



The Importance of Energy Production and Infrastructure in Plaquemines Parish

Prepared for the Office of the Parish President and Project Rebuild Plaquemines with Assistance from the Plaquemines Association of Business & Industry

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CES would also like to thank the Louisiana Department of Revenue for their assistance in providing important severance tax information for this project.

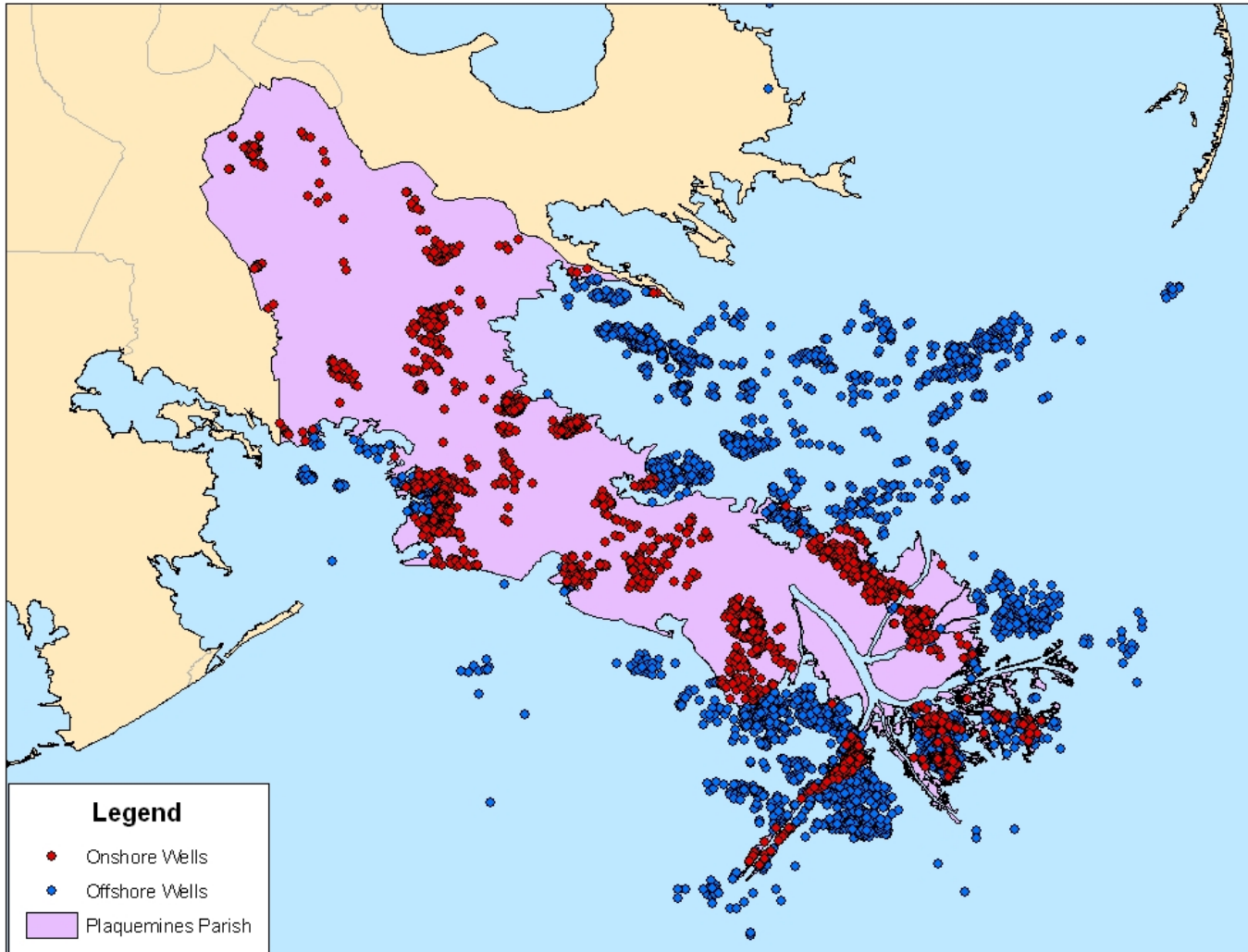
The helpful comments of many regional business and industries in Plaquemines Parish are also appreciated.

- Overview of Plaquemines Energy Production and Infrastructure
- Overview of the Plaquemines Energy Economy
- Katrina Impacts on Plaquemines Energy Economy
- Ongoing Energy Production and Infrastructure Importance
- Conclusions

- Plaquemines energy economy is unique since it includes most ALL types of energy production, support and infrastructure. (Production, support, storage, transportation, refining, petrochemical)
- Plaquemines is an energy “golden goose” for the state. It contributes the largest share of state production and mineral revenues – over \$2.1 billion in total mineral revenues over the past decade.
- There are close to 11,000 active producing oil and gas wells in the Parish.
- Energy is estimated to be a \$1.2 billion industry in Plaquemines and accounts for over 8,000 direct, indirect, and induced employment opportunities in the parish.
- Failure to support production, storage, transportation, and processing infrastructure in the area can have important impacts on national energy markets during a critical period of industry constraints.
- The region is also an important part of the Louisiana economy. Facilitating speedy recovery in the parish is an important part of Louisiana’s overall recovery. This recovery will pay dividends over time to the state and the nation in terms of ongoing and future energy production, processing, and deliverability.

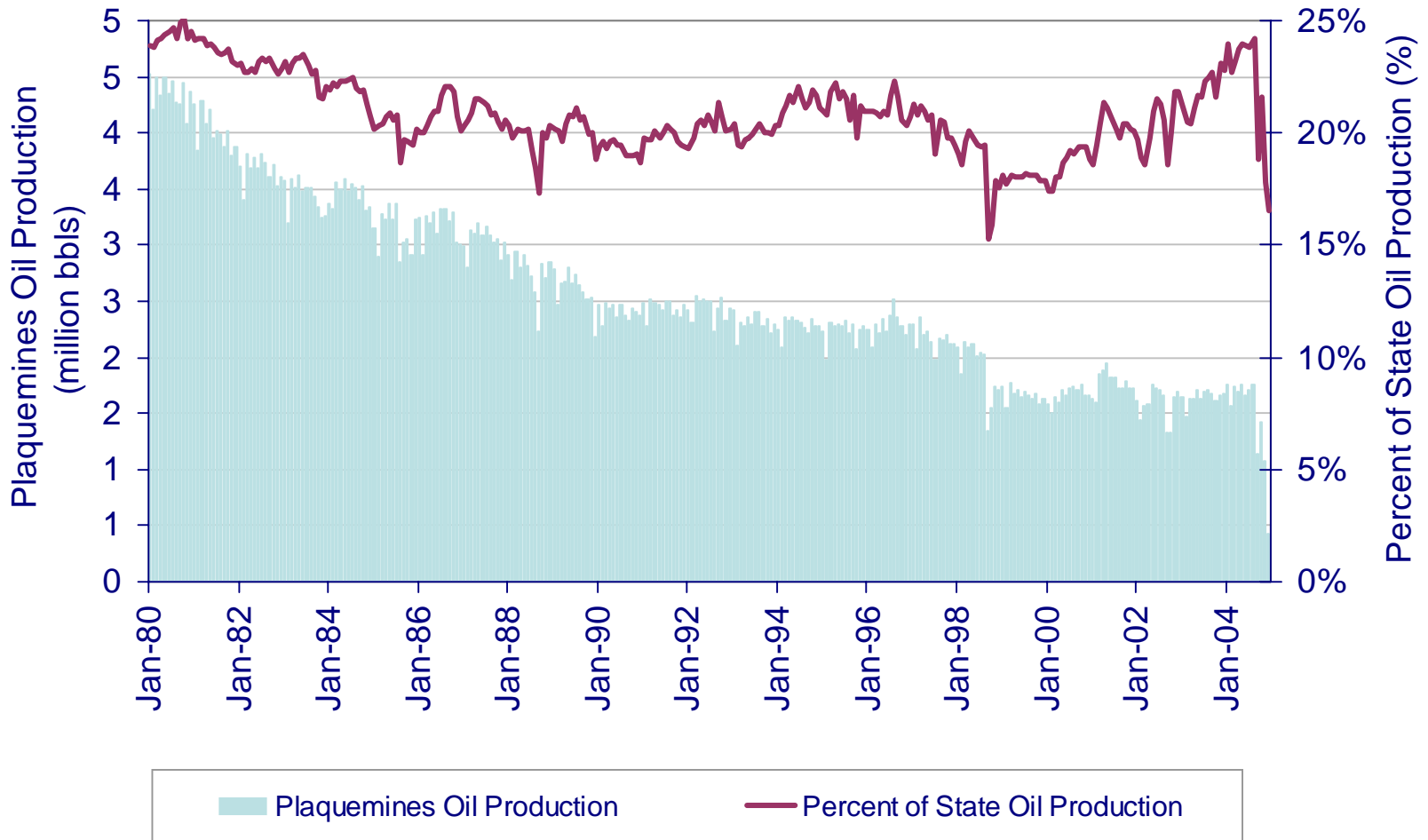
Overview of Plaquemines Energy Production and Infrastructure

There are a large number of active state-jurisdictional oil and gas wells onshore and offshore in Plaquemines



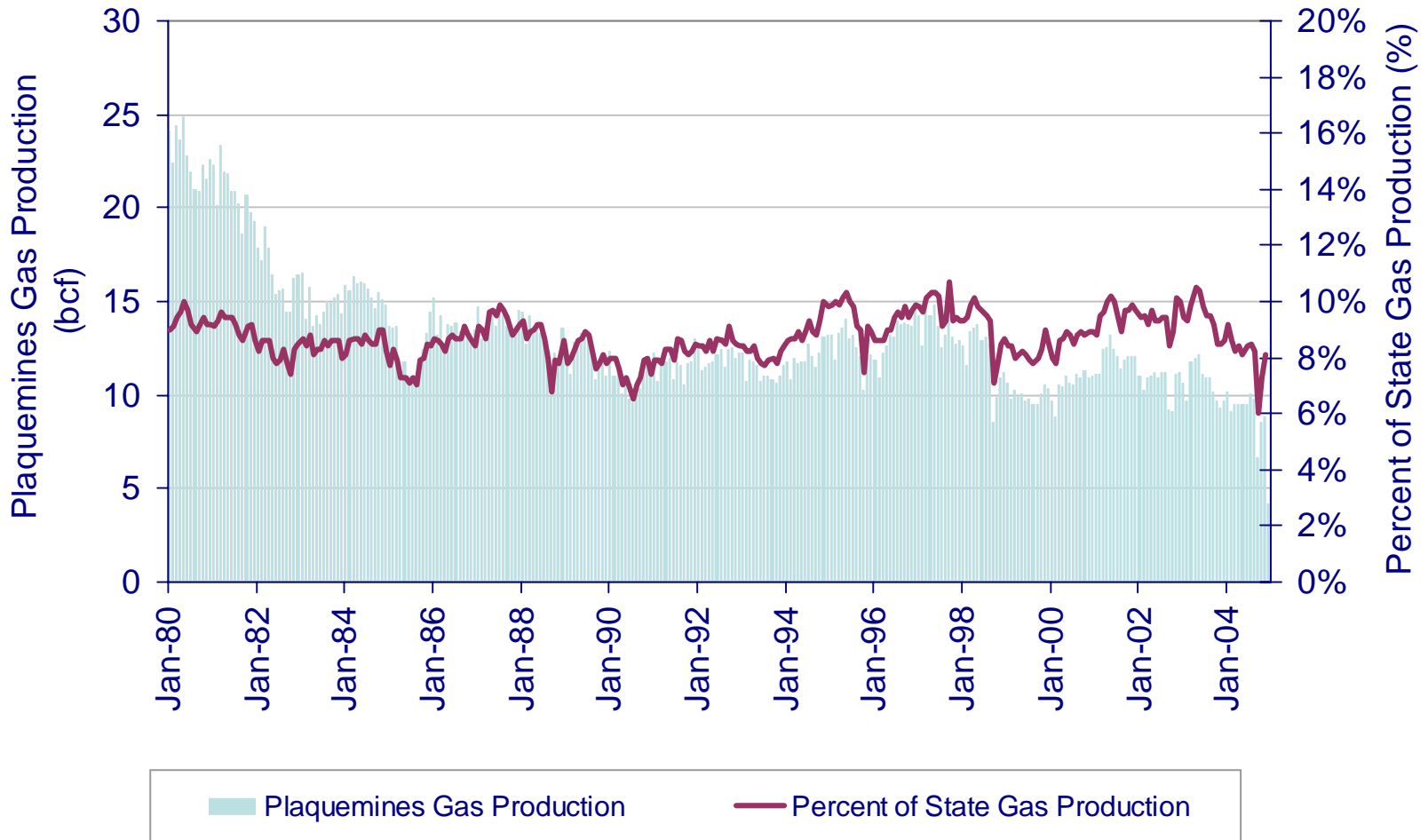
Plaquemines Oil Production (Onshore and Offshore)

Oil production from the parish has been declining, but has remained stable and even increased as a share of total state production over the past several years (prior to Katrina). Prior to hurricane, Plaquemines was producing close to 18 million barrels per year.

