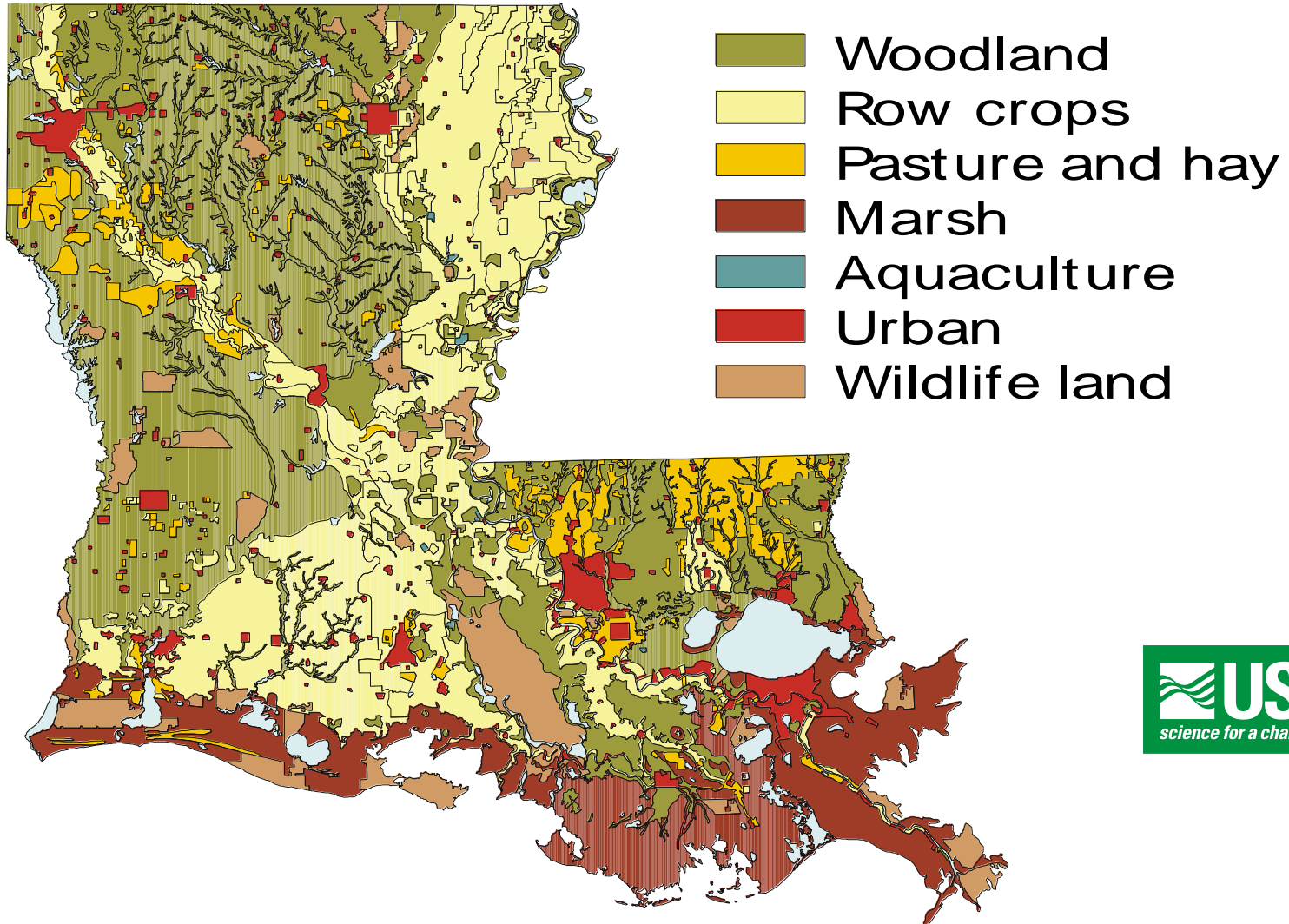


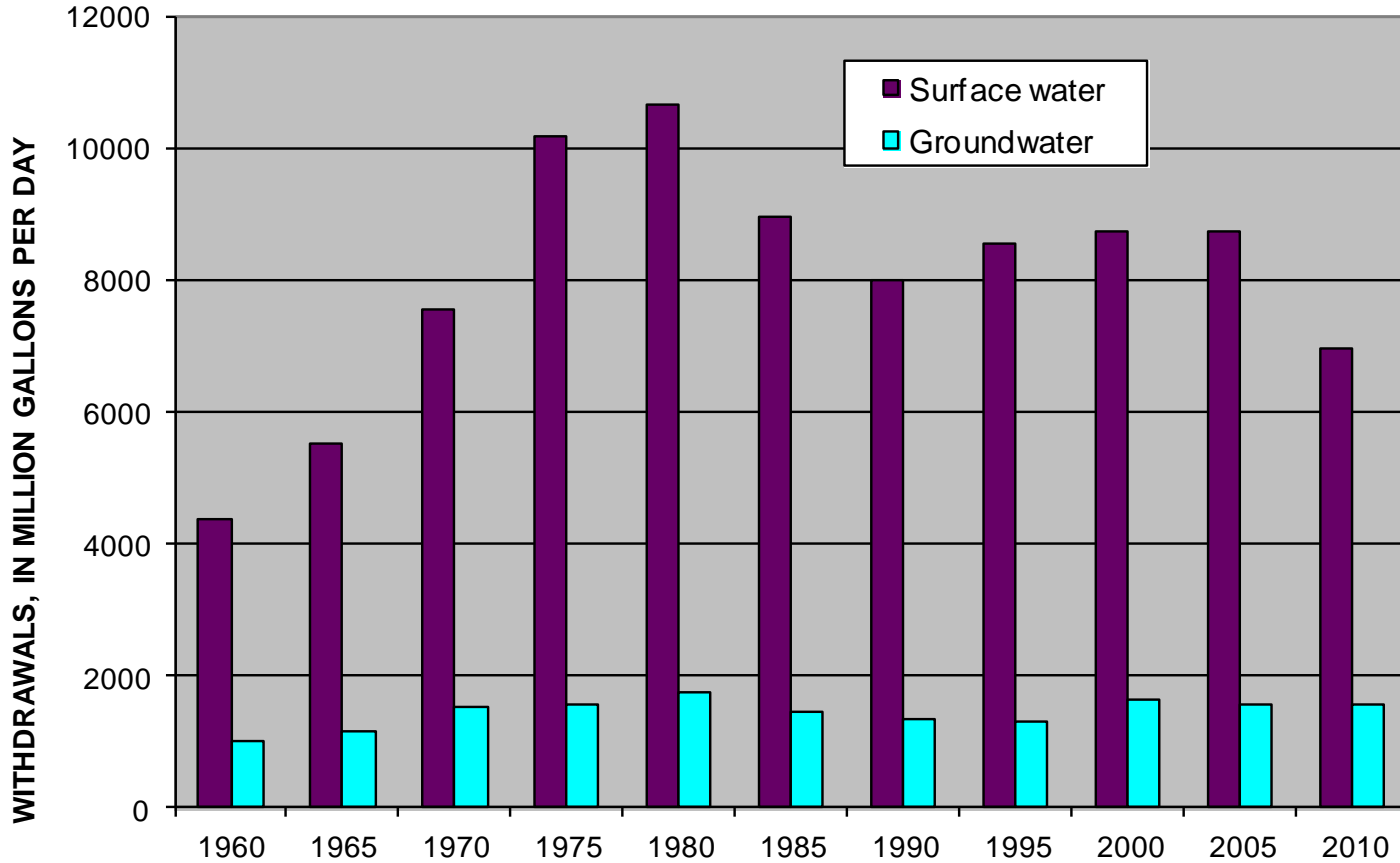
STATE WATER MANAGEMENT FOR ENERGY DEVELOPMENT

