



National Association of Clean Air Agencies Spring Membership Meeting

Air Quality in Louisiana

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May 4, 2009





Louisiana (also known as New France) was named after Louis XIV, King of France. When René-Robert Cavelier, Sieur de La Salle claimed the territory drained by the Mississippi River for France, he named it *La Louisiane*, meaning "Land of Louis". The territory was acquired in 1803 by the United States through the Louisiana Purchase from France. Once part of the US, the Louisiana Territory stretched from present-day New Orleans north to the present-day Canadian border. Part or all of 15 states were formed from the territory.





A Little History

Let the Land rejoice, for you have bought Louisiana for a Song." --Gen.
Horatio Gates to President Thomas Jefferson, July 18, 1803

Purchase Price \$15M





The Air Control Law

The Louisiana Air Control Commission was established on July 12, 1964. Act 259 was signed into law by Governor John Julian McKeithen.





The First Air Control Rule

November 4, 1965

- General definitions, duties of the Air Control Commission and a prohibition against undesirable levels of air pollution.
- The focus seemed to be associated with open burning. The rule stated what was acceptable to burn.



The First Permit

September 9, 1969

Angus Chemical today





Baton Rouge, LA circa 1970



DEQ Arrives

- In 1983, legislation creating the Department of Environmental Quality (DEQ) passed the Legislature.
- On February 1, 1984, under Governor Dave Treen, the Department of Environmental Quality became a reality.



LDEQ ORGANIZATIONAL CHART

ENVIRONMENTAL SERVICES

WATER PERMITS

WASTE PERMITS

AIR PERMITS

PERMITS SUPPORT DIVISION

ENVIRONMENTAL COMPLIANCE

SURVEILLANCE

ENFORCEMENT

EMERGENCY RESPONSE & RADIOLOGICAL SERVICES

ENVIRONMENTAL ASSESSMENT

AIR QUALITY ASSESSMENT

WATER QUALITY ASSESSMENT

TECHNOLOGY

REMEDIATION

LABORATORY SERVICES

UNDERGROUND STORAGE TANK

MANAGEMENT & FINANCE

FINANCIAL SERVICES

INFORMATION SERVICES

GENERAL SERVICES

HUMAN RESOURCES



Louisiana Quick Facts



Louisiana ranks fourth among the States in crude oil production, behind Texas, Alaska, and California (excluding Federal offshore areas, which produce more than any single State).

The Louisiana Offshore Oil Port (LOOP) is the only port in the United States capable of accommodating deep draft tankers.

Two of the U.S. Strategic Petroleum Reserve's four storage facilities are located in Louisiana.

The Henry Hub is the largest centralized point for natural gas spot and futures trading in the United States, providing access to major markets throughout the country.

The liquefied natural gas (LNG) import terminal at Lake Charles is the largest of five existing LNG import sites in the United States.

The Exceleerate Energy Gulf Gateway Deepwater Port/Energy Bridge, which came online in 2006, is the only offshore LNG terminal in the United States and is the first new LNG import facility constructed in more than 20 years.

Louisiana is home to two nuclear power plants, Entergy's Riverbend Nuclear Facility and Waterford Nuclear Facility and four coal power plants, Cleco Rodemacher and Dolet Hills, Entergy's Nelson Coal Unit, and NRG's Big Cajun Facility.



Gasoline Pipelines



Colonial Pipeline – 5500 miles and 2.3 MBD Capacity



Fuel Disruptions

- Hurricane Ike shut 15 refineries in the Gulf Coast's refinery row and shut several pipelines as well. The outages have driven U.S. gasoline inventories to their lowest levels since 1967, and refinery utilization rates have sunk to their lowest rates on record.
- Supply disruptions could continue in some areas of the country for weeks, the U.S. government said on Wednesday.
- In Nashville, Tennessee, there were reports on local television of people cutting in line and fighting at gasoline stations as motorists rushed to stock up after a news report that Colonial Pipeline was running below normal capacity, said Doria Gibbons, a nurse who lives in the city.
- Colonial Pipeline runs gasoline and diesel from Houston to the Northeast.
- Asheville, North Carolina, a town of about 70,000 in the mountainous western part of the state, also has suffered severe shortages.
- Idling cars lined up for a quarter mile at some stations selling gasoline near \$5 per gallon.



Oil and Gas Industry

- Louisiana has over 83,000 miles of pipelines moving natural gas, crude, and refined products.
- Louisiana is the birth place of offshore oil and gas exploration which began with the first offshore oil well drilled by Kerr-McGee in 1947.
- Some 30 percent of all domestic oil production comes from the Gulf of Mexico region off Louisiana's coast.
- Over 20 percent of all natural gas production comes from the Gulf of Mexico Region.
- Some 50 percent of total U.S. refining capacity is in the Gulf coast region.
- Louisiana ranks second in total refining capacity in the U.S. with some 2.8 million barrels per day of capacity.
- Louisiana accounts for 17 percent of total U.S. refining capacity.
- Louisiana accounts for over 7 percent of total natural gas storage in the U.S (the highest in the nation).
- The Gulf coast, overall, accounts for 17 percent of total natural gas storage.
- There is over 14.5 billion cubic feet annually of natural gas processing capacity in Louisiana for 2007.



