



**LOUISIANA
WATER RESOURCES
COMMISSION**

REPORT ON ACTIVITIES

FEBRUARY 2017

EXECUTIVE SUMMARY

The Louisiana Legislature has vested the Water Resources Commission with the authority to promote and assist in the effective management of the state's water resources. The Commission has specific information-gathering, evaluative, and support responsibilities for both ground and surface water resource management, along with limited appellate authority over a very specific class of groundwater resource management decisions made by the Commissioner of Conservation.¹ The Commission's purview includes the study and evaluation of overall resource management, current and projected demands, alternative source use opportunities, conservation programs and practices, and the utilization of incentives and new technologies.

This report provides an overview of the Commission's activities for calendar year 2016. During this time, the Commission received a new chairman in the person of Thomas Harris, Secretary of the Department of Natural Resources; Chairman Harris, in turn, was joined by several other new members to the Commission over the course of the year. The group convened in two regular meetings on September 8, 2016, and December 8, 2016. The agendas for both meetings were full and are attached at the end of this report as Appendix B. Transcripts of the meetings along with accompanying slide presentations provided by the speakers are available at the Office of Conservation's Ground Water Resources Program web page: <http://dnr.la.gov/groundwater>, specifically

¹ See Appendix A for legislation relevant to the purpose, authority, and composition of the Water Resources Commission.

at the “Events, Meetings, & Workshops” subpage. There were no official resolutions adopted or other extraordinary actions taken by the Commission.

In its meetings, the Commission did receive excellent updates on the development of the new coastal master plan, the status and needs of Louisiana’s ports, progress for the reintroduction of Mississippi River water into Bayou Lafourche, and many other relevant topics. Brief summaries of these are provided in a following section for reference purposes. Two of the agenda items are singled out for additional discussion further in the report. These were matters on which the Commission took direct action by official resolution in past meetings and are therefore considered in greater detail herein.

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SUMMARY OF MEETING PRESENTATIONS

1. Office of Conservation staff discussed the successful effort by the Department of Natural Resources (DNR), Department of Transportation and Development (DOTD), and the U.S. Geological Survey (USGS) to forge a long-term plan for the maintenance of the expanded groundwater monitoring network program that exhausted its temporary funding in FY2016. **Detailed separately later in report.**

2. Coastal Protection and Restoration Authority (CPRA) staff updated the Commission on progress towards revision of the state coastal master plan and CPRA's plans for public hearings and outreach in the first months of 2017.

3. Water Institute of the Gulf staff presented their report on the completion of the Water Resources Assessment for Sustainability and Energy project resulting in a planning tool for evaluating the state water budget, including surpluses and deficits both at the present time and in the future. **Detailed separately later in report.**

4. Commissioner Mark Davis led a presentation by the Tulane Institute on Water Resources Law & Policy on the continuing efforts by the Water Code Committee of the Louisiana State Law Institute, of which he is the official recorder, to evaluate Louisiana's water resources law in a period of widespread litigation over ground and surface water rights and usage across the nation. This presentation also featured a discussion on potential financing mechanisms for coastal protection and restoration, including options

for filling the estimated \$71.1 billion inflation-adjusted gap for Louisiana's comprehensive master plan for a sustainable coast.

5. The Executive Director of the Ports Association of Louisiana presented on the current status of Louisiana's port infrastructure, along with opportunities and challenges for the future of this important segment of Louisiana's economy. Louisiana ports handle 25% of U.S. waterborne commerce, including agricultural products, petrochemicals, foodstuffs, fabricated metals, wood and paper goods, and many other items. According to an economic study, these ports account for direct spending totaling some \$96 billion annually and are responsible through direct or indirect employment for some 525,000 jobs with total personal earnings of \$32.9 billion.² The most pressing issue for Louisiana ports is funding for dredging and channel deepening operations to allow greater access to the expanded level of trade expected through the newly deepened Panama Canal.³ Ultimately, under a Federal funding formula approved in 2014, Louisiana will be responsible for approximately \$150 million of this needed infrastructure improvement.

6. Faculty from the University of Louisiana at Lafayette (UL) discussed the results of a large-scale, on-the-ground research and modeling effort by a UL team to study seasonal demands and stresses on Louisiana's water supplies in order to improve effective management and targeted infrastructure improvements for the future. The

² 8th Regular Meeting of the Louisiana Water Resources Commission, September 8, 2016, Transcript (hereinafter cited as "WRC, 9.8.2016"), 120-21.

³ WRC, 9.8.2016, 126.

study was funded through a National Science Foundation grant. The focus of the study was on the development of a water supply stress index, a simple sliding scale that expressed local seasonal water demand, divided by the amount of available water in an area—and including various environmental constraints—as a ratio for comparative purposes. This approach can be used for statistical and probability analysis, planning for climate and water demand scenarios, and examination of opportunities for replacing groundwater with surface water through targeted infrastructure upgrades. The research is detailed in an open-access article from *Environmental Research Letters* (Vol. 11, No. 12 (December 2016): <http://iopscience.iop.org/article/10.1088/1748-9326/aa51dc>).

7. WRC Commissioner Chris Knotts presented on Louisiana’s role and interests in the Red River Compact Commission, which will hold its annual meeting in Shreveport on May 1-2, 2017. The main purpose of this commission is to manage the use, control, and distribution of the water of the Red River and its tributaries by promoting active programs for the “control and alleviation of natural deterioration and pollution of the Red River Basin” and for the “conservation of water, protection of lives and property from floods, improvement of water quality, [and] development of navigation and regulation of flows.”⁴ Importantly, the Compact itself serves to ascertain and identify “each state’s share in the interstate water and [its] apportionment.”⁵ Louisiana’s major concern at present is low or zero flow from Red River tributaries coming out of

⁴ 9th Regular Meeting of the Louisiana Water Resources Commission, December 8, 2016, Transcript (hereinafter cited as “WRC, 12.8.2016”), 29.

⁵ Ibid.

Arkansas, such flows being well below Compact standards. The state is attempting to work through the Red River Compact Commission towards a mutually agreeable resolution of these issues.

8. Staff from the U.S. Geological Survey (USGS) presented on several of this agency's water resources research efforts that cover portions of Louisiana, including the Mississippi Alluvial Plain (MAP) program, Coastal Lowland Aquifer Study (CLAS), and Red River Focus Area Study. The first project is an effort to assess groundwater availability in the Mississippi River Alluvial Valley and to develop a decision support framework for management decisions. The end result will be the ability to input user-defined scenarios into the system to evaluate potential outcomes for specific climatic or management decisions.