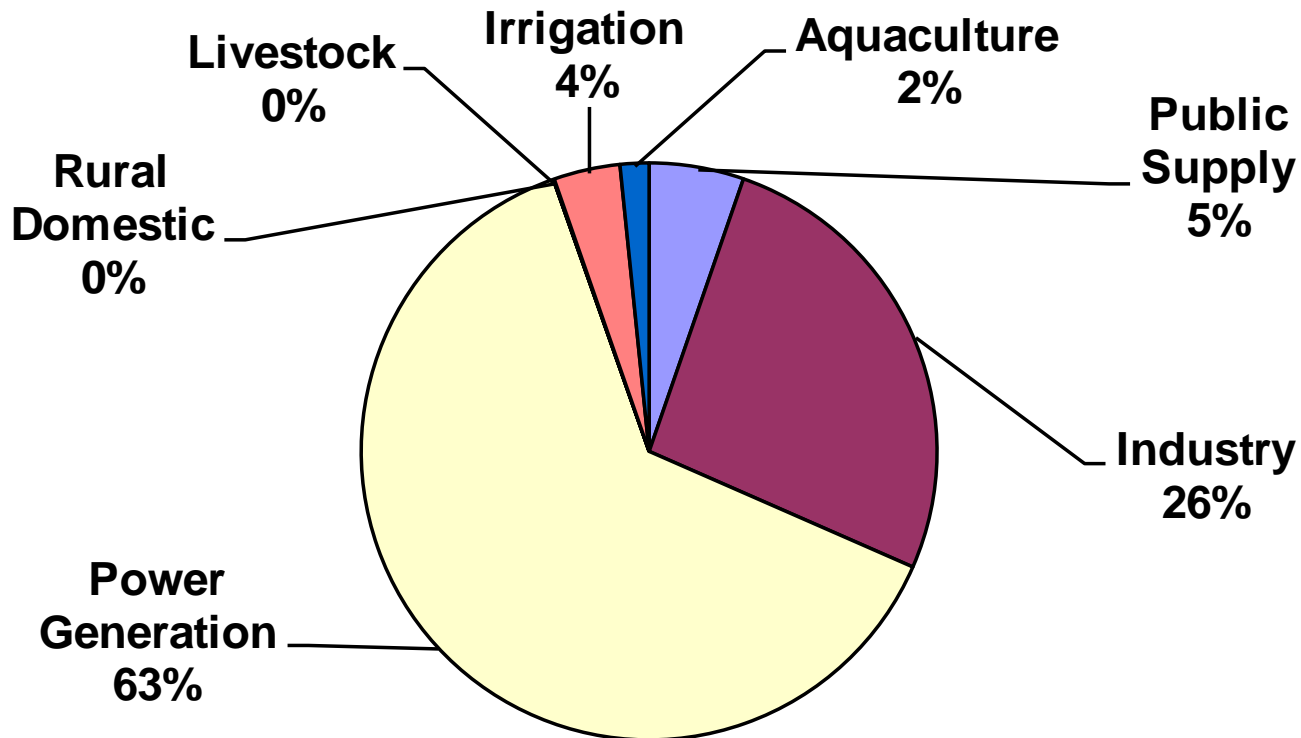
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LAND USE IN LOUISIANA