Refineries in LA



Refinery	Location	BBLs/day
Calcasieu Refining	Lake Charles	15,680
Calumet Lubricants	Cotton Valley	9,500
Calumet Lubricants	Princeton	9,500
Calumet Lubricants	Shreveport	35,000
Chalmette Refining, LLC	Chalmette	188,000
Citgo Petroleum	Lake Charles	440,000
ConocoPhillips	Lake Charles	239,000
ConocoPhillips	Belle Chasse	247,000
ExxonMobil	Baton Rouge	501,000
Marathon Ashland Petroleum LLC	Garyville	245,000
Motiva Enterprises, LLC	Convent	236,000
Motiva Enterprises, LLC	Norco	220,000
Murphy Oil	Meraux	125,000
Placid Refining Co., LLC	Port Allen	56,000
St. Rose Refining (Shell)	St. Rose	55,000
Valero Energy	Krotz Springs	83,100
Valero St. Charles Refinery	Norco	186,000



Petrochemical Industry

- Louisiana's petrochemical industry -- nearly 100 petrochemical facilities operating in the state -- manufactures one-quarter of America's petrochemicals, including basic chemicals, plastics, and fertilizers.
- ExxonMobil located on 150 acres in Baton Rouge.
- Dow Chemical operates a 1,500 acre integrated facility in Iberville and West Baton Rouge Parishes.
- The Shell Chemical facility in Geismar, Louisiana (Ascension Parish).
- BASF located in Geismar.
- PPG located in Lake Charles.
- Libbey Glass located in Shreveport.
- Westlake Chemicals located in Sulphur.

Just to name a few . . .



Louisiana Port Systems

In 2005, almost 260 million tons of commodities (mostly coal, petroleum products, chemicals and grain) moved to, from, and within Louisiana. These commodities had a combined value of \$107 billion. Petroleum products comprised 27% of this tonnage, followed by grain at 23%. The Port of South Louisiana is the largest single port in the United States, ranked by tonnage, and the ports of New Orleans, Lake Charles, Greater Baton Rouge and Plaquemines all rank in the top 15. About 2,300 miles of navigable inland waterways connect each of Louisiana's six deep-water ports to the state's network of eight coastal ports and 13 inland ports.

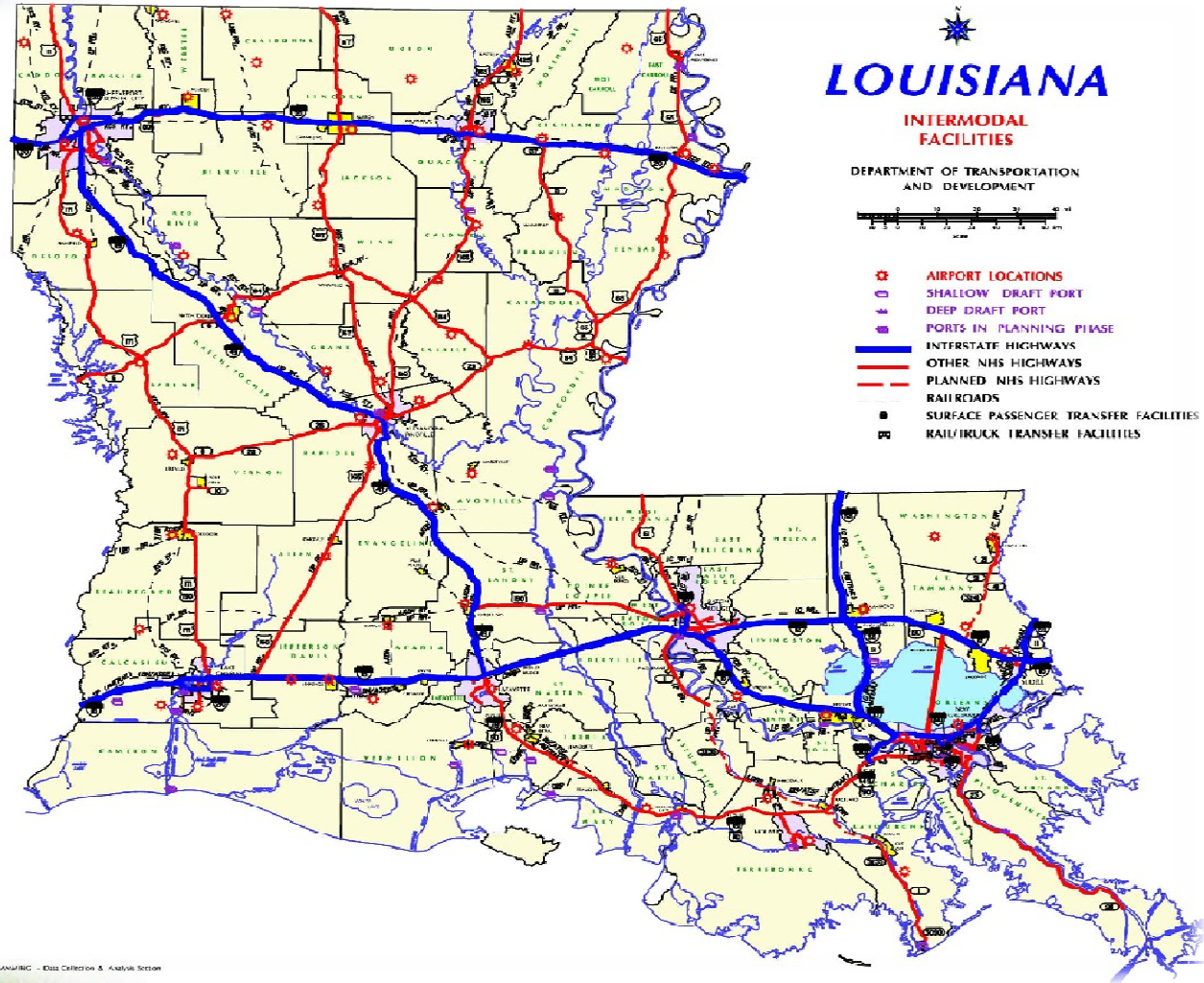
Louisiana 2005 Waterborne Commerce To, From and Within the state (tonnage in thousands of tons; values in millions of dollars)