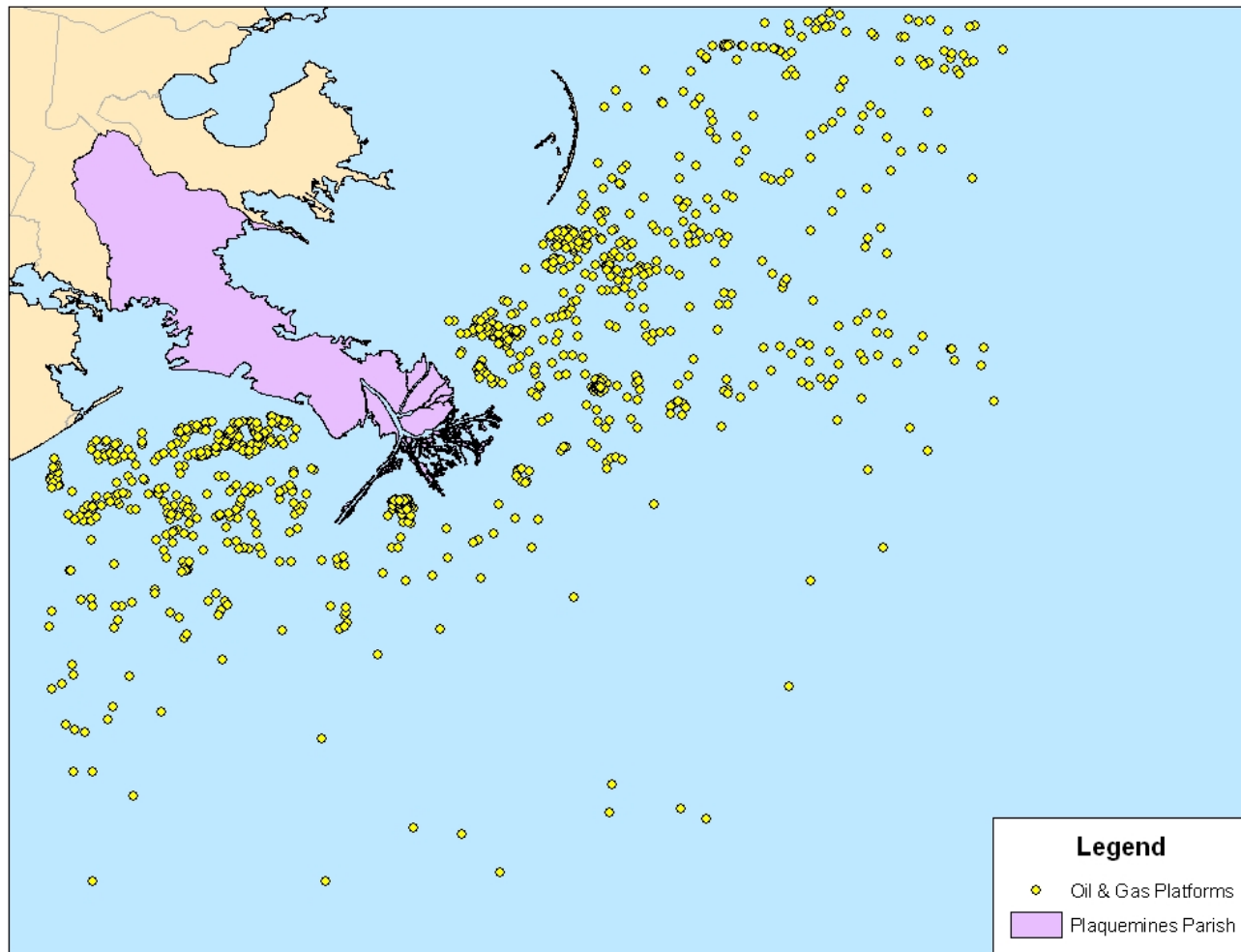


Plaquemines Natural Gas Production (Onshore and Offshore)

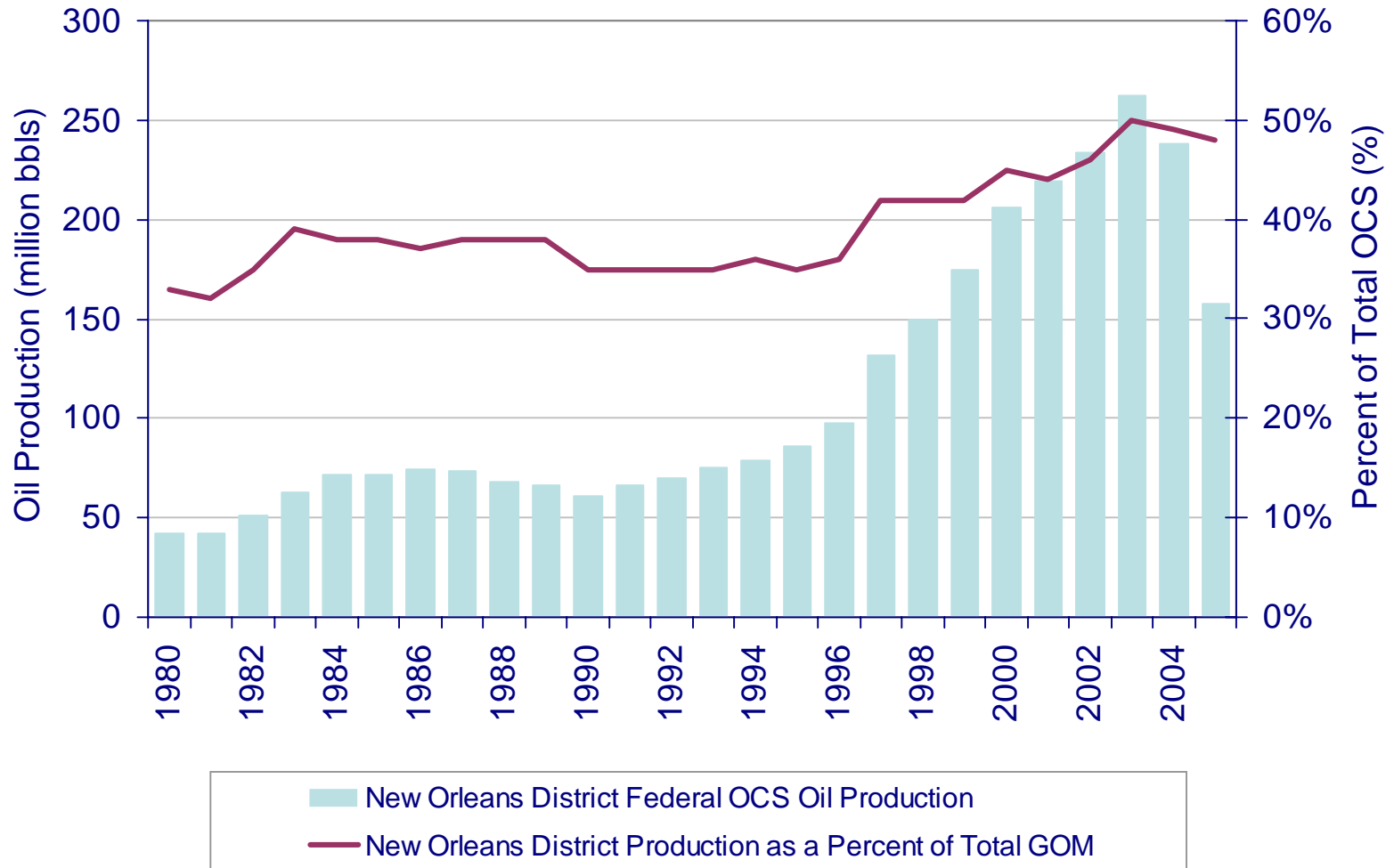
Natural gas production from Plaquemines has been declining, however, as a percent of total state production, it has remained stable. Prior to the hurricanes, the Parish was producing over 105 billion cubic feet per year.



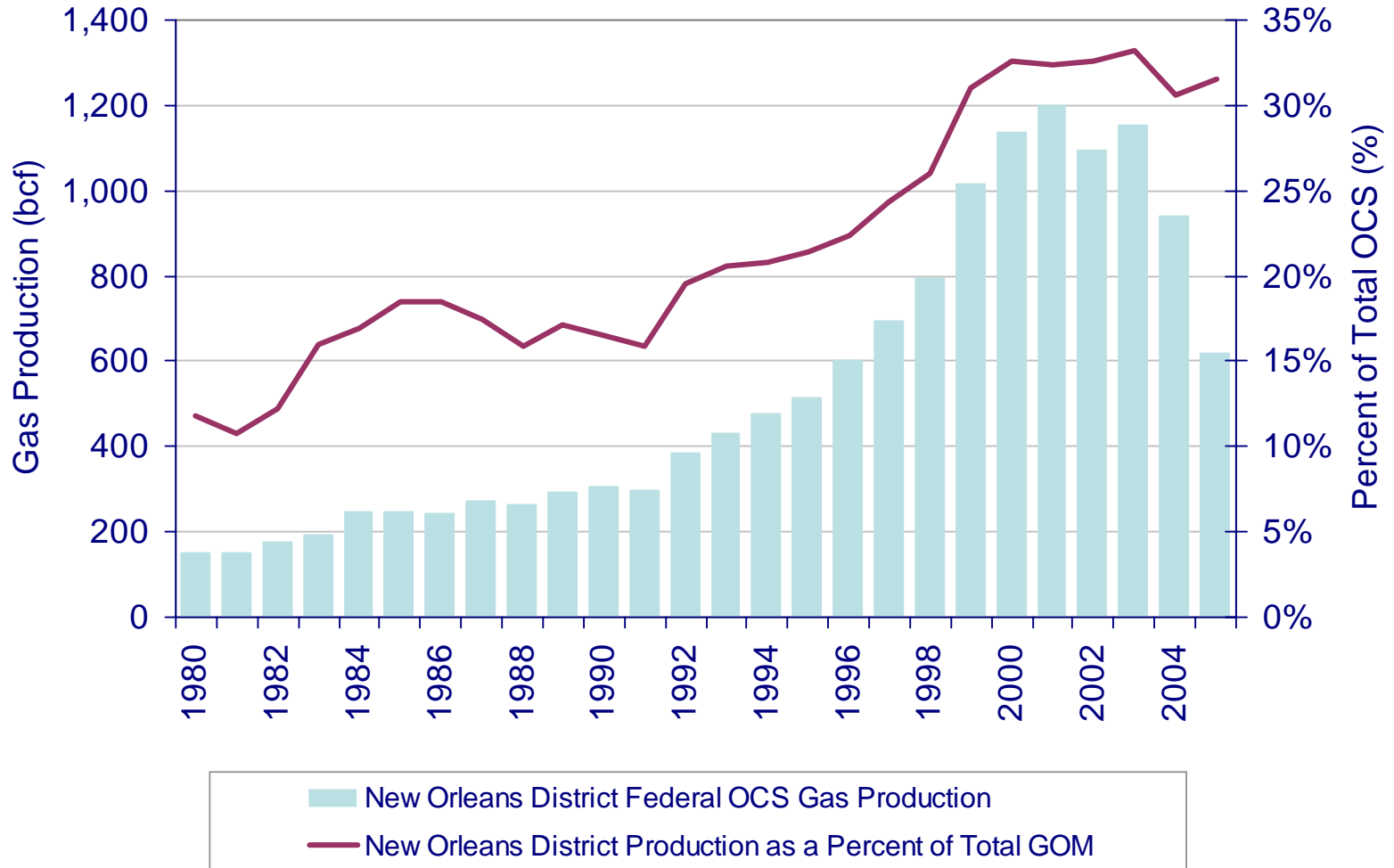
There are a considerable number of highly prolific oil and gas production assets off the Plaquemines coast on the Outer Continental Shelf. There are some 1,102 active structures off the Parish coast.