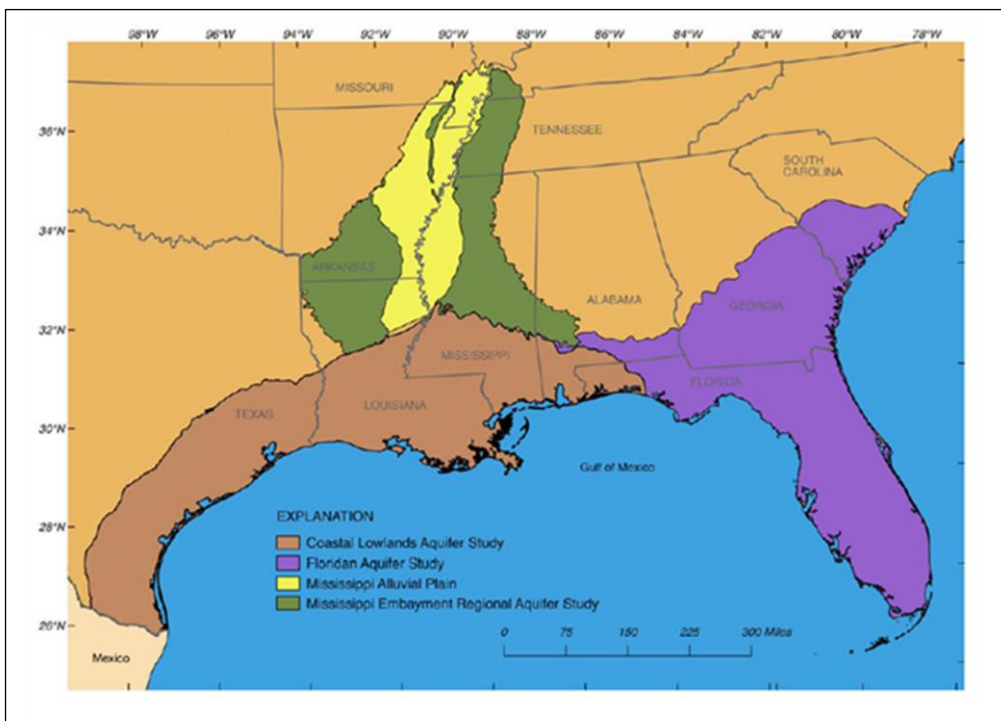
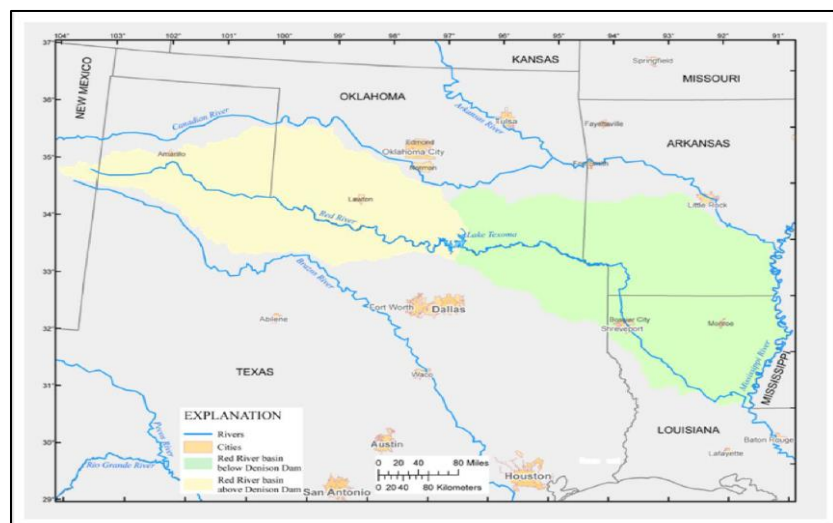


Fig. 1, Regional Study Areas. Source: USGS. The Mississippi Alluvial Plain (MAP) study area is highlighted in yellow and includes portions of Missouri, Tennessee, Arkansas, Louisiana, and Mississippi. The Coastal Lowlands Aquifer Study (CLAS) area is highlighted in brown and includes portions of Texas, Louisiana, Mississippi, Alabama, and Florida.

The CLAS area sweeps from Texas to the Florida panhandle and includes the southern two-thirds of Louisiana. Congress has asked the USGS to focus on such large, regional aquifer systems to better understand the nation’s groundwater resources and to develop tools to forecast regional responses to certain scenarios. USGS objectives are to “document the effects of human activities on water levels, groundwater storage, and discharge to streams and other surface-water bodies; explore climate variability impacts; and evaluate the adequacy of data networks to assess impacts and deliver data needed for models.”⁶ The last project touching on Louisiana is the Red River Focus Area Study. In this area, as with most of the study areas, there have been “increasing water demands, which typically have gone into interstate water conflicts and have resulted in disruption of water aquatic ecosystems,” along with concerns about drought, flooding, groundwater declines, and stream flow alterations.” In this particular study, the four major elements include a compilation of water use data, groundwater modeling, surface water modeling, and environmental flows.

Fig. 2, Red River Focus Area Study. Source: USGS. The study area encompasses the Red River watershed which stretches across five states, including New Mexico, Texas, Oklahoma, Arkansas, and Louisiana.



⁶ WRC, 12.8. 2016, 42.

9. Commissioner Benjamin Malbrough, Executive Director of the Bayou Lafourche Fresh Water District, discussed the status of the Mississippi River Water Reintroduction into Bayou Lafourche (MRRBL) project. The District has moved forward with the complex engineering sub-projects associated with this effort, which is intended to increase stream flow, aid in restoration of the Lafourche system to its historic condition, and support coastal restoration. The various sub-projects include the construction of a new pump station, approximately 30 miles of channel dredging, and perhaps the most notable obstacle, the removal of the railroad embankment across the Lafourche at Donaldsonville, which was effected with great success in November 2016.

10. Office of Conservation staff discussed the status of several legislative study reports relevant to water resources being completed by different state agencies (HCR 110 and 115 of 2016). **See Appendix C.**

MAINTAINING AN EXPANDED GROUNDWATER MONITORING NETWORK

The development and maintenance of an expanded, statewide groundwater monitoring network has been a top management priority for the Water Resources Commission since the identification of the issue in the Commission's 2012 document "Managing Louisiana's Ground Water Resources." From a peak of 739 monitor wells in the early 1980s, the network had fallen to only 164 wells around 2010, leaving a substantial hole in the state's knowledge of the health of its groundwater resources.⁷ At the Commission's urging, the Department of Natural Resources (DNR) later that year secured temporary, multi-year funding through the Federal Petroleum Violation Escrow account for the creation of an expanded network that essentially doubled the number of groundwater wells within the monitoring framework. The U.S. Geological Survey (USGS) maintained the network as part of a joint agreement with DNR. Realizing, however, that this funding stream would be exhausted at the end of FY2016, the Commission adopted a resolution at its October 1, 2015, regular meeting:

"urging and requesting the Governor and Legislature of the State of Louisiana to develop or appropriate dedicated, recurring funds from whatever sources available for the long-term maintenance of a robust water resource monitoring network and associated planning that will provide the scientific basis necessary for the successful management of Louisiana's water resources into the future."⁸

⁷ Louisiana Ground Water Resources Commission, "Managing Louisiana's Groundwater Resources, with Supplemental Information on Surface Water Resources: An Interim Report to the Legislature," March 15, 2012.