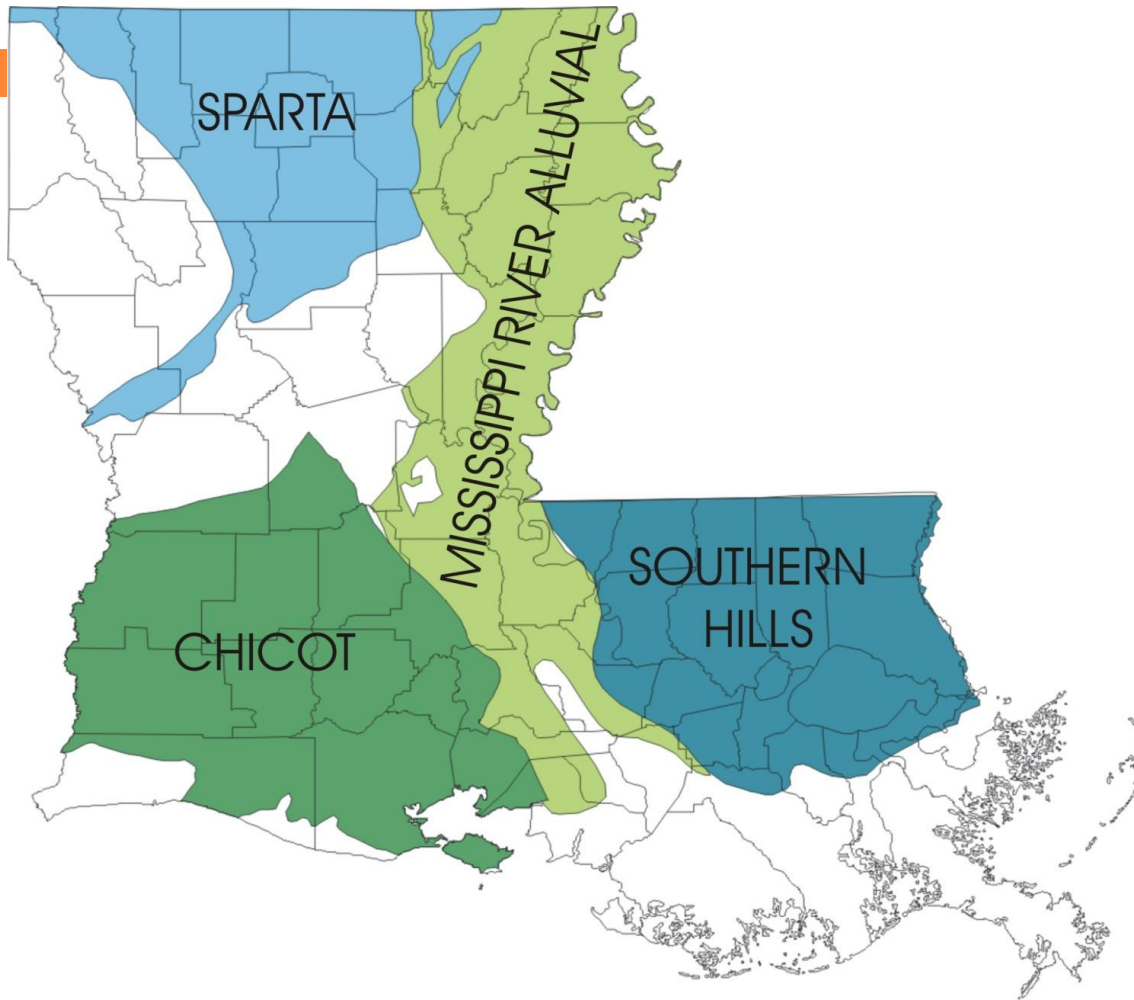
WATER WITHDRAWALS IN LOUISIANA, 1960-2010