OCS oil production located offshore of Plaquemines, has been increasing significantly, as has its share of total federal OCS production. Prior to the hurricane, the offshore area accounted for half of the total oil production in the Gulf.



OCS natural gas production offshore of Plaquemines has been increasing significantly, as has its share of total federal OCS production. Prior to the hurricane, the offshore area accounted for one-third of the total natural production in the Gulf.



ConocoPhillips Alliance Refinery

- Located in Belle Chasse, Louisiana, on the Mississippi River, about 25 miles south of New Orleans and 63 miles north of the Gulf of Mexico.
- Began operations in 1971, one of the last grassroots refineries built in the US.
- Crude oil processing capacity of 247,000 barrels per day.
- Receives domestic crude oil by pipeline and international crude oil via the Louisiana Offshore Oil Port (“LOOP”).
- Most refined products are distributed to customers through the Colonial and Plantation pipeline systems.
- Facilities include a coking unit, which upgrades bottom of the barrel products into light oils and high-value anode petroleum coke.



Chevron Oronite Oak Point Plant



- Located in Belle Chasse, Louisiana, on the Mississippi River.
- The plant occupies 100 acres in the parish and has more than 410 employees.
- One of the largest and most advanced producers of high-quality blended fuel and lubricant additives in the world.
- Manufactures more than 30 unique additive components and intermediates, and blends more than 300 packages to specific customer requirements.

Venice Gas Processing

- Located in Venice, Louisiana.
- Owned by a number of partners including Chevron, Targa Resources, Enterprise Product Partners and Oneok.
- Gas processing capacity of 1.3 bcf of natural gas per day.
- Receives natural gas by from offshore pipelines: Mississippi Canyon, Texas Eastern, Venice Gathering System.
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- Delivers natural gas to onshore pipelines: Texas Eastern, Columbia Gulf, Gulf South

Empire Petroleum Storage

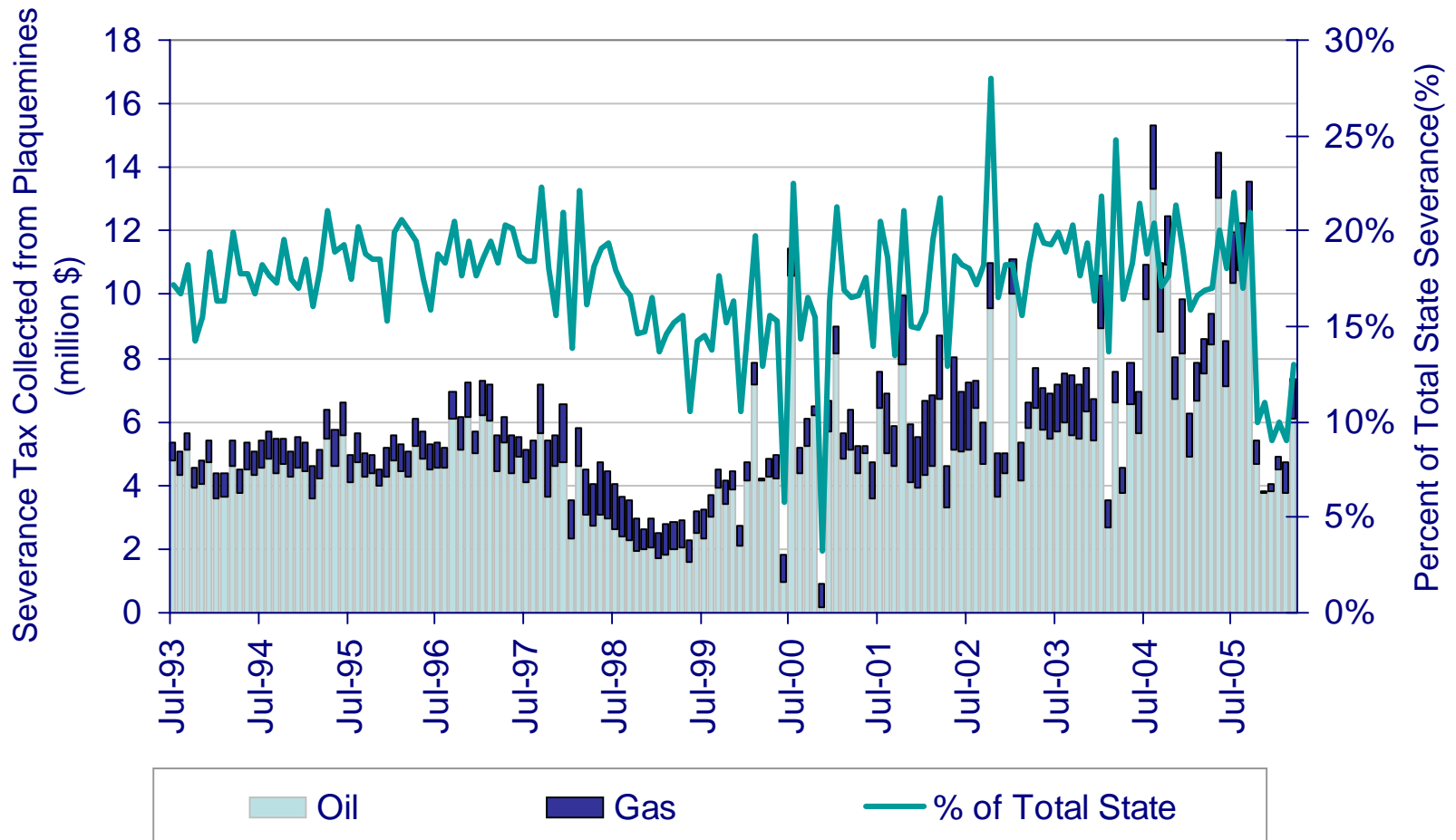
- Located in Buras, Louisiana.
- Primary delivery point for Heavy Louisiana Sweet Crude produced in the GOM.
- Handles 400,000 - 500,000 barrels per day.
- Receives crude produced in Gulf from pipelines: Cypress, Breton Sound, MP 69, Delta System and Grand Bay.
- Crude is delivered via outbound pipelines to Chalmette refinery, St. James Terminal, and Mars Blend tanks at LOOP.



Overview of the Plaquemines Energy Economy

Louisiana Severance Tax Collected in Plaquemines Parish

Over the past 14 years, Plaquemines has contributed over \$932 million in severance revenues to the state. Prior to Katrina, the parish accounted for roughly 20 percent of the state's severance revenues.



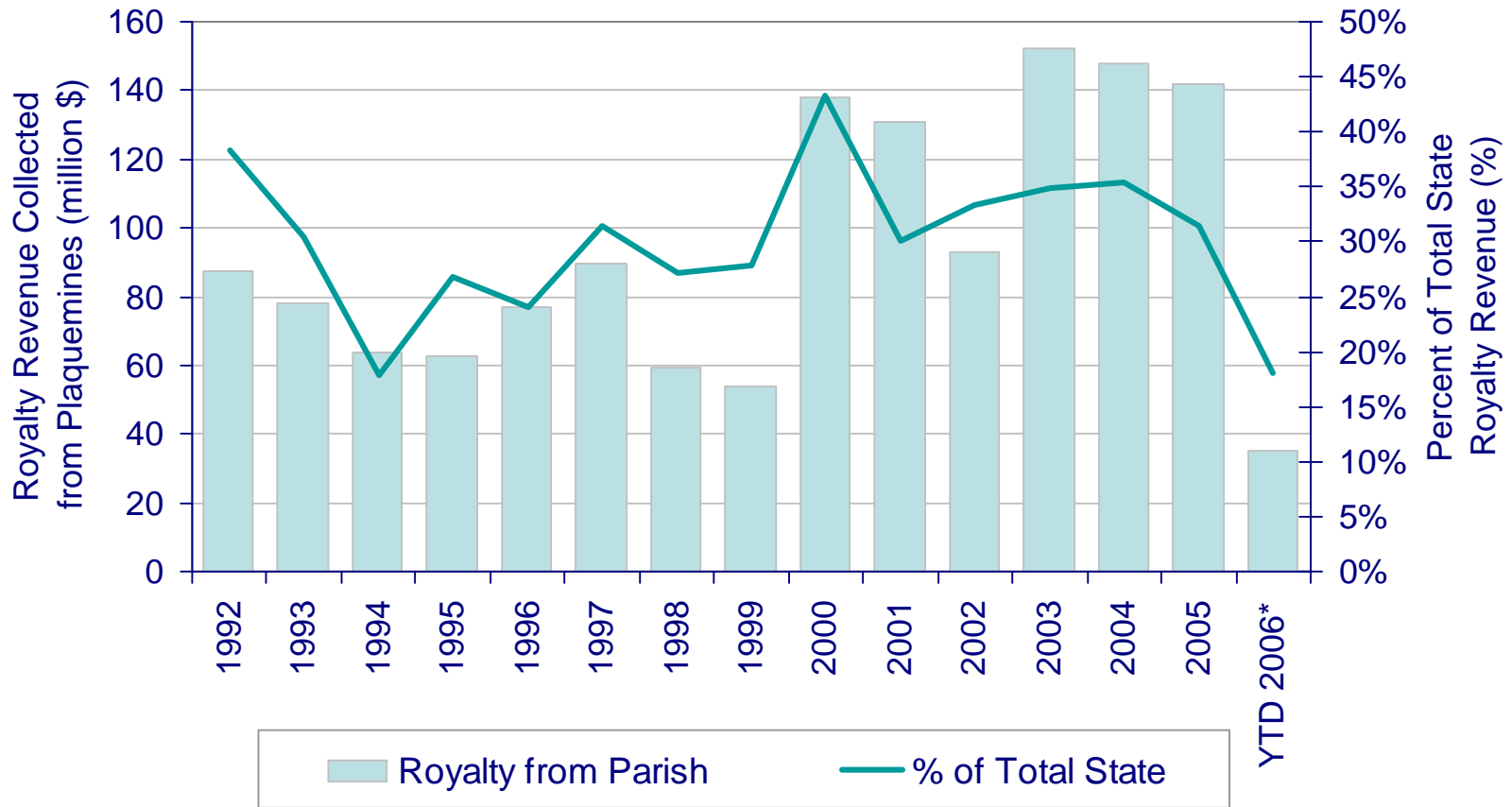
Top Ten Parishes for Severance Revenue Contribution

Plaquemines contributes more severance revenues (\$100 million) than any other parish in the state.



