STATE OF LOUISIANA

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF CONSERVATION

WATER RESOURCES COMMISSION

10TH REGULAR MEETING

WEDNESDAY, SEPTEMBER 27, 2017

BATON ROUGE, LOUISIANA

11:05 A.M.

LASALLE BUILDING

1ST FLOOR LABELLE ROOM

617 NORTH 3RD STREET

BATON ROUGE, LOUISIANA 70802

REPORTED BY:

LAURA QUINETTE, CCR, RPR

BATON ROUGE COURT REPORTERS, LLC

COMMISSION MEMBERS IN ATTENDANCE

KYLE F. BALKUM
Louisiana Wildlife & Fisheries

HONORABLE GLENN BRASSEAUX
Mayor of Carencro, Louisiana Municipal Association

SENATOR NORBERT "NORBY" CHABERT
Chairman of the Senate Natural Resources and Environmental Committee

David B. CULPEPPER
Geoscientist with Expertise in Groundwater Resource Management

MARK S. DAVIS
Tulane Institute on Water Resources Law and Policy

ANTHONY J. DUPLECHIN, JR.
Capital Area Groundwater Conservation District

JOHAN FORSMAN
Louisiana Department of Health & Hospitals-Office of Public Health

PAUL D. FREY
Louisiana Landowners Association

COMISSION MEMBERS IN ATTENDANCE (CONTINUED)

KAREN K. GAUTREAUX

The Nature Conservancy of Louisiana

LINDSAY K. GOUEDY

Sparta Groundwater Commission

JERRY V. GRAVES, SR.

Ports Association

THOMAS HARRIS

Secretary of the Department of Natural Resources, Governor 's Office

CHRISTOPHER P. KNOTTS, PE, FASCE

Louisiana Department of Transportation and Development

BENJAMIN J. MALBROUGH

Residential Consumers

SHERRI MCCONNELL

Louisiana Economic Development

JAMES W. PRATT

Sabine River Authority

CHARLES SUTCLIFFE

Governor 's Office of Coastal Activities

INDEX

CALL TO ORDER

MR. HARRIS:

Good morning. It is 11:05. I'd like to call the September 27th Water Resources Commission to order. Matt, would you call the roll, please?

ROLL CALL

MR. REONAS:

Yes, sir. Mr Balkum?

MR. BALKUM:

Here.

MR. REONAS:

Mr. Bishop? Mr. Brasseaux?

MR. BRASSEAUX:

Here.

MR. REONAS:

Mr. Chabert?

SENATOR CHABERT:

Here.

MR. REONAS:

Mr. Cormier? Mr. Cramond? Mr. Culpepper?

MR. CULPEPPER:

Here.

MR. REONAS:

Mr. Davis?

MR. DAVIS:

Here.

MR. REONAS:

Mr. Duplechin?

MR. DUPLECHIN:

Here.

MR. REONAS:

Mr. Forsman?

MR. FORSMAN:

Here.

MR. REONAS:

Mr. Frey?

MR. FREY:

Here.

MR. REONAS:

Ms. Gautreaux?

MS. GAUTREAX:

Here.

MR. REONAS:

Ms. Gonzales? Ms. Gouedy?

MS. GOUEDY:

Here.

MR. REONAS:

Mr. Graves? Mr. Gray? Mr. Guidry?

Mr. Harris?

MR. HARRIS:

Here.

MR. REONAS:

Mr. Ieyoub? Mr. Knotts?

MR. KNOTTS:

Here.

MR. REONAS:

Mr. Marlbrough?

MR. MARLBROUGH:

Here.

MR. REONAS:

Ms. McConnell? Mr. Pratt?

MR. PRATT:

Here.

MR. REONAS:

Mr. Spicer? Mr. Sutcliffe? I know he confirmed he will come in just a little bit. Mr. Vega? Ms. Zaunbrecher? Mr. Zaunbrecher?

Okay, 14. So we do have a quorum, sir. You may proceed.

ADOPTION OF THE PREVIOUS MEETING SUMMARY

MR. HARRIS:

Thank you, Matt. The first agenda item is approval of the minutes. You've all received a copy of the draft minutes via e-mail. Are there any additions or comments? Hearing none, do I have a

motion?

MS. GAUTREAUX:

I motion.

MR. HARRIS:

Motion by Karen Gautreaux. Do I hear a second?

MR. DAVIS:

Second.

MR. HARRIS:

Mark Davis, second. Any objection? Hearing none, the minutes are approved.

DISCUSS THE FORMATION OF A WORK GROUP ON THE SALE OF LOUISIANA'S SURFACE WATERS

MR. HARRIS:

The next agenda item is Discussion of the Work Group on the Sale of Louisiana's Surface Waters. I've gotten, and I imagine a number of us have gotten pretty regularly, requests for information, calls from people who are interested in our water, Louisiana surface water.

We do have legislation that provides some guidance on it. Any sale of Louisiana water outside of the state would require approval of the Senate Natural Resources Committee, our Senate Natural Resources Committee, the Governor's Office and state

and local authorities. I would imagine those bodies would look to us for guidance, for information, and it would be my suggestion to get out ahead of the curve a little bit and start taking a look at some of those issues:

What we want to do as a state from a public policy perspective; what are the legal implications; and certainly what are the technical requirements that would be need to be addressed. This body has both the technical expertise needed for that as well as representation by most of the user groups.

The next meeting, which we are going to have another one in the next six to eight weeks, I'm going to make a motion to form a working group to look at those issues, and the end game being a report back to this body that certainly Senator Chabert can bring back to his Committee and Representative Bishop can bring it back to his and I can deliver it to the Governor. I believe this issue should not be rushed.

Before we take a serious look as a state and taking that step, I think we need to look at all the implications. And a working group from within this Commission is the appropriate group to provide that guidance.

I'm not going to make any motion today, but

certainly I'm going to reach out to the rest of you and find out who would be interested, who would like to participate in that group, and move forward from there. Go ahead. Are there any questions?

SENATOR CHABERT:

Chairman, I certainly agree with you. Speaking on behalf of Legislature, and not necessarily for but in concert with previous discussions Representative Bishop and I have had, I suspect the Committee would do just that. We would certainly look with a weighted eye on the expertise of this Committee. At the end of the day, we're charged with a lot of stuff, but aquifer rights and surface rights I think are most readily dependant upon this group for their expertise. I commend you for getting ahead of this issue.

Yesterday afternoon I got a call from a senatorial colleague from north Louisiana talking about specifically this very issue. Some of you that have been in the game a lot longer than I have know what I'm talking about, but it's an issue that isn't going away. Certainly fracking and other things, value on water usage is going up. I'm not someone that is opposed necessarily to selling that water, but I certainly don't want to get fleeced for it. If

we do, I certainly do not want to sell any resource that we are not naturally creating an abundant supply of.

So, again, I thank you for wanting to get ahead of this and will again emphasize this, that Legislature will be leaning on the expertise of this group heavily.

MR. HARRIS:

Thank you, Senator. Any other questions or comments?

MR. BALKUM:

Secretary Harris, I think it's wise, certainly, to form a working group and I'll say that Wildlife & Fisheries would like to be a partner in that group.

MR. HARRIS:

Thank you. I appreciate your willingness to participate. Are there any questions or comments from the public?

MR. DAVIS:

One quick thing. In addition to my responsibilities with this Commission, I'm chairing a committee of the Louisiana State Law Institute to, you know, come up with some draft recommendations for what the water code for Louisiana would look like.

And, needless to say, it's easier to write a code if you know what you're writing it to achieve. Empirically, selling water is not something that is easily done under our laws. If it's something that as a matter of policy that the state is willing to investigate that would certainly be, you know, useful to, you know, put these things on the same track so we don't work at cross purposes. So, you know, I would certainly welcome the opportunity to make sure the work of the Law Institute Committee dovetails with any working group we create here.

MR. HARRIS:

Thank you, Mr. Davis. Any other comments, questions, thoughts? Any from the public? Hearing none, our next agenda item is Introduction from Water Institute of the Gulf, President and CEO, Justin Ehrenworth.

INTRODUCTION FROM WATER INSTITUTE OF THE GULF

PRESIDENT AND CEO

MR. EHRENWORTH:

Good morning, Mr. Chairman. Thank you, Members of the Commission. It's an honor to speak with you. I've had the privilege to get to know a number of you over the years and in a previous life, but I've been with the Water Institute for the last

nine months, so for some of you, this is an introduction for me. And I was asked to give an overview of the Water Institute, so I think for several of you or many of you who have been around long before there was the Water Institute this will hopefully not be an overly boring repeat, but a rehash of something you know.

I'll try to go through a few slides and hit on some of the high points about the Water Institute and see if there are any questions or comments. The biggest thing I want to stress before turning to the slides is that right now in the life of the Water Institute one of things we're most interested in and eager to determine is what's the best way to use the resources that have been developed at the Institute moving forward. One of the things that's really built into our DNA and our leadership team is the desire to collaborate and achieve shared outcomes and that's something that we are very desirous of. So I'll ask and -- I'll probably close with this and ask for advice from this group and anyone else who is willing to share their thoughts around where we should be going as an Institute using the toolbox we've developed over the last five-and-a-half years.

Let's see. Is this going to go? I don't

think it's going to move forward. I'll move it myself.

MR. REONAS:

I'll move it.

MR. EHRENWERTH:

Okay. Team effort already.

MR. REONAS:

Absolutely.

MR. EHRENWERTH:

Great. So this first slide really just introduces us. So we're a nonprofit, established in 2011/2012. We're just across the street and soon will be moving to the Water campus. I'm very excited about that. You might have seen the building we're going to occupy starting to come up just on the other side of the I-10 bridge, but we really are an integrated and interdisciplinary group.

So we -- because we're relatively small, we're around 30 to 40 people, we're able to touch on a number of disciplines and not get siloed into any one of them. And that's how we really use our calling card and how we're able to best put some really comprehensive and interesting solutions forward.

Next slide, please. You can keep going.

I'll try to go through some of this quickly. So applied research and technical support, really what we do is a matter of providing services to the state of Louisiana and to lots of other entities. We've done work with and for the federal government, for individual foundations and philanthropies as well as other groups, and it takes us out into the field. We're quite well known for our modeling. And, in particular, the integrated department model was developed to support the State's Master Plan. And I think what we've been the proudest of over the past five-and-a-half years of our life is the support for the State Master Plan. Next slide, please.

This slide really gives you a sense of how we intend to approach our work. It's not a surprise to see a circle. We really do see our work developing coastal solutions in a holistic fashion where you've got physical sciences, natural sciences and what we refer to as the human dimension, bringing it all together and recognizing that any solutions that are put forward that actually have the chance of being implemented can even work not only for the environment, but also for the economy, for the people who live in south Louisiana and around the state.

This next slide gives you some examples,

again, of this inner process, the way we like to think about moving forward with our research work. I won't go through that same circle, but I will mention some project examples on the far side of the slide. So the Master Plan, of course, is first and foremost when we talk about what we're most proud of. The Sediment Diversion Plan is also mentioned. That's something where we spent a great deal of time supporting the state and continue to do it. The Louisiana Coastal Atlas, I'll come back to, but it gives an example of how we tend to look at coastal change across the state, again, from that fully integrated holistic perspective.

Work in Louisiana, actually, Mr. Chairman, listening to the first agenda item, the discussion of the formation of a work group on the sale of Louisiana surface water, that resonates deeply with the work we've done in the state. We actually happen to have a copy of it. We completed a report in May of this year modeling current and future river needs to maintain fish, freshwater and forest habitat. This happens to be in the Lake Maurepas Basin, but it's something that if it could ever be of use to you and to the Commission, it's an example of the type of work that we've done that can very easily, at this

stage in its development, be applied to the entire state or to particular areas in the state. We did give somewhat of a flavor of the work that we've done around the state. Now, the next slide I'll start to get into some examples.