Commodity	Shipped	Received	Within	Total	Value
Coal	7,207	14,739	2,268	24,214	\$1,098
Petroleum Products	39,420	10,879	19,797	70,086	\$9,138
Crude Petroleum	1,743	3,859	9,160	14,762	\$1,462
Aggregates	397	13,367	81	13,845	\$3,765
Grain	1,280	56,888	999	59,167	\$9,772
Chemicals	18,690	4,800	7,559	31,049	\$15,151
Ores/Minerals	10,158	816	2,207	13,181	\$1,710
Iron/Steel	15,561	730	281	16,572	\$5,528
Other	11,126	4,017	1,482	16,625	\$59,828
TOTAL	105,582	110,095	43,834	259,501	\$107,452

Source: U.S. Army Corps of Engineers Waterborne Commerce Statistics



Transportation and Commerce Corridors





Pulp and Paper Industry

- 14 million acres of hardwood and softwood forests that support a large pulp and paper industry, as well as production of pine plywood and lumber for construction.
- Major manufacturer of linerboard, Kraft paper and fine papers. Historically, Central Louisiana has been a leader in the agricultural and forestry industries.



Fisheries Industries

- 1/3 of US Seafood comes from Louisiana Waters
- #2 total fish catch
- #1 shrimp
- #1 blue crab
- #1 oysters
- #1 crawfish
- #1 alligator





Agriculture Industry

- #2 Sugar Cane
- #2 Sweet Potatoes
- #3 Rice
- #6 Cotton
- #6 Pecans
- #16 Soybeans
- #20 Corn





Entertainment and Tourism Industry

- Currently, Louisiana ranks third in film and television production nationwide, behind only California and New York.
- Louisiana is now home to six studios and sound stages, with facilities in New Orleans, Baton Rouge and Shreveport, and more on the way.
- In 2008, Louisiana set a production record with more than 80 major film and television projects, representing more than \$800 million in production budgets, including about \$500 million spent in-state.
- 2009's Oscar contender "The Curious Case of Benjamin Button," starring Brad Pitt and Cate Blanchett, which earned the highest number of nominations, including Best Picture, Best Director, Best Actor and Best Supporting Actor at the 2009 Academy Awards filmed in Louisiana
- In addition, two Louisiana-made feature films, "I Love You Phillip Morris" and "Killing Room," premiered at the 2009 Sundance Film Festival.



Entertainment and Tourism

- Movies
- Festivals
 - Rice, Crawfish, Jazz, etc.
- And, of course, Mardi Gras!



*Throw me
something,
Mister!*



Air Quality in Louisiana

- ❖ Monitoring data shows that Louisiana is currently meeting all NAAQS except the 2008 8-hour Ozone Standard