⁸ Resolution of the Louisiana Water Resources Commission, October 1, 2015.

With no allocations forthcoming in a difficult budget year, though, the Office of Conservation, within DNR, moved forward with a cooperative plan with the Division of Public Works and Water Resources in the Department of Transportation and Development (DOTD) to utilize funding from that agency in “streamlining the network to bring it into a manageable size that would fit within the allocations that DOTD had available.”⁹ At the September 8, 2016, meeting of the Commission, Conservation staff recognized the “spirit of cooperation on behalf of DOTD that enabled us to maintain this statewide network in place at a fairly substantial [portion] to its former size.”¹⁰

Primarily, the work centered on USGS and Office of Conservation staff identifying areas for savings in the well sampling regime, moving from real time or hourly in some cases, to quarterly or semi-annual measurements, and from quarterly measurements to semi-annual or annual. Moreover, USGS staff closely evaluated the network for overlap and made recommendations for targeted edits. After consultation with all involved, a final network plan that was adopted. There was a decline in the absolute number of water-level monitor wells from 358 to 318 while 26 of the more expensive hourly and real-time water well measurements were discontinued. The absolute number of chloride (saltwater) monitor wells actually increased by three but the measurement regime was moved from a semiannual basis to simply a single, annual measurement. The thinking behind these changes was that it was better to trim the network

⁹ WRC, 9.8.2016, 18.

¹⁰ Ibid.

substantially in terms of measurements than to lose the network footprint completely. The measurement regime itself can be expanded as future needs demand and funding allows. Moreover, the development of a five- or ten-year planning horizon based on this core network might allow for certain issues or areas to be revisited on a coordinated schedule, rather than in response to a crisis situation. Comparisons of the former and current water-level and chloride-level networks are located on the following pages.

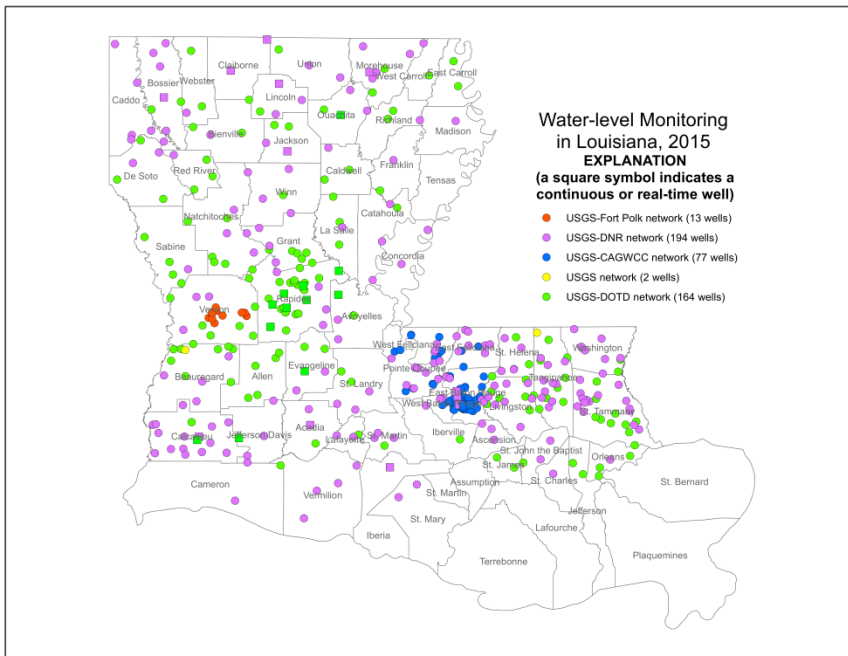
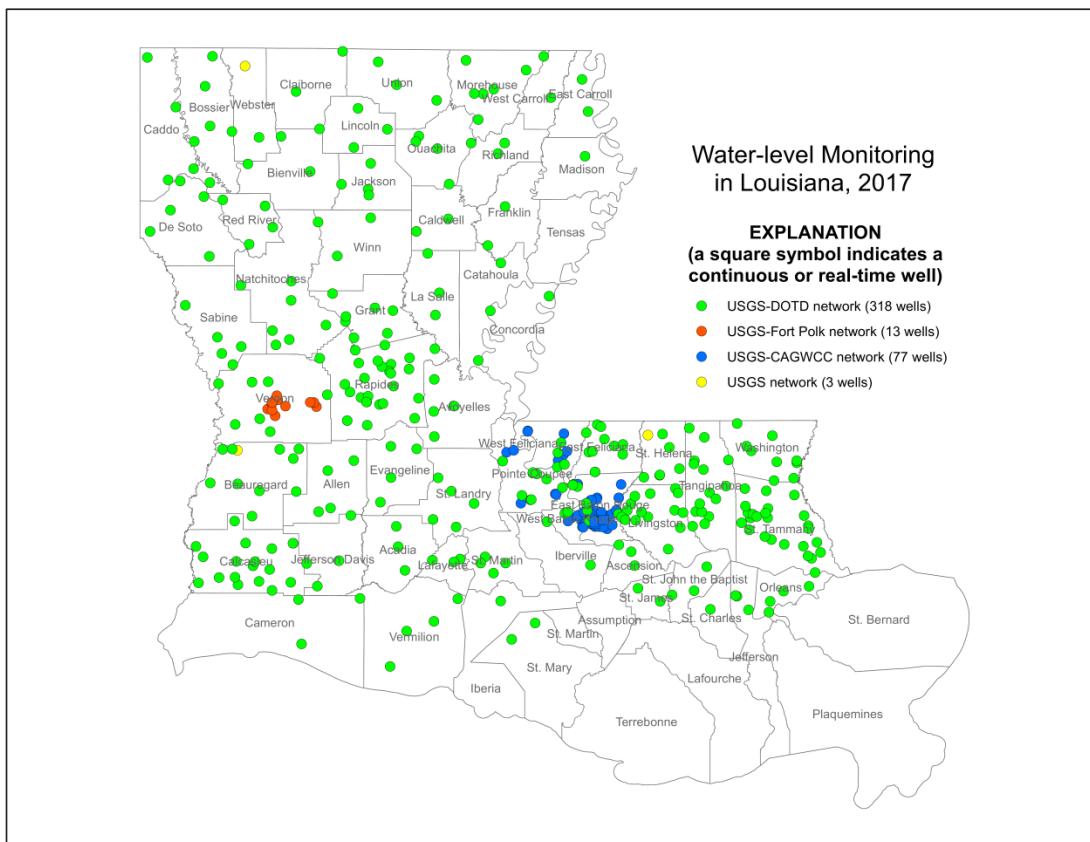


Fig. 3, Water-Level Monitoring in Louisiana, 2015. Source: USGS. The joint DNR/USGS “expanded” network is highlighted in green, representing a net addition of 194 wells to the pre-existing USGS/DOTD network in purple. The latter was the state’s primary groundwater monitoring network prior to the 2012 expansion.