We'll skip to the next one and start honing in a little bit on perhaps what we've become best known for, which is some of the modeling in the Master Plan, but, in particular, supporting the State's Diversion Program. So our role in that is not to suggest to policymakers what to do or not to do, but rather to do the science and analysis, the modeling around what different scenarios will look like. So one of the projects we're all excited to see move forward is the Mid-Barataria Sediment Diversion. This slide I show you where it's located. I know it's very familiar to you and to all Members of the Commission.

If you go to the next slide, in here you may actually have to hit the play button if it's working. You can actually see -- and this goes over a ten-year period -- what our model demonstrates for the Mid-Barataria Sediment Diversion will yield in terms of land and marsh creation over a ten-year period. I find this to be particularly compelling

because you can talk a lot about the science and analysis and modeling, but for me at least, it's helpful when you can actually see it, when you can actually see what the computer models suggest will be created over that first ten-year period of time, and I think it's quite compelling.

So to the next slide you'll see another -- and this may also require hitting the play button. It has a little animation to it.

MR. REONAS:

I'm sorry.

MR. EHRENWERTH:

That's okay. You can go back and you may have to -- yeah. There you go. What this does, it demonstrates -- we're switching gears and mentioning something else that the Water Institute is quite interested in supporting the state around -- and that is the inland flood modeling and real-time forecasting. And it looks like our animation isn't working very well, but if it did work, what you would see is in partnership with Deltares -- and I'll come back to our arrangements with the Water Institute and Deltares in a minute or two -- but with that partnership with the Dutch, what we are now in the position to do is if we've got the right and most

accurate inland flood models, if we had that in place, we are able to take USGS information, Netherlands National Weather Service Information, put it in conjunction with up-to-date flood models and create animations and graphics like the one that you see before you.

The thing is, if the computer were working, it would actually take you on a -- it looks like a drone just flying over a particular location. What it allows first responders and citizens to do is it, just like the weather forecast, one, three, five, seven days out, we can actually run these scenarios to see to the street level where we expect flooding to occur. And it really is state-of-the-art from the modeling as well as the real-time forecasting technology.

And we think that -- or wish we would have had something like this in place around the flooding -- the flooding of last year, because what it does is it allows citizens to consider moving assets and themselves out of harms way. It also allows first responders to begin to think about, you know, where to deploy resources based on what the model suggests.

Just like the weather forecast, it becomes

more accurate the closer you are to the event. So it's an opportunity that we're excited about. And we're seeing right now a good intention being placed on this set of issues and, in particular, pockets around the state. And it's certainly our hope at some point having up-to-date models throughout the state and then on top of it, this type of real-time forecasting becomes a reality for the state of Louisiana. Go to the next one, please.

MR. REONAS:

Well, I don't know. It got hung up.

MR. EHRENWERTH:

I can start telling a joke if you want me to. Fortunately, this was a flood simulation. It's not a real flood.

MR. REAONAS:

There we go.

MR. EHRENWERTH:

Great. So I'm starting to wrap up, but one other -- the idea here was to highlight future scenarios. So I mentioned the Diversion Program, flood modeling and real-time forecasting. This next slide, it talks about some nature-based defense work that we're quite interested in partnering with the Dutch around this. And the idea really is how do we

use -- you've certainly got your gray infrastructure, your traditional infrastructure to protect critical infracture and communities, but how do we use nature? Some people refer to it as green infrastructure. Others call it nature-based solutions. Whatever you want to call it, what are the right strategies to pursue in Louisiana?

And one we're very excited about is, we've created a public/private partnership in Fourchon and it involves Shell, Chevron, Danos, and a few other groups, and what we're doing is we're looking at what to do with the material. Should the Port make a final decision to dredge to 50 feet, that can create somewhere in the neighborhood of 20 to 34 million cubic yards of material, which is a whole lot. I mean, that's like a gold mine for us in south Louisiana.

So what are the right places, the best places to put that material so that you're, one, protecting the critical infrastructure of the Port; two, you're getting the ecosystem surface benefits, the environmental benefits from new ditches and terraces and wetlands; three, the resiliency benefits. You know, you've got -- you have the opportunity the protect folks from Fourchon to LaRose

by creating some of these new features. And then in, four, what can we do from a carbonic acid sequestration perspective. If it ends up being the case that we introduced by mangroves, you could have some nice benefits there. You can have a scenario where you're seeing benefits in all four of those areas. So we're very interested in seeing these concepts move forward to fruition and appreciate the partnership of many people, including Senator Chabert and others, who have been real leaders and proponents of this thinking in that part of the state.

Holistic Resiliency really is that same concept. So I won't go into it, but as this graphic suggests, you know, you have the industry, economy, infractures, ecosystem, community. How we can use, again, dredging material working with nature to benefit all.

And then, finally, I'll wrap up with this. We're not simply focused in [sic] Louisiana. The vision of folks who created the Water Institute some five, six years ago was that first and foremost we would lend our minds and our resources to assisting the state of Louisiana, but the rest of the vision goes to -- we're developing such great expertise here and, by the way, it's not just the Water Institute.

We've been working with LSU and every university around the state where this knowledge has been created for decades. And the idea is that we can export. We can export the knowledge and export the opportunities, the economic opportunities to other areas. So right now one of our colleagues is actually in Fiji and he's featured up [sic] on this slide. And we're doing some important waste integration work there helping communities around the South Pacific.

And part of the theory is not only are we exporting the great science and analysis that we've developed in Louisiana, but that creates economic opportunities because the Water Institute, if you think of a project, a lifespan of it, we do a very short part of the upfront part, science and analysis. There are lots of opportunities for Louisiana firms, private sector firms, to come into other geographies because we've pioneered so much here.

The last thing that I'll highlight, I referred to it a couple of times in my comments, but recently we've had the opportunity to go into the Netherlands with Commissioner Dardenne, we've got Johnny Bradberry, Secretary Pierson, Secretary Wilson and a number of other folks who were over for this

exciting moment where we sign the new MOU with Deltares. And if you're not familiar with Deltares, they really are the gold standard internationally of applied research, a coastal deltaic organization. And the Water Institute was really created in its form, and so some five-and-a-half years later we're able to go over and sign this agreement. A view few days after we got back, the Governor joined us to announce it. So it's really come full circle.

The Water Institute, part of our hope is that we continue our deep collaboration with the Dutch, but then people every now and again say, look, if you want to figure out how to deal with water issues you've got to go to the Netherlands and call the Dutch. We don't like that so much. We work with the Dutch. You can call us in Louisiana and we know how to collaborate with them. So the partnership is quite exciting.

And we're in discussions right now with Deltares about merging their USA subsidiary into the Water Institute, which is extraordinarily exciting and it's a great opportunity in Louisiana as well as our partnership around the world.

And I also included seven focus areas, which I won't go through, but it just gives you a

sense of how the Water Institute and Deltares think we can do so much here at home and in geographies around the world.

And I think with that -- oh, the Mekong and then I promise I'll really wrap up. This is the last -- I'll close with this one. We've been doing work in the Mekong for some time and one of our researchers came back not too long ago -- and it's such an appropriate story for what we're pioneering here -- he said, you know, it's almost like a time machine. We look at the Mekong River Delta and it's like looking at the Mississippi River Delta 50 years ago. You're just starting to see some of the same challenges that we face here. The dams are being built and sediment is being -- the system is starting to feel that sediment starvation. You're feeling some of the same issues. So we've been engaged by the Office of Naval Research to do some work there and are very optimistic that it represents a nice partnership between what we're doing in Louisiana and what we can do in other geographies.

For more information there's our website. And with that, I really want to thank you so much, Mr. Chairman, for the opportunity to speak with the Commission.

MR. HARRIS:

Thank you, Mr. Ehrenwerth. Are there any questions for the Water Institute from the Commission Members? Thank you Mr. Ehrenwerth. We appreciate the work you and the Water Institute are doing.

MR. EHRENWERTH: Thank you very much.

RECENT SCIENCE FROM THE SPARTA AQUIFER

MR. HARRIS:

The next agenda item is an update on Recent Science from the Sparta Aquifer by Ben McGee from U.S. Geological Survey. Thank you, Mr. McGee.

MR. MCGEE:

I'm glad to be here. Thank you for having me. My intent today is just to give a current status on the Sparta Aquifer up in north central Louisiana. It supplies more or less 15 parishes in Louisiana with their drinking water, with their groundwater period, but primarily their drinking water and for industrial purposes. Matt, are you going to work the slides?

MR. REONAS:

I'll work it.

MR. MCGEE:

All right. You want to try it again?

MR. REONAS:

Yeah. I'm not sure what was going on with it.

MR. MCGEE:

One of things I want to kind of talk about with the Sparta is with regard to the status of its water usage. We won't go through all these numbers, but I do want to point out that the total water usage for the Sparta per the 2014 water use numbers were right at 55 million gallons per day and that's primarily for public supply and industrial usage. Other usage categories are negligible in the Sparta.

We have some preliminary numbers on this slide that represent to 2015 water use totals and I had 57.2. So these are going to be a little more significant here in just a second with the next slide, but for the Sparta Aquifer, it's sustainable use is estimated to be about 52 to 56 million gallons a day. So our current water usage is right in that window or very near to that window, its sustainable use.

And I really want to put that out there as good news because we haven't been here in a very long time with regard to water use in the Sparta. We have overused the Sparta. We have over pumped the Sparta for decades and that's created a situation that we're

painfully aware of here where our water use is concerned. So for the first time in a very long time we're actually close to breaking even with the amount of water that is naturally coming into the system. Go ahead, Matt.

So just to kind of breakdown this water use history for the Sparta, you can see that it's fluctuated over the years, but we're down in 2014 now. Like I said, it's just about 55 million gallons per day and that's right in that range of sustainable use denoted by the green horizontal bar there.

And so up to this point, we've overused the Sparta to some degree and it has created some issues that we've been dealing with for quite a while in the Sparta, namely long-term depressed water levels, saltwater encroachment in parts of the Sparta because of the over usage. So we're in a very good place.

So when people ask me how we got here, you know, what's resulted in this good situation, I tell them good things and bad things. Conservation is part of the answer and there's certainly been some conservation implemented in the Sparta that has saved millions of gallons of water per day. But, at the same time, we've had a lot of water users, mainly industrial water users, that have gone out of

business and stopped using water, so that's the bad part of this. So the answer is both good reasons and bad reasons, but we're here and we'd like to stay in this zone, if possible.

But, as I mentioned in the previous slide, preliminary water use numbers for 2015 show a slight uptick in our water usage in the Sparta, just outside the sustainable range. So I don't know if that's a trend and we'll see it continue, but it may be and it's something we want to keep an eye on. Go ahead, Matt.

So in the Sparta Aquifer, these dots represent the major water users or water users in the Sparta, the larger circles. It's proportioned to use, and so we don't have a lot of what I would say is major water usage, but the ones we do have are primarily industrial in nature. But we do have a lot of public supply in rural/domestic use from the Sparta that are making up these pumping numbers. Go ahead.

So here's the extent of the Sparta. Like I said, it covers all or part of 14 Parishes in Louisiana. Some Parishes get all of their water from the Sparta. Others get a portion. We don't use a lot of surface water in the Sparta area. We don't

have a lot of it available except the Ouachita River and Red River being the two major sources of surface water in our area. Go ahead.

And so for the next several slides I just want to highlight some long-term water-level records that we have collected or are collecting at some of our monitoring sites around the Sparta as a measure of how the Sparta is responding to these changes in water use and what that might mean down the road. So the first one I want to highlight is Cl-149 up in Claiborne Parish. Go ahead, Matt.

We'll look at the hydrograph grid and this one I call my poster boy for water conservation. And so Cl-149 for decades had a declining water level somewhere around, probably on average of about two feet a year for decades because of over usage. But, as you can see, right around 2000 that trend reversed and water levels have been on the rise since about 2000 at this location. And the primary reason for that was water conservation efforts that were put into place in Arkansas.

So Arkansas shares this resource with Louisiana. They were in a little bit more of a critical situation than we were in with regard to the Sparta, so they implemented some conservation efforts

that you-guys are familiar with that have had a profound effect not only on this well location, but that beneficial effect has rippled down into north central Louisiana and affects other parts of the Sparta as well.