Louisiana and the Criteria Pollutant NAAQS

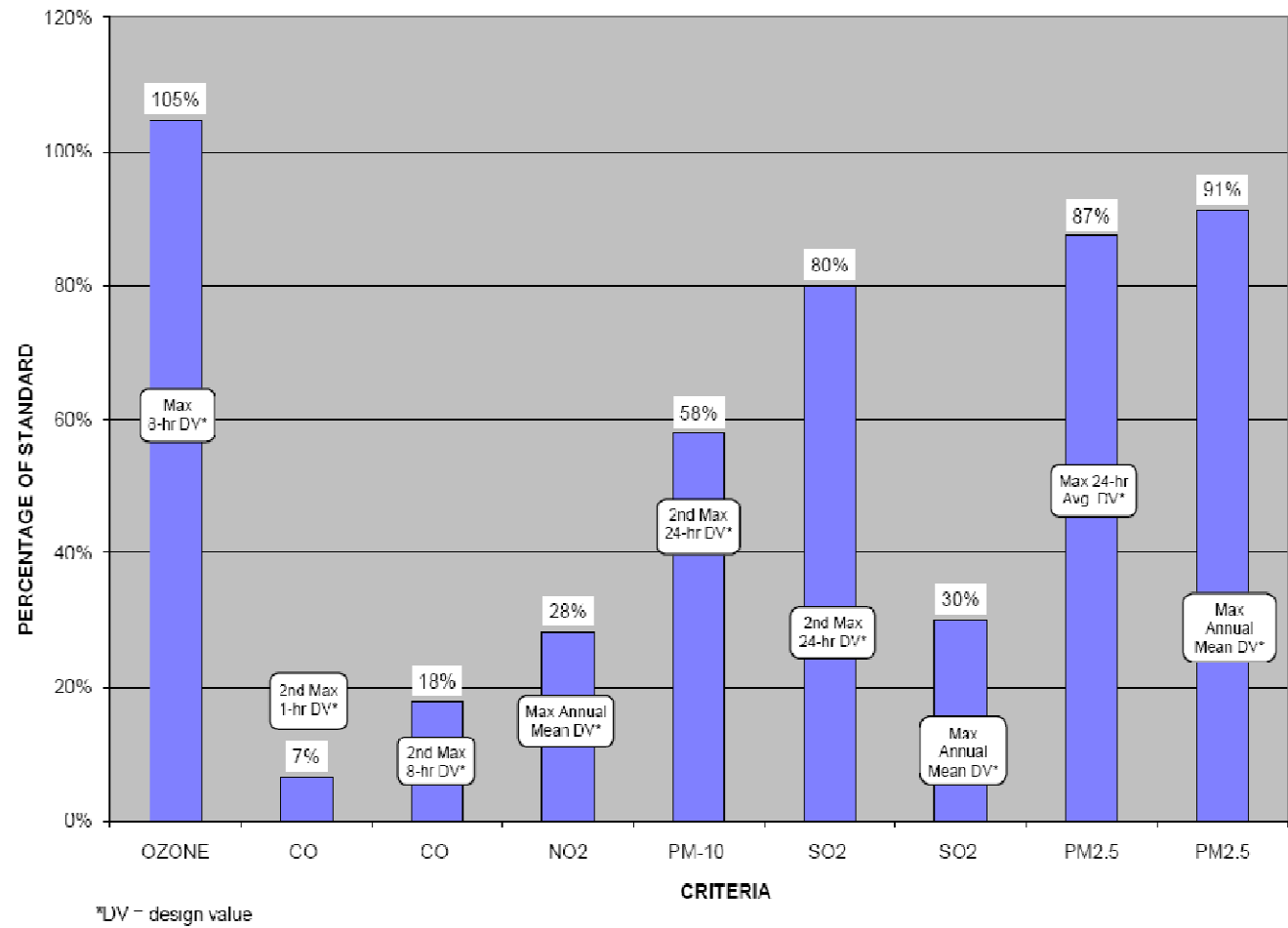


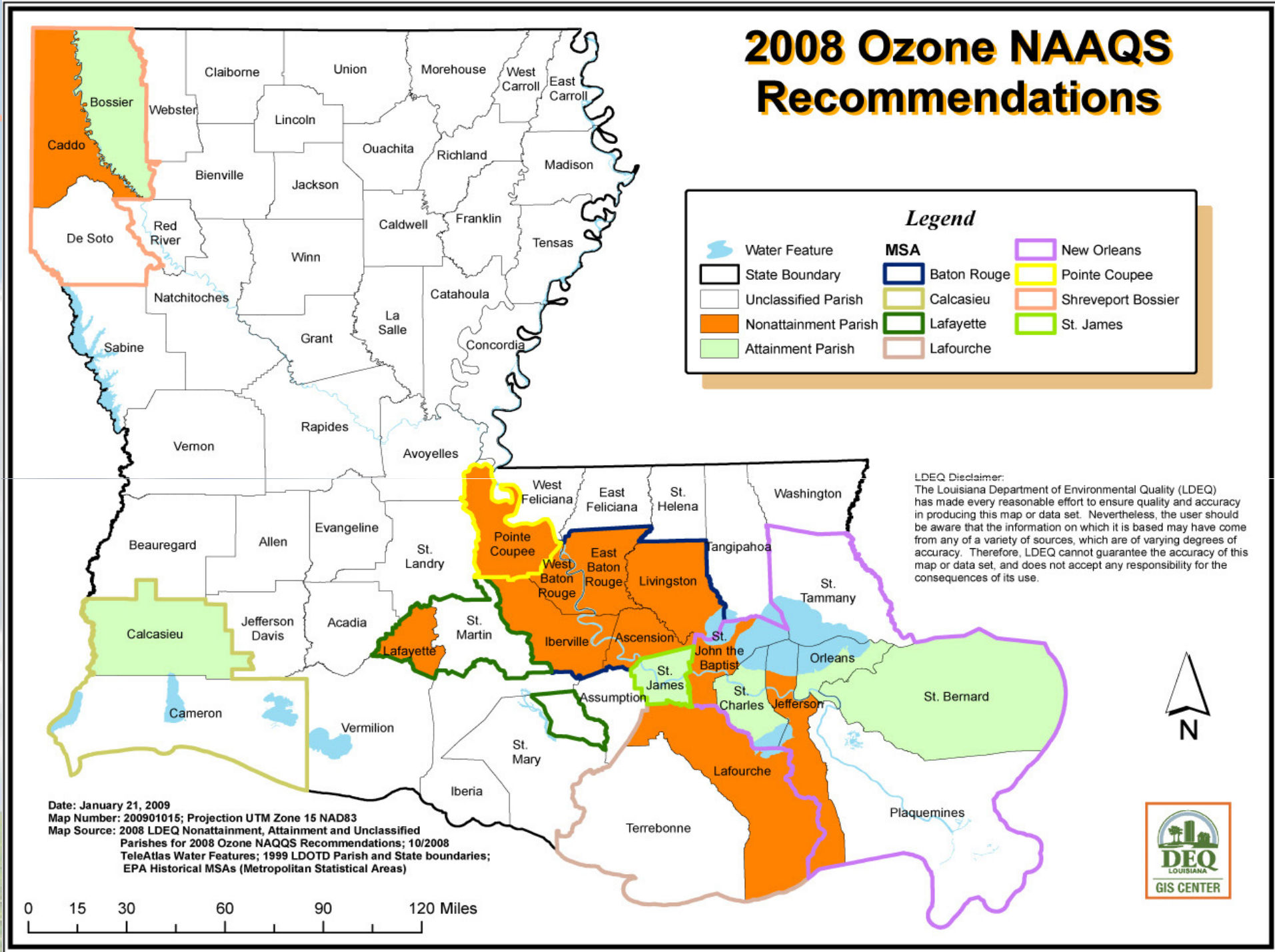
Figure 3. Percentage of Standards Reached



Current Status for Ozone

- We achieved attainment for the 1 hour standard at the end of 2006. EPA has proposed finding the Baton Rouge NAA in attainment with the 1 hour standard. The Federal Register comment period just ended last week.
- Louisiana has achieved attainment of the 1997 8 hr standard through EPA's clean data policy. A re-designation request is being prepared and will be submitted to EPA later this year.
- Louisiana has submitted our recommendation for designations under the 2008 8 hour standard and are awaiting response from EPA.