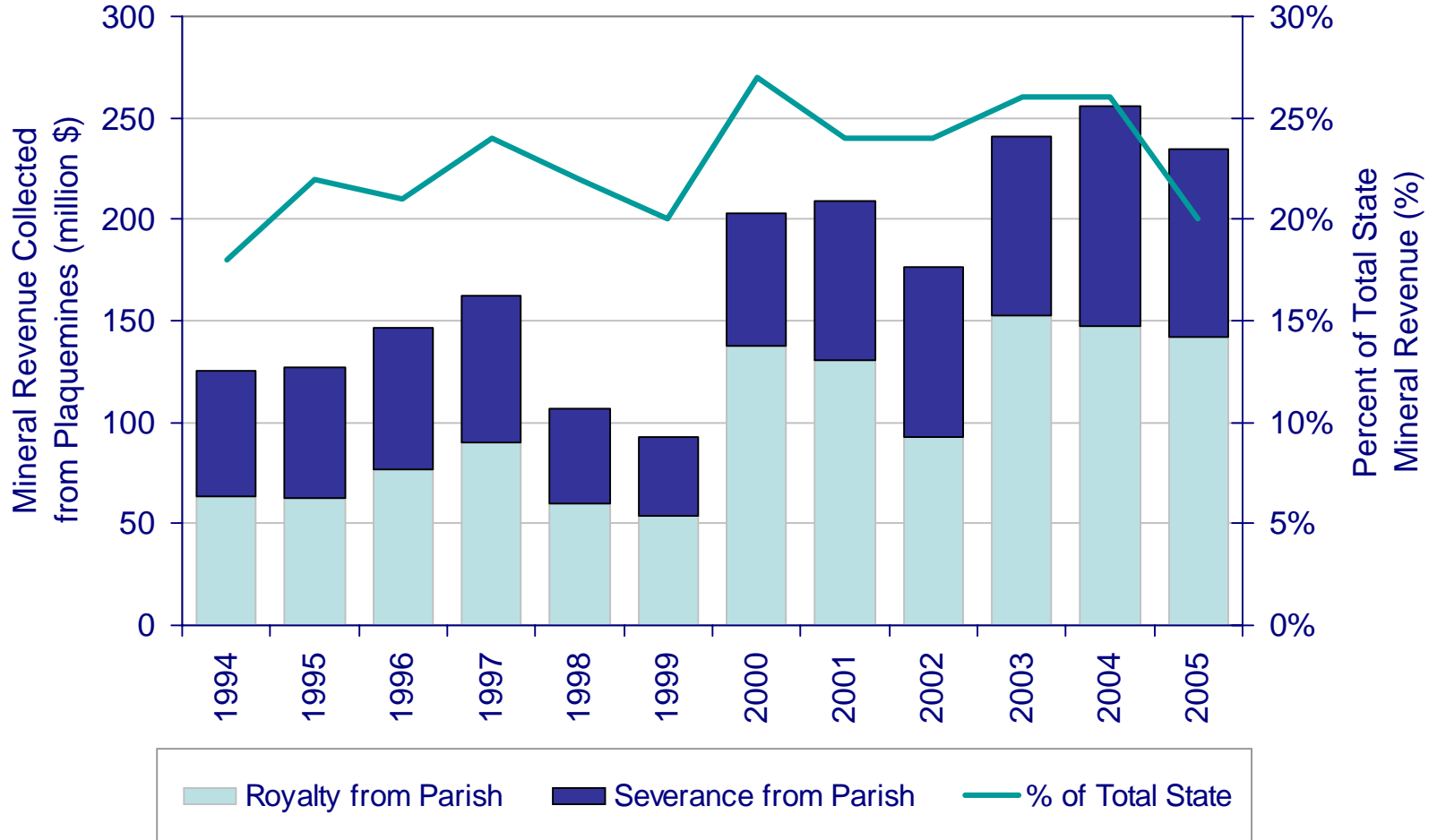
Louisiana Royalty Revenue Collected in Plaquemines Parish

Over the past 15 years, Plaquemines has contributed over \$1.4 billion in royalty revenues to the state. Prior to Katrina, the parish accounted for over 30 percent of the state's royalty revenues.



Louisiana Total Mineral Revenue Collected in Plaquemines Parish

From 1994 through 2005, Plaquemines has contributed over \$2.1 billion in mineral revenues to the state. Prior to Katrina, the parish accounted for 25 percent of the state's mineral revenues.

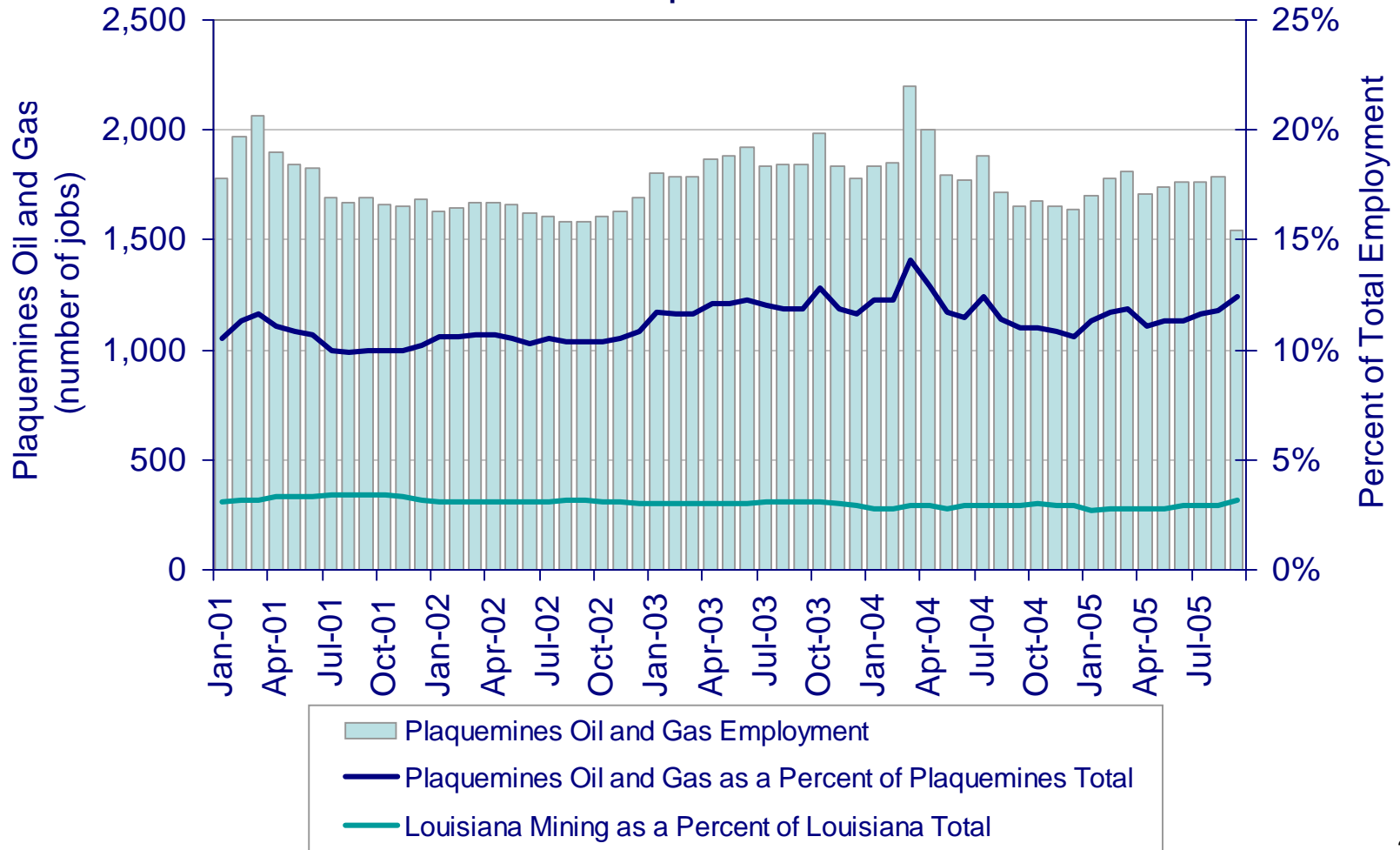


Note: * YTD 2006 is through May.

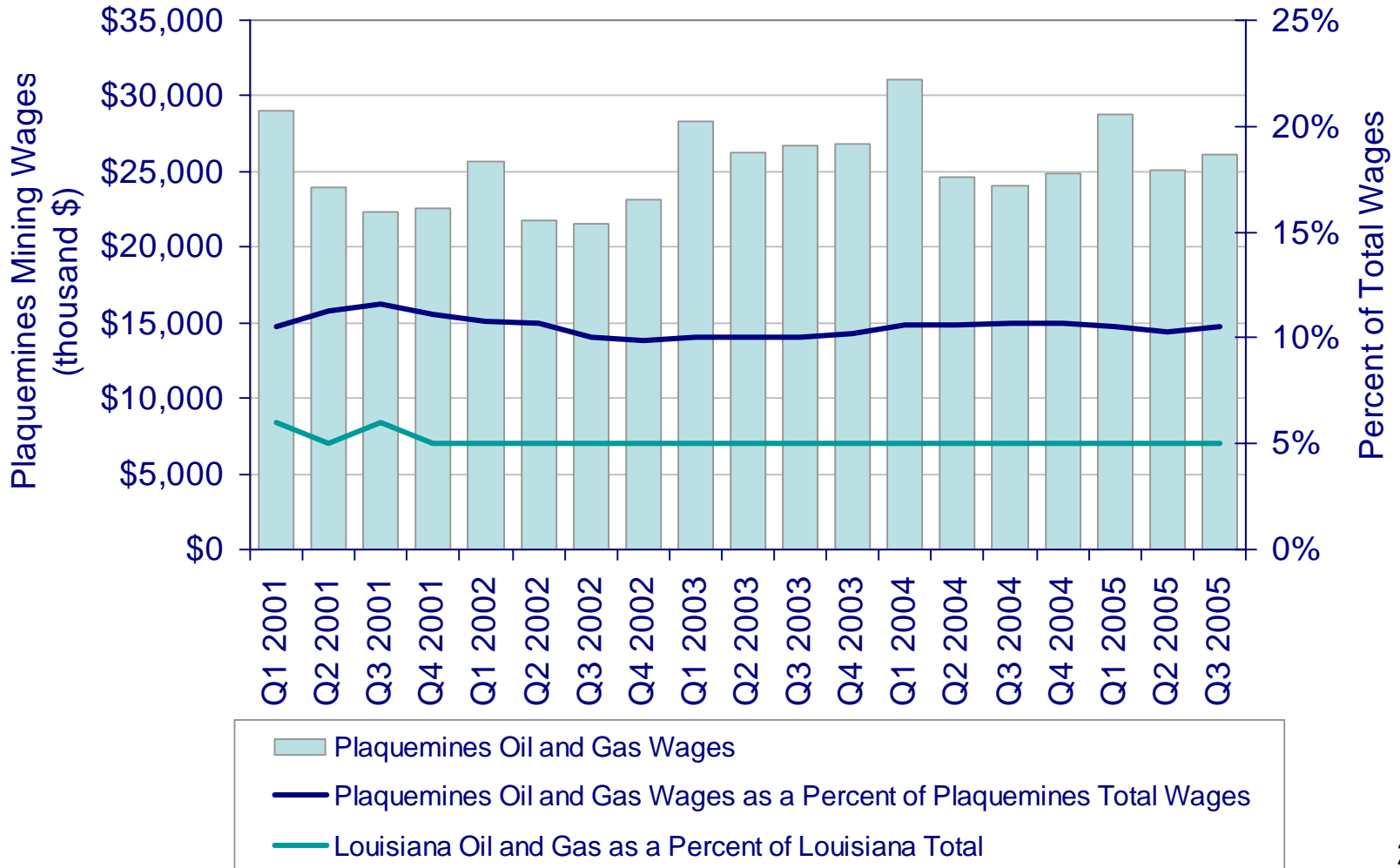
Source: Louisiana Department of Revenue

Oil and Gas Extraction Employment in Plaquemines Parish

Plaquemines' oil and gas employment accounts for approximately 10 to 12 percent of total parish employment. Significantly higher than the state average of 3 percent.