So this is really good news here, that water levels recovered the way that they have. And this is the latest information. Water levels are still continuing to recover because of those conservation efforts.

The next one I'm going to show is over in Morehouse Parish, and this is getting over to areas where we have some issues with saltwater encroachment. So that eastern boundary of the Sparta there is the saltwater boundary. So that's the freshwater extent there on the eastern side of the Sparta, freshwater extent in the Sparta Aquifer. And, of course, that's controlled by water level pressure that's exuded in the Aquifer on the freshwater side to keep that saltwater at bay. And so the more we pump on the freshwater side, the more that encourages saltwater to encroach into areas that were previously fresh. So Mo-5 is a great monitoring location for that. Go ahead, Matt.

So, we've got a checkered past here with

Mo-5, Bastrop and in Morehouse Parish. And you can see that in the early 1980s here there was a pretty significant uptick in water levels as a result of the industry switching from groundwater to surface water at that point. That was International Paper up there. And then another significant turn-up in 2006, and that was a result of industry closing down, that same industry in Bastrop.

And so water levels have continued to recover to some degree whereas before they were declining. That is a favorable situation for keeping that saltwater not only at bay, but pushing it out, actually. It's a long-term process. It doesn't happen overnight, but increased water levels in Morehouse Parish and along the boundary of this water are going to help to keep the saltwater from encroaching. Go ahead.

Toward the center of the Sparta here in Lincoln Parish and Dubach L-26 -- let's do the hydrograph there. You can see that like many of the wells in the Sparta, we experienced long-term declines in water levels until about 2006, 2007 and water levels have since leveled off, whereas previously they had been declining for decades. And this is primarily the effect of the conservation

efforts that were implemented in Arkansas and they just took a few years to actually manifest themselves further into the Sparta. And so this is good news as well. Go ahead, Matt.

The next one is down in Winn Parish, in Winnfield, W-172, again, close to the saltwater down here at the Sparta. So water levels continue to come down at this location, but not at the rate they had previously. So that's more or less good news at this location as well and that's helping to keep saltwater at bay in this location too. Go ahead.

And then Caldwell Parish, again, right on the saltwater boundary, Ca-86B. All right. Go ahead, Matt. Water levels are still going down in this location, not as much as they had been in the past, but they are still declining here somewhat. And so saltwater encroachment monitored by the USGS through a series of chloride wells, it shows and confirms that chloride levels are going up in some of these areas because water levels are coming down and allowing encroachment to occur.

And, so overall, I would say the situation is pretty good with the Sparta and I say that with a little bit of reservation because when I tell people that it's okay, they think everything is fine and

forget about it and they go on. And I want to remind everybody that we're right on the threshold of using as much water as what's naturally replenishing the Sparta, so we're right at the break-even point.

And I guess the way that I usually say it to common folk is if the Sparta were in the ER as a patient, and the patient is no longer bleeding to death, okay, which is good, we stopped the bleeding, but there's still a lot of recovery that has to take place here.

And so the good news is we're in a favorable position with regard to our water usage, and our saltwater encroachment has been positively affected in the areas where water use is increasing -- I'm sorry, where water levels are increasing, but it's not a time that we can take our eyes off of it. We're really in a critical situation. It could go the other way pretty quickly.

So this map really shows water levels rising or staying the same, leveling off through much of the Sparta, which was very, very different just a few years ago. Just a few years ago there would have been red arrows pointing down indicating declining water levels throughout the Sparta. So it's a good change. Go ahead.

This is a water-level map for the Sparta and I think it's pretty dramatic actually. It's showing the deflection in the water level surface based on pumpage. So you can readily see a very large Bullseye there centered in Ouachita Parish and that's resulting from the single largest withdrawal of water from the Sparta Aquifer for industrial purposes. And that kind of depression is -- it's affecting a multi-parish area. And it's drawing water not only from other locations in Louisiana to itself, but also from Arkansas into Louisiana, so it affects a very large area indeed.

There are smaller, in cones of depression, around the Sparta that are a little harder to see down in Bienville, in Ruston and Minden, Farmerville. Some of those areas generate their own terms of depression or deflections in the water well surface based on the amount of water that they pump.

And so decades of over usage have resulted in a very large hole, if I can say it that way, depression in the Sparta Aquifer. This graphic displays residual depression that is resulting from decades of over pumpage.

So our water usage is in a favorable position. We're using about as much as what comes

into the Sparta naturally, but decades of over pumpage have resulted in water levels being depressed to a high degree in the areas that you see denoted on this map. So it's going to take some time. It's going to take us not over pumping the Sparta and giving it a chance to recover what it lost over those decades. So it is going to take quite a while to get back to the point it was naturally to begin with.

And just to touch -- kind of close up here, but touch on some of the areas of groundwater concern, which I thought maybe this Commission would be especially interested in knowing about the status of, there are three areas of groundwater concern in the Sparta Aquifer. This is one that's centered here in the West Monroe area. And the next two slides would be hydrographs that sort of tell the story about the situation there in those areas of concern.

So here in Ouachita Parish and Monroe, at Ou-404, you can see that we had decades of water level declines to some degree right around 2006, right about the same time that water levels started to turn around or level off. In Lincoln Parish, water levels started to rebound here in Ouachita Parish from conservation measures that were put into place in Arkansas and some conservation measures and

some industries that were closed down in Louisiana. All of those have beneficial effects where this is concerned. So currently water levels are recovering to some degree at this location. Go ahead.

The next well is Ou-444 in West Monroe. The same sort of story. Just about the same time period, water levels started to recover to some degree and they are still recovering, not quite as quickly as they are in Monroe. So in this area of groundwater concern, water levels are recovering more or less to some degree there, which I think is good news. Go ahead.

The second area of concern is located a little further west, right down in Ruston, along I-20. Go ahead to the next one. And there's two wells that I think represent that area pretty well. L-113 in Simsboro, again, water levels declined for decades. Then in 2011 or 2012 water levels started to recover to some degree and so that's good news, something we just saw in Ouachita Parish. Go ahead.

And then here in Sibley, L-68, water levels appear to have more or less leveled off at that location. So the situation is drastically different and better than it has been in the past in those locations. And I think we were right to monitor

those locations more closely during those times when we were overusing the water and keeping a close eye on it. So it's yielded some very good results.

And the last area of concern is down in Jackson Parish associated with Jonesboro and Hodge. There's a large industry there that utilizes most of the water from the Sparta in this location. Go ahead.

And so these two hydrographs show that water levels are still declining for the most part, but it is an area of concern that is heavily utilized for industrial purposes from the Sparta. Go ahead.

So Ja-49 is especially close to the mill, so it's very influenced by nearby pumpage from wells that supply the mill. But, overall, still declining a little bit. Go ahead.

So just to kind of summarize, I think -- I don't think I can say this enough, but for the first time, the Sparta, we're not over pumping the Sparta in Louisiana currently and that's great. We've struggled and we've talked about being here for a long time. And so we're here, but we're on the edge of the knife here. It could go either way very, very easily. We could continue to conserve water and move in a good direction or we could increase our pumpage

and go back to where we were. We'll see.

The other good news is the conversation and education investments are paying off. I think this year will be the, I think, maybe the 12th or 13th year that I participated in the Claiborne Parish WaterFest. I'm just about to help Lindsay out with educating our elementary school kids on water use and where our water comes from. And that's been going on long enough now that we actually have a generation of Louisianans who have been educated on water conservation, water use, and then taking that message not only to their friends but to their families. And I think we're seeing the benefits of that water education. Kids nowadays and young adults, they're very aware of the water they use, where it comes from and the need to conserve it. And I think we're seeing some of the benefits now, which is great.

But, we still need to do some conservation. We still need to do some education where our water is concerned and we still need to continue to monitor our water resources as that's -- I can't think of too many things more important than water. And we need to keep our eye on our resources.

That's all I've got if there's any questions.

MR. HARRIS:

Are there any questions for Mr. McGee? Mr. Davis?

BY MR. DAVIS:

That was very helpful. Thank you very much.

MR. MCGEE:

Sure.

MR. DAVIS:

I'm glad to hear that we are no longer, you know, chronically, systemically overdrafting and that, you know, I think conservation education, you know, is an important part of that. But if I'm not mistaken, you know, some of the other drivers are management efforts being taken place here in Arkansas, which are more aggressive. And just the departure of certain water users, one day I would like to think we'll replace jobs in some of these places.

I would welcome, not today, but, you know, looking forward, and this goes to you too Lindsay, what kind of management, you know, options should we as a Commission being considering? Because, you know, we'd like to make sure jobs that -- you know, jobs that have left can be replaced, but we don't

want to necessarily get back in the same position we were in before.

And since I think this Commission really profits from, you know, the kind of guidance from those -- because you-guys are ahead of many other parts of the state in having to deal with groundwater management. There are others, but that would be very helpful, at least to me, your thoughts, not just regulation, but what management tools in conservation education is part of that.

MR. MCGEE:

I'd be more than happy to share my thoughts along those lines. I think there's -- and I've mentioned several times the conservation efforts that Arkansas has put in place, but I could blow the whistle -- not blow the whistle -- blow the horn, I should say, not the whistle, on industries in Louisiana that have taken it on themselves to institute conservation measures. And those conservation measures have resulted in millions of gallons of water being saved per day. So I can't underestimate or undersell the efforts that the entities in Louisiana, private and public entities, who have taken it upon themselves to implement, save a lot of water.

West Monroe has done a fantastic job. I think the Commission is aware of the work that Mayor Norris has instituted there to save literally millions of gallons of water, recycling some of their water there. So those are among the examples I think we have already that we should highlight and follow-up on, encourage.

MR. DAVIS:

Thank you. Mr. Chairman, I'm going to have to leave at noon. I teach this afternoon. I have to get back to my class.

MR. HARRIS:

What's the lesson today?

MR. DAVIS:

Be smart. Be kind to your mom and dad as always and listen more than you talk.

MS. GOUEDY:

Mr. Davis, if I could ask you, about Ben's comments that he made just briefly about the current conservation measures in place, I think part of your question also pertains to future --

MR. DAVIS:

Absolutely.

MS. GOUEDY:

-- and how we were looking at continuing to

reduce our water usage. And conservation education is clearly one of my top priorities, however, the Sparta Commission, along with partners in north Louisiana is working on several different projects -- discussions, projects. I know we have heard plenty from representatives of the Lincoln Union Initiative. That is something that is still being evaluated. With respect to Ouachita Parish, I know right now there's discussions on working out the possibility to obtain more gray water to send to the mills to again get more water usage cut from the Sparta from the mill. And there's also another project that is beginning to catch -- be obtained over in Webster Parish, although on the west side of the Sparta.

In north Louisiana we don't have a lack of ideas on how to create an ever-evolving conservation effort. That's our long-term goal, but funding the force [sic] is always our battle or hurdle, I think, with most Louisiana entities. But that is something I think you bring an excellent point, in the future being able to talk about those efforts and where they're at. But I would hope to see in the next few years, in a decade I would think, some of these things put in place, to see that, Mr. Davis.

MR. BRASSEAUX:

One thing I would like to ask in this discussion would be the area where we saw the large hole that was drawn in the water flow, not just that Parish, but as far away as Arkansas, is that the mill that you were referring to?

MS. GOUEDY:

That would be Graphic Packaging.

MR. BRASSEAUX:

Is that -- the area that has created the hole where the water is being drawn from the Aquifer in many of the Parishes, is that from a single entity?

MR. MCGEE:

No. It's multiple entities, both public supply and industrial.

MR. BRASSEAUX:

Is there a potential to bring, say, river water to that area and eliminate that big user that would really move the Aquifers recharge capabilities that they seem to be --

MR. MCGEE:

Yes, sir.

MR. BRASSEAUX:

-- and it could be replaced with other surface water. I think that would go a long way to

recharging the Aquifer at a much faster rate.

MR. MCGEE:

Sure. That scenario has been entertained in the past, specifically to the areas around Jackson Parish in supplying surface water from nearby surface water bodies to the mill in place of the Sparta Aquifer water. So those have been floated in the past.