2008 Ozone NAAQS Recommendations



Legend

Water Feature	MSA	New Orleans
State Boundary	Baton Rouge	Pointe Coupee
Unclassified Parish	Calcasieu	Shreveport Bossier
Nonattainment Parish	Lafayette	St. James
Attainment Parish	Lafourche	

LDEQ Disclaimer:
 The Louisiana Department of Environmental Quality (LDEQ) has made every reasonable effort to ensure quality and accuracy in producing this map or data set. Nevertheless, the user should be aware that the information on which it is based may have come from any of a variety of sources, which are of varying degrees of accuracy. Therefore, LDEQ cannot guarantee the accuracy of this map or data set, and does not accept any responsibility for the consequences of its use.

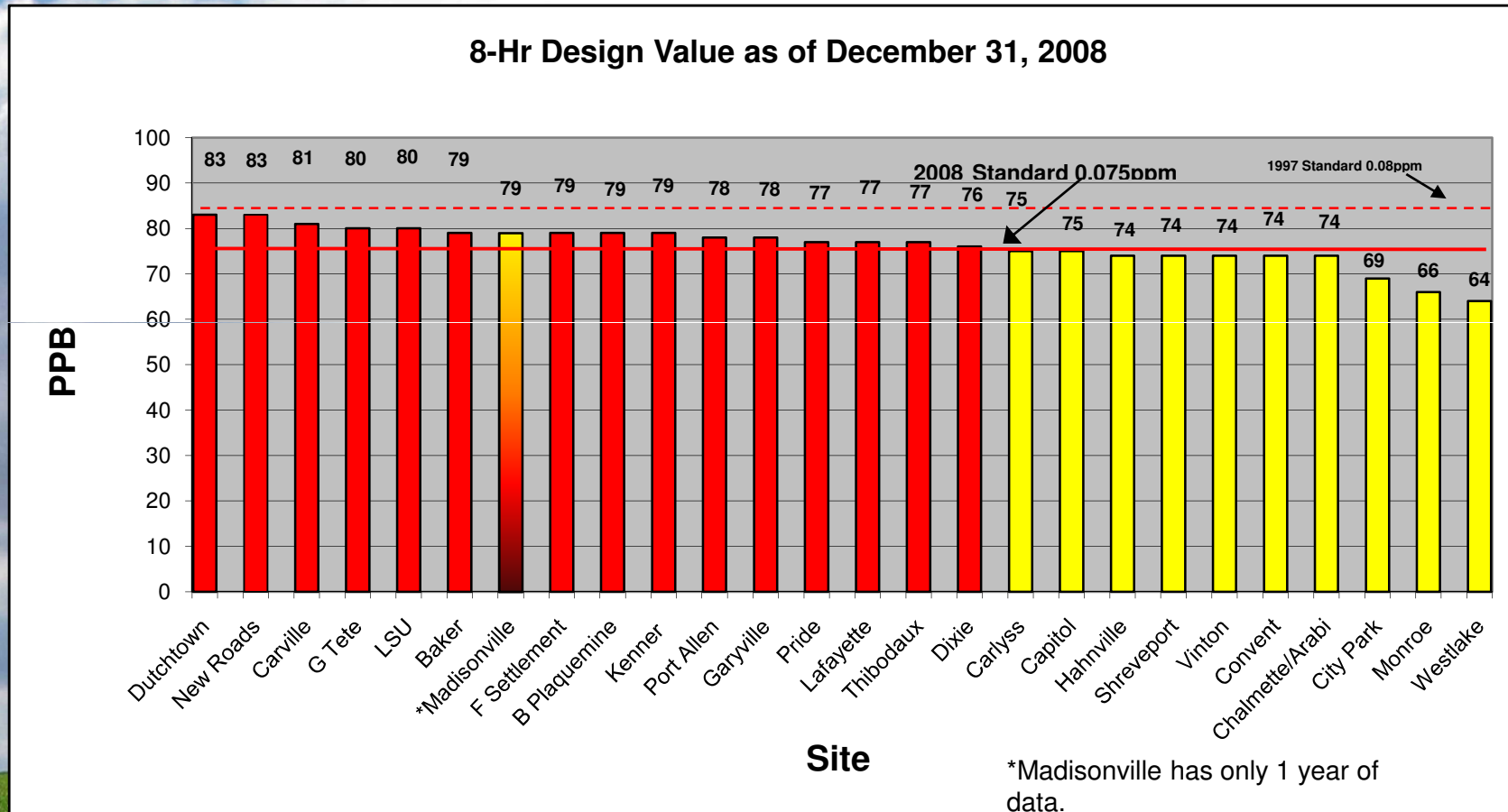


Date: January 21, 2009
 Map Number: 200901015; Projection UTM Zone 15 NAD83
 Map Source: 2008 LDEQ Nonattainment, Attainment and Unclassified Parishes for 2008 Ozone NAAQS Recommendations; 10/2008 TeleAtlas Water Features; 1999 LDOTD Parish and State boundaries; EPA Historical MSAs (Metropolitan Statistical Areas)