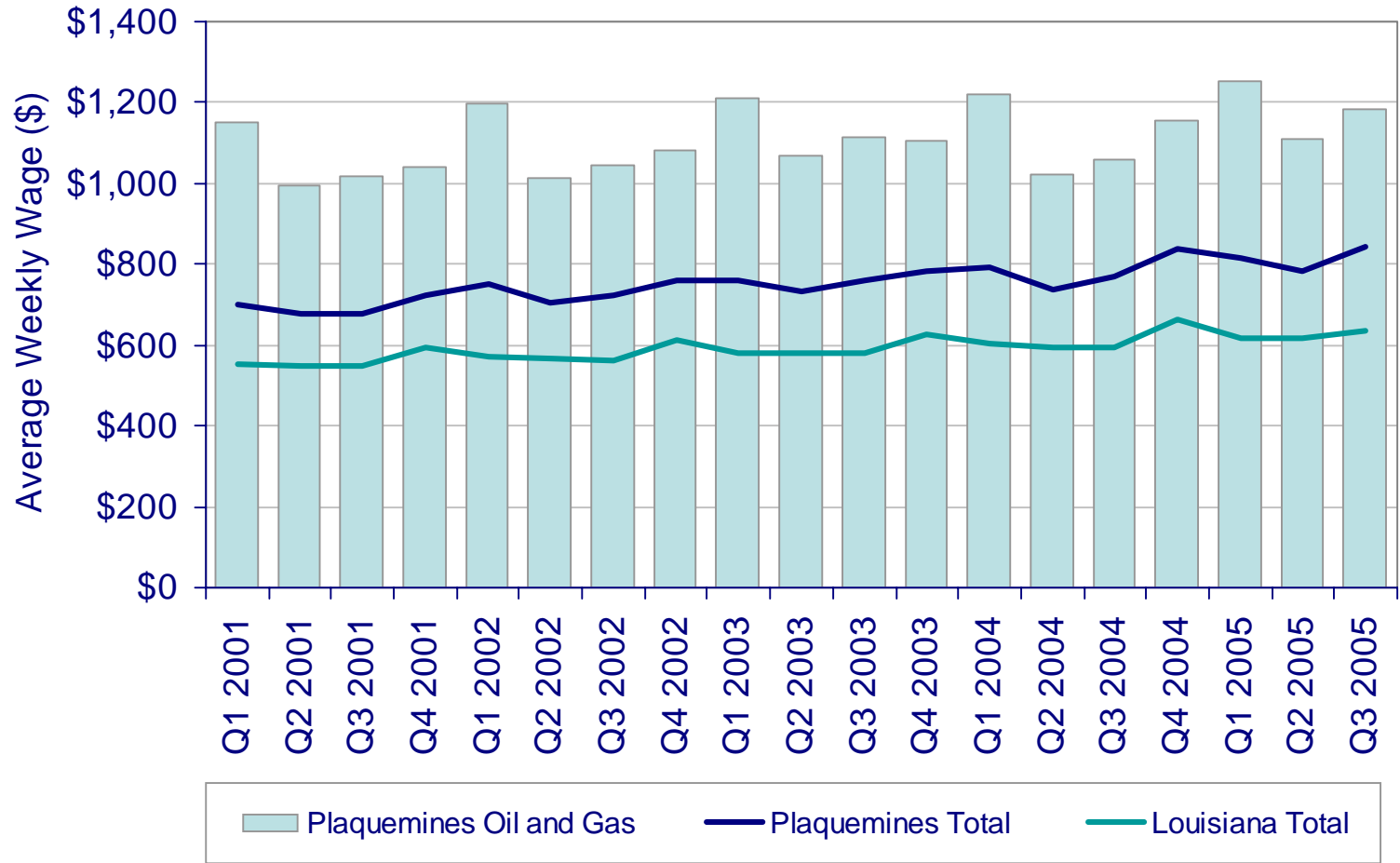


Plaquemines' oil and gas wages account for approximately 10 percent of total parish wages. This is significantly higher than the statewide average of 5 percent.



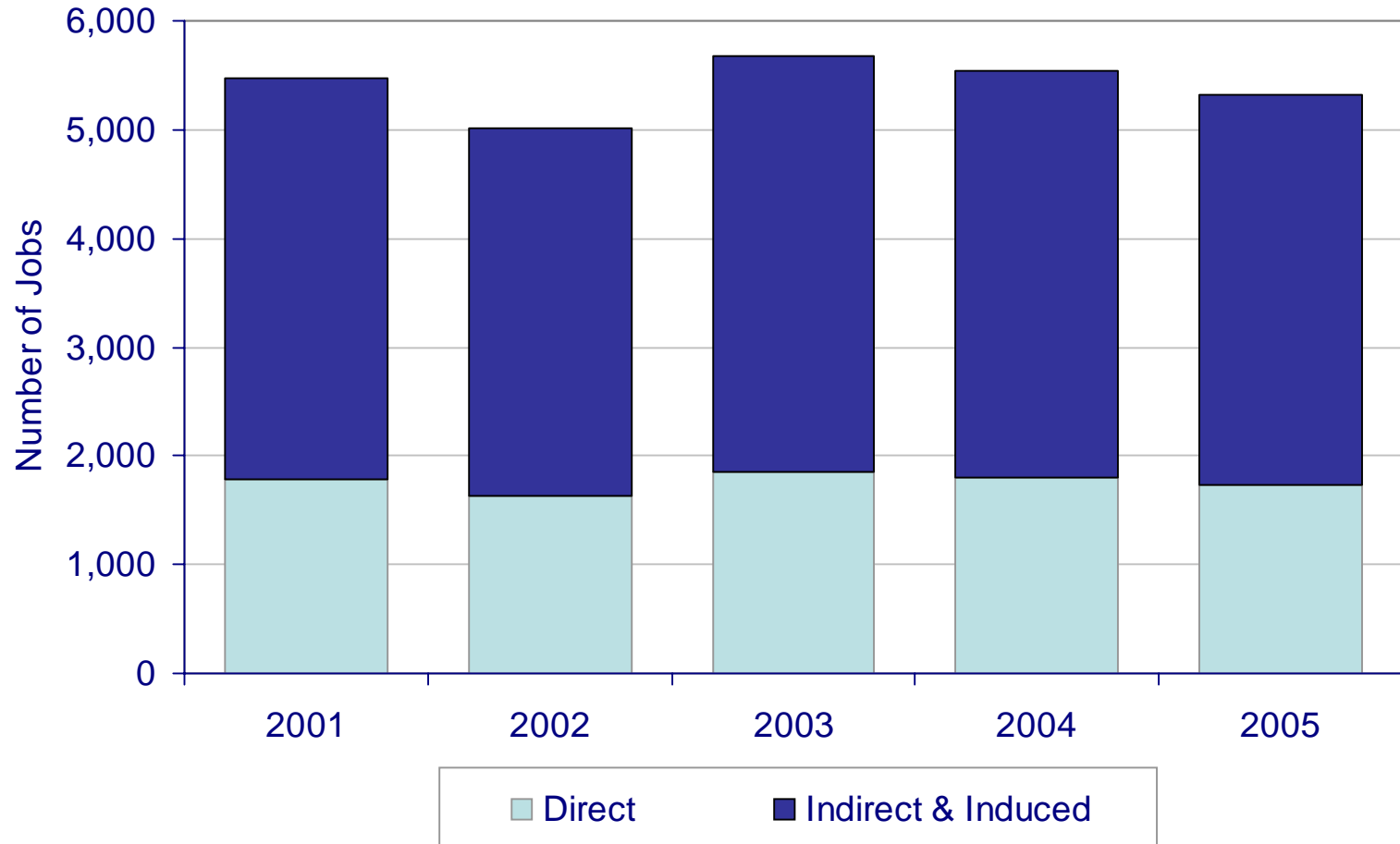
Oil and Gas Extraction Average Weekly Wages in Plaquemines Parish

Average weekly wages for Plaquemines' oil and gas sector are significantly higher than average weekly wages for both the parish and the state.



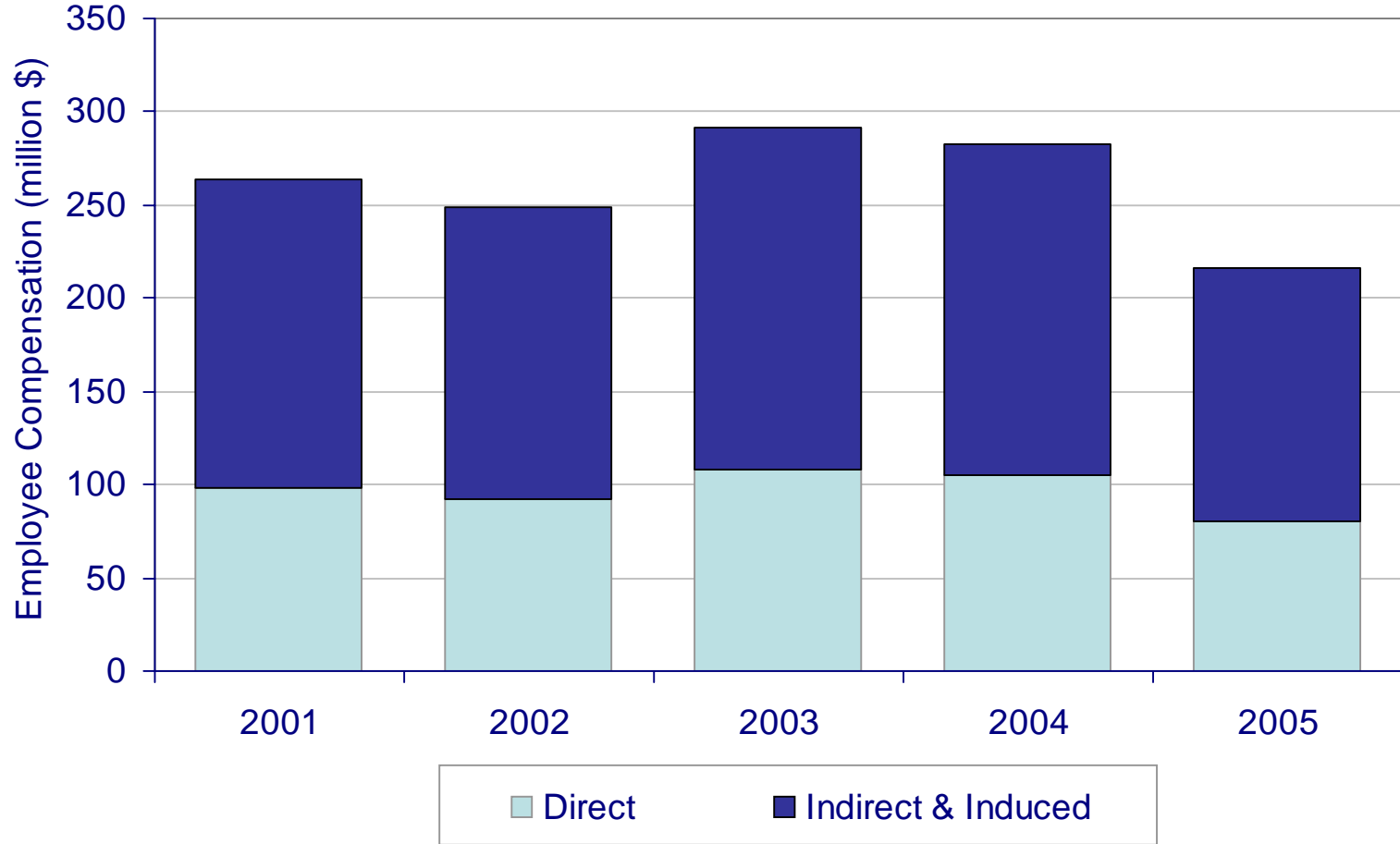
Jobs Supported by Oil and Gas in Plaquemines Parish

The oil and gas sector in the parish creates significant “multiplier” impacts. Some 2.1 additional jobs are created for every one job created in the oil and gas sector.