MR. BRASSEAUX:

That's good to hear. Thank you.

MR. HARRIS:

Any others?

MR. DAVIS:

The one thing I think -- excuse me. One thing I want to point out is that the City of Monroe doesn't use groundwater for their public supply.

MR. MCGEE:

That is correct. They use --

MR. DAVIS:

They use Bayou Bartholomew and Bayou DeSiard. The last number I have seen was around 4 million gallons a day that Monroe City water produces.

MR. MCGEE:

That's right.

MR. DAVIS:

If they were using groundwater, that would push those numbers and usage way up over.

MR. MCGEE:

That's right. Just across the river, West Monroe, does use water -- does get their water from the Sparta, primarily because of the quality. So Monroe would use the Sparta, but the quality is not such that they can utilize it today. They're really forced to use surface water in their location.

MS. GOUEDY:

Again, I know that there is some discussion, especially around Sterlington, North Ouachita, and some mills coming in that we're not entirely sure what the source is is what I'm hearing from our representatives in Ouachita Parish. Do we know yet what impact those new mills are going to have?

MR. MCGEE:

The discussions I've had with Mr. Clampet on that, the wells that I looked at were in the Mississippi Alluvial Aquifer, so they're not in the Sparta. I can't say that all of the proposed mills are not in the Sparta. The ones that I looked at were not in the Sparta.

MS. GOUEDY:

Thank you.

MR. FREY:

Mr. McGee, refresh my memory a bit. Didn't Graphic Packaging shift to acquire their surface water?

MR. MCGEE:

Yes, sir. That's the conservation effort that I mentioned related to Mayor Norris in West Monroe and, so, yes, Graphic Packaging is the single largest user of water from the Sparta. They exclusively got their water from the Sparta, but many years ago, Mayor Norris instituted a program whereby they took the City of West Monroe's gray water and cleaned it up to the point that the nearby Graphic Packaging could utilize it. So they're up to how many million gallons a day now, Lindsay?

MS. GOUEDY:

Four or five.

MR. MCGEE:

Yeah, it's four or five, with the capacity to go to ten if they just have enough gray water to process. So we replaced -- or they replaced four to five million gallons a day out of the ten that they were pumping. So they replaced half.

MR. FREY:

You mentioned the mill closing in Bastrop, which I'm familiar with. I think that same company operates a mill in Pinebluff, Arkansas. It still operates that. I'm not sure where they get their water from.

MR. MCGEE:

The Sparta goes through there, so they very well could.

MR. FREY:

Okay.

MR. HARRIS:

Ben, you briefly touched on the Union County Initiative and how they cut back on their Sparta usage.

MR. MCGEE:

Well, the Union County Initiative proposes to pull water from D'Arbonne Lake, which is north of Ruston, and pipe -- treat and pipe that water down to Lincoln Parish.

MR. HARRIS:

I meant in Arkansas.

MR. MCGEE:

Oh, I'm sorry.

MR. HARRIS:

Taking water from the river, clarifying it and sending it to the --

MR. MCGEE:

Yeah. So Arkansas' conservation really has shown they're using surface water from the Ouachita River and replacing that with water that they had previously used from the Sparta Aquifer and that has saved a tremendous amount of water and honestly has a beneficial effect in Louisiana, as it has in Arkansas.

MR. HARRIS:

I don't have any other questions.

MR. KNOTTS:

I have one. Ben, I know you're aware we built a new reservoir in DeChene near Columbia. The primary purpose was water supply and you mentioned D'Arbonne. It kind of dovetails together. Should we be looking at opportunities for other reservoirs or water supplies and potentially take people off of groundwater? I know environmental permitting is difficult right now, but I'm just wondering if that's something we should be exploring further?

MR. MCGEE:

I think so. Given the time frame to develop a reservoir and to bring it to a point that

it could be utilized, I think we have to look at existing water bodies as well. I don't know if this is answering your question or not, but we certainly want to look at what's already in place and evaluate it for a water source.

In my experience, and I've dealt with several lake commissions on prospective withdrawals from their lakes with water use and I know that can be a very sensitive subject for landowners and lake owners and whatnot. But, you know, just using D'Arbonne Lake, for example, the amount of water that they're talking about withdrawing from D'Arbonne Lake, more water evaporates off the top of D'Arbonne Lake on a hot, summer day than what they're proposing to withdraw for public supply. And so I really try to put that in perspective for people because I think people can have their imagination run away with them a little bit where withdrawals from lakes are concerned and imagine some pretty bad scenarios, but ] we're not [sic[talking about negligible water here.

MR. KNOTTS:

I think that's a good point. If the lake was developed more from a recreation standpoint or -- you can talk more about that than I can, if a lake has a designated purpose for a water supply, be it

residential or industrial. And like in Columbia, they're not going to have that because they own the property around the lake. That's the intent of it. I was just wondering if -- you know, that seems like at bit of a unique situation that fulfills an intended purpose, and that perhaps we need to look at that in the future. It's not a quick decision to decide on the site of the reservoir and have it constructed. It's a long process.

MR. MCGEE:

Yes.

MR. KNOTTS:

Thank you.

MR. HARRIS:

Mr. McGee, thank you for appearing here today and thank you for providing the information. Good news is always welcome.

MR. MCGEE:

Thank you for having me.

MODELING OF LOUISIANA'S AQUIFER SYSTEMS

MR. HARRIS:

Our next agenda item, Number 7, Frank Tsai, with LSU, Department of Civil and Environmental Engineering is not able to be here today.

USGS SURFACE WATER MANAGEMENT

MR. HARRIS:

So next, also with USGS, is John Lovelace.

MR. LOVELACE:

Thank you, Chairman. The title in the agenda is a little bit misleading. It says Surface Water Management. USGS, in general, doesn't get into the management business. This is monitoring, and from some of the previous Commission meetings, it seemed apparent to me that some of the Commissioners might not be aware of all the monitoring activities of surface water there are in Louisiana. So I appreciate the opportunity to talk to you about that today.

USGS has an extensive statewide surface water monitoring network with the state, local and federal partners. Some of the biggest partners are the Corps of Engineers offices in Vicksburg and New Orleans. We also work with many state agencies, many of the agencies that you represent, state, local, city, some of the flood protection districts, fresh-water districts, just a big variety of agencies.

We do cost sharing with this, matching -- putting up some federal matching funds against local funds. So we have roughly 400 sites out that we're

collecting data at. Many of these sites are what we call real-time sites where data are collected every 15 minutes or a half hour or hour. Generally that information is staged, but some of them are also providing discharge or water quality information.

This is a map showing just where these sites are. You can see it's a pretty good spread. Every major stream in Louisiana has a gage or a two or three or four on it somewhere. You can see the number of sites in the Baton Rouge area heavily instrumented in the Amite River Basin, also the lower Atchafalaya River. And you see our coastal network there in pink collecting a variety of water quality information.

You've probably driven by our gages many times and may not have noticed them. In Baton Rouge just about every bridge over a stream you drive across is going to have a box that looks like this on it. That's our instrument in that box. That pipe going down to the water is still in the well, and hanging below that used to be floats. Now there's a pressure transducer sending a signal back up to a recorder in that box. There's specifically a transmitter on top of that box sending the data back to our office. In addition to stage and discharge,

we have at a lot of our sites that are collecting rainfall, wind speed and wind direction.

Inside of that box, typically, you have a battery that's connected to a solar panel and there's transmission equipment. As I said, many of these are real-time sites, so the data is beamed back to our office where it's displayed on the Internet every 15 minutes or so. It gets updated via satellite.

Our newer gages are using usually non-contact radar sensors, so we don't have a stilling well going down to the water. What we found during the floods, a lot of debris comes down the river and they could take out stilling wells. All of our equipment disappears very quickly. These are much cleaner, simpler, shooting the signal down to the water and it's much easier to set up. You can see the rain gages and the anemometer right there at the top. I think this is probably at Darlington or Grangeville.

This is what our typical coastal installations look like. They're out in open water, typically set up on one of the Ace Navigations. In this case, it's a channel marker. You can see the transmitter there in the box. Go ahead, Matt.

And like I said, we have about 40 sites out

along the Coast. We're monitoring flood water quality, but also stage out there and there's 25 traditional sites that are just measuring stage use or discharge. These are pretty heavily used by the Wildlife & Fisheries, especially to manager oyster season. There's a lot of freshwater coming down. Not only Louisiana, but the state of Mississippi uses our gages too to open and close the oyster season. And it's also providing important data for diversion operation as well as looking at marsh health.

So typically these near the Coast are also conditioned to the station. Discharge are also collecting temperatures, specific conductance, computed salinity and all of that.

The picture on that was one of our hurricane hardened stations that we put in after Hurricane Katrina. Pretty much when a hurricane comes by, it typically wipes up out every gage we have on the Coast. They could not stand up. They would -- you know, the winds and waves would knock them down. So we got federal funds to put in 10 stations, 5 in Louisiana, 5 in Mississippi, that are set about 30 feet above water. And they are all still standing, although they're starting to show a little wear and tear from the elements.

And that's just a little bit of the data that you can get from these besides the stage information. This is showing wind speed, wind direction and the barometric pressure. This is at Caillou Lake when Gustav passed over. And you can see where the storm passed right over the area. The blue line there is the wind speed. You can see when the eye passed over, it dropped down to nothing. It's very interesting.

And we also have these peak-stage gage sites all around. We typically have them wherever we have a regular gage, but these are simply pipes with a graduated staff inside and little bits of cork. And when a storm may take out our other equipment or goes down for various reasons, these will give us that peak. So we get that flood peak just about every time from these. It's a great little simple, simple gage.

And we're also operating a couple of nitrate monitors in the Mississippi River at Baton Rouge, and the Atchafalaya River at Morgan City, giving us information on the -- basically, it pulls the nutrients coming down from farm areas in the Midwest down the river, flowing out into the Gulf and creating a dead zone every year. We have two of

these operating and the data correlates very well with the spring runoff and generally the size of the dead zone.

Then this is what one of the instruments looks like. We're collecting gage height and discharge. We're also collecting nitrate, pH, salinity, specific conductance, dissolved oxygen, and turbidity at these sites.

So this is what some the nitrate data looks like and it's there in the yellowed spots. It correlates a little bit with discharge. What you're seeing is the annual spring rise and fall or the seasonal rise and fall of the Mississippi River in that blue line and some correlation there with the nitrates. It doesn't always correlate with that. It really depends on what sort of runoff you get from the river. Next slide.

And also the turbidity information. The turbidities are the amount of stuff in the water. In this case, it's generally silt. You're seeing the water column. This is very important, understanding how much material is available in the Mississippi River and the Atchafalaya that's going through the diversions and it's going to be there to perhaps build some land around the diversion areas. The

turbidity information collected along with discreet sediment samples from the river provides for -- there's a lot of information about what sort of land building capabilities we may have around diversions and what's actually built out of it.

SENATOR CHABERT:

Can you kind of walk us through that portion right there in terms of the engagement that USGS may have with CPRA or the Water Institute? Mr. Ehrenwerth is no longer with us, but tell us about how you-guys are communicating that data that you already have readily available and either confirming or, you know, disputing some of the -- I'm trying to be very politically correct in the words that I choose in reference to the almighty river diversion.

MR. LOVELACE:

Well, we just put the data out there and let people interpret it they way they want. We provide our interpretations of the data, especially the sediment information. It's all there. It's available to CPRA. A lot of our coastal sites are there in cooperation with the agreement with CPRA.

SENATOR CHABERT:

So it's a concert, right?

MR. LOVELACE:

Right.

SENATOR CHABERT:

You-guys are working together. It's not as if USGS will say, look, our modeling says X and then the CPRA comes along and says our modeling says Y? You know, it's a collective modeling? I mean, that's what I'm wanting to get at. What happens when the Water Institute comes in and says, well, actually X and Y is wrong, we have Z?

MR. LOVELACE:

Well, as far as --

SENATOR CHABERT:

And we're talking about multi-billion dollar expenditures here.

