

Building Strong Collaborative Relationships for a Sustainable Water Resources Future:

STATE OF LOUISIANA

SUMMARY OF STATE WATER PLANNING

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The findings contained in this report are based on the information collected from the literature search and interviews for this initiative and should not be construed as an official Department of the Army position, policy or decision unless so designated by other official documentation.

STATE OF LOUISIANA

1. STATE/REGIONAL WATER PLANNING STATUS

At this time, Louisiana does not have a comprehensive water resources plan or a lead water resources agency. Instead, responsibility for water resources is shared among numerous agencies including the Department of Natural Resources (DNR), Department of Environmental Quality (DEQ), Department of Transportation and Development (DOTD), Department of Health & Hospitals (DHH), and Department of Agriculture and Forests (DAF).

In 1983, the Louisiana Legislature established the Louisiana Water Resources Program within DOTD's Office of Public Works, now the Division of Public Works and Water Resources, for the purpose of "planning for the wise management of Louisiana's water resources on a statewide basis" (Revised Statutes (RS) §38:32). Through the Water Resources Program, DOTD was authorized to engage in the following activities:

- Develop a statewide water resources plans "to assure the availability, safe use, and wise management of the state's water resources in both the short and long terms."
- Develop a water resources and sewer information database for planning and decision-making.
- Establish priorities for water development consistent with the water resources plan.
- Adopt rules and regulations for prioritizing development projects for funding.

An Interagency Water Resources Coordinating Committee was convened to ensure cooperation and coordination of activities of state and federal agencies that have water resources responsibilities (DOTD, 2009). The Chief of the Public Works and Water Resources Division served as chair of the Committee and the Chief of Federal Programs served as the chairman for the Technical Advisory sub-committee. Although still legally authorized, the Interagency Water Resources Coordinating Committee and the Louisiana Water Resources Program appear to be obsolete.

During the 2001 Regular Legislative Session, the State Legislature enacted Act 446, which created the Ground Water Management Commission. One of the duties of the Commission was to develop and implement a comprehensive statewide water management plan. A private consulting firm was hired to develop a report, "Assistance in Developing the Statewide Water Management Plan (2002)," to advise the Legislature on behalf of the Commission. The report made the following recommendations:

- *The state should develop a statewide comprehensive water resources management plan.*
- *A new agency dedicated to ground water management, the Office of Water Resources, should be established within DNR.*
- *A database using GIS should be developed that indexes water resources studies and data.*
- *The Legislature should adopt rules and procedures for the designation of critical ground water areas.*
- *Cooperation and coordination between various state, federal, and local agencies should be improved.*

Based on the report, state did not move towards the development of a statewide plan but did consider some of the Commission's other recommendations. In 2003, the Legislature created the Ground Water Resources Commission (GWRC) within DNR's Office of Conservation (RS §38:3097.4). It also created the Louisiana Water Resources Information Center within DOTD's Office of Public Works (RS §38:91) and authorized the Commissioner of Conservation to designate areas of the state as "areas of ground water concern" (RS §38:3097.6). GWRC comprises the following executive members:

- Governor Jindal
- Commissioner of Conservation
- Commissioner of Agriculture and Forestry
- Secretary of the Department of Economic Development
- Secretary of DEQ
- Secretary of DHH
- Secretary of the Department of Wildlife and Fisheries
- Secretary of DOTD
- Director of the Governor's Office of Coastal Activities
- Ten Governor-appointed individuals representing state and regional interests

GWRC is authorized to work with the Commissioner of Conservation on the development of a statewide groundwater resource management program and plan (RS §38:3097.4). This program/plan is required to include an evaluation of the state's ground water resources, estimations of current and projected water demands, development of a water conservation program, analysis of ground water alternatives such as reclaimed water, development of incentives for conservation, and education programs, where conservation is emphasized as the primary mechanism for the ground water protection. The Commission was directed to hold public hearings and consult with local entities on the development of this program. To facilitate public involvement, a Ground Water Advisory Task Force was established. Both the GWRC and Task Force are active but there are no clear indications that a statewide water resources plan will be formulated.