Fig. 4 (below), Water-Level Monitoring in Louisiana, 2017. Source: USGS. The joint DNR/USGS “expanded” network has now been subsumed within the USGS/DOTD network (green). The network now counts 318 wells, up from 164 around 2010.



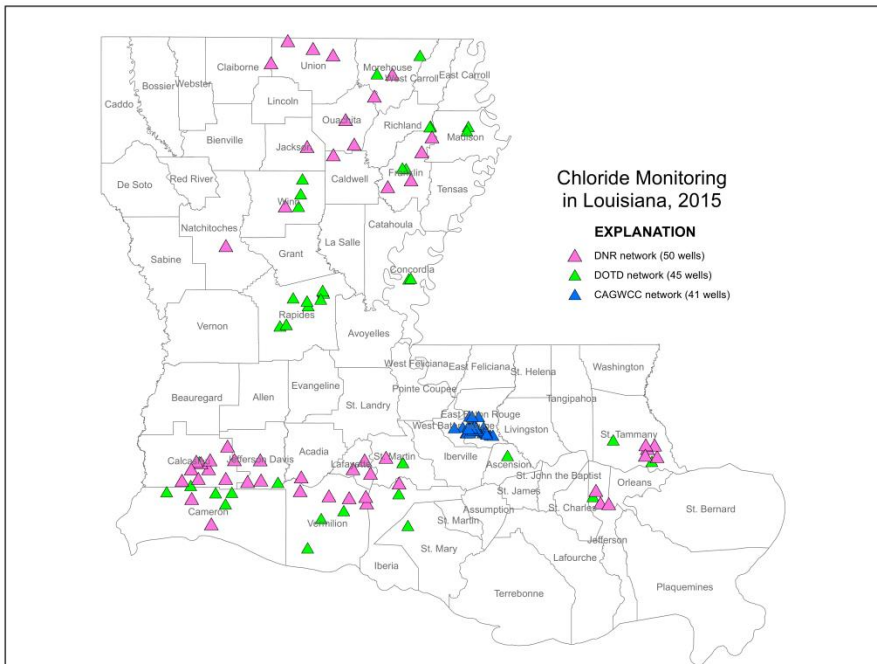
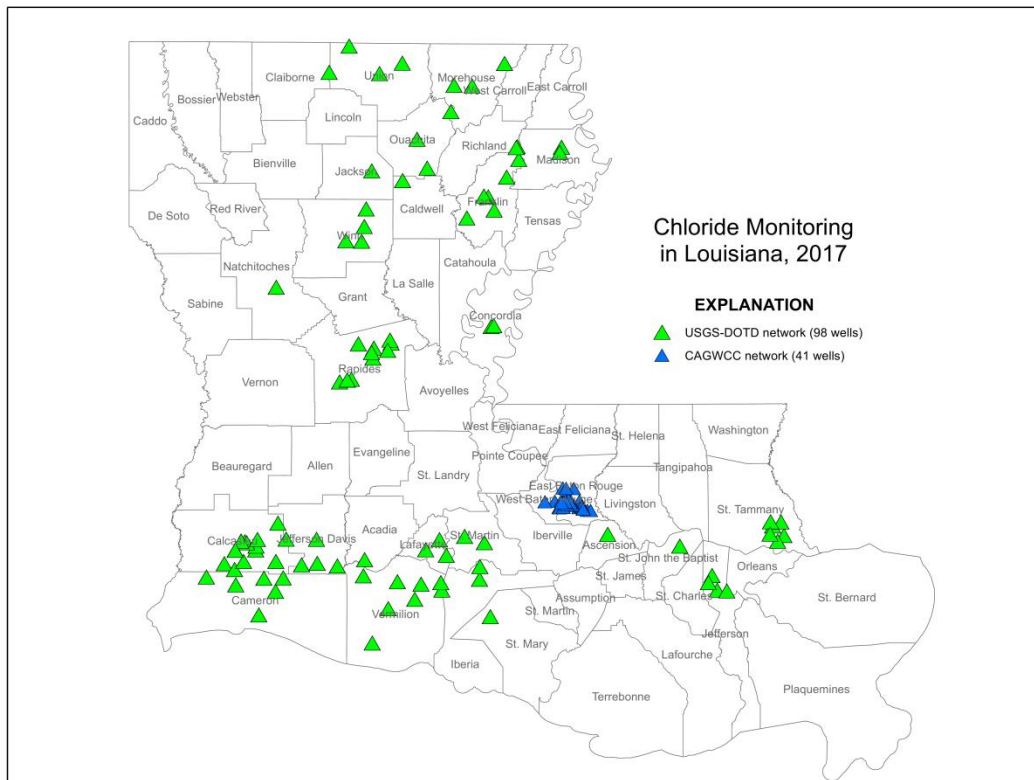


Fig. 5, Chloride Monitoring in Louisiana, 2015. Source: USGS. The joint DNR/USGS “expanded” network in purple shows a net addition of 50 wells to the pre-existing USGS/DOTD one in green. The latter was the state’s primary chloride monitoring network prior to the 2012 expansion.

Fig. 6 (below), Chloride Monitoring in Louisiana, 2017. Source: USGS. The joint DNR/USGS “expanded” network has now been subsumed within the USGS/DOTD network (green), with the addition of three wells but with targeted edits in the measurement regime.



COMPLETION OF THE WATER RESOURCES ASSESSMENT FOR SUSTAINABILITY AND ENERGY MANAGEMENT PROJECT

Following publication of “Managing Louisiana’s Groundwater Resources” in 2012, the Office of Conservation, at the direction of the Water Resources Commission,¹¹ began to study the necessary parameters for a comprehensive statewide water management plan. An extensive survey was conducted among stakeholders in the business, agricultural, government, scientific/academic, and environmental arenas and a workshop attended by some 80 members of these groups was convened in October 2013 to evaluate the current status of the state’s water resources planning and the needs inherent in the development of a comprehensive plan. The overwhelming consensus was that before embarking on a lengthy planning process the state needed to better understand its surpluses and deficits in certain areas and also understand better the legal limitations on such planning, particularly with regards to how this might impact specific allocations of water by sector or use.