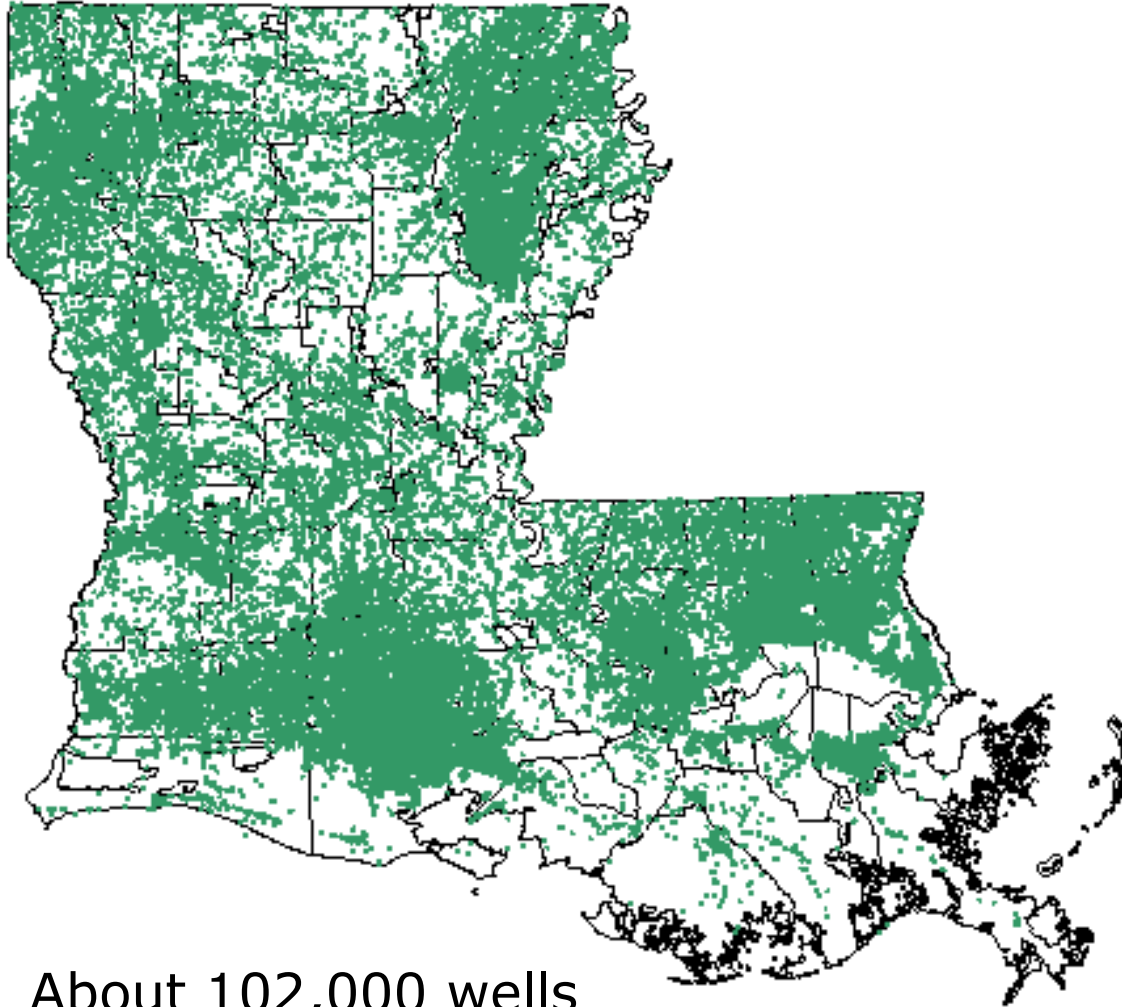


**SURFACE-WATER WITHDRAWALS, 2010
(6,960 MILLION GALLONS PER DAY)**

Major Aquifers and Systems



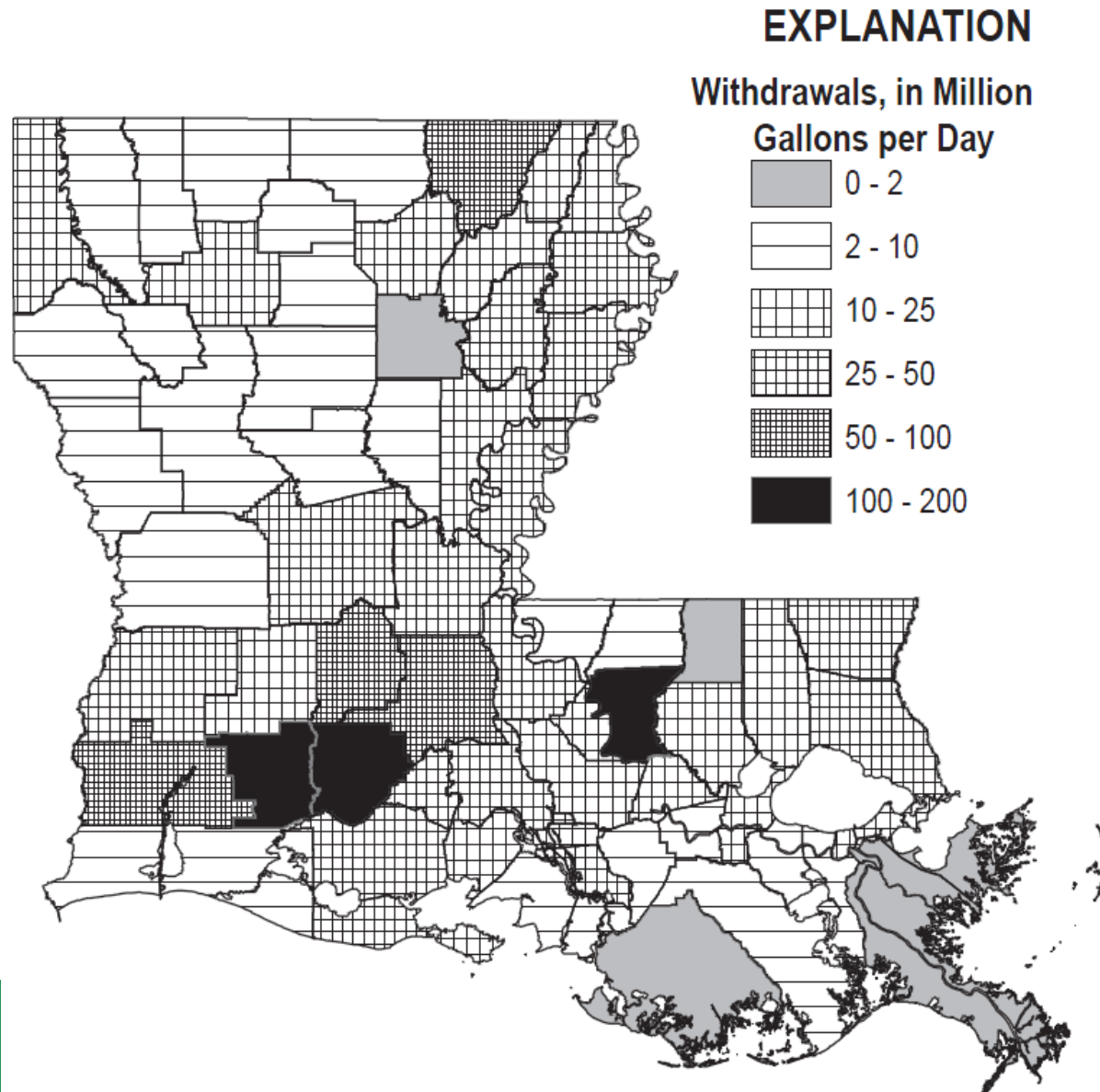
Louisiana's Wells, 2010



About 102,000 wells



Groundwater Withdrawals by Parish, 2010





Ground Water Management

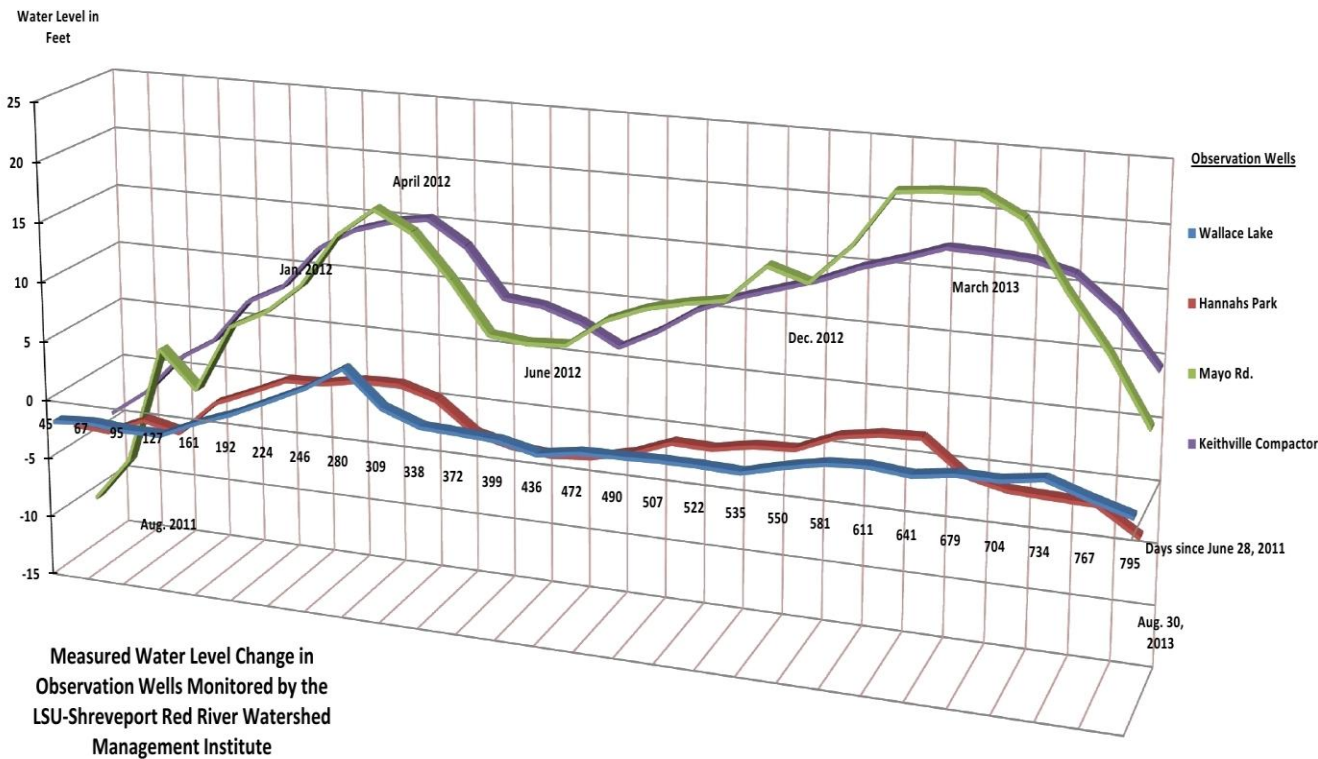
Management Agencies

- 4 Federal Agencies
- 8 State Agencies
- 2 Groundwater Conservation Districts
- More than 700 local entities—watershed, reservoir, water conservation, and sewerage districts; lake and waterway commissions; waterworks and recreational boards, etc.

Louisiana Water Resources Commission