Recent legislation has combined the groundwater management duties of the Department of Natural Resources Office of Conservation and the Department of Transportation and Development. The combined duties of the two agencies are now under the jurisdictional umbrella of the Department of Natural Resources.

2. RESPONSIBLE STATE AGENCIES/REGIONAL ENTITIES

DNR's Office of Conservation manages the state's ground water resources program (DNR, 2009) with oversight from the GWRC and Task Force. The Office of Conservation is one of three main sections of DNR; the others are the Office of Mineral Resources and Office of Coastal Restoration & Management.

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DNR's Coastal Restoration Division is responsible for all aspects of coastal conservation and restoration projects. These include projects for freshwater introduction and diversions, sediment diversions, marsh creation, marsh management, hydrologic restoration, use of dredged materials, shoreline protection, vegetation planting, sediment and nutrient trapping, and outfall management (DNR, 2008). The division also implements programs and feasibility and research studies related to the protection and restoration of Louisiana's coastal wetlands and marshes.

DOTD works closely with several federal agencies, including the U.S. Army Corps of Engineers and U.S. Geological Survey, to administer projects and programs related to dam safety, levee construction, flood and floodplain management, navigation, and port and harbor infrastructure.

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DEQ has numerous powers and duties with respect to water quality control, except with respect to drinking water, which is the responsibility of DHH. DEQ is the designated state agency for carrying out U.S. Environmental Protection Agency assessments and regulations. DEQ's Secretary has the authority to adopt and promulgate rules and regulations to prevent water pollution.

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DHH's Center for Environmental Health Services enforces the Louisiana State Sanitary Code. The Center monitors water systems for drinking water quality and conducts facility reviews of

new and existing water/wastewater plants. They also manage the on-site wastewater program whose mission is to prevent untreated or improperly treated sewage from being discharged into the environment. Through the program, DHH licenses and regulates installers, haulers, sub-manufacturers and manufacturers of on-site wastewater treatment systems.

Other state agencies such as DAF and the Department of Wildlife and Fisheries plan and manage water resources for recreation and environmental purposes.

3. WATER MANAGEMENT VISION AND GOALS

DNR's vision is, "Louisiana's rich natural resources will be protected and managed prudently. DNR will provide for coastal ecosystem sustainability and be recognized nationally and internationally for environmentally sensitive and progressive natural resource management. Louisiana will continue to become a more beautiful state and a safer place to live, work, and play, and DNR will be known as 'the agency that gets it done' (DNR, 2008)." DNR's mission is, "to manage, protect, and preserve the State's natural resources which includes oil, gas, lignite and other minerals, groundwater and coastal wetlands, and renewable energy through conservation, regulation, and scientific and fiscally- sound management, in a manner that builds satisfying relationships with our stakeholders who are citizens, business and industry customers, educational communities, other state, federal, and local agencies, DNR employees, and the State Legislature."

DNR's Strategic Plan 2008 to 2013 outlines the mission, goals, objectives and strategies for each of its three main sections. Goals, objectives, and strategies for the Office of Conservation include:

1. *Ensure protection of public health and the environment from hazards associated with the transportation of hazardous liquids and with the exploration, production, transportation, distribution, and disposition of oil, gas, lignite, and associated wastes, and conservation of ground water resources.¹*
 - *Objective: Ensure protection of public health and the environment through inspections of injection/disposal wells, in areas affected by the operation of commercial oil and gas exploration and production waste treatment and disposal facilities, annually through 2013.*
 - *Strategy: Proactive management of injection/disposal wells, commercial oil and gas exploration, and production waste treatment and disposal operations to identify and correct violations before they endanger public health and the environment.*
 - *Objective: Protect the public and environment during surface coal mining and reclamation operations by ensuring that there is no more than one significant violation, annually through 2013.*
 - *Strategy: Conduct inspections of each surface coal mining facility to identify and correct minor violations to prevent unreasonable degradation of land and water*

¹ Only goals, objectives and strategies directly related to water resources are included.

resources that would be detrimental to the general welfare, health, safety, and property rights of the citizens of Louisiana.