Consequently, in 2014 the Department of Natural Resources and the Coastal Protection and Restoration Authority (CPRA), with the concurrence of the Water Resources Commission, reached an agreement to jointly fund a statewide water resources assessment project for sustainability and energy management as a further improvement to Louisiana’s emerging water planning process. At roughly the same time, the Louisiana State Law Institute was tasked by certain legislative study

¹¹ Resolution of the Water Resources Commission, June 5, 2013.

resolutions to begin an evaluation of the state's water law in an effort to offer clarity on some of the legal complexities pertaining to ground and surface water rights and usage and how these might be reconciled in a comprehensive water code.

On the planning side, the non-profit Water Institute of the Gulf was tasked with developing a framework for evaluating regional demand and supply in the state, first applying the pilot framework to three especially critical areas of the state to demonstrate its use and effectiveness. As noted in last year's annual report, the purpose of this effort was to provide an appraisal of current and expected future water supply and use and to develop a planning instrument (the "framework") that could be utilized to inform short- and long-term management decisions and minimize the potential impact of future growth on overall water supply costs.

The Water Institute conducted an extensive evaluation of existing state-level water management and water budget frameworks across the nation before embarking on the creation of a unique framework for evaluating water demand and supply here in Louisiana. Importantly, the framework they created linked surface water and groundwater resources into a comprehensible whole, rather than treating them as separate elements. The availability and delivery cost of these water resources is weighted against both current use and projected demand based on population and economic forecasts.

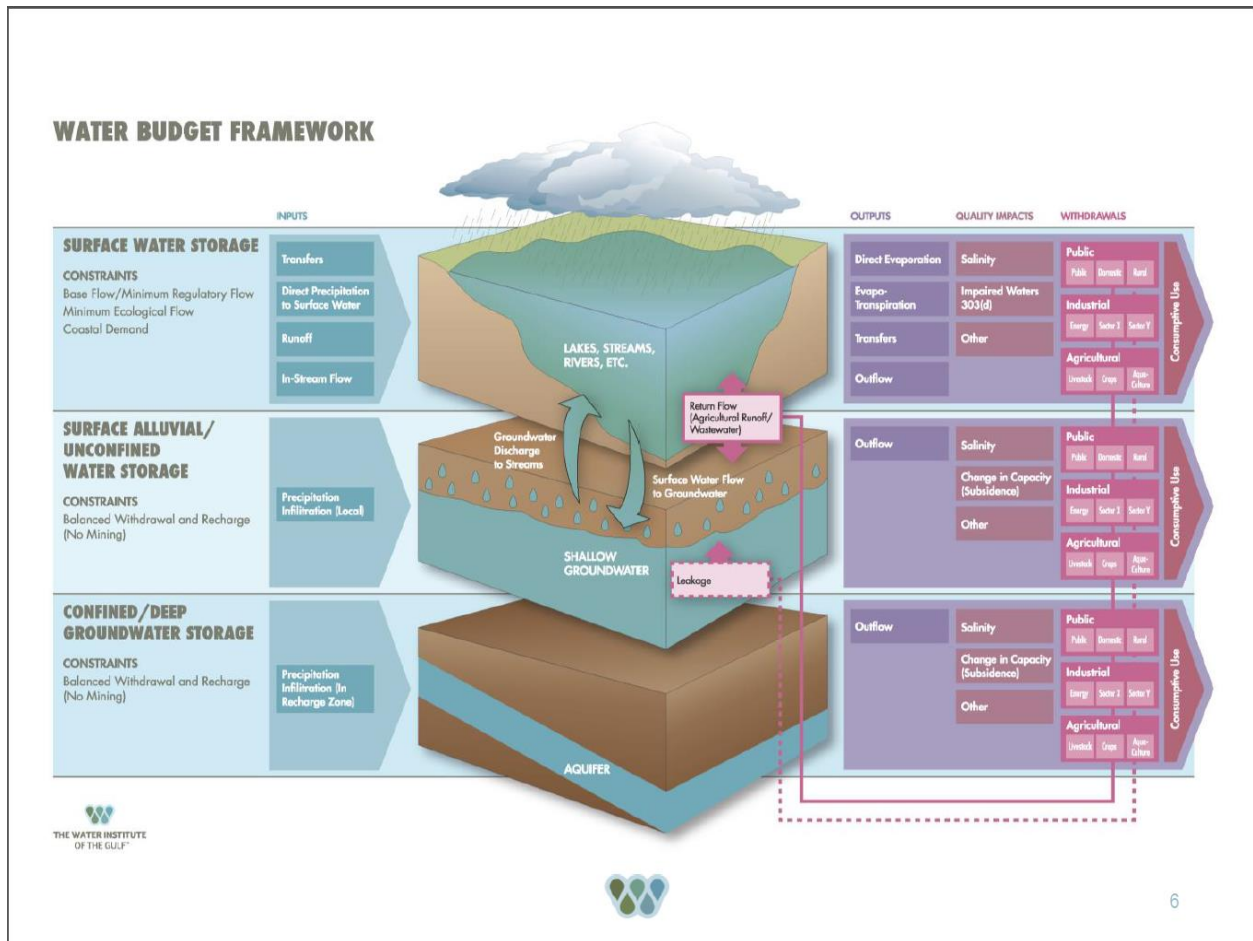


Fig. 7, Water Budget Framework. Source: Water Institute of the Gulf.

A Technical Coordination Team composed of leading water scientists from around the state advised the Water Institute in its work. Members of the Water Resources Commission also were briefed on the project and its progress, first at the December 2014 regular meeting, at a scheduled update program in April 2015, and again at the August 2015 regular meeting. The project was completed in 2016 and the final report delivered to the Commission in the September 2016 regular meeting.

SELECTED STUDY AREAS

- SWLA - East Chicot Aquifer Area
- NWLA - Carrizo-Wilcox Aquifer Area
- SELA - West Southern Hills Aquifer Area
- Chosen for:
 - Data availability
 - Mix of uses
 - Existing supply/ demand imbalances
 - Cover different parts of state/ unique issues

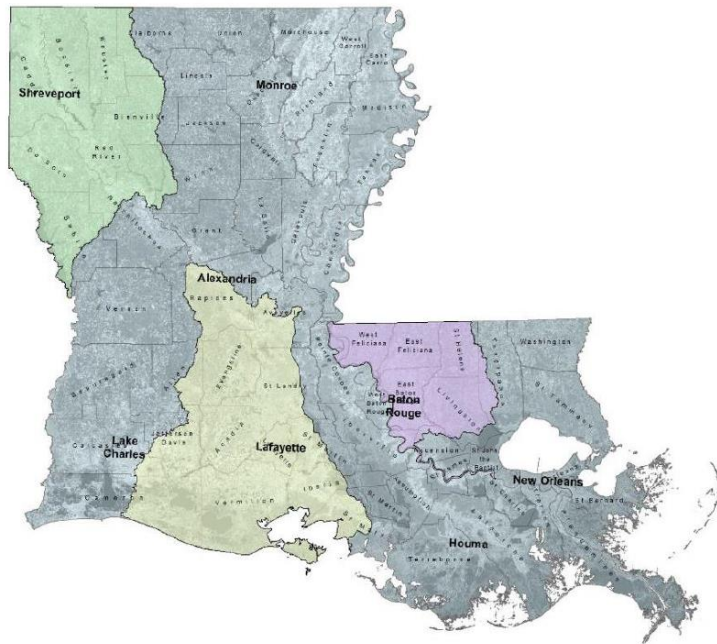


Fig. 8, Framework Study Areas. Source: The Water Institute of the Gulf.