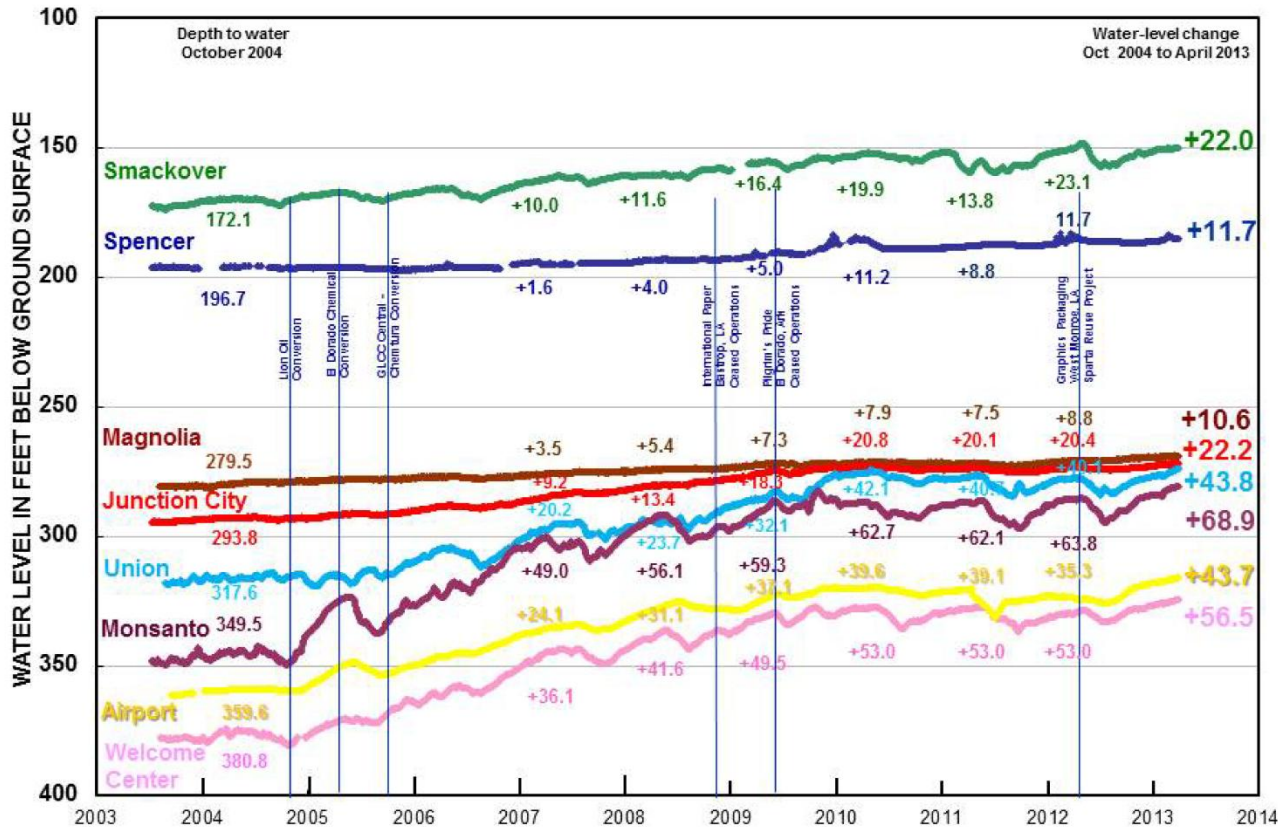
- Created in 2001 as Ground Water Resources Commission, along with Ground Water Management Advisory Task Force
- Commission and Task Force housed in Louisiana Office of Conservation
- *Managing Louisiana's Groundwater Resources: An Interim Report to the Louisiana Legislature (March 2012)*
- Act 471 of 2012 expanded Commission both to include surface water
- Expanded scope of authority to include ground and surface water resources review
- Expanded membership

Groundwater Emergency Order: South Caddo Parish



Showing water level measurements in wells monitored by the Red River Watershed Institute (LSU-Shreveport) .