Louisiana 8-hour Ozone Design Values





Current Status for Particulate Matter

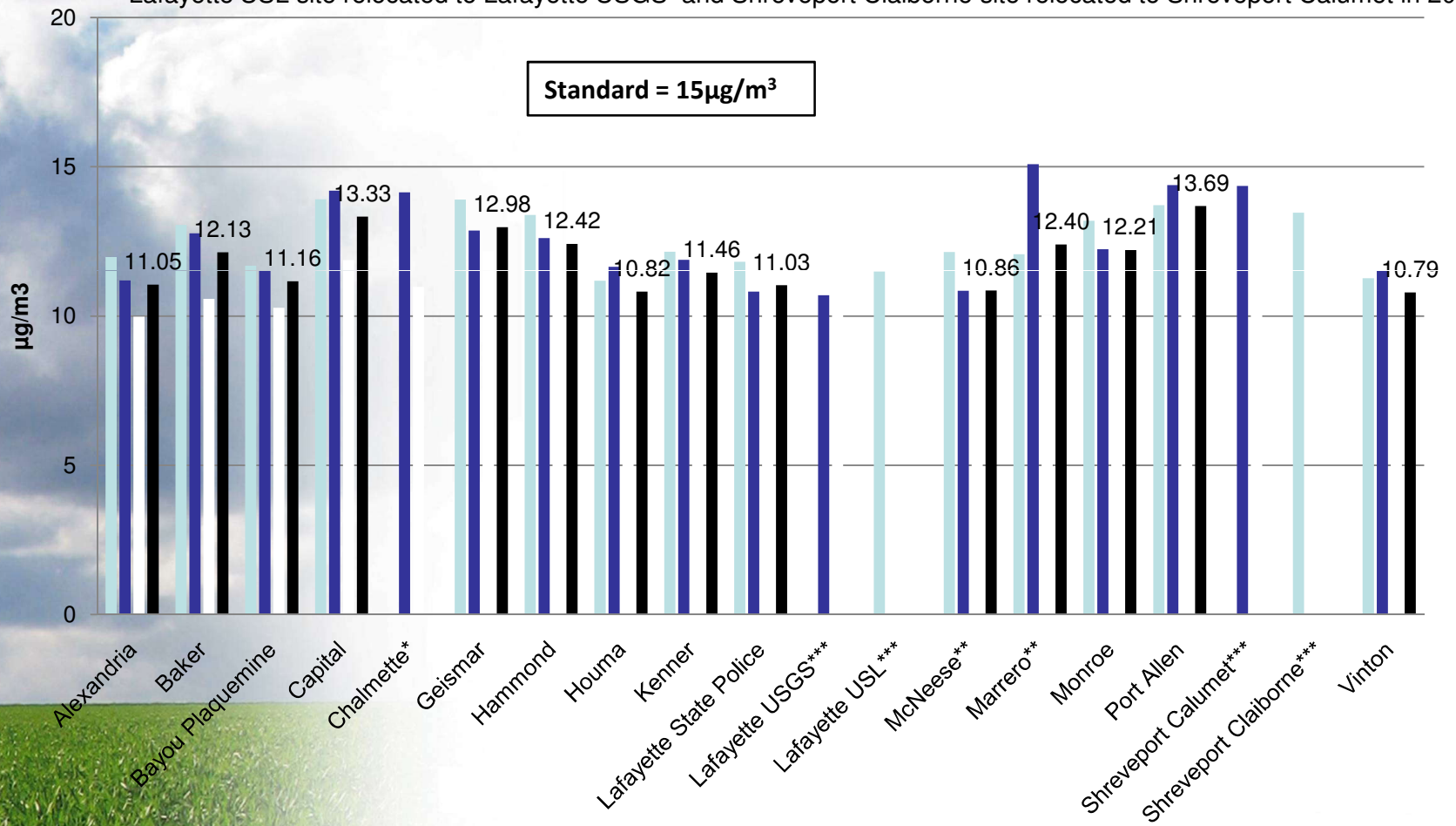
Louisiana PM_{2.5} Arithmetic Mean Value 2005-2007

2005 2006 2007 05-07 DV

*Chalmette site began collecting data as of May 2006

**Some data used did not satisfy QA requirements due to site being disabled during Hurricanes Katrina and Rita

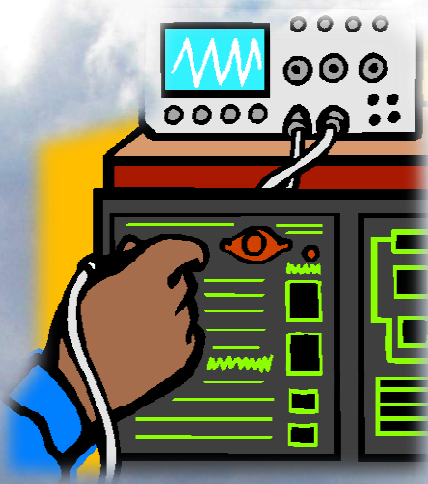
***Lafayette USL site relocated to Lafayette USGS and Shreveport Claiborne site relocated to Shreveport Calumet in 2006