It is important to note that this project is not a state water plan but rather a tool that can be utilized in the creation of such a plan once other aspects relevant to such work—such as the legal framework of water in the state—are clarified. It is expected that this work, in conjunction with other studies such as the UL research project and those underway with USGS, among others, will serve to guide the Commission in future studies and evaluations of the relative health and sustainability of the state’s water resources.

APPENDIX A

LEGISLATION RELEVANT TO THE PURPOSE, AUTHORITY, AND COMPOSITION OF THE WATER RESOURCES COMMISSION

CHAPTER 13-A-1. WATER RESOURCES MANAGEMENT

§3097.1. Legislative findings; purpose; effect

A. As the effective management and planning in the utilization of the state's water resources is hereby found and declared to be a matter of public interest, the state must have a comprehensive ground water management program. Said program must take into consideration the requirements, needs, and obligations of all stakeholders of water in the state of Louisiana. The program shall be based on good management practices, sound science, and economics according to generally accepted principles in those disciplines. It must include as a goal the long-term sustainability of the state's ground water aquifers and preservation of the state's ecological welfare, while considering the economic value thereof to the state's role in interstate commerce and the economic welfare of its citizens. Further, it must provide for the efficient administration in the utilization and management of ground water resources, including the gathering of data related to the state's water resources. Thus, the state's water resources must be protected, conserved, managed, and replenished in an effective manner, with due regard for the foregoing considerations and in the best interest of all the citizens of the state.

B. The legislature hereby recognizes the need for uniformity in the establishment of a comprehensive ground water management program. Therefore, the state shall have exclusive jurisdiction over the management of ground water and this Chapter shall supersede and preempt any rule, regulation, code, statute, or ordinance of any political subdivision or other unit of local government. However, nothing contained in this Chapter shall be construed to deny such local government the authority over siting facilities pursuant to any general land use planning or zoning or to deny soil and water conservation districts powers granted pursuant to R.S. 3:1208.

C. In accordance with the legislative intent provided herein, the statewide ground water resource management program and any rule, regulation, or order of the commissioner shall recognize historic use of ground water resources in the state and may incorporate the use of appropriate incentives to encourage conservation of ground water resources and the appropriate utilization of alternate water supplies where appropriate. Consistent with the provisions of this Chapter and in consultation with the commissioner, the incentives and provisions of alternate water resources may be provided by the state, or any local subdivision thereof, by virtue of tax incentives, tax credits, and physical projects transporting or providing alternate water resources to existing ground water users and by any private person with an interest in conserving such ground water resources for public use.

Acts 2003, No. 49, §2, eff. July 1, 2003; Acts 2012, No. 471, §2.

§3097.4. Water Resources Commission; membership; powers and responsibilities

A. The Water Resources Commission is hereby created and shall be composed of the following members:

- (1) The governor or his designee.
- (2) The commissioner of conservation or his designee.
- (3) The commissioner of agriculture and forestry or his designee.
- (4) The secretary of the Department of Economic Development or his designee.
- (5) The secretary of the Department of Environmental Quality or his designee.
- (6) The secretary of the Department of Health and Hospitals or his designee.
- (7) The secretary of the Department of Wildlife and Fisheries or his designee.
- (8) The secretary of the Department of Transportation and Development or his designee.
- (9) The executive director of the Coastal Protection and Restoration Authority Board or his designee.
- (10) The executive director of the Sabine River Authority or his designee.
- (11) The executive director of the Louisiana Public Service Commission or his designee.
- (12) One member appointed by the governor, who is a geologist or an engineer with expertise in ground water resource management.
- (13) One member appointed by the governor from a list of four nominations submitted jointly by the Louisiana Chemical Association, the Louisiana Mid-

Continent Oil & Gas Association, the Louisiana Association of Business and Industry, and the Louisiana Pulp & Paper Association.

(14) One member appointed by the governor from a list of three names nominated by the Louisiana Farm Bureau.

(15) One member appointed by the governor from a list of three nominations submitted by the Police Jury Association of Louisiana.

(16) One member appointed by the governor from a list of three nominations submitted by the Louisiana Municipal Association.

(17) One member appointed by the governor from a list of three nominations submitted by the Sparta Groundwater Conservation District Board of Commissioners.

(18) One member appointed by the governor from a list of three nominations submitted by the board of commissioners of the Capital Area Groundwater Conservation District.

(19) One member appointed by the governor who resides or works in the geographical area of the state underlain by the Chicot aquifer.

(20) One member appointed by the governor from a list of three nominations submitted by the Louisiana Landowners Association.

(21) One member appointed by the governor from a list of three names submitted by the Louisiana Wildlife Federation, Coalition to Restore Coastal Louisiana, and the League of Women Voters.

(22) One member appointed by the governor from a list of three nominations submitted by the Ports Association of Louisiana.

(23) One member appointed by the governor from a list of three nominations submitted by the Louisiana River Pilots' Association.

(24) One member, who is a lawyer licensed to practice in Louisiana with not less than five consecutive years in the practice of law in Louisiana and who has legal expertise in water law, appointed by the governor from a list of four names submitted by the chancellor of the Louisiana State University Law Center, the dean of the Loyola University New Orleans College of Law, the chancellor of the Southern University Law Center, and the dean of the Tulane University Law School.

(25) Two members, one appointed by the chairman of the House Natural Resources and Environment Committee, and one appointed by the chairman of the Senate Natural Resources Committee who does not represent commercial, industrial or agricultural interests but who represents residential consumers.

(26)(a) The chairman of the House Committee on Natural Resources and Environment, or his designee, shall serve as an ex-officio non-voting member.

(b) The chairman of the Senate Committee on Natural Resources, or his designee, shall serve as an ex-officio non-voting member.

(c) The chairmen shall not be counted as part of the total membership of the commission for purposes of determining the number of members

necessary to constitute a quorum but, if present, they shall be counted as members for purposes of establishing a quorum for the particular meeting.

B. The appointed members of the commission shall serve four-year terms except for the initial term, in which the governor shall designate the terms of office so that three members shall serve a one-year term, three members shall serve a two-year term, and four members shall serve a three-year term. No appointed member shall serve more than two consecutive terms. In case of a vacancy, the governor shall appoint a replacement to fill the unexpired term. Appointed members shall not be compensated for their services, except the commissioner may promulgate rules and regulations to provide for travel expenses. Appointed members shall be considered as such, and not elected, for the purposes of R.S. 42:1102 et seq.