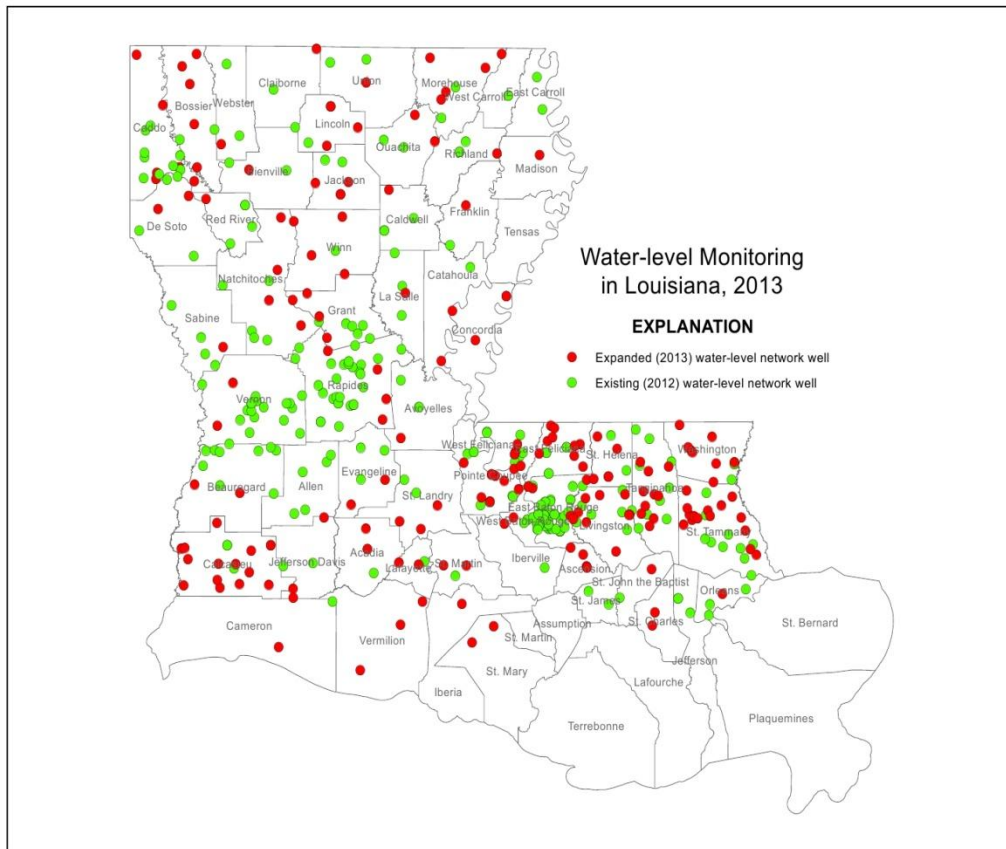
Areas of Groundwater Concern: Sparta Aquifer System



Showing increased levels, 2004-2013 in Arkansas USGS monitored wells of the Sparta Aquifer system, including at Spencer (Union Parish) and Junction City (Claiborne Parish). *Schrader & Freiwald, 2013.*



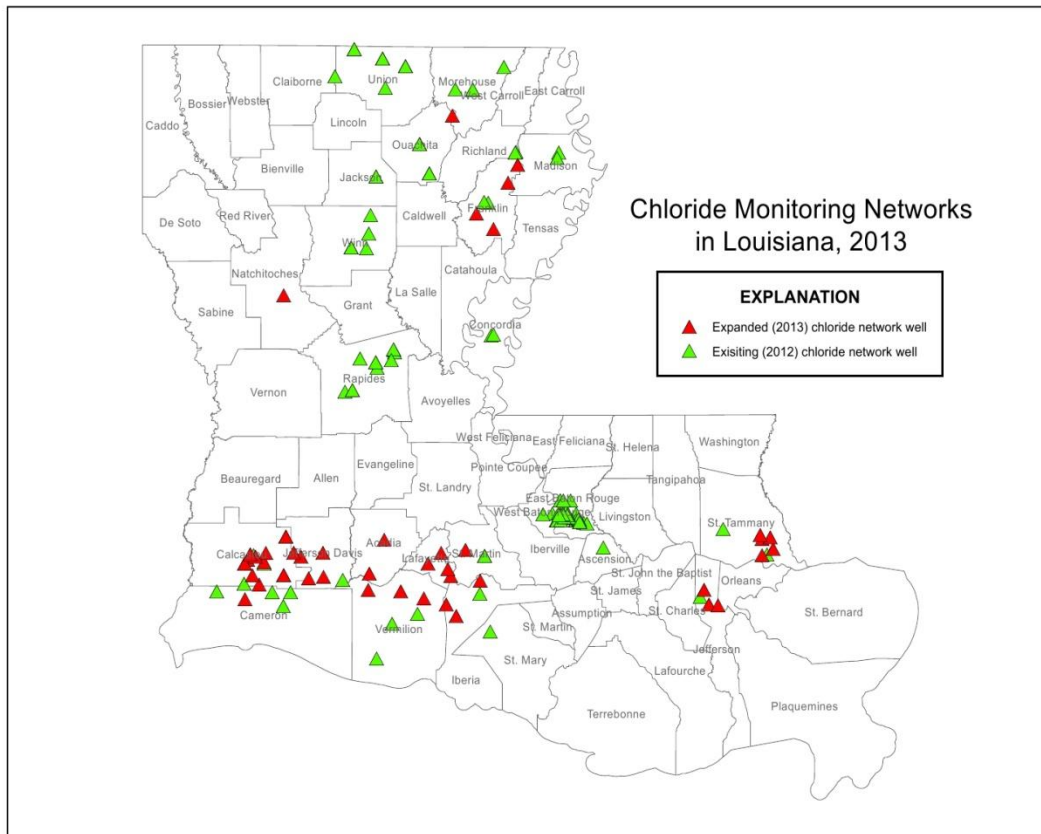
Expanded Monitoring Network



Showing the existing water-level monitoring well network (green) and the expanded network (red), as of April 2013.