- *Objective: Ensure the State's water bottoms are as free of obstructions to public safety and navigation as possible by removing 25 underwater obstructions per year relative to the Underwater Obstructions Program, to prepare and let for bid within 60 days 100 percent of all referrals by the Louisiana Department of Wildlife and Fisheries (LDWF) of lists of obstructions selected for removal or of areas to be surveyed relative to the Shrimp Fishing Ground Rehabilitation Underwater Obstructions Project, and ensuring that 95 percent of site clearance plans are approved within 30 days of receipt.*
 - *Strategy: Investigate, document, characterize, and remove existing potential underwater obstructions, including those that may have been the result of drilling and production activities.*
 - *Strategy: Investigate, document, characterize, and remove existing potential underwater obstructions deposited in shrimping and fishing grounds by Hurricanes Katrina and Rita using data provided by the LDWF, or if none is available in certain areas of interest, solicit bids for side scan surveys and remove obstructions located.*
 - *Strategy: Review and validate application data received for approval of site clearance operations on abandoned oil- and gas-related facilities to prevent the potential for future underwater obstructions.*
- *Objective: Prevent or alleviate adverse impacts to the sustainability of the State's aquifers caused by withdrawal of ground water from the aquifers within the State by requiring prior registration in the form of a Notice of Intent to Drill of all new wells by the owners; and by notifying, within 30 days of receipt of Notice of Intent, 85 percent of the well owners regarding limits on withdrawal rate or volume.*
 - *Strategy: Develop a database that captures the number (volume) of new ground water wells to assist the program in the prevention or alleviation of adverse impacts to the sustainability of the State's aquifers.*

Goals, objectives, and strategies for the Office of Coastal Restoration and Management include:

1. *Conserve coastal wetlands by carrying out the no net loss of wetlands policies of the State and Local Coastal Resources Management Act and the Coastal Wetlands Conservation Plan.*
 - *Objective: Ensure the loss of wetlands resulting from activities regulated by the program will be offset by actions that fully compensate for their loss (as stipulated by permit conditions) on an annual basis.*
 - *Strategy: Utilize local, state, and federal regulatory processes to ensure that developmental activities cause minimal impacts to wetlands, and that unavoidable wetland impacts are mitigated for the duration of the strategic planning period.*
 - *Strategy: Work with local, state, and federal agency partners to resolve mitigation issues requiring interagency coordination for the duration of the strategic planning period.*
2. *Preserve, enhance, restore, and protect Louisiana's coastal wetlands.*

- *Objective: Develop and construct projects to protect, restore, enhance, or create vegetated wetlands annually from fiscal year 2005 to 2006 through fiscal year 2011 to 2013.*
 - *Strategy: Implement procedures and protocol to plan, act as cost-share partner, acquire land rights and permits, perform ecological reviews, and design and construct coastal restoration projects.*

The mission of DOTD's Public Works and Water Resources Division is, "to develop the full potential of Louisiana's water related resources by administering programs and implementing infrastructure projects relating to controlling, developing, conserving and protecting all aspects of the resources (DOTD, 2007)." According to their Strategic Plan 2008 to 2013, water resources objectives, and strategies include:

1. *Conduct the State's maritime infrastructure development activities to ensure that Louisiana maintains its top position in maritime commerce.*
 - *Strategy: Use state funds as cost share for Port Construction and Development Priority Program projects that will provide to the state at least five times the state's investment.*
2. *Optimize the State's flood control activities, both structural and non-structural, by investing in flood control projects that will return at least three times the state's investment in flood damage reduction benefits through June 30, 2013.*
 - *Strategy: Use state funds as cost share match for Federal Corps of Engineers flood control projects that will provide at least three times the state's investment in flood damage reduction benefits.*
 - *Strategy: Use state funds as cost share for statewide flood control projects that will provide at least three times the state's investment in flood damage reduction benefits.*
 - *Strategy: Use state funds as cost share for Hurricane Priority Program projects that will provide at least three times the state's investment in flood damage reduction benefits.*
3. *Objective: Increase participation in the Federal Emergency Management Agency (FEMA) Community Rating System (CRS) so that 82 percent of flood insurance policyholders receive insurance rate reductions annually by June 30, 2013.*
 - *Strategy: Promote activities and projects eligible for CRS.*
4. *Objective: Complete 100 percent of the required water resources infrastructure condition and serviceability assessments (flood protection systems, dam safety, and water wells) each fiscal year through June 30, 2013.*
 - *Strategy: Perform hurricane flood protection system assessment inspections (levees, floodwalls, pump stations and drainage structures).*
 - *Strategy: Perform the scheduled dam safety inspections.*
 - *Strategy: Perform the required water well inspections.*
5. *Develop a Statewide Marine Transportation System (MTS) Program for Louisiana's navigable waterways to facilitate economic development and mitigate highway congestion by June 30, 2013.*
 - *Strategy: Assess the needs and determine the priorities for improving Louisiana's navigable waterways system by December 31 of each year.*

- *Strategy: Identify sources of state funding for waterways projects and submit appropriate legislation by March 31, 2009.*
- *Strategy: Seek funding for projects of importance to Louisiana by March 31 of each year.*
- *Strategy: Partner with the Corps, port authorities, MPOs [Metropolitan Planning Organizations], and other stakeholders to complete navigation projects.*

The mission of DEQ is, “to provide service to the people of Louisiana through comprehensive environmental protection in order to promote and protect health, safety and welfare while considering sound policies regarding employment and economic development (DEQ, 2009(a)).” DEQ’s goals related to water quality are:

1. *Protect public safety, health and welfare by protecting and improving the environment (land, water, and air).*
2. *Increase compliance with environmental laws (both voluntary and mandatory compliance) that meet state and federal mandates.*

Each of DEQ’s offices has its own mission, goals, and objectives that are aligned to the department’s goals. These offices include the Office of Environmental Compliance, Office of Environmental Services, and Office of Environmental Assessment.

4. SCOPE OF WATER RESOURCES PLANNING AND MANAGEMENT

Historically, water resources activities in Louisiana have centered on flood control including the construction of the state’s extensive levee and flood control system. Currently, 75 percent of the state’s population and 60 percent of the state’s agriculture fields are protected by levees. Because water resources management involves large engineering projects and construction, the state, through DOTD, works closely with the USACE. In addition to flood control, the Corps assists with navigation and droughts.

DOTD also works with the USGS on the collection of water withdrawal and water use information (USGS, 2009). Every five years, USGS and DOTD issue a joint report. The last report, *Water Use in Louisiana*, was published in 2007. Analysis of 2000 to 2005 data suggest that water withdrawals for all uses has decreased slightly (Figure 1); however, since 1960, Louisiana’s population has increased by 39 percent and public-supply withdrawals have increased by 170 percent.