MR. LOVELACE:

Right. These aren't based -- this information isn't based on models. This is based on data we're actually collecting. So it typically is feeding into the models.

SENATOR CHABERT:

I guess that's kind of where I'm going. So this would be a factor or a variable in that equation?

MR. LOVELACE:

Exactly. Yeah.

SENATOR CHABERT:

So both CPRA --

MR. LOVELACE:

Is heavily relying on this data. Both are discrete sediment samples and the turbidity data to feed into the models.

SENATOR CHABERT:

As well as the private sector?

MR. LOVELACE:

Oh, yeah, definitely. I'll show you that in a little bit.

SENATOR CHABERT:

Okay. Thank you.

MR. LOVELACE:

And, like I said, we're also, as part of a larger nationwide program, we monitor water quality of big rivers. We are collecting samples, sediment samples, water quality samples for sites, two: In the Mississippi River, one in St. Francisville and Belle Chasse; and on the Atchafalaya River in Melville and Morgan City, 14 to 16 times a year.

We're also measuring discharge there, providing a wealth of information taken that can be used in the models about what's coming down the

Mississippi River and going out through the diversions and into the Gulf as far as that and what may be impacting marsh health.

So I talked about, you know, what data we're collecting, how we're collecting it, a little bit of overview of what the data is used for. Well, DOTD is using the data for highway and bridge construction. They rely heavy on that for culvert and bridge design and how high they put their roads when they're going around flood areas. This data is used heavily during flood events for both monitoring and mitigating the floods, future floods. For all coastal restoration projects this data is feeding into models.

The water availability studies, you can start looking at the reservoirs. And north Louisiana is altering its sources of water and we're typically monitoring stage in those reservoirs so we will know -- you know, everyone will know what the impact of pumping is, reservoirs and streams.

Ecological studies I know that Wildlife & Fisheries is using the information to determine -- to look at suitability for various fish and aquatic habitat inland and coastal areas. DEQ is using the data for wastewater management and contaminant

transfer studies. The Port Authority and other groups are using it for navigation. And just a lot of people, you know, anyone that gets out in the water often uses this information for recreation.

If you go to our local website where we're serving up all this information, you see all the real-time sites. They're all arranged by watershed. There's a map interface that you can look and see just by the name of the watershed and stream. Typically you can get the information there.

And, Matt, if you click on one of those site names, it will take you to a page that looks like this. It's kind of hard to see, but the left side has all the parameters that we're collecting at the site, wind speed, wind direction, precipitation, discharge. It will automatically bring up graphs for a couple of these things like discharge and gage height.

And the gage height typically looks like this. This is the Amite River in Denham Springs about a month ago. It shows about a 5-foot decline over the 5 or 6-day period. And if you go back up in that page you may see -- on some of the pages you'll see the NOAA and Weather Service insignias up there. And you'll see that it says "National Weather Service

station, and basin wide forecast," so the Weather Service is using a lot of these sites as forecast sites. And if you click on where it says station right there, you'll go to the National Weather Service prediction site, which is taking that stream flow data and then they're predicting a rise in the river. So this was the Amite River right before Hurricane Harvey and they were predicting about an 11-foot rise over the next 5 days.

So we all use this pretty heavily. People that are familiar with this use it pretty heavily to see, you know, what's going to happen, especially in the Amite River and any flood-prone areas. I know during the flood event last -- in August a year ago, I was watching the gages on the Amite River close to my house waiting for that pulse of the water to go by as I was watching the water backing up in the street. And these gages were telling the story of what was happening.

They also feed into several national sites including the USGS WaterWatch. There's just a whole plethora of information as far as routes and floods and current streamflows. And if you click on any of these maps, you can see flood and high flow conditions across the U.S. This, I grabbed it

yesterday, it shows parts of Florida. It's kind of hard to make out, but all those are little gages that are showing flooding going on due to Hurricane Marie.

And then general streamflow conditions across the state, whether they're high, low or normal. What this is showing -- that blue area to the west there is showing a little bit of high water over in the Sabine River, lower Sabine River Basin. And up to the northeast, it's showing low water up there. I guess that's the Tensas Basin, Tensas Bluff area. That map -- you can also look at some drought maps.

So all these maps are tying back into the data that's being collected and transmitted back to all of these sites, the 400 sites from Louisiana. We also have a SmartPhone App out there where you can put in the information and you can select a site and tell it to let you know when that site hits certain thresholds, maybe high or low water. I know fisherman use it to see if their boat can go through certain areas during low water. And other people use it to see if their house is still flooding.

That was it. I just wanted to provide you with that information, not to promote anything, but just sort of for awareness.

MR. HARRIS:

John, I would really like to commend USGS on the availability of real-time data. It's an absolutely wonderful website that I can even navigate with these. It's something I use both personally and professionally. For a recreational fisherman being able to go to a station you plan to fish and see, you know, real-time salinity, temperature, turbidity, average wave height, it's just truly amazing and I commend USGS on their website.

MR. LOVELACE:

Thank you. Any questions?

MR. MARLBROUGH:

John, do you-guys have the ability to track the traffic, per se, on specific site locations, like which ones are being used more than others and which are being used hardly at all?

MR. LOVELACE:

Yes. Yes, we do.

MR. MARLBROUGH:

So you-guys continuously inventory that?

MR. LOVELACE:

Well, I don't know if we continuously inventory that. I know we have the capability and we've done that before. I don't know what -- you

know, I don't know if we're doing that on a regular basis, but I know our IT guys have shown me that information before, people that are hitting the sites.

MR. MARLBROUGH:

And the reason I ask is because Matt and I had some conversation I think maybe a year or so ago as it pertains to the funding of sustainability of this program and having all these gages available to the public. You know, obviously, up in the northern part of the state I'm sure the aquifer managers would like to see their networks expanded versus reduced. And, certainly on the southern portion of the state, as these coastal programs are implemented, levees are constructed, water controls construction is constructed, you know, hundreds and thousands of CF of water is pumped out of rivers and into basins, and those networks are going to need to be expanded because we're going to have to be able to manage water elevations, salinity levels, all kinds of different -- I know from our day-to-day operations, I mean, I was just talking to his staff on the way up here and we rely heavily on these gages. We would certainly love to see the program expanded.

So from a funding sustainability issue,

you-guys, you're okay as far as that or do you see the potential to expand some of these gage sites? And do you do that by shutting down some that are not being utilized versus -- I mean, how does that work? Or that's a whole other complicated issue for a whole other day?

MR. LOVELACE:

Well, you know, a large portion of the funding for these sites -- all the sites pretty much have some sort of other agencies supporting them, some percentage of the cost. Some are 100 percent and some are less than that, depending on the situation. We, you know, are open -- certainly open to expanding sites. We also think there's probably some opportunities, you know, to optimize further deflection in some areas where we're collecting some redundant information.

I know the resilient recovery effort that's been talked about recently, I think that can bring together a lot of different local organizations that would be perhaps looking at sites on a basin-wide basis and there may be some optimization there. As you say, every time there is sort of alteration, things change and data needs to change, especially in the coastal zone. You know, we're always open to

expanding. It kind of just depends on the need and the location.

MR. MARLBROUGH:

Well, we certainly do appreciate you and your staff. We certainly couldn't operate daily without using these gages, so thank you. And I'm always interested in talking about how we can expand and optimize certain data that's being gathered every day.

MR. HARRIS:

Thank you, Mr. Lovelace. I appreciate you coming here today.

MR. LOVELACE:

Thank you.

RECENT ACTIVITY IN THE HAYNESVILLE SHALE

MR. HARRIS:

Our Agenda Item Number 9 is Matthew Reonas with the Office of Conservation, Recent Activity in the Haynesville Shale.

MR. REONAS:

I'm going to have to trade out duties and let Ms. Teri handle that. Just a few items for the record. I wanted to note that we had -- three Commissioners did arrive after the proceeding started, so Commissioner Graves and Commissioner

Sutcliffe and Commissioner McConnell. So I just wanted to have that on the record.

And, also, just to note, as we always do, all these PowerPoints are in pdfs and I'm going to put them on our website and send that out as a notice. So anything that piques anybody's interest, they'll be able to go back through and look at them in a little bit more depth, so I did want to note that as well. Teri, thank you.

So here I wanted to give an update on some recent energy development activity in northwestern Louisiana in the Haynesville Shale. And, again, this is overwhelmingly natural gas production, but what we've seen is kind of an increase in the number of permitted wells. And so we thought this would be an opportune time, as we have done in the past, to kind of advise the Commission on energy development and particularly water use in that activity.

And I will point out that you should have in your packets a copy of this PowerPoint. We put some of the PowerPoints we had available in there. So this is one of them that is available if you want to follow along with that.

So, again, I'll try and be quick and I won't go through all the numbers necessarily for

review here. We will put these online for closer inspection, but I will say that this might inform the discussion on water sales and public waters and that issue. Again, this is an issue that's come up recently in our agency and some other agencies around the state that have an interest in northwest Louisiana. So this is a relevant topic right now and one that's probably going to get more and more interest going forward. So perhaps this particular subject, that is energy and development of water use, in that area, is particularly relevant.

So Slide 2 here -- I think we were on Slide 2. I'm sorry, Teri. Slide 2 here is 2009 through 2017's water use for all frac operations. That includes rig supply as well as for hydraulic fracture stages. So I'll point out the important number for us, for the Office of Conservation, is here, the big, red piece of the pie. That indicates use, surface water use in this roughly 8-year period from 2009 to 2017, which includes the main sort of peak with the Haynesville Shale in 2009, 2010 and 2011, and then sort of the downturn in recent years, and sort of an uptick over the past year or so.

So the important number for us, or the Office of Conservation with its statutory authority

in the realm of groundwater, is that about 84 percent of that total use has been of surface water. And this is something that when the Haynesville started to sort of gear up in 2007 and 2008, that we began to take a -- there was a lot of interest in the use of groundwater. But recognizing the limitations of that aquifer system in northwest Louisiana, the Commissioner of Conservation at the time, Mr. Welch, had issued an advisory to many of the oil and gas companies, the energy companies, requesting that they utilize surface water if at all possible, particularly the Red River Alluvial -- I mean, surface water or if they were going to use groundwater to utilize the Red River Alluvial over some of the Carrizo–Wilcox and some of the other aquifers that peak through that area.

So for us, this is a positive development that over the past -- in the 8 years of fracking, this water use, that roughly 85 percent of the frac activity, the fractures themselves, have come from surface water. And smaller percentages like rig supply as well have utilized surface water as well, but it wasn't as well-known. But the big user of water volumes is the hydraulic fracture process itself.

So we can go on to Slide 3, Teri. Thank you. Here are numbers for 2017 so far. Again, this is through early August, so we still -- for this year we still -- this represents only about two-thirds of the year. But, again, the important number or the important graphic here is this huge piece of the pie, this red -- the majority of the pie, approximately 92 percent, which indicates about 92 percent of the water use for hydraulic water fracture processes has been from surface water sources. So the Office of Conservation feels very good about this number, about where things are going.

Again, the energy companies are heeding the advisory issued a number of years ago and are looking to find surface water sources rather than utilizing groundwater sources in aquifers that aren't as robust as elsewhere around the state. And, again, we do have -- I will note here as well that we do have -- this is about 11 or 12 slides, but we have a couple of dozen more slides on individual parishes as well, and those are available for request. So, anybody, if there's an interest in what's going on in a particular parish, we can send you those and we'll probably try to put those online as part of this, for the record for this meeting as well.

You can go to the next slide, please. The numbers for 2017 so far, into early August, about 142 wells and, again, 92 percent surface water. The numbers -- again, this might sound somewhat shocking at 1.6 billion gallons, but, again, we're talking about large quantities of water. And that is a significant amount, but, again, our interest is primarily in making sure that that comes from resources that are largely renewable in that sense. So, again, surface water. And, again, that's our main interest.