C. The governor or his designee shall serve as chairman of the commission. The commission shall meet at least twice per calendar year, but may meet more often as necessary.

D. The commission shall have the authority to do the following:

(1) Review and approve or reject any orders of the commissioner placing restrictions on wells upon petition by the owner of the affected well or proposed well or any owner of a well in the same aquifer which may be adversely impacted by the well in question. In reviewing such decisions the commissioner shall not serve as a voting member of the commission. The order of the commissioner

shall be rejected only if the commission concludes, after a review of the record, that a reasonable factual basis does not exist for the commissioner's decision. Rejected orders shall be returned to the commissioner for reconsideration. An order that has been returned to the commissioner twice shall be considered a final decision and eligible for judicial review pursuant to R.S. 38:3097.5.

(2) Review rules and regulations proposed by the commissioner pursuant to the proper administration and enforcement of this Chapter.

(3) Continue the development, in cooperation with the commissioner, of a statewide ground water resource management program that shall include but not be limited to evaluation of the state's ground water resources including current and projected demands; development of a water use conservation program; study of alternatives to ground water use, such as surface water to include treatment and transmission system, and reclaimed water; incentives for conservation; use of alternative technologies; and education and conservation programs. The plan should stress conservation as the primary mechanism for the protection of the state's ground water resources. The commission shall also hold public hearings and consult with local governmental entities in the development of this program.

(4) Evaluate the state's surface water resources including current and projected demands, inventory the state's surface water supplies, identify technical research

and previously developed information on surface water, identify potential future deficit areas, study alternatives to surface water use including treatment, transmission systems, and reclamation, and investigate incentives for conservation and the use of alternative technologies, including public education and conservation programs.

(5) Review the contingency plan developed by the commissioner to respond to a ground water emergency.

(6) Direct the commissioner to promulgate rules and regulations for the appointment or designation of up to five regional bodies based on the general location of major aquifer systems and water sources of the state and composed of local stakeholders who are representative of current users. Such bodies may gather data and provide local input to the commission and the commissioner.

(7) At their discretion, attend all public meetings called by the commissioner pursuant to his power and duties in this Chapter.

Acts 2003, No. 49, §2, eff. July 1, 2003; Acts 2006, No. 30, §1; Acts 2012, No. 471, §2; Acts 2012, No. 601, §1, eff. June 7, 2012.

APPENDIX B

AGENDAS OF WATER RESOURCES COMMISSION MEETINGS, 2016



JOHN BEL EDWARDS
GOVERNOR

State of Louisiana
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

**Water Resources Commission
8th Regular Meeting
Thursday, September 8, 2016
11 a.m.
LaSalle Building – 1st Floor
LaBelle Room
617 North 3rd Street
Baton Rouge, Louisiana 70802**

Meeting Agenda

- 1. Call to Order**
- 2. Roll Call**
- 3. Introductory Comments from the Chairman**
- 4. Recognition of New Members**
- 5. Adoption of the Previous Meeting Summary**

- 6. Status Update on the Statewide Water Monitoring Network**
Matthew Reonas, Office of Conservation

- 7. Report Review –Water Resources Assessment for Sustainability and Energy Management**
Scott Hemmerling, Ryan Clark – Water Institute of the Gulf

- 8. Work of the Water Code Committee of Louisiana State Law Institute**
Mark Davis, Tulane Institute on Water Resources Law and Policy

- 9. Progress on Revision of State Coastal Master Plan**
Bren Haase, Coastal Protection and Restoration Authority

- 10. Current Issues for Louisiana’s Ports**
Joe Accardo, Ports Association of Louisiana

- 11. Public Comments**
- 12. Adjourn**

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OFFICE OF CONSERVATION

THOMAS F. HARRIS
SECRETARY

RICHARD P. IEYOUB
COMMISSIONER OF CONSERVATION

**Water Resources Commission
9th Regular Meeting
Thursday, December 8, 2016
11 a.m.
LaSalle Building – 1st Floor
LaBelle Room
617 North 3rd Street
Baton Rouge, Louisiana 70802**

Meeting Agenda

- 1. Call to Order**
- 2. Roll Call and Recognition of New Members**
- 3. Adoption of the Previous Meeting Summary**
- 4. Stress Analysis of Louisiana's Water Supply: Implications for Water Management**
David Borrok, University of Louisiana at Lafayette
- 5. Review and Update of Louisiana's Interests in the Red River Compact Commission**
Chris Knotts, Department of Transportation and Development
- 6. US Geological Survey Research Projects in Louisiana**
John Lovelace, US Geological Survey
- 7. Report on Bayou Lafourche Projects**
Ben Malbrough, Bayou Lafourche Fresh Water District
- 8. Office of Conservation Agency Report**
Matthew Reonas, Office of Conservation
 - a. HCR 115 Report Completion Timeframe
 - b. Introduction of Capital Area Ground Water Commission Chairman Barry Huggins (and Remarks)
- 9. Public Comments**
- 10. Adjourn**

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APPENDIX C

LEGISLATIVE STUDY RESOLUTIONS DISCUSSED IN WATER RESOURCES COMMISSION MEETINGS, 2016

ENROLLED

2016 Regular Session

HOUSE CONCURRENT RESOLUTION NO. 110

BY REPRESENTATIVE ROBBY CARTER

A CONCURRENT RESOLUTION

To urge and request the Department of Wildlife and Fisheries, in cooperation with the Department of Natural Resources, to study the effects of certain withdrawals from rivers and river segments in the natural and scenic river program and to report the findings to the House Committee on Natural Resources and Environment and the Senate Committee on Natural Resources.

WHEREAS, it is the constitutional duty of the legislature to enact laws to protect, conserve, and replenish the natural resources of the state, including air and water, and the healthful, scenic, historic, and aesthetic quality of the environment, insofar as possible and consistent with the health, safety, and welfare of the people; and

WHEREAS, in furtherance of that duty the Legislature of Louisiana enacted the Louisiana Scenic Rivers Act to preserve, protect, develop, reclaim, and enhance the wilderness qualities, scenic beauties, and ecological regime of the unique and diverse free-flowing rivers, streams, and bayous for the present and future benefit of Louisiana citizens; and

WHEREAS, the system of natural and scenic rivers is administered for the purpose of preserving aesthetic, scenic, recreational, fish, wildlife, ecological, archaeological, geological, botanical, and other natural and physical features and resources found along these streams or segments thereof; and

WHEREAS, Louisiana has the largest natural and scenic stream system in the nation including more than eighty rivers or river segments; and

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WHEREAS, beginning in the latter half of the last decade this state experienced an oil and gas exploration and production boom with the economic viability of using hydraulic fracturing stimulation operations to produce hydrocarbons from formations such as the Haynesville Shale and the Tuscaloosa Marine Shale; and

WHEREAS, while this boom brought welcomed economic prosperity for workers, property owners, and the state, it also brought the need for massive amounts of water for these operations; and

WHEREAS, the United States Geological Survey estimates an average Haynesville Shale well requires five million seven hundred thousand gallons of water; and

WHEREAS, there has been occasion where operators of hydraulic fracturing stimulations operations obtained the required water from a river or river segment designated as a natural and scenic river.

