface water agreements, you  
16 can see from this chart, primarily are coming from  
17 oil and gas drilling as far as the number of  
18 agreements we have done (inaudible).

19 That bottom one is, I think, dealing  
20 with Natchitoches.

21 CHAIRMAN ANGELLE: Is this a time  
22 period?

23 MR. DEVITT: This is from 2010 through,  
24 through --

25 CHAIRMAN ANGELLE: Go back.

1 MR. DEVITT: I'm sorry?

2 CHAIRMAN ANGELLE: Can you tell me of  
3 those 79, how many have brought forth a economic  
4 development study to show the value of what they  
5 are doing so they would not require --

6 MR. DEVITT: Give you --

7 MR. SNELLGROVE: About half.

8 CHAIRMAN ANGELLE: About half?

9 MR. DEVITT: Yeah.

10 So we had some new legislation this  
11 spring. Senator Long on Act 285 which essentially  
12 renewed the life of the Surface Water Management  
13 Program through 2016.

14 And then State Representative Jim  
15 Thompson introduced an amendment to the Surface  
16 Water Management Act adopted as Act 556. What  
17 that act did was stated the State shall be  
18 reimbursed at a fair market value for bodies of  
19 water managed by the Department of Wildlife and  
20 Fisheries and determined to be negatively  
21 impacted, and then it set the rate in statute at  
22 15 cents per thousand.

23 The act requires that payments for water  
24 withdrawn from designated water bodies be made to  
25 a particular fund. And the act requires that



1           those funds be used to combat invasive aquatic  
2           vegetation, such as Water Hyacinth, Hydrillia, and  
3           Giant Salvinia.

4                         That act limits the options for  
5           compensation to the State. And this says you  
6           can -- that you can't make an economic benefit,  
7           you have got to pay cash. Again, those water  
8           bodies as designated by Wildlife and Fisheries,  
9           Office of Fisheries. And then the statute says  
10          the funds preferably are to be used on the body of  
11          water from which the revenue is generated. These  
12          are the bodies that were designated for 2014 as  
13          negatively impacted.

14                        CHAIRMAN ANGELLE: It only applies to  
15          the bodies of water that are managed by Wildlife  
16          and Fisheries; is that what it said? Back up.

17                        MR. DEVITT: Yes, it does.

18                        CHAIRMAN ANGELLE: So do you know which  
19          bodies those are?

20                        MR. DEVITT: Essentially all of the  
21          bodies within the state. Kyle might be able to  
22          tell me that there's some that don't but I can't  
23          think --

24                        CHAIRMAN ANGELLE: So go back, go back  
25          to the slide that showed the 76. Go backwards.

1 MR. DEVITT: Go backwards.

2 CHAIRMAN ANGELLE: So when Thomas  
3 answered the question that of the 79, half of them  
4 were shown economic and development impacts as the  
5 compensation to the state. Based on Thompson's  
6 law and based on your opinion that all of the  
7 bodies of water are affected by that act, that now  
8 the State is not able to take economic development  
9 impacts for compensation, or there's an "and" in  
10 there?

11 MR. DEVITT: It has to be -- there's an  
12 "and." They have to be managed by Wildlife and  
13 Fisheries and determined to be a negative impact.

14 CHAIRMAN ANGELLE: So the ones that you  
15 just brought up are the only ones that -- so you  
16 have identified these as the ones that are  
17 negatively impacted by invasive vegetation, and  
18 that's the only place today that that statute  
19 applies to?

20 MR. DEVITT: Yes.

21 CHAIRMAN ANGELLE: Okay. I can't  
22 imagine you got a whole bunch of withdrawals  
23 coming from a lot of that stuff.

24 So how do you, how do you compete with  
25 the legislation? I'm assuming that Jim Pratt

1           wants his 20 cents?

2                   MR. PRATT: Well, and that's what I'm  
3 saying. You all don't do the water withdrawals  
4 for Toledo Bend. We do. Always have. And that  
5 legislation didn't apply to the Sabine River.

6                   CHAIRMAN ANGELLE: Okay. That's fine.

7                   MR. PRATT: So you're getting nothing  
8 there. Although Wildlife and Fisheries is  
9 probably there today with some effort on, on  
10 Salvinia.

11                   CHAIRMAN ANGELLE: Right. Okay.

12                   MR. DEVITT: Okay. This is four years  
13 of Surface Water Agreement showing 2011 and 2013  
14 we had a lot of agreements done. This year hadn't  
15 been too bad. And if you look at the numbers on  
16 the bottom, as far as volume requested, you'll see  
17 that this year actually exceeds 2011, even though  
18 the number of agreements were greater in 2011.

19                   CHAIRMAN ANGELLE: And the statute said  
20 when you have those affected lakes, you have to  
21 charge a rate of 15 cents?

22                   MR. DEVITT: That's correct.

23                   CHAIRMAN ANGELLE: And you said 20  
24 earlier?

25                   MR. PRATT: No. For Toledo Bend it's

1           15. That's where your 15.

2                   CHAIRMAN ANGELLE: That's where he got  
3 it from? Okay. Good.

4                   MR. DEVITT: This is showing the  
5 locations of where we have had agreements and by  
6 color by year.

7                   Moving on to the multi-agency  
8 commenting. The legislature sends various bodies  
9 who have authority over water. You see them  
10 listed there. And then in 2010 a Memorandum of  
11 Understanding between DEQ, Wildlife and Fisheries,  
12 and DNR was enacted for some broad policy reasons,  
13 avoid duplicated efforts, streamlining government  
14 efficiencies, that increased the state commenting  
15 process, protects the resources.