Expanded Monitoring Network



Showing the existing chloride monitoring well network (green) and the expanded network (red), as of April 2013.





Surface Water Management

Act 955 – Surface Water Mgmt. Act

WHY WAS LEGISLATION ENACTED?

In response to several requests the Attorney General issued a memorandum opining that

“Under Louisiana Law, persons with the possible exception of riparian landowners, are not authorized to remove State owned surface water without obtaining the prior written approval of the State and without paying fair value.”

In addition, in subsequent legal opinions the Attorney General opined that such waters are owned by the State in its capacity as a public person and holds it in trust for the people of the State.

He further opined that such waters must be purchased pursuant to the laws governing the sale of State property if it is to be used for anything other than a public purpose and that La. Const. Art.VII Section 14 applies (State can't donate property, or things of value)

The Attorney General has opined that agreements for the sale of surface water must:

1. Be a writing in the form of a contract or cooperative endeavor agreement;
2. Be approved by the Secretary of Natural Resources, and the Attorney General;
3. And be for a fair value.

Act 955 – Surface Water Mgmt. Act

PROCESS

Applicant

- Completes Application Form
- Develops Plan of Water Use
- Proposes payment method
- Submits Application

LDNR

- Review applications
- Submits to agencies for technical review (LDWF, CPRA, DEQ, LSU Center for Energy Studies [to verify economic impact])
- Reviews Comments and Develops Conditions
- Drafts Cooperative Endeavor Agreement
- Sends to applicant for execution

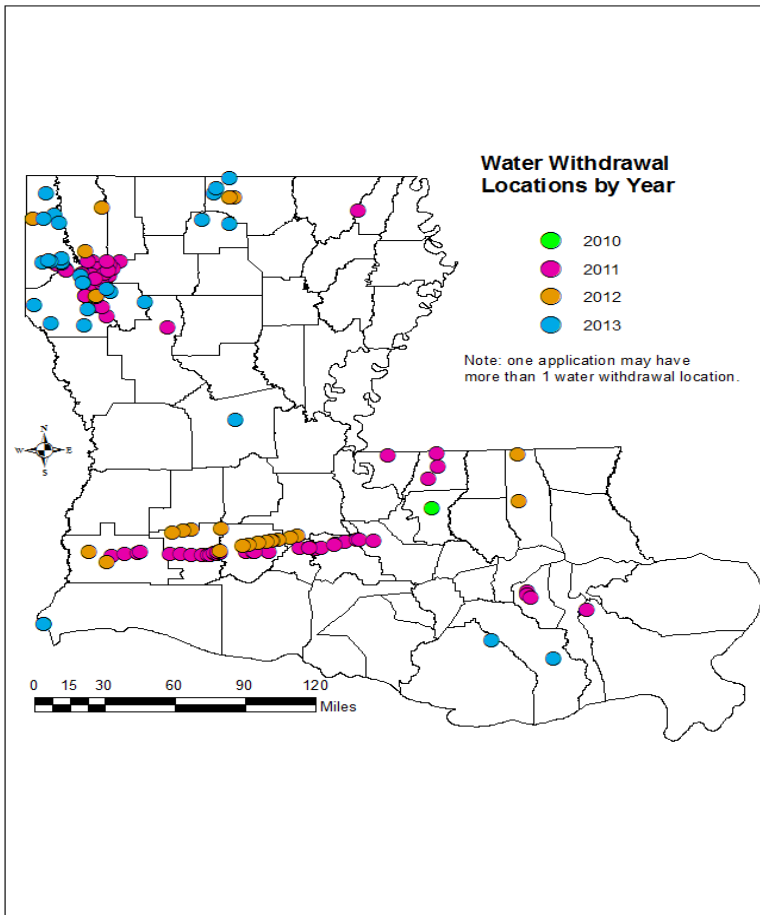
PROTECTION OF THE RESOURCE

DNR Secretary is required to make sure each withdrawal agreement provides for The Secretary's authority to protect the resource and to maintain sustainability and environmental and ecological balance.

The Secretary may take action to protect the resource including:

1. Suspension or termination of the withdrawal of water.
2. Other necessary actions.

Act 955 of 2010 (Surface Water Management Act)