Slide 4, here, this shows all frac water use and rig supply included from 2009 to 2017. And I wanted to point out just a few things real quick. Again, not to get into too much detail, but here is essentially the peak of the Haynesville Shale right here. And, again, for the audience, 2011 -- you see a large increase in 2010, 2011, and then a pretty steep dropoff. And then what you're seeing is a gradual uptick, especially last year. And, again, recognizing in 2017, we still have a third of the year left to report, so there has been an uptick and interest in that area. And, of course, we're keeping it -- the Office of Conservation is monitoring it closely.

I will point out that all of these wells, they have been submitted into the Office of Conservation, permitted wells. There's also been a WH-1 form, which identifies the source of the water so we can track where they're getting the water from, what source, not just surface water or groundwater, but specifically what source, a lake, a river that kind of information.

We can go to the next one, Teri. Thank you. And, again, the next couple of slides are just different graphs showing essentially the same thing more or less. And here's hydraulic fracture processes alone, again, the mid years between 2010 and 2011 and the dropoff in 2012 and after. And then a slight rise in 2016, 2017.

Next, please, Teri. And again, here's another way to visualize this water usage from the previous chart. Again, up, down, and then a slight increase as well. And that's -- this is use of surface water and this is groundwater here. So at the bottom is groundwater use. So, again, you had a slight bulge in 2009, 2010. And then larger companies have tried to look for surface water sources for their needs going forward. And we certainly are keeping an eye on that in the future.

If we can go to the next slide, please. Again, somewhat similar. The graph here shows -- let me go back to my notes on this. The graph here is showing again water, the frac surface water use for activities. The number of wells obviously have decreased, but in years groundwater use, again, in hydraulic fracture per well. So, again, basically remaining stable across the board. So, again, the Office of Conservation is encouraging and trying to keep a close eye on this going forward.

We can go to the next one. So here's some hard data here, the permits issued since January 2015. The Haynesville wells, which are here in red, are almost all hydraulic fracture. And, again, you see that fracture very closely to the hydraulic fracture permits even in blue at the bottom.

And hydraulic fracture represents about two-thirds of the permitted wells in the Haynesville. Again, it's important to note that when a well is permitted, it doesn't necessarily mean it's drilled right then. So there's a lag time. And some wells, of course, are never drilled even though they're permitted. So there is a lag time there and the numbers vary a little bit. But, again, you see a strong correlation with, again, the peak here. This

is 2015. There's a slight decline, and then more of an uptick right now. Again, we still have a few months left in 2017 to account for when we do a recap in the early part of next year.

Next slide, please. Again, percent of permits specific to drilling. So, again, most of the wells in the Haynesville are going to be hydraulic fracture wells. Teri, thank you.

This, again -- I apologize. This is difficult to read, but this is essentially showing hydraulic fracture water usage by parish from 2009 to 2017. And maybe a better option might be to go to the next slide.

Okay. Right. So this is the major parishes. This is where you see most of the action. At the epicenter of much of this activity is De Soto Parish, Caddo, Bossier and Red River over here. So this is where the majority of activity is going on. This is where the majority of the water usage is going on.

Teri, can we go back to the previous slide? So, again, just to point out, here's De Soto Parish and here are other parishes that have some usage as well, what we term minor versus major. Your major areas of activity are here and they're represented

obviously by heavy water use.

The next one. So, again, your major. And the next one after that, these are your minor parishes in the sense of their water use as part of hydraulic fracture and energy development activities.

Again, we'll post all of this online. I'll take any questions, but we did want to provide all of this information recognizing that it is an ongoing issue and that we've seen an increase and interest in that area and, obviously, a number of agencies represented here today have an interest in water use for energy development. And I'll take any questions as needed that I can answer.

MR. PRATT:

Matt, thank you. Obviously, with Sabine River, the players in De Soto Parish, we're seeing the activity and more and more of it. Chris, I know your shop is permitting some of the private landowners with some reservoirs up there. I hope they are. There's been a rash of private landowners building reservoirs for fracking we've worked with.

Currently we have, I think, about 11 short-term contracts with companies for frac water supply. We have one that we consider long-term. It's in five-year increments, and they did put in a

permitted pump station. And the permit perspective, the permitted one, it has the ability to withdraw about 6.3 million gallons per day. And they don't plan on doing that for 365 days, but in the event they did, in perspective, that's the equivalent of us running our hydroelectric power plant six hours for the entire year. And we've been running that power plant for 24/7 quite some time now. So our fracking is becoming an issue.

Some of the private landowners that have made investments in building frac water ponds or reservoirs certainly are wanting to cash in a little bit more. We were in a meeting, and Matt was with me a couple of weeks ago up there, and they were wanting us not to sell the water, not knowing the big picture here.

As it is, the recent work -- we're very fortunate. I remember when the Haynesville first exploded and they were using the groundwater. It was causing some really serious problems in the Carrizo-Wilcox aquifer there. We're very blessed that we have the Sabine River and Red River on the east and west sides. So I think the sustainability of supporting the industry up there, and we're seeing the resurging, is there. And we constantly, of

course, are working with them.

And I think we're going to see those numbers start resembling the 2010, maybe not quite the volume, but the good news is the efficiency of the water they're using has vastly improved since 2008 and the amount of water per well is not near what it was. And as long as they're -- like I said, the activity there, particularly western De Soto and northwestern Sabine, which is the hot spot, we're fortunate to have that resource there and appreciate working, Gary, with your offices here, and moving forward with getting those permits that we require of those entities. And we're always there. Thank you.

MR. REONAS:

Yes, sir. So, again, just to recap, I did want to emphasize, I guess, that the Office of Conservation did support through an advisory that was issued, support the use of surface water because of groundwater -- you know, worries about groundwater use in that region of the state. So the Office of Conservation is certainly on board with energy companies looking to surface water sources.

And in terms of the use of frac ponds, we do have regulations on the installation of wells for that purpose. Those have to be classed as industrial

wells, and identified as such and go through our evaluation process in the Office of Conservation rather than say converting an irrigation well and using it to fill ponds and selling that water for hydraulic fracture water use. So that's a concern that we have and something that we're trying to monitor and will continue to monitor going forward.

Oh, I did have -- Gary wanted me to kind of provide a quick recap as well that we are -- we didn't necessarily talk too much about it for this meeting, but I guess following on John Lovelace's comments, that we are continuing to work, with the advice of the Commission, at the last meeting in December, on a couple of large-scale regional projects that the US Geological Survey was embarking upon, the coastal Lowland Aquifer Survey, a Red River survey, as well as the Mississippi Alluvial Plain project. So those we are continuing to work with USGS on. And, again, as part of the larger effort to streamline how the state manages its water budget and collects information, that's a great opportunity, and, again, we're continuing to work with them on that as well.

MR. HARRIS:

Hearing no further questions, Matt, we can

move to the next agenda item?

MR. REONAS:

Yes, sir.

AGENCY LEGISLATIVE UPDATE ACT 425

MR. REONAS:

This is more of a legislative update session and I'll kick this off. Really we have a couple of presenters today, one from the Department of Wildlife & Fisheries, as well as from the Department of Environmental Quality on a couple of pieces of legislation that came through this past session. I'll start today with -- I don't have a PowerPoint for this, Teri. I'll start today with a discussion of Act 425, which mandated some responsibilities for groundwater commissions as well as provided for some responsibilities for the Office of Conservation.

Just to kind of give an overview of this, this bill, what became an Act, revisited some groundwater conservation district reporting under the old Act 790 of 2012. The goal there was to get information on groundwater use in these districts. And, again, the goal here is to -- or the end recipients were and still are the Water Resources Commission, the Water Management Advisory Task Force,

a couple of legislative committees, and then the Office of Conservation.

This bill, Act 425, or what became Act 425, is limited to reporting of -- to groundwater conservation districts and groundwater regional bodies. There really are only two groundwater conservation districts in the state, the Sparta, which Ben McGee talked about a littler bit earlier -- the Sparta Groundwater Conservation District and the Capitol Area Groundwater Conservation District.

Under the previous law, there was some gray area in terms of the listing of who was to report. So there was water conservation districts, freshwater districts, and those were cut out. And, again, there was -- I think this was a good measure because none of them had any groundwater responsibilities, one of those actually being Commissioner Marlbrough's Bayou Lafourche Freshwater District. And that was an annual back and forth with him, you know, to submit a letter saying we have no groundwater responsibilities and so we don't really have anything to report.

So really what this is is it ties up the focus on two groundwater conservation districts around the state and any future ones that might arise and then it mandates that these boards, the boards

governing these groundwater conservation districts, adhere to certain policies and procedures such as open meetings law, the Robert's Rules of Order. They also restricted use of ad hoc committees and mandates that any standing subcommittees be composed only of actual board members.

And then it's mandated that two groundwater conservation districts would submit biannual reports on May 1st and November 1st, and really this is where the Office of Conservation gets involved. It provides for the Commissioner of Conservation to ensure submission of these reports. If not submitted timely or it didn't include pertinent information, the Commissioner could authorize the request for monthly reports. It also mandated that the Commissioner of Conservation would develop and issue a reporting form and checklist for these groundwater conservation districts based on their statutory powers.

Then so after we kind of went through the process, after clarifying our interpretation of the law with the legislative committee staff, we developed a form and checklist for each district. And, again, this is simply an enumeration of the items from the district's statutory powers as

delineated by law, which was what was required by Act 425.

So for the Sparta Commission, which is largely an advisory body with limited statutory authority, the checklist was very limited. For the Capitol Area Groundwater Conservation Commission, as a regulatory agency with extensive authority, the checklist was obviously somewhat longer.

So for us, we accepted comments from the two entities. We finalized the document and brought it to the districts and we also published it in the potpourri section of the October Louisiana Register. And for your consideration, in each of your packets, we've included the checklists that we developed and finalized. So those are there again for your consideration going forward, particularly as a recipient of these reports from the Sparta and the Groundwater Capital Area Commissions.

I'll take any questions.

MR. DUPLECHIN:

Matt, what does it mean published in the potpourri? Tell us what does that do.

MR. REONAS:

It's an official publishing of it, a dissemination of it.

MR. DUPLECHIN:

Okay. Is that part of rulemaking?

MR. REONAS:

No.

MR. DUPLECHIN:

So it's not going to be a rule?

MR. REONAS:

No.

MR. DUPLECHIN:

Just suggesting guidelines?

MR. REONAS:

Guidelines or advisory, based on statutes.

MR. DUPLECHIN:

Okay.

MS. GOUEDY:

If I may, I represent the Sparta Commission, the only other entity impacted by this, and I have a statement I would like to read into the record to clarify where the Sparta is on this.

As the Sparta Groundwater Commission's representative on this Commission, I would like to take this opportunity to put into record our opposition to Act 425. I want to first establish that it has been and will always be the desire of the Sparta Commission to direct our energy and purpose to

the conservation and preservation of the primary source of water for 7 parishes in north Louisiana and secondary source for yet another 8 [sic] parishes. We have annually submitted reports in accordance with Act 790, which until Act 425 was signed into law in June, required one annual report to include, which Matt just went through Act 790, so I won't go through that.

While we -- financially or technically capable of providing certain aspects of these requirements have been limited, and this is the point of our contention with Act 425. We haven't had the capabilities of providing the completed information for Act 790 once a year, but now we are being compelled to complete Act 425's checklist not once, but twice a year. At this point, Act 425 is law and the Sparta Commission does intend on trying to comply with the requirements to the best of our ability.

With that being said, though, there are some pointed concerns we would like noted with respect to the checklist itself. First and foremost, we do object to the development of these requirements not following the promulgation process set forth by the Louisiana Administrative Procedures Act. This is not just based on the Sparta Commission's opinion,

but supported by legal advisors and legislative advocates working with the Sparta Commission. I would like to use this opportunity to go on record to reserve our right to request a public hearing to further allow for dialogue and transparency from all aspects of these requirements.

Secondly, we wish to raise direct questions on Section D, now S and G -- I did not receive these checklists until I arrived this morning -- with respect to the Sparta Commission's checklist, which is different than the draft checklist for the one other groundwater district in the state.