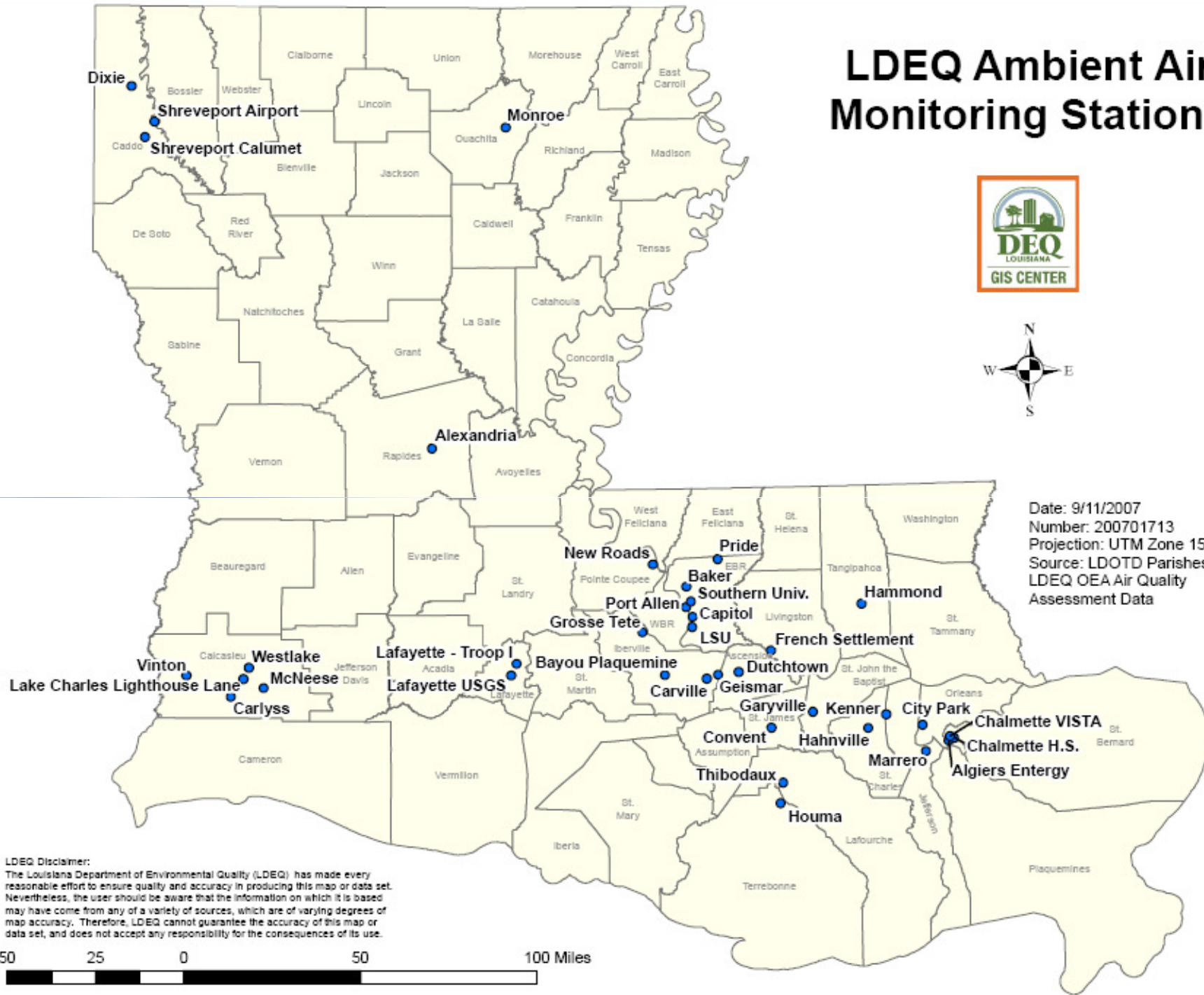


Ambient Air Monitors

- 24 ozone monitors
- 17 Federal Reference Method (FRM) PM 2.5 samplers
- 10 TEOM® PM2.5 samplers
- 2 PM2.5 chemical speciation samplers
- 12 nitrogen oxides monitors
- 7 sulfur dioxide monitors
- 1 carbon monoxide monitor
- 3 PM 10 monitors
- 16 Air Toxics Samplers
- 1 Mobile Air Monitoring Laboratory



LDEQ Ambient Air Monitoring Stations



Date: 9/11/2007
 Number: 200701713
 Projection: UTM Zone 15, NAD 83
 Source: LDOTD Parishes,
 LDEQ OEA Air Quality
 Assessment Data

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LDEQ Air Monitoring Station Pride, Louisiana





St. Bernard Vista Site





DEQ's Mobile Air Monitoring Laboratory



Air Toxics in Louisiana

- Prompted by the SARA report and a number of industrial accidents, Louisiana lawmakers directed a 50% reduction in air toxics.
- The Louisiana Comprehensive Toxic Air Pollutant Emissions Control Act of 1989 was passed in advance of the CAA amendments of 1990.
- Applies to all new and existing major sources of Toxic Air Pollutants (TAPs) (major source definition same as CAAA)
- Point source air toxic emissions have been reduced by over 60% since inception of the program.
- Recently, in response to USA Today Article regarding air toxics near schools, LDEQ has undertaken air sampling at high-risk schools to ensure air quality meets safe standards.