THEREFORE, BE IT RESOLVED that the Legislature of Louisiana does hereby urge and request the Department of Wildlife and Fisheries, in cooperation with the Department of Natural Resources, to study the effects of withdrawals for oil and gas operations from rivers and river segments in the natural and scenic river program and to report the findings to the House Committee on Natural Resources and Environment and the Senate Committee on Natural Resources on or before March 1, 2017.

BE IT FURTHER RESOLVED that a suitable copy of this Resolution be transmitted to the secretaries of the Department of Wildlife and Fisheries and the Department of Natural Resources.

SPEAKER OF THE HOUSE OF REPRESENTATIVES

PRESIDENT OF THE SENATE

ENROLLED

2016 Regular Session
HOUSE CONCURRENT RESOLUTION NO. 115
BY REPRESENTATIVE ROBBY CARTER

A CONCURRENT RESOLUTION

To urge and request the commissioner of conservation to study the effects of ground water withdrawals on the sustainability of the Southern Hills Aquifer System and on the water supplies of parishes currently relying on that ground water and to report those findings to the House Committee on Natural Resources and Environment and the Senate Committee on Environmental Quality.

WHEREAS, the Southern Hills Aquifer System is a system of several aquifers underlying the parishes of East and West Baton Rouge, Pointe Coupee, East and West Feliciana, and St. Helena with ten of those north of a fault line that bisects East Baton Rouge Parish; and

WHEREAS, the Southern Hills Aquifer System is the major source of drinking water for ten parishes in and surrounding the Capital Area Region and there are numerous industrial facilities that withdraw potable water from the aquifer system for their industrial processes; and

WHEREAS, there has long been concern about the viability, sustainability, and health of the Southern Hills Aquifer System; even as long ago as the early 1960s, there were concerns about saltwater being drawn from the southern portions of the system below the fault line into the freshwater portions of the aquifer north of the fault line; and

WHEREAS, the concern about the sustainability of the aquifer system has been growing and has resulted in many activities, discussions, studies, and public hearings culminating in the July 2013 release by the United States Geological Survey (USGS) of their "Simulation of Groundwater Flow in the '1,500-foot' Sand and the '2,000-foot' Sand and Movement of Saltwater in the '2,000-foot' Sand of the Baton Rouge Area, Louisiana" report; and

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WHEREAS, according to the abstract of that report, "Groundwater withdrawals have caused saltwater to encroach into freshwater-bearing aquifers beneath Baton Rouge, Louisiana. Groundwater investigations in the 1960s identified a freshwater-saltwater interface located at the Baton Rouge Fault, across which abrupt changes in water levels occur."

THEREFORE, BE IT RESOLVED that the Legislature of Louisiana does hereby urge and request the commissioner of conservation to study the effects of the ground water withdrawals on the sustainability of the Southern Hills Aquifer System and on the water supplies and water levels, including the lowering of the water table, of parishes currently relying on that ground water and to report those findings to the House Committee on Natural Resources and Environment and the Senate Committee on Environmental Quality on or before March 1, 2017.

BE IT FURTHER RESOLVED that a suitable copy of this Resolution be transmitted to the commissioner of conservation.

SPEAKER OF THE HOUSE OF REPRESENTATIVES

PRESIDENT OF THE SENATE

APPENDIX D

CURRENT MEMBERS OF THE WATER RESOURCES COMMISSION

THOMAS HARRIS, CHAIRMAN, DEPARTMENT OF NATURAL RESOURCES

BRADLEY SPICER, VICE-CHAIRMAN, DEPARTMENT OF AGRICULTURE AND FORESTRY

KYLE BALKUM, DEPARTMENT OF WILDLIFE AND FISHERIES

HON. STUART BISHOP, HOUSE OF REPRESENTATIVES COMMITTEE ON NATURAL RESOURCES AND ENVIRONMENT

HON. GLENN BRASSEAU, LOUISIANA MUNICIPAL ASSOCIATION

HON. NORBY CHABERT, SENATE COMMITTEE ON NATURAL RESOURCES

HON. GUY CORMIER, LOUISIANA POLICE JURY ASSOCIATION

JAMES CRAMOND, LOUISIANA RIVER PILOTS' ASSOCIATION

DAVID CULPEPPER, GOVERNOR'S APPOINTEE (GEO-SCIENTIST)

MARK DAVIS, GOVERNOR'S APPOINTEE (WATER LAW)

ANTHONY DUPLECHIN, CAPITAL AREA GROUND WATER CONSERVATION DISTRICT

JOHAN FORSMAN, DEPARTMENT OF HEALTH

PAUL FREY, LOUISIANA LANDOWNERS' ASSOCIATION

KAREN GAUTREUX, LOUISIANA WILDLIFE FEDERATION/LEAGUE OF WOMEN VOTERS/COALITION TO RESTORE
COASTAL LOUISIANA

EVE GONZALEZ, PUBLIC SERVICE COMMISSION

LINDSAY GOUEDY, SPARTA GROUND WATER CONSERVATION DISTRICT

JERRY GRAVES, SR., PORTS ASSOCIATION OF LOUISIANA

TYLER GRAY, LOUISIANA CHEMICAL ASSOCIATION/LOUISIANA MID-CONTINENT OIL AND GAS
ASSOCIATION/LOUISIANA ASSOCIATION OF BUSINESS AND INDUSTRY/LOUISIANA PULP AND PAPER ASSOCIATION

KENNETH GUIDRY, SENATE COMMITTEE CHAIR APPOINTMENT (RESIDENTIAL CONSUMERS)

RICHARD IEYOUB, COMMISSIONER OF CONSERVATION

CHRISTOPHER KNOTTS, DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

BENJAMIN MALBROUGH, HOUSE COMMITTEE CHAIR APPOINTMENT (RESIDENTIAL CONSUMERS)

SHERRI McCONNELL, DEPARTMENT OF ECONOMIC DEVELOPMENT

JAMES "JIM" PRATT, SABINE RIVER AUTHORITY

CHARLES SUTCLIFFE, GOVERNOR'S OFFICE OF COASTAL ACTIVITIES

ELLIOT VEGA, DEPARTMENT OF ENVIRONMENTAL QUALITY

FREDERICK ZAUNBRECHER, GOVERNOR'S APPOINTEE (CHICOT AQUIFER REGION)

LINDA ZAUNBRECHER, LOUISIANA FARM BUREAU

LOUISIANA WATER RESOURCES COMMISSION

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