Section D requires a narrative description and status update of actual and projected saltwater intrusion/encroachment within the groundwater systems of the Sparta District. The Sparta Commission has reached out to USGS to discuss the process by which they might be able to provide this data by the November 1st deadline and every six months thereafter. This cooperative endeavor agreement, potential cooperative endeavor agreement, would require a sizable financial investment by the Sparta Commission for the reintroduction of the chloride monitoring network, which would be monitored and managed by USGS. The Commission currently cannot

make this investment on our own.

Section G, now S, requires a summary of any out-of-state groundwater sales originating from within the Sparta District over the preceding six months, showing: (1) volumes of groundwater sold by parish and vendor, (2) the out-of-state entity or the entities to which this groundwater was sold, and (3) the price paid for groundwater.

Based on the interpretation of the Office of Conservation and the interpretation to omit the water used for beverages, solvents, gasoline, or other processed items, our technical advisors say this number is negligible for the Sparta Aquifer, which raises the question of whether that item even has a place on our checklist.

Lastly, Section H, which is now G, requires a summary of volumes of groundwater used for (1) residential, (2) commercial or industrial, and (3) agricultural purposes within the Sparta District during the preceding six months. The amounts used for industrial and agricultural purposes may be estimated. For residential volumes, the Office of Conservation will accept numbers generated utilizing standard USGS formulas for individual consumption.

If you are willing to accept numbers based

on USGS formula, than it would be appropriate that the terminology fall in line with that of USGS's. For instance, USGS doesn't measure water use by residential and commercial from the Sparta Aquifer. It is measured by public supply, which includes rural domestic wells and residential use, and industrial which would include industrial water use. In addition, specifically speaking, the Sparta region, agriculture should not even be a factor in our reporting requirements due to the fact that there is virtually no agricultural water use from the Sparta Aquifer.

May I also note that our last report indicates that there are over 200 water districts that pull water within the Sparta Aquifer. The Sparta Commission has neither the manpower nor the legal authority to obtain usage data from these 200 some odd districts. It is important to note that these usage numbers could only be obtained and supplied by an agency with the scientific and technical ability to obtain and compile such detailed data, which I have been assured isn't free.

The Sparta Groundwater Commission is currently working to obtain informal estimates as to the cost of this research and data collection. This

might be the appropriate point to remind the Board and members of the public that are here today that the Sparta Commission will receive no funding from the State. We are funded only by the partnerships with the parish and city governments that make up the Sparta Commission's membership. The Sparta Groundwater Commission receives no funds from the State of Louisiana and has no authority or ability to obtain funds through a fee structure based on usage, as similar water districts do.

The Sparta Commission wants to comply with the law. The Sparta Commission wants to work its way forward as to continue its work of preservation of the Sparta Aquifer for future generations. Securing scientific data to gauge the health of the aquifer is a vital piece to that puzzle. With that being said, the Sparta Groundwater Commission has been cut at the knees for far too long with these reports and with nothing but unfunded mandates sent north from Baton Rouge. We are open to working with the Department of Natural Resources and the Office of Conservation to secure this data, but we feel it appropriate to formally request financial support from the Department for the monitoring requirements in particular, since there is already precedent with

a similar partnership with the Union County Water Conservation Board taking place several years ago.

With that being said, we have made great strides over the last decade in north Louisiana, reducing our water usage from at its peak 72 million gallons a day to now at the sustainable level of 54 million gallons a day, give or take. In the 8 years I have worked with the Sparta Commission we have educated more than 20,000 students through our education program. We have established partnerships in our communities based on the desire to preserve our water supply. It is our desire to continue on with our accomplishments and much more, but we simply cannot do that based on these requirements with the Sparta Commission's current structure. We simply cannot fully comply with Act 425 and we've tried to be very upfront about that since this came forth in legislation.

The leadership of the Sparta Commission, myself included, welcomes an open dialogue and transparency, I would like all theses points noted that the Sparta Commission is deeply concerned moving forward, but we would like to engage in formal discussion on how we can proceed.

MR. HARRIS:

Thank you, Ms. Gouedy. Any other questions?

MR. REONAS:

Mr. Secretary, if I may respond to a couple of those points real quick?

MR. HARRIS:

Certainly.

MR. REONAS:

One, on the issue of following Administrative Procedure, Act 425 did not authorize the Office of Conservation to follow the Administrative Procedures Act. It did not mandate, nor did it authorize us to follow the Act. So in that sense, I just wanted to put that on the record.

As to the other point on reporting for saltwater encroachment, out-of-state water sales, residential, commercial, industrial, agricultural use, those are all specifically outlined in Act 425. The Office of Conservation is just following what the law mandated us to do in including that in a reporting checklist. So, I mean, we really have no control over it.

I will note, however, that in the checklist that we developed, and it's each of y'all's packets, we did provide this caveat that if the District is

unable to provide any requested information, an explanation and justification must be provided subject to acceptance or rejection by the Commissioner of Conservation.

Again, I'll point out to the Sparta Commission if they don't have the staff or the funding to collect the information, I would think that would be an easy out, so to speak, for that group to say that, you know, we don't have the authority to collect it. And, again, under the statutes, as simply a largely advisory body, I think that would be appropriate. However, I'm not on the Sparta Commission, so I don't really have a say on that one way or the other, but that's my take on it.

I will say, again, that we started this process in June and July, the Office of Conservation. We had a certain specific obligation and we've gone above and beyond what was required by Act 425. We sought legislative staff clarification. We've copied district leadership on all drafts and all correspondence to and from the legislative staff, any drafts. We provided ample opportunity for comments throughout the process, which again, we started in June as soon as the bill was signed into law by the Governor, and we've made final changes and checklists

based on these comments.

Again, you know, some of those things are mandated by the law and we have to follow what the law authorizes us to do and also not to exceed what the law authorizes us to do. So I'll leave it at that.

MS. GOUEDY:

I will just make one brief response. There does seem to be some confusion to the point of the APA and whether this is a rule or not. Our legal advisor is saying that it is since this is a new law. If Act 790 had been amended, we are being told in that case we would not have been -- needed to follow that procedure, but that since this is a new legislation that is taking place, it is. But there does seem to be some confusion on this among legal minds across the state, so I'm trying to understand on behalf of the Sparta Commission where we can all get on the same page with respect to it.

MR. ADAMS:

This is John Adams, attorney for the Office of Conservation. We received your comments on that and did additional research on it, including contacting the author of the bill. The law itself is self-authenticating and self-implementing. The law

itself sets forth its requirements. We had absolutely no say in drafting the law or preparing the law or advising on how the author of the bill structured the language for that law, but as a regulatory agency, we're charged with the duty to implement the law that was passed.

I believe the word that you're getting -- you're trying to address in there is the word promulgated. The statute contains the word promulgate, which generally entails some rulemaking process. In this case, there is nothing for us to implement in our rules. All we're doing is receiving the reports that are submitted and evaluating those reports to see if the information contained in the law is provided in those reports.

The checklists that we are supposed to promulgate we will do by publishing it in the Louisiana Register in the October edition, which is right around the corner. Generally, the purpose of the Administrative Procedures Act is to make sure that the public and anyone who is an interested party in the rule that's being promulgated, the rule that's being put together, has adequate opportunity to discuss and express any concerns they have with that rule, although, this situation doesn't involve and

doesn't even allow us to implement the APA process because there's no rule for us to publish in this regard. The checklist is the only thing that we're publishing.

We have done everything we can to extend an open dialog between the two regulating parties to make sure that your concerns are included in the checklist, and that can be an ongoing process. If you still have issues that you recognize as a result of the most recent version released, I believe yesterday, then we can certainly discuss that prior to it being promulgated on October the 20th. And even once that is promulgated, we can continue to discuss it. If there are things in there that do appear to be redundant, if it doesn't serve a purpose in us trying to ascertain the additional information, which are some of the comments that you pointed out in there, then those things can be redacted. We can take them out and we can promulgate any form after we figure out if the one currently being used is servicing the purpose under the law or not.

MS. GOUEDY:

Thank you. Thank you for clarifying that. Most of what you said I've heard before over the last few weeks through this conversation. Maybe it would

be helpful, Mr. Adams, if we were able to speak following the meeting, maybe in conjunction with some of our legal advisors.

MR. ADAMS:

Absolutely.

MS. GOUEDY:

I think that's where the disconnect is. We're being advised one thing and Mr. Reonas and yourself are saying, no, this is how it is. I think we need to figure out how to meet in the middle and maybe we can address some of those concerns. I do appreciate your willingness. I think that one of our biggest concerns is just this process. And we have some legal advisors who are saying, wait, slow down, this is not right, so...

MR. ADAMS:

I will make myself available and be glad to meet with you at your convenience.

MS. GOUEDY:

I appreciate that.

MR. HARRIS:

Are there any other questions?

AGENCY LEGISLATIVE UPDATE ACT 189

MR. HARRIS:

Matt, please, the next agenda item. We

have an update on Act 189, the Scenic Rivers with Matthew Weigel.

MR. WEIGEL:

Thank y'all for having me today. I appreciate the opportunity. I will speak briefly about the Louisiana Scenic Rivers Program and Act 189 today. The Scenic Rivers System was established, created by the Scenic Rivers Act in 1970 for the purpose of preserving, protecting, developing, reclaiming and enhancing the wilderness qualities, scenic beauties and ecological regime of certain streams throughout the state of Louisiana. The system also preserves aesthetic, scenic, recreational, fish, wildlife, ecological, archaeological, geological, botanical and other natural and physical features and resources found along these streams. Next slide, please.

Currently, there are over 80 streams in the Louisiana System with approximately 3,000 miles of waterways. The system may grow from the nomination and subsequent acceptance of additional streams and stream segments. And, likewise, we also, you know, lose streams. They can be nominated for removal. There is a process.

The Department's duties involve complaint

investigation. It is often how we find out about violations of our rules and regulations. Technical assistance usually deals with erosion or issues on private property adjacent to our streams. We're also responsible for the permitting system, you know, coordinated enforcement action with our enforcement division, monitoring the streams and development of management plans of the streams.

Activities requiring permits include: Crossings of several types; discharges, point source discharges; drilling and mining, which is mostly sand and gravel mining in Louisiana; structures of all sorts; commercial uses, including activities and access; water withdrawals; and most recently mooring of houseboats.

Certain activities are prohibited by the Scenic Rivers Act. They include clearing and snagging, channelization, reservoir construction, clear cutting of trees and use of ATVs on system streams.

Many projects fall into clearing and snagging and/or channelization. The Act defines clearing and snagging as the removal of most obstructions within a given reach. And it defines channelization as the creation of a uniform channel

of uniform -- of relatively uniform width and depth. This is typical of dredging, most dredging projects or proposals.

Being aware of this with certain streams that came in, they came in with exceptions. Those exceptions, some of them were able to allow either clearing or snagging or dredging operations or both on certain streams. Current exceptions include exceptions for the West Pearl, Bayou LaCombe and Tchefuncte to allow dredging operations. Also exceptions for the Comite River to allow diversion projects to occur. There are exceptions for Bayou Chinchuba to allow clearing and snagging, and exceptions for the Tangipahoa to allow clearing and snagging and dredging as well, and also exceptions for Bayou Manchac to allow clearing, snagging, dredging and flood control projects.

Senate Bill 132, which is now actually 189, aimed to extend the exceptions to Bayou Manchac, Comite River, Amite River, Tchefuncte River, Abita River, Bogue Falaya River and the West Pearl River.

Here's the language from the actual amendment to the Act. Of course the language added has been underlined here and items deleted are struck through. But first it deals with clarifying clearing

and snagging shall be permitted on Bayou Manchac. And, secondly, it states that clearing, snagging and dredging shall be permitted on the Amite River, Tangipahoa River, West Pearl, Tchefuncte, Bogue Falaya, Abita and Comite rivers.

It's important to note that it says "shall by permitted by the department in accordance with the requirements and procedures provided for in R.S. 56:1849." And 189 specifically deals with the evaluation and permitting of these types of proposals. It states that "Prior to the activity commencing, a permit must first be obtained from the administrator." Secondly, it states that our decision must be based on certain criteria and lists those criteria, which include wilderness qualities, scenic values, ecological regimes, et cetera, et cetera. And applications which we receive must address impacts to these criteria. Lastly, it addresses the denial of permits and how those may be appealed.