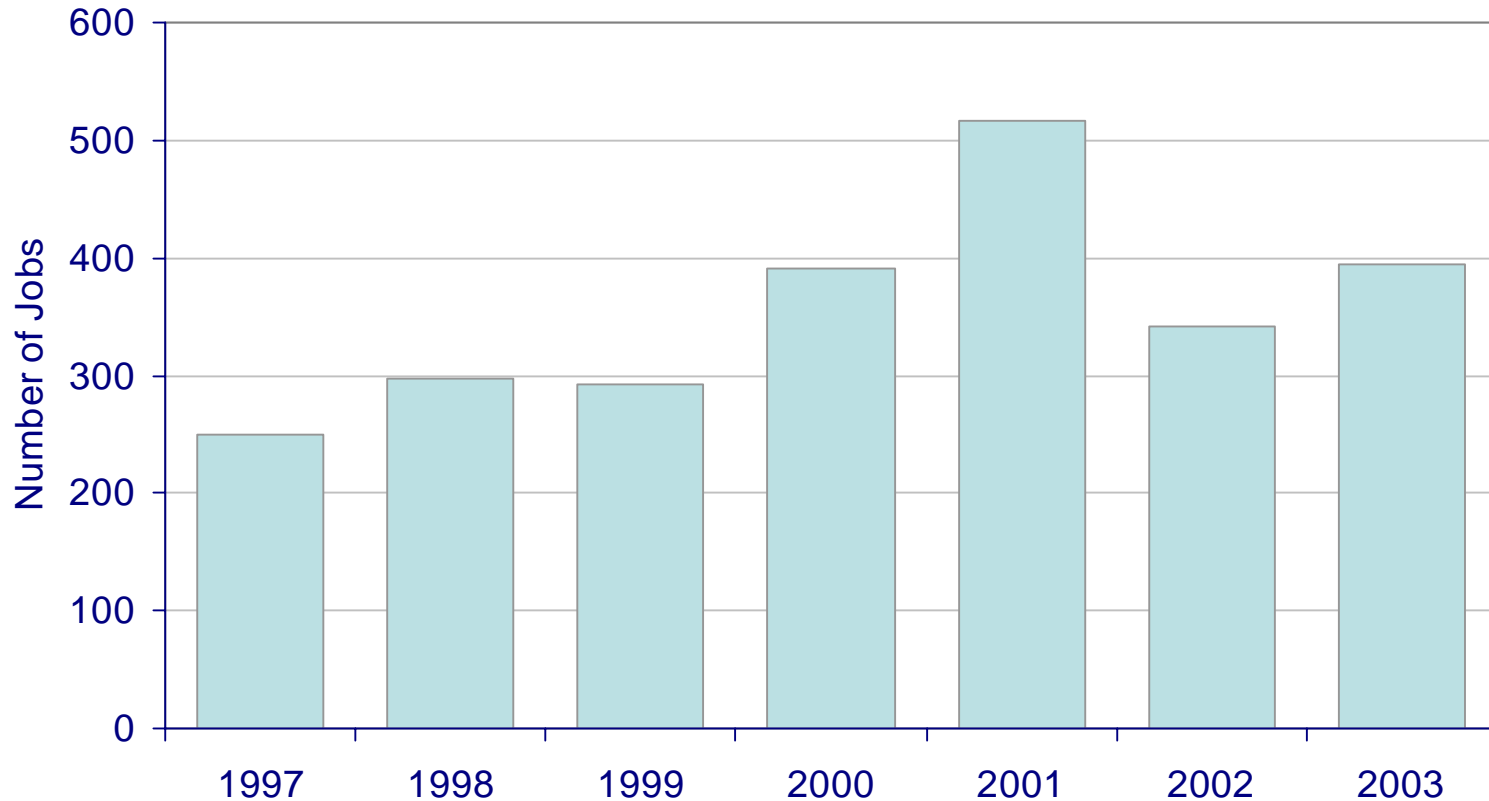


Wages Supported by Oil and Gas in Plaquemines Parish

Some \$1.70 of additional wages are also created for every one direct dollar of direct wages created in the oil and gas sector.



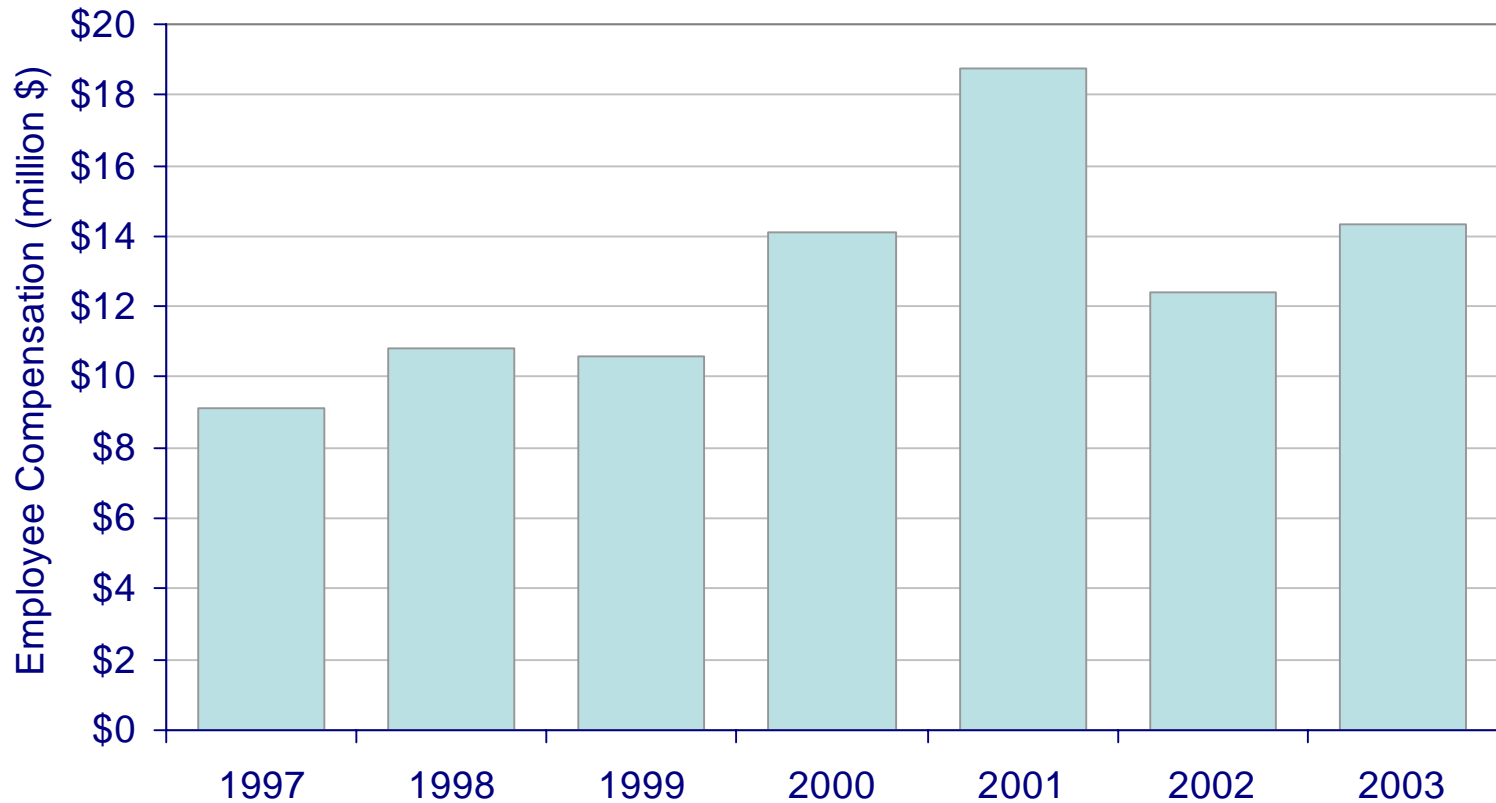
Since 1997, Plaquemines oil and gas activity is estimated to supported between 200 and 500 Louisiana-specific jobs outside of the parish.



Note: Includes oil and gas extraction as well as support activities for oil and gas operations.

Source: Bureau of Labor Statistics, US Department of Labor; and CES Estimate

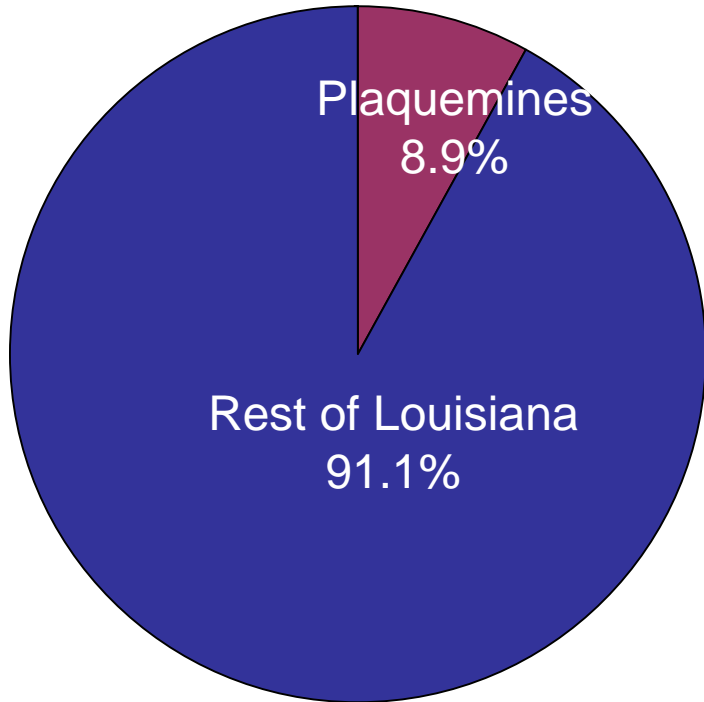
Since 1997, Plaquemines oil and gas activity has supported between \$9 and \$19 million in Louisiana wages outside of the parish.



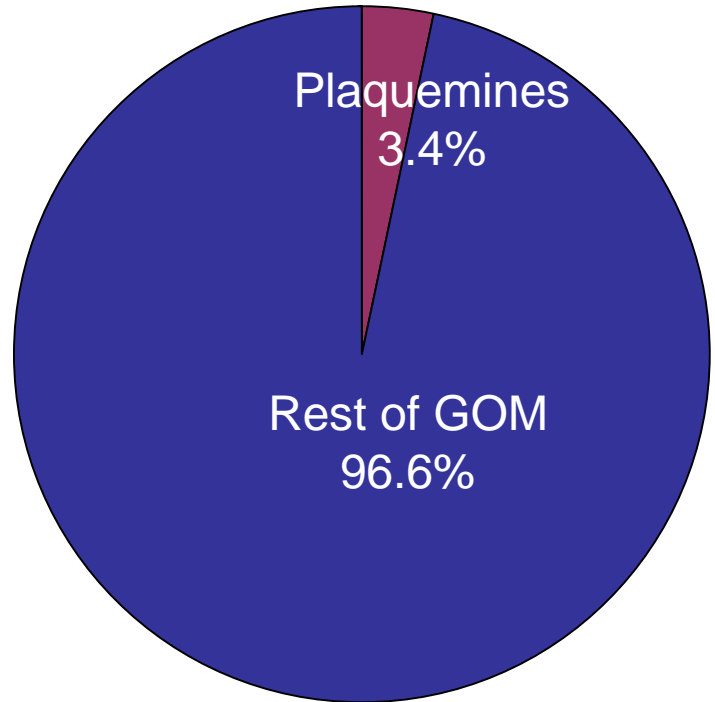
Note: Includes oil and gas extraction as well as support activities for oil and gas operations.

Source: Bureau of Labor Statistics, US Department of Labor; and CES Estimate

Plaquemine Parish's refining capacity is 247,000 barrels per day, or 9 percent of total Louisiana capacity of 2,773 thousand barrels per day