Louisiana TAPS

- 100 TAPs on the initial list
 - Captured > 99 % of Louisiana TRI emissions
- An Ambient Air Standard (AAS) & Minimum Emission Rate (MER) was developed for each TAP.
- TAPs were classified by toxic effect into 3 Classes
- TAP list includes 13 pollutants not on HAP list

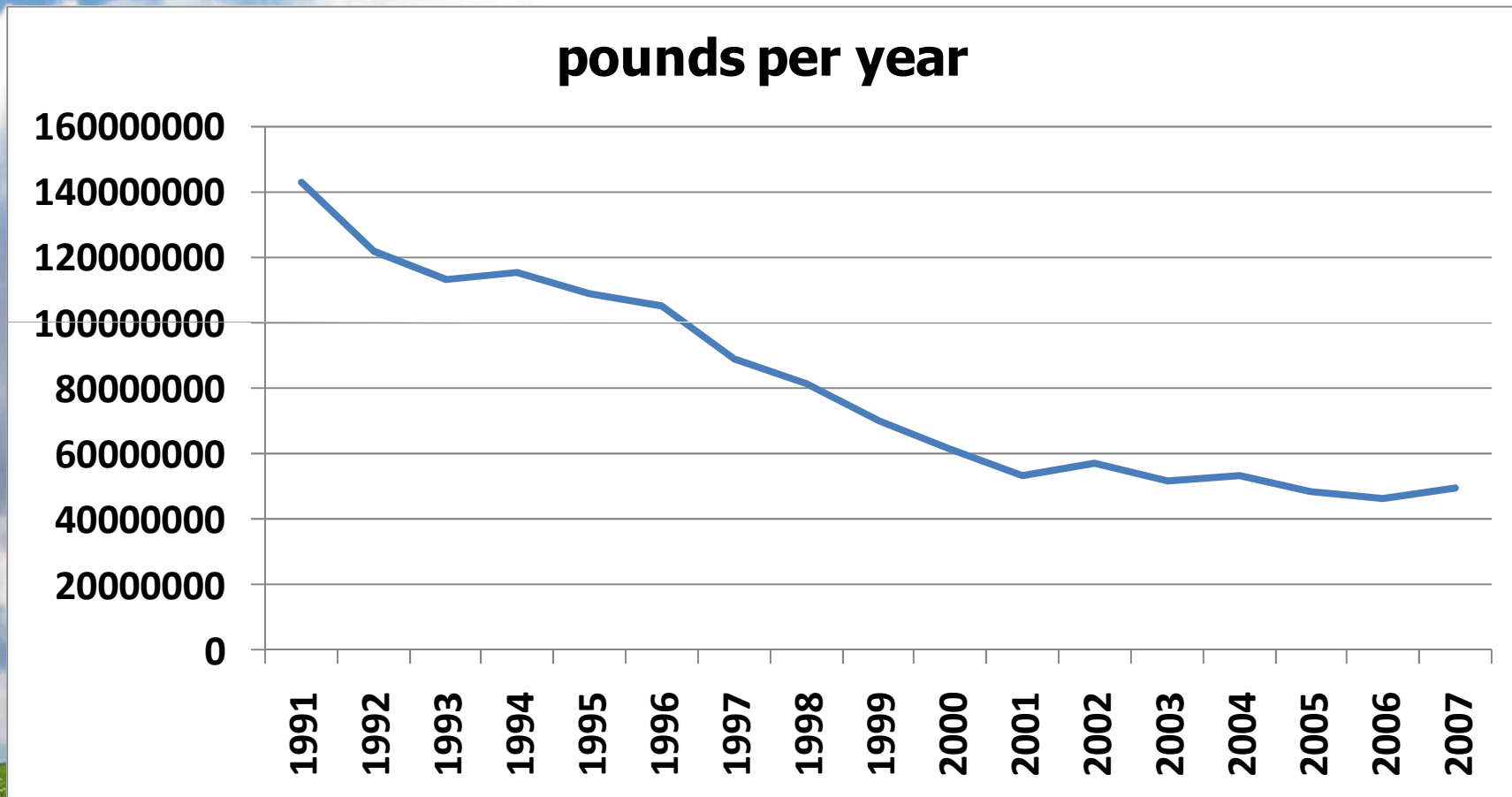


Louisiana TAPs - Classes

- Class I – Known and probable human carcinogens
- Class II – Suspected human carcinogens and known/suspected reproductive toxins
- Class III – Acute and chronic non-carcinogens toxins



Point Source Toxic Air Pollutants by Year





The Road Ahead

- Preparations for New Ozone Standard Underway
- The Clean Air Interstate Rule (CAIR)
- The Clean Air Mercury Rule (CAMR)
- Regional Haze Rules
- Greenhouse Gas Reporting Rules
- Vehicle fuels and continued vehicle fleet turnover





The Road Ahead

- Add Chapter 21 VOC Controls (RACT)
 - Extend Controls Statewide
 - VOC Storage Tank Emissions
 - Limit Use of Flares for Non-Emergency Venting
 - Use of Infrared Camera To Audit for Leaks
- Add Chapter 22 NOx Controls (RACT)
 - Extend Rule to Areas Outside of BR MSA
 - Tighten Emission Factors
 - Limit Use of Averaging and Credits
 - Eliminate Some Exemptions
- Marine Vessel Emissions and Barge Studies
- Maintain “Level of Effort” on existing rules



School Air Toxics





Barge Study

In conjunction with the American Waterway Operators





Bienvenue a Louisiane!!



Laissez les bons temps rouler!!