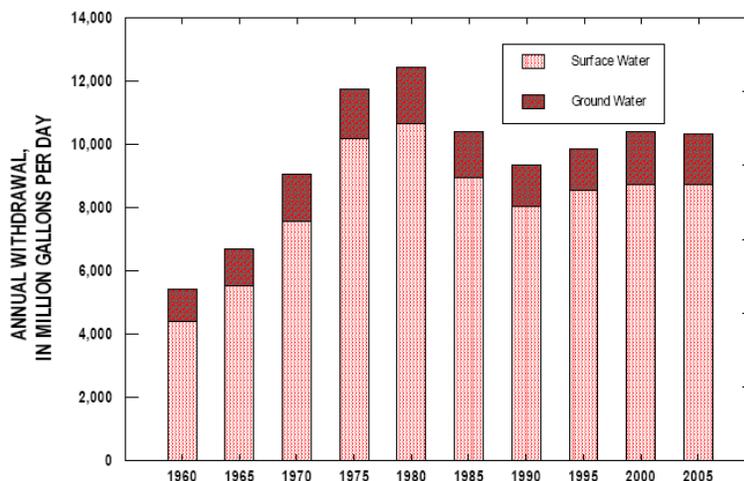


Figure 1. Total Water Withdrawal in Louisiana, 1960 to 2005 (USGS, 2007)

Although groundwater does not contribute significantly to the overall water use in the state, as mentioned, planning efforts focus primarily on ground water resources. [WHY?] [See questions] Since being granted the authority to designate “areas of ground water concern” in 2005, the Commission of Conservation has designated three areas in the state, all within the Sparta Aquifer of northern Louisiana. These areas include portions of the Ouachita, Lincoln, Jackson, and Bienville parishes. Currently the DNR is in the process of re-evaluating those designated areas.

Within the areas of concern, the Office of Conservation requires that:

1. *An aggressive water conservation education program be conducted.*
2. *Owners of non-domestic Sparta water wells submit a monthly water usage report .*
3. *Alternative sources of potable water be vigorously pursued to alleviate excess usage of Sparta groundwater.*

Designation as an area of ground water concern does not involve imposing water withdrawal restrictions. It directs monitoring and facilitates the development of remedial actions in those areas. Well owners are required to report their withdrawals on a monthly basis, with the Office of Conservation to perform an evaluation of those reports. If future conditions warrant withdrawal restrictions, the Commissioner has the authority to impose restrictions on a case-by-case basis.

Beginning in the summer of 2008, public concern has arisen regarding the rapid growth of natural gas exploration in the Haynesville Shale and the implications on public drinking supplies. The concern is over the possible drawdown of the Carrizo/Wilcox Aquifer as a result of the intensive water use required during hydraulic fracturing (fracing) conducted to release the natural gas in the geologic formation. To address the situation the DNR has held meetings with local governments and authorities, conducted outreach and education in the area, issued an advisory to the oil and gas industry related to the limitations of the aquifer, suggested alternative water sources to the industry, developed a GIS database with the USGS to evaluate the impact of new wells on water supply, and proposed an amendment to environmental regulations that would temporarily allow the oil and gas industry to use produced water, or water used in the natural gas

and oil production process that otherwise must be deep well injected, while they develop alternative sources of water.

DEQ uses a four-year rotating watershed approach to conduct water quality monitoring and assessments. Assessments are conducted every two years on all water body sub-segments according to Clean Water Act 305(b)/303(d) requirements and incorporated into an Integrated Report (DEQ, 2009b). Sub-segments are Louisiana's watershed management units; they range in size and may encompass a portion of or an entire watershed. There are approximately 476 sub-segments in the state. Many of Louisiana's coastal wetland sub-segments are not true watersheds since flow in these areas is not unidirectional. Often, levees, roads, canals or other structures are used to break these areas into manageable units with similar water quality characteristics.

Louisiana collaborates with several states and regional groups, such as the Mississippi River Commission, to address water quality issues and the hypoxic zone problem in the Gulf of Mexico. Louisiana has representation on groups concerned with the Sabine River, Toledo Bend, and Caddo Lake, all on the Texas/Louisiana border. Louisiana has also worked occasionally with Mississippi on issues dealing with the Pearl River. However, DEQ does not coordinate its monitoring or assessments on shared waters.