Another important provision of Act 189 is it doesn't become effective until June 30th of 2018. This was to give us the opportunity for watershed modeling to be completed. Despite the watershed modeling results, we still expect any proposals to be

quite contentious and it won't be easy for us to make decisions. We have a lot of the information and comments to consider.

That about does it for my presentation. If y'all have any questions, I'll be happy to answer those.

MR. BALKUM:

Matt, thanks for that presentation. In a nutshell, what that Act 189 did is it took the activities of clearing and snagging and generalization on dredging on these natural streams and gave the Department of Wildlife & Fisheries a way to permit that; is that correct?

MR. WEIGEL:

Correct.

MR. BALKUM:

Thank you, Matt.

MR. HARRIS:

Thank you, Mr. Weigel.

MR. WEIGEL:

Thank y'all.

AGENCY LEGISLATIVE UPDATE ACT 371

MR. HARRIS:

The next item, Act 371, Water Quality Trading by Amanda Vincent with the Department of

Environmental Quality.

MS. VINCENT:

Hi. Thank you. I'm Amanda Vincent with DEQ. I'm just going to give you a brief update on Water Quality Credit Trading. I'm just going to review some of the points pertinent. I'll talk about the stakeholder interest we have in this. It talks about Act 371, also current activities and next steps.

So the stakeholder interest, we're trading pretty much market-based strategy. It's pretty much a cost effective means to achieve water quality goals. Simply put, it's really to have a Source A, a very high cost X pollutant reduction, but Source B at a much lower cost can get that X pollutant reduction, so could that source carry credit to concur to funding of the source to meet our quality goals.

And this is something that in our Louisiana Nutrient Management Strategy, which was released in 2014, we identified this as strategic action to explore feasibility of credit trading. And really we're talking about incentives for voluntary participation. This would be a voluntary program. And we're looking at ways we can involve all of our stakeholders in our watershed community. You know,

we're talking about the point sources, the discharges, also nonpoint sources, and seeing how we can maybe bring in coastal protection and restoration activities.

So I'll just call this the Pre-Act 371, which we've had since the beginning of this year. R.S. 30:2074.B.9, it did allow for DEQ to have a credit banking system. If you looked at it, it was to administer a point source to point source banking system for state's waterbodies where Total Maximum Daily Load limitations are in place, and limited to point sources with TMDLs and within a single watershed.

So with Act 371, this became effective June 23rd of this year. DEQ is authorized to adopt and promulgate regulations for that and to establish and administer this program as an inducement to reduce discharges of pollutants into waters of the state. And this trading program may include point sources and nonpoint sources.

We also have language here that talks about nonpoint sources may participate in the program through a written agreement. And this would be between the Department and whatever appropriate governmental entity there is for that nonpoint

source. And this is just acknowledging that, you know, point sources may have a discharge permit with the Department and that would be the mechanism put in place for them, but for nonpoint sources we also wanted some type of agreement.

For Act 371, this is all part of the Act, such regulations shall include at a minimum that they're going to have this criteria under which credits may be certified, generated, quantified and validated. Also, any geographical limitations and criteria for the monitoring, certifying, et cetera of the banking credits.

Also in Act 371, they must have the approval of the Department for certifying, generating, use, banking and sale of banked credits. The requirements for the maintenance and submission of any records concerning this monitoring and any other requirements needed to comply with federal and state laws and regulations.

Also, we have in here language about a pilot project. It says it may be used to aid in the development of the program prior to the adoption of the regs and any such project shall be conducted in accordance with an implementation plan approved by the Department.

Act 371, you know, currently in DEQ, we have legislative oversight under R.S. 49:968 through the House Committee on Natural Resources and Environment and also the Senate Committee on Environmental Quality. Recognizing that there are agricultural interests with this, we also have legislative oversight by the two -- the House Committee on Agriculture and Senate Committee for this Act.

So in summary, we're looking at Act 371 for Water Quality Credit Trading to allow participation of both point and nonpoint sources, consideration of across watersheds and also watersheds with or without TMDLs.

Our current activities, we have a small work group that has been working on this, members from the Department of Environmental Quality. These are divisions in our agency; also, Department of Ag and Forestry, CPRA, USDA, National Resources Conservation Service and the Water Synergy Project. And we're basing it on what we call right now draft guidance. We're basing this on some publicly available information. There is a National Network on Water Quality Trading document, which gives options and considerations for such a program. And

that was published in June of 2015. Also, ACWA, Association of Clean Water Administrators, they have a tool kit that was released, I believe, early this year and it has templates or guidance, regulations and things like that that we use to move forward.

So the considerations we're looking at, it kind of started out with this discussion about nutrients, but we're seeing this is also something that other pollutants can be acceptable for this, something for exploring are nutrients and BOD, that's biochemical oxygen demand, sediment and also temperature. And something we're looking at is ratios to address uncertainty. This is where maybe you have a point source discharge and you know for certainty what exactly is coming out of there. But perhaps with a nonpoint source, maybe it's an estimate from a model or something, so a way that we can address that uncertainty and equivalency is a way to try and find that BOD and nutrients and really looking at having this program in our State's watersheds.

So next steps, this is a tentative timeline. We are looking to have stakeholder interaction in early -- well, in 2018, in early 2018, kind of like a kickoff meeting. We can bring

interested people in and let them know about draft guidance. We're looking to have it available then. And we're looking to draft a rule for this. I mentioned earlier the pilot phase. That's something we can run in 2018. It's going to be in late summer of 2018 and we'll get information to form our draft rule. And, typically, we obviously will have a draft rule proposed by the end of 2018. And this could be a formal rulemaking process which would be available for public review and public comments and then review those comments and respond to them. And then a year after our rule is drafted, it would be made a final rule by the end of 2019.

And thank you so much for listening. We would appreciate the input from this Commission as we move forward on this.

MR. HARRIS:

Thank you, Ms. Vincent. Do we have any questions? Thank you very much, Ms. Vincent. Thanks for coming.

PUBLIC COMMENTS

MR. HARRIS:

All right. That brings us to the end of an active agenda. Are there any other issues? Any public comments?

MR. MORVANT:

I would like to make a comment. As the Vice Chairman for the Capital Area Groundwater Conservation Committee I would like to first of all thank Ms. Lindsay Gouedy's comments in that without following the Administrative Procedures Act, the implementation of guidelines isn't -- to point out to Mr. Adams, the bill also said, well, it's in the bill, but in fact those guidelines were not in the bill.

MR. HARRIS:

Will you state your name, please?

MR. MORVANT:

Nelson Morvant. We were given two weeks to give comments concerning the implementation of guidelines. Considering the scientific gathering that they asked and in the bill the language stating that it had to be appropriate to the information and satisfaction of the Conservation's Commissioner, it would be very difficult to provide reports that are satisfactory. And who would make that decision? And I would suggest that some type of peers be set up to review reports or something like that.

But as far as the actual implementation of the guidelines, values in Louisiana's Administrative

Procedures Act, I understand Mr. Adams' statement that he's trying to implement the Act. I understand that and the Conservation Commission. They do want to follow the law. However, without being able to provide the right information, it almost sounds like an endless circle of providing information to the Committee and being able to provide the information the Commission wants. So that's my statement. I just want to say that without use of some type of implementation to the Louisiana Administrative Procedures Act, it will certainly be unsure of whether or not those are guidelines, as Mr. Duplechin pointed out, or are they -- is it actual law that has to be filed. Thank you.

MR. HARRIS:

Thank you, Mr. Morvant. Are there any -- first, before we go on with public comments, are there any questions or new business from the Commission?

MR. DUPLECHIN:

I would like to comment that as Director of the Capital Area Groundwater Conservation District, I'd like to take this time to apologize to Ms. Gouedy for having the Sparta Groundwater Conservation District and Commission dragged into this reporting

requirement. When all this started, we got a letter and the District got a letter from the Office of Conservation stating that our report was insufficient for the first time in six years. And one of the reports that we were told to look at that satisfied the needs was the Sparta Commission. Now, all of a sudden they're having to do all these other reports as well. So, I'm sorry that we drug y'all into this and we will work through it together to get through it.

MR. HARRIS:

Thank you. Any other question, comments, new business? Hearing none, are there any comments -- other comments from the public?

MR. GRAHAM:

Good afternoon. My name is Henry Graham. I'm with the Louisiana Chemical Association. LCA is a trade association with many factors, and several of our members are obviously users of water within the state of Louisiana. It's a very important asset that Louisiana has for encouraging the economic development.

One of the questions that I have and comments that I wanted to make was simply on the development of legislation, the recent legislation

concerning the reporting. And while we do support the fact that additional reporting would be helpful for information purposes, I think we need to distinguish two situations. One is what is specifically required in the legislation. What is specifically required in the legislation technically can be self-implemented, but often the details are left to guidance or rules. Now, if you leave it to guidance, that is what it is. It's not a requirement. You can suggest an agency to guidance or through a checklist by just publishing this is what we think you ought to have. But, if you're not mandating the agency to do it -- if you're going to mandate an agency to take an action, in this case the Sparta or whatever, I think it would be important for you to use the rulemaking process to identify exactly where those documents are required and whether they're required by the legislation that is authorizing you to do this.

It's often and sometimes a temptation of agencies to go along and expand what was actually required. And we used to call it -- I hate to say it, but three years ago when we got in balance [sic] with previous administrations -- policy dujour, where you have a policy and you expanded it and you

expanded it and you expanded it, but it wasn't really what was technically required in the legislation and brought about an Act too.

So that's a concern that I'm raising here because, you know, being an old guy, I won't be around very much longer. This is shades of 1991 here. And I, having served on the Water Resources, and working on previous studies, the 1984 study and what we did in 1988, what we did in 2001 and the current work, I'm just concerned that sometimes we lose track of where we are. So I just urge the Commission to specifically look at the legislation.

Now, this legislation -- let's face it, this legislation was a backup. Really what they wanted was to restrict industry from participating on the Commission. They wanted to severely restrict industry's ability and the users of groundwater from having any say so, but they couldn't pass that. So what they passed was a law to confirm what we already logically feel is needed, providing for some usage, examined information.

I don't think it was intended to punish Districts who don't have the ability to provide for the resources to provide the information. So that's why I just urge you as a Commission to be a little

cautious and to give some additional time. You-guys should take a hard look at the checklist and whether that information that they're asking and demanding by November 1st, whether that is actually doable for these Districts. Thank you.

MR. HARRIS:

Thank you, Mr. Graham. Any other questions or comments from the public?

ADJOURNMENT OF MEETING

MR. HARRIS:

Hearing none, do I hear a motion to adjourn?

MR. GRAVES:

So moved.

MR. KNOTTS:

Second.

MR. HARRIS:

Second by Mr. Knotts. Any objections? Hearing none, this meeting will be adjourned. Thank you very much.

(MEETING ADJOURNED AT 1:34 P.M.)

REPORTER'S CERTIFICATE

I, LAURA QUINETTE, Certified Court Reporter in and for the State of Louisiana, Registered Professional Reporter do hereby certify to the foregoing 114 pages.

I further certify that said testimony was reported by me in the Stenotype reporting method, was prepared and transcribed by me or under my direction and supervision, and is a true and correct transcript to the best of my ability and understanding.

I further certify that the transcript has been prepared in compliance with transcript format guidelines required by statute or by rules of the board and that I have been informed about the complete arrangement, financial or otherwise, with the person or entity making arrangements for deposition services.

I further certify that I have acted in compliance with the prohibition on contractual relationships, as defined by Louisiana Code of Civil Procedure Article 1434, and in rules and advisory opinions of the board.

I further certify that I am not an attorney or counsel for any of the parties, that I am neither related to nor employed by any attorney or counsel connected with this action, and that I have no financial interest in the outcome of this matter.

This certificate is valid only for this transcript accompanied by my original signature and original required seal on this page.

Baton Rouge, Louisiana, this 17th day of October, 2016.

Laura Quinette, CCR, RPR
CCR No. 2014011, RPR No. 73367