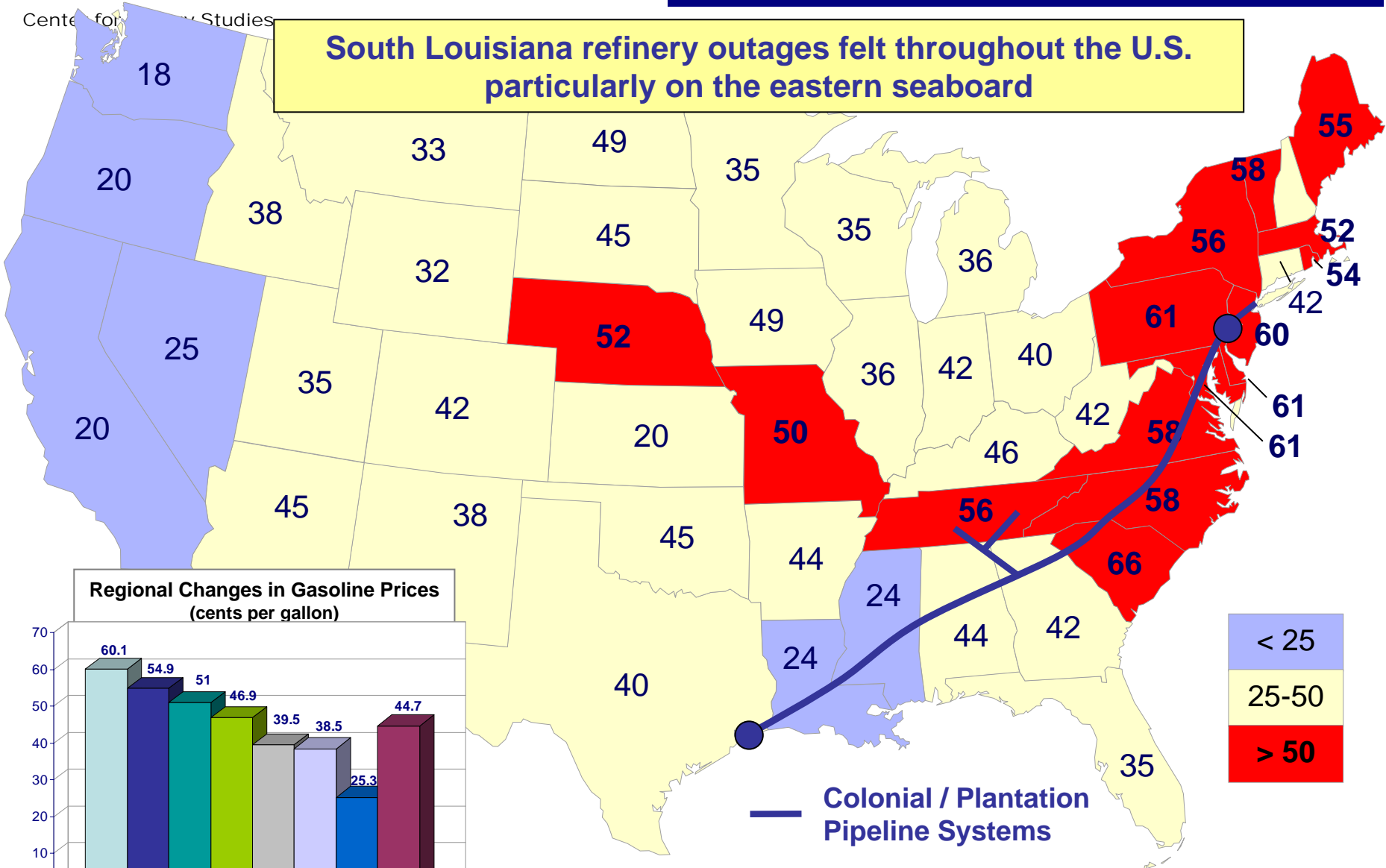


Plaquemine Parish's refining capacity is 247,000 barrels per day, or 3 percent of total GOM capacity of 7,341 thousand barrels per day

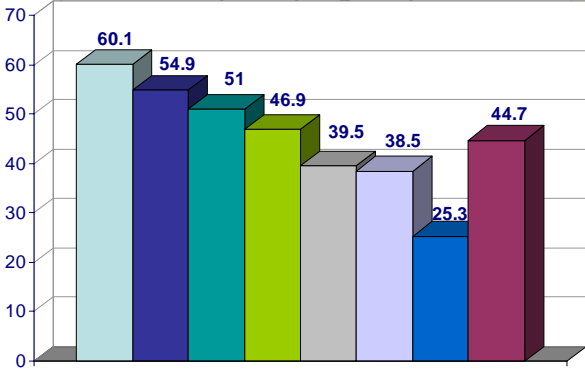


Post-Katrina Gasoline Price Increases August 30, 2005 to September 6, 2005

South Louisiana refinery outages felt throughout the U.S. particularly on the eastern seaboard



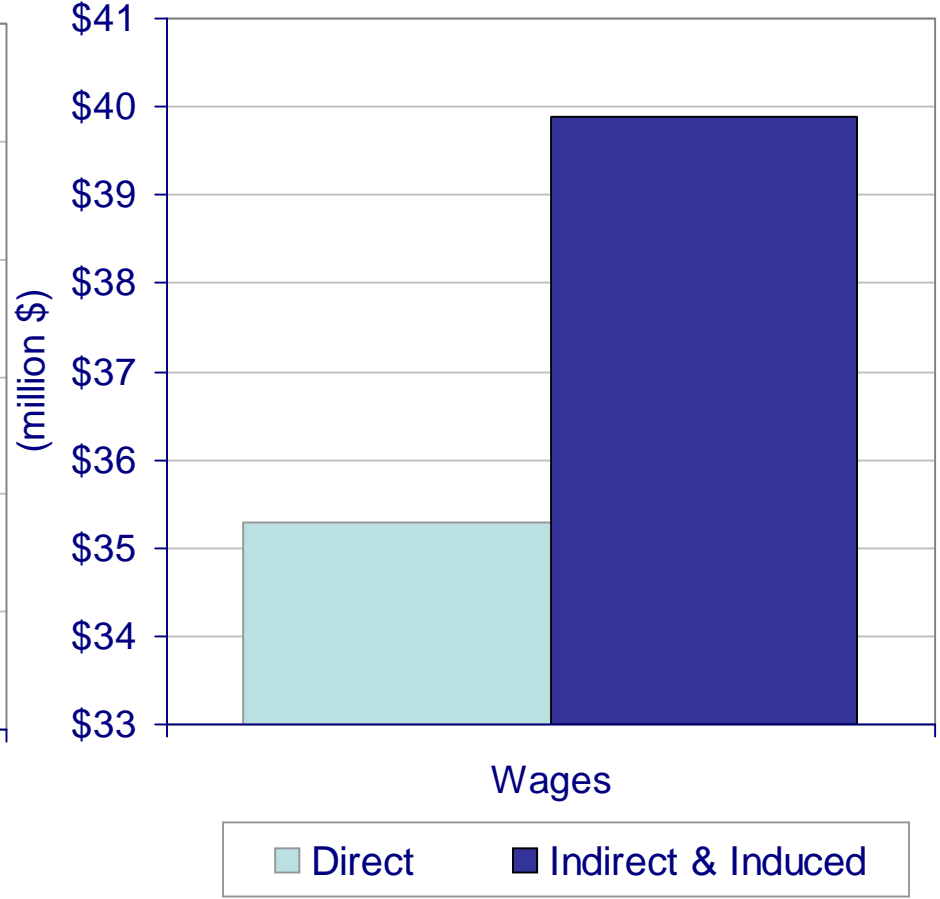
Regional Changes in Gasoline Prices (cents per gallon)



Colonial / Plantation Pipeline Systems

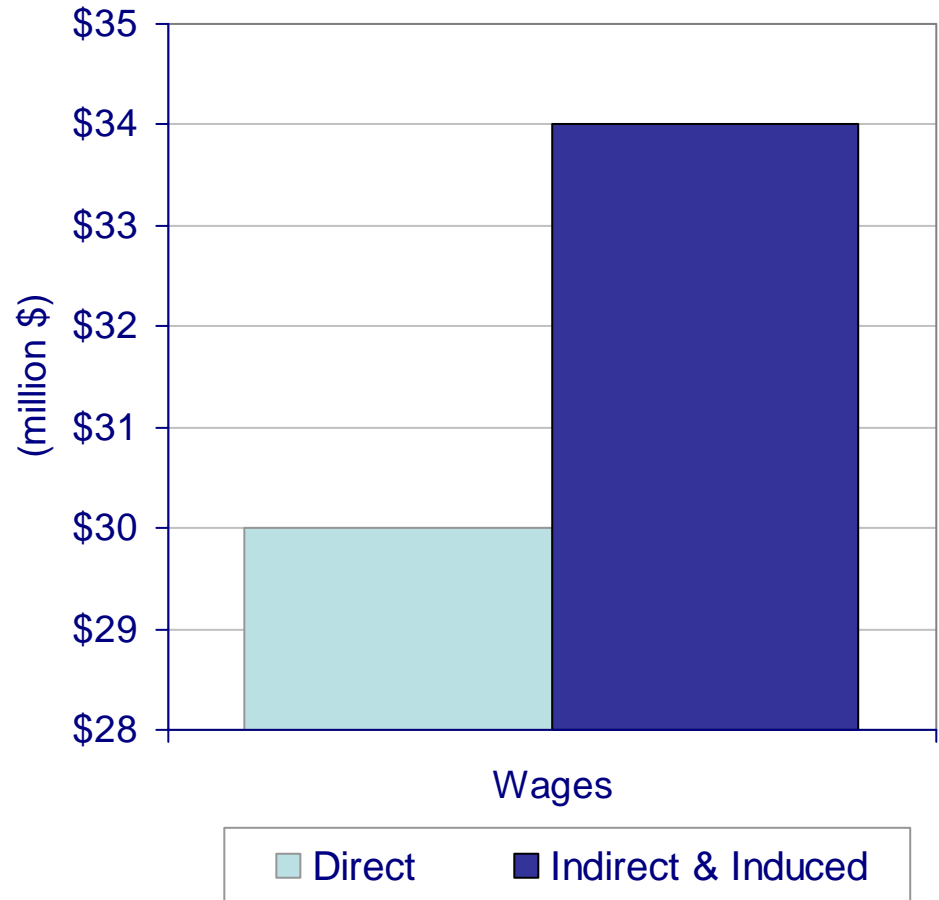
Estimated Refinery Employment and Wages Plaquemines Parish

Plaquemines is estimated to support 450 direct refinery jobs as well as an additional 1,020 in indirect and induced employment supporting these operations. Likewise, refinery positions account for an estimated \$35.3 million in direct wages with another \$39.9 million in indirect and induced wages.



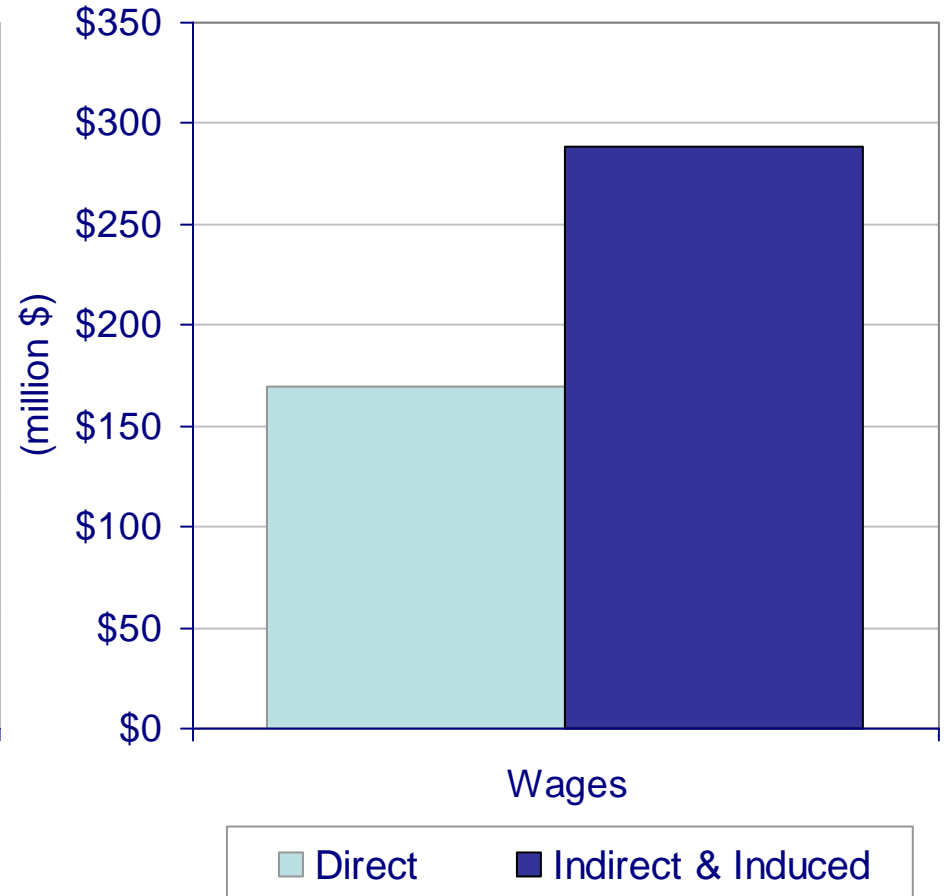
Estimated Chemical Employment and Wages Plaquemines Parish

Plaquemines is estimated to support 410 chemical jobs as well as an additional 929 in indirect and induced employment opportunities. In addition, chemical activities are estimated to create \$30.0 million in direct wages with another \$34.0 million in indirect and induced wages.