16                   Typical instances that trigger that  
17 coordination would be a request for state review  
18 and comments, surface water agreements,  
19 multi-agency comments, federal agency actions,  
20 such as the Corp, such as 10 permit application.

21                   And then this shows the number of water  
22 permits where we have coordinated comments of  
23 multistates -- multi-agencies for the state.

24                   CHAIRMAN ANGELLE: Kyle, how are things  
25 going with regards to you guys receiving the

1       permits, and request for comments, and  
2       coordinating of all that?

3               MR. BALKUM: In regards to the  
4       (inaudible), I think it works well. We have a  
5       single point of contact within the agency that  
6       Thomas Van Bursa works with. He distributes  
7       comments internally, and then collects those  
8       comments and gets them back to DNR. So seems to  
9       be working pretty well.

10              CHAIRMAN ANGELLE: Didn't you -- last  
11       meeting you mentioned some of the issues that you  
12       were going through in, in the Florida Parishes on  
13       scenic streams?

14              MR. BALKUM: In a short period of time,  
15       we received six scenic river permit applications  
16       for water withdrawals on designated scenic steams  
17       in our Florida Parishes. Those water withdrawals  
18       were to frac -- for frac wells. And five of those  
19       water withdrawals were withdrawn. One of those --

20              CHAIRMAN ANGELLE: Withdrawn by the  
21       applicant?

22              MR. BALKUM: Withdrawn by the applicant.  
23       One of those permit applications ultimately was  
24       denied because another water source was available.

25              CHAIRMAN ANGELLE: Got you. Did those

1 original six come in through the process at DNR,  
2 then get shipped out to you or Scenics, or  
3 directly to you?

4 MR. BALKUM: They came directly to us.  
5 They must have had knowledge of our scenic rivers  
6 program, applied directly to us.

7 CHAIRMAN ANGELLE: So the Memorandum of  
8 Understanding carves out Scenic, and you, you all  
9 have, you all have complete jurisdiction over  
10 Scenic? You have veto authority on Scenics?

11 MR. BALKUM: Correct, there are statutes  
12 and rules and regulation. We have that authority  
13 to regulate water withdrawals on designated  
14 natural scenic rivers.

15 CHAIRMAN ANGELLE: Got you. Got you.  
16 Got you.

17 MR. DEVITT: All right.

18 CHAIRMAN ANGELLE: Eight minutes.

19 MR. DEVITT: I went over.

20 CHAIRMAN ANGELLE: All right. We will  
21 go ahead and open the meeting up for public  
22 comments.

23 Anybody that wants to make a public  
24 comment, just approach the podium, introduce  
25 yourself for the record, and have at it.

1                   Looks like we are going to get out of  
2 here at the right time.

3                   So any other Commission members have  
4 comments, want to address any issues?

5                   MR. SPICER: I make a motion.

6                   CHAIRMAN ANGELLE: You make a motion to  
7 what?

8                   MR. SPICER: To adjourn.

9                   CHAIRMAN ANGELLE: Oh, okay.

10                  MR. DAVIS: Also, I wanted to make one  
11 announcement.

12                  CHAIRMAN ANGELLE: Yes, sir.

13                  MR. DAVIS: That is, that, that every  
14 spring our law students at Tulane Law School put  
15 on an Environmental and Energy Law Summit. One of  
16 the keynote speakers -- this will be on Friday,  
17 February 27th, will be Mrs. Pat Mulroy, who until  
18 a year ago was sort of the Director of Water  
19 Resources in southern Nevada. If there's anybody  
20 who understands, you know, what's going on in  
21 water management, and, and interstate demand on  
22 water, it would be Pat Mulroy. I would invite you  
23 all to attend.

24                  CHAIRMAN ANGELLE: So we will wait on  
25 that e-mail?

1 MR. DAVIS: Yes.

2 CHAIRMAN ANGELLE: So just to summarize  
3 a couple of things. I think there are, in any,  
4 you know, approach to these kind of meetings,  
5 there are peaks and valleys. And, you know, just  
6 from my standpoint, we're kind of, from the  
7 administration, the Commission here, kind of in a  
8 valley as we're waiting now for a lot of folks to  
9 bring back information. I thought, you know, last  
10 couple two or three years, a lot, a lot of  
11 activity. But just today we learned that there's  
12 a group working -- because the legislature passed  
13 Senate Resolution 171, there's a group of people  
14 who are working to -- with the weekend Law  
15 Institute on water. We've got the Nature  
16 Conservancy on Freshwater Assessment. We've got  
17 ULL and McNeese working together on Natural  
18 Science Foundation. We funded USGS for the  
19 additional monitoring. We've got the Water  
20 Institute working on a water budget. To me it's  
21 been a phenomenon run, a lot of different things.  
22 And, again, I want to congratulate everybody, and  
23 thank you.

24 We have a motion to adjourn by Spicer.  
25 And a second --



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MR. PRATT: Second.  
CHAIRMAN ANGELLE: -- by Pratt.  
Any objection?  
Hearing none, motion is adopted.  
(Meeting concluded.)

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CERTIFICATE

I certify that said meeting was transcribed from video recording only, and is a true and correct transcription to the best of my ability and understanding, having not been present at the proceeding.

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DONNA T. CHANDLER, CCR, RMR, CRR