Funding for water and wastewater development is available through the Louisiana Water/Wastewater Joint Funding Committee (LWWJFC), an interagency committee consisting of federal and state agencies that offer financial assistance for water and wastewater projects (DEQ, 2009c). Members of the LWWJFC include the U.S. Department of Agriculture, Louisiana Division of Administration, DEQ, and DHH. DEQ offers assistance through the Clean Water State Revolving Fund while DHH provides funds through the Drinking Water State Revolving Fund.

5. PARTNERSHIPS, STAKEHOLDER, AND PUBLIC INVOLVEMENT

Louisiana partners with many Federal entities for water resource planning and management including: the U.S. Army Corps of Engineers, U.S. Coast Guard, U.S. Environmental Protection Agency, U.S. Department of Agriculture, U.S. Department of Transportation, U.S. Department of Energy, Federal Emergency Management Agency, and U.S. Department of the Interior. The state also works with several state, regional, and local entities. The public is given the opportunity to participate in statewide water planning through the Ground Water Advisory Task Force and through the various Soil & Water Conservation Districts (Figure 2).

6. PLAN IMPLEMENTATION STRATEGY

Plans for water quality and water supply management are implemented through programs and strategies that are identified in the various departmental strategic plans. Strategic plans are updated every 3 to 5 years and have 5-year planning horizons.

7. OUTCOMES ASSESSMENT PROCESS

Each department's strategic plan contains performance measures that could support outcomes assessment such as an annual report. Of the three main water resources agencies, DEQ and DOTD publish annual reports. Of the two, only DOTD reports on performance measures as outlined in its strategic plan.

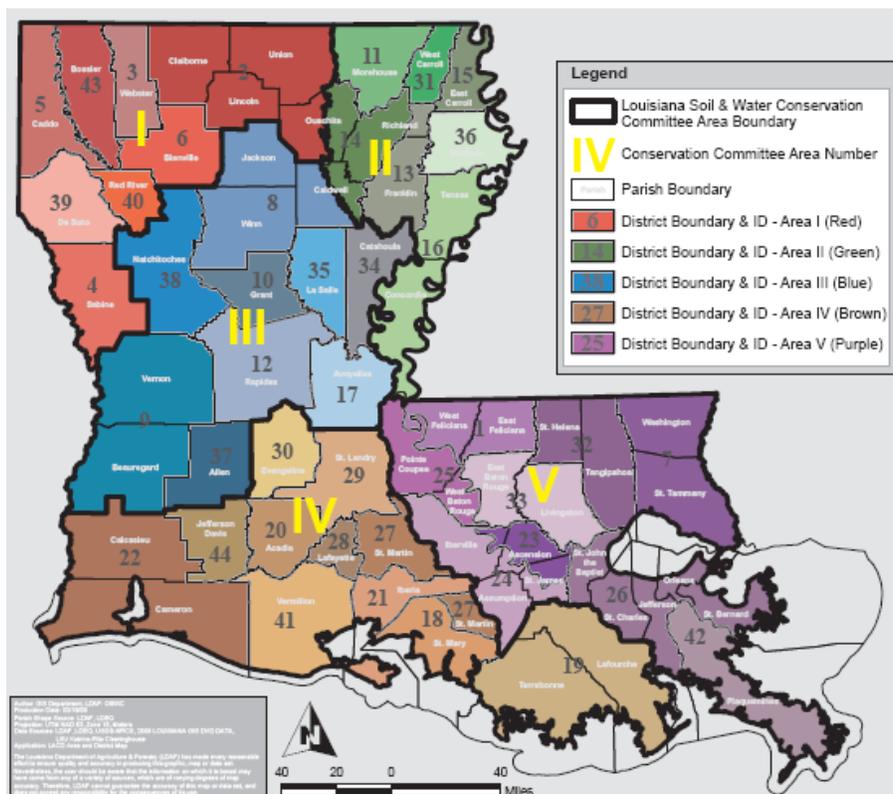


Figure 2. Louisiana's Soil & Water Conservation Districts & Areas (DAF, 2009)

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