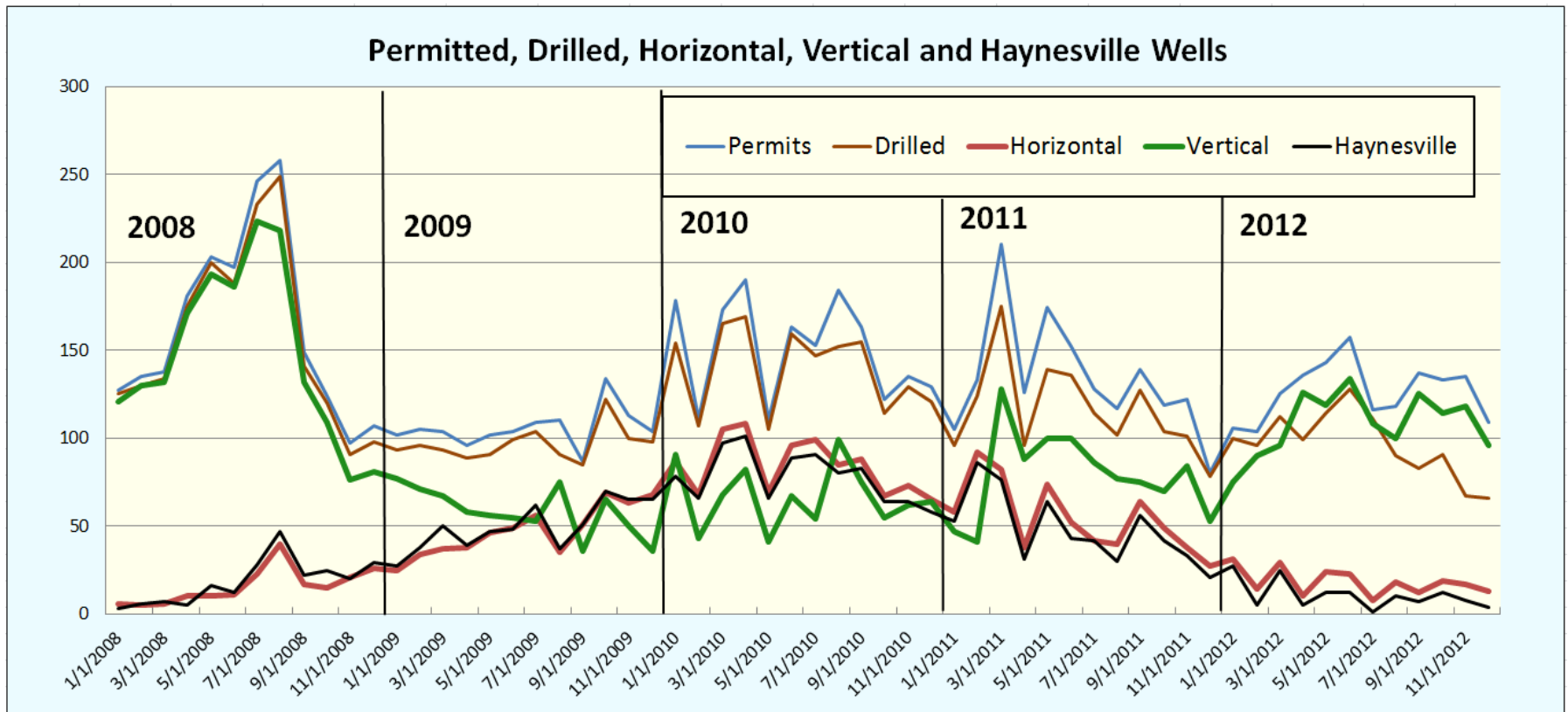


Showing water withdrawal locations by year, under Surface Water Management Act. *DNR, 2013.*



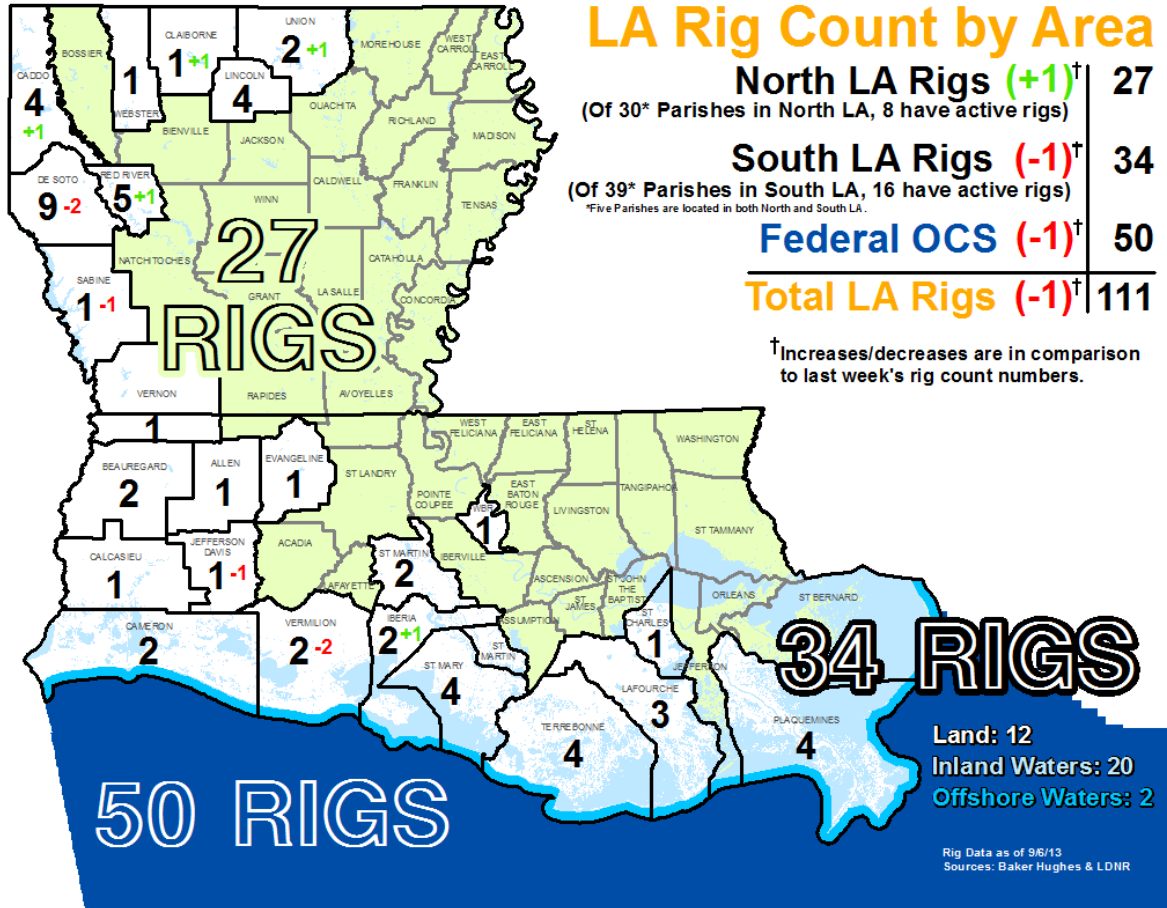
Oil & Gas Development Overview

Emerging Technologies for Energy Exploration



Showing energy exploration activity in Louisiana, 2008-2012.
DNR/OC, 2013.

Emerging Technologies for Energy Exploration



Showing yearly rig count average, 2008-2012, and current rig count as of 4/26/2013. DNR/OC, 2013.

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