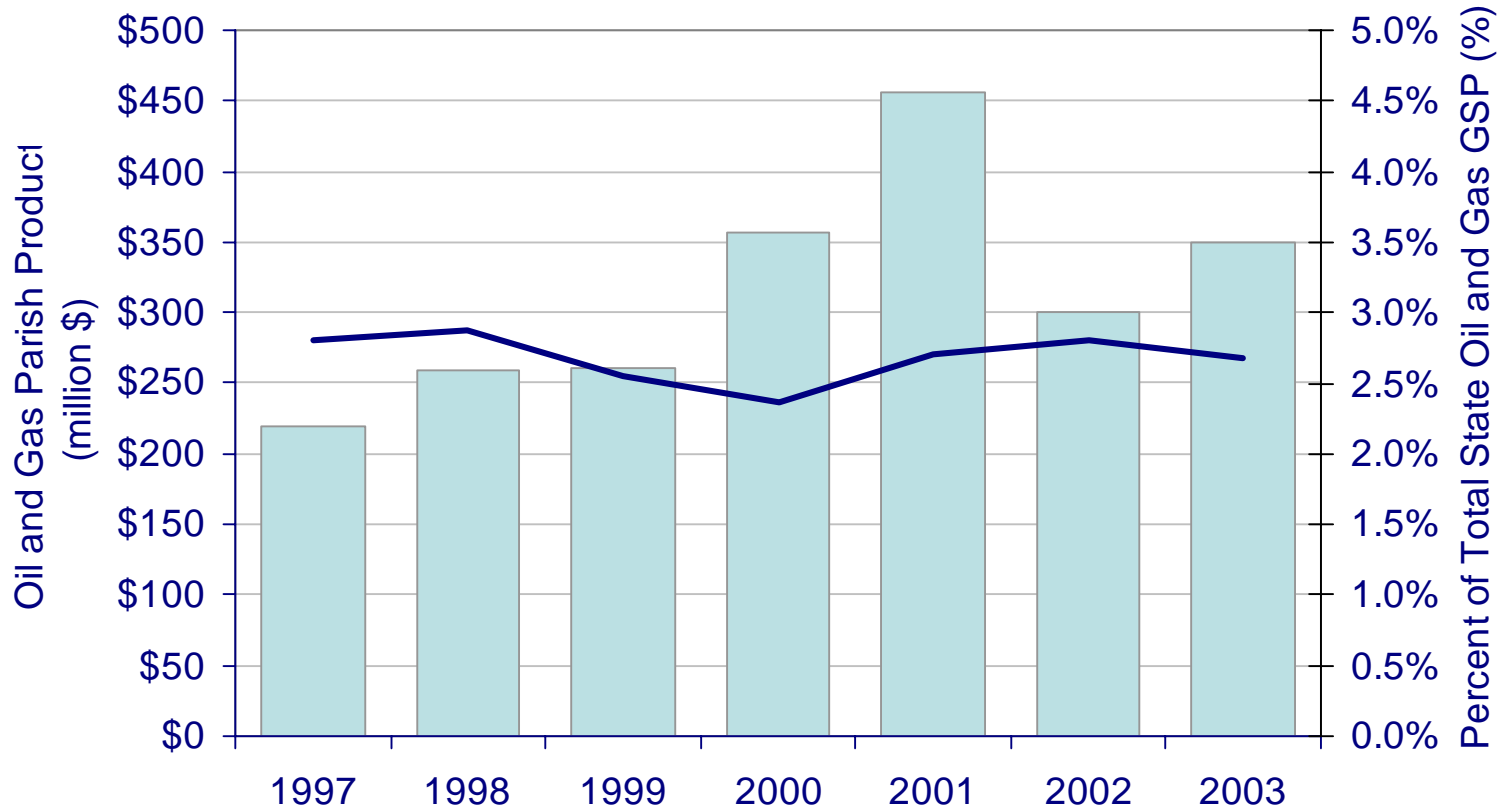


Estimated Total Energy Employment and Wages (Oil and Gas Extraction, Refining, Petrochemical) Plaquemines Parish

Plaquemines is estimated to support 2,667 energy-affiliated jobs as well as an additional 5,514 in indirect and induced support jobs. In addition, the total energy industry sector in the parish is estimated to contribute \$170 million in direct wages with another \$289 million in indirect and induced wages.



Plaquemines' estimated "gross parish product" from the oil and gas sector is over \$200 million per year.

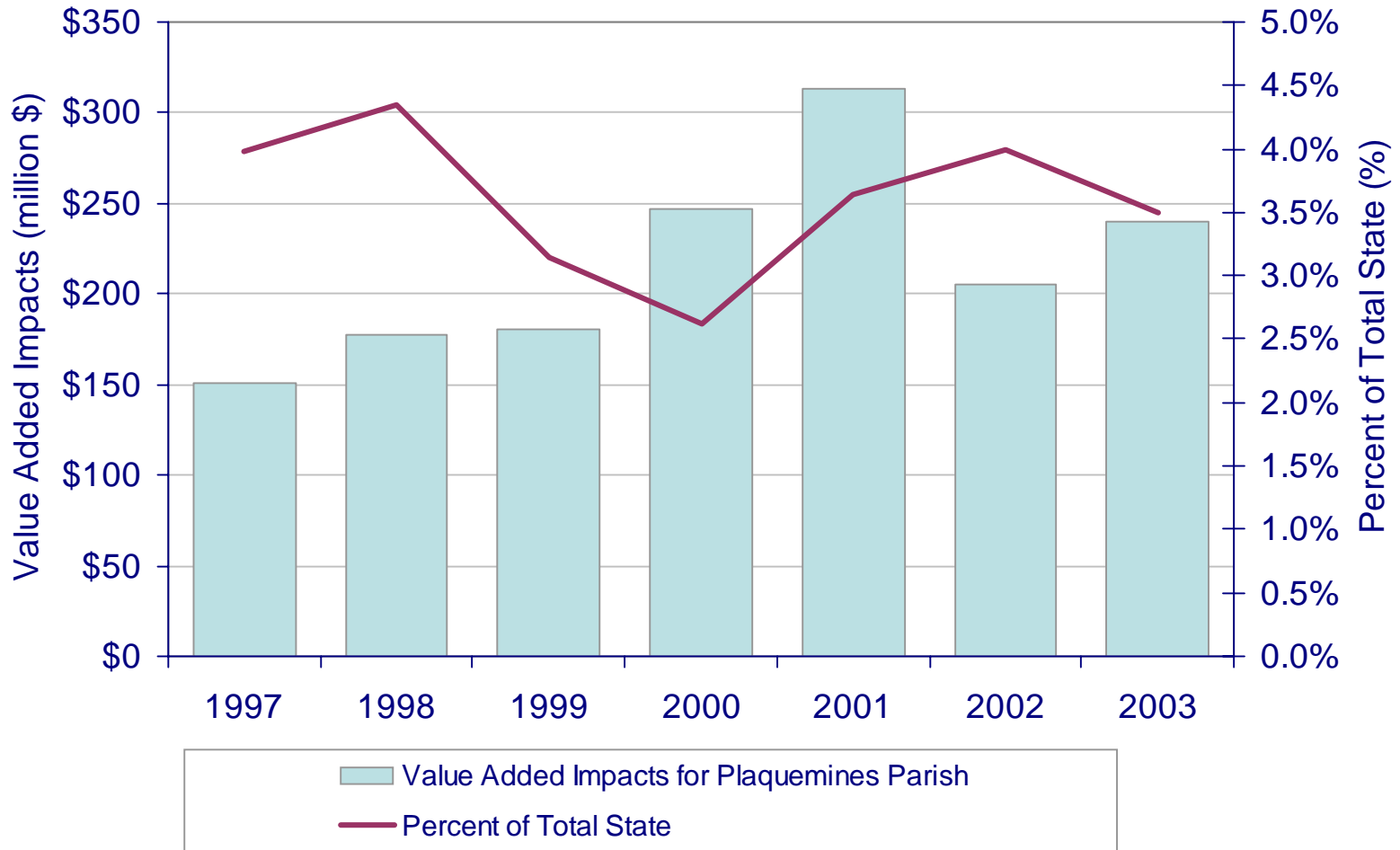


Note: Includes oil and gas extraction as well as support activities for oil and gas operations.

Source: CES Estimate

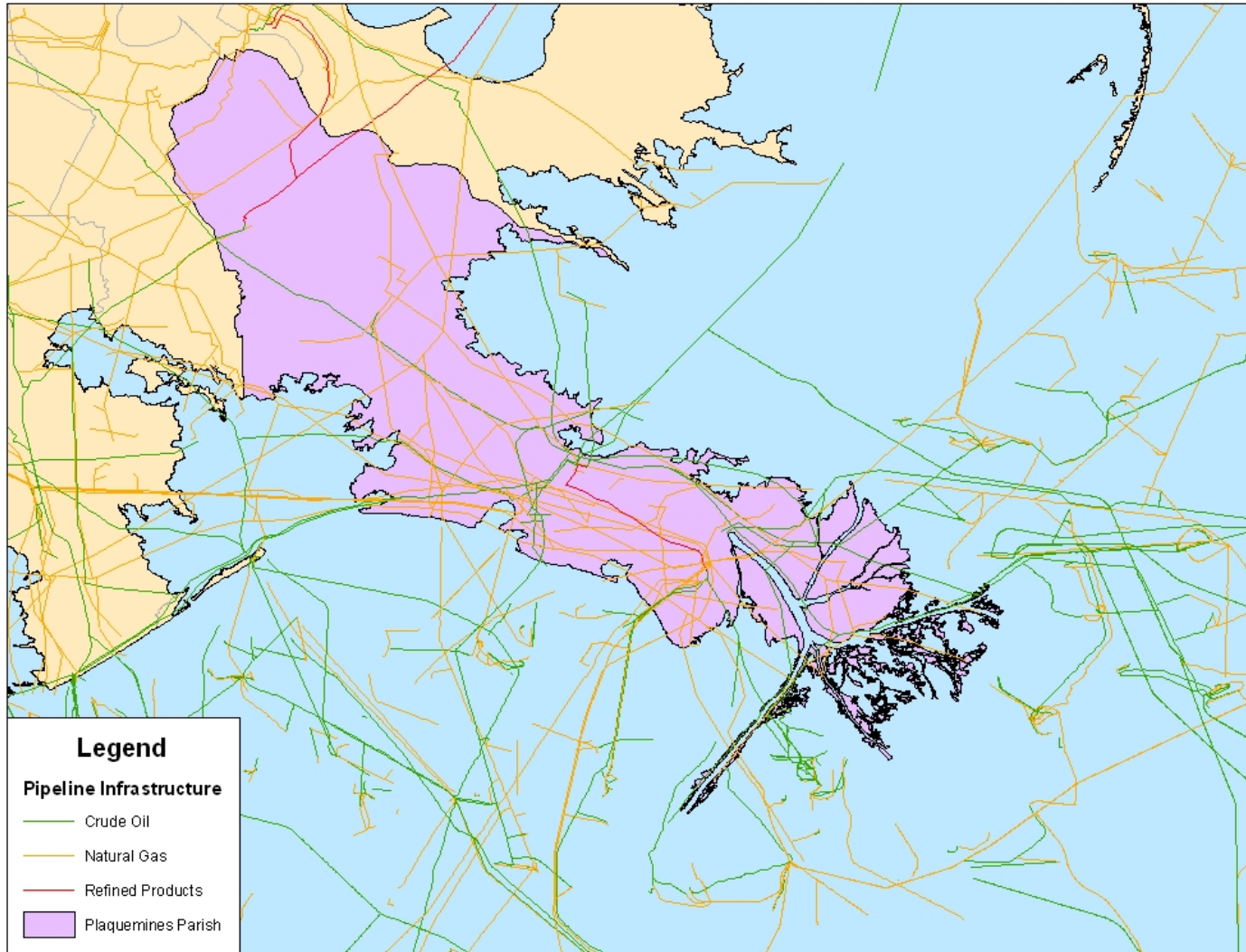
Plaquemines Oil and Gas Value Added Relative to State Oil and Gas Sector

Plaquemines' estimated value added (wages, other income, and indirect business taxes) from the oil and gas sector is estimated to be over \$200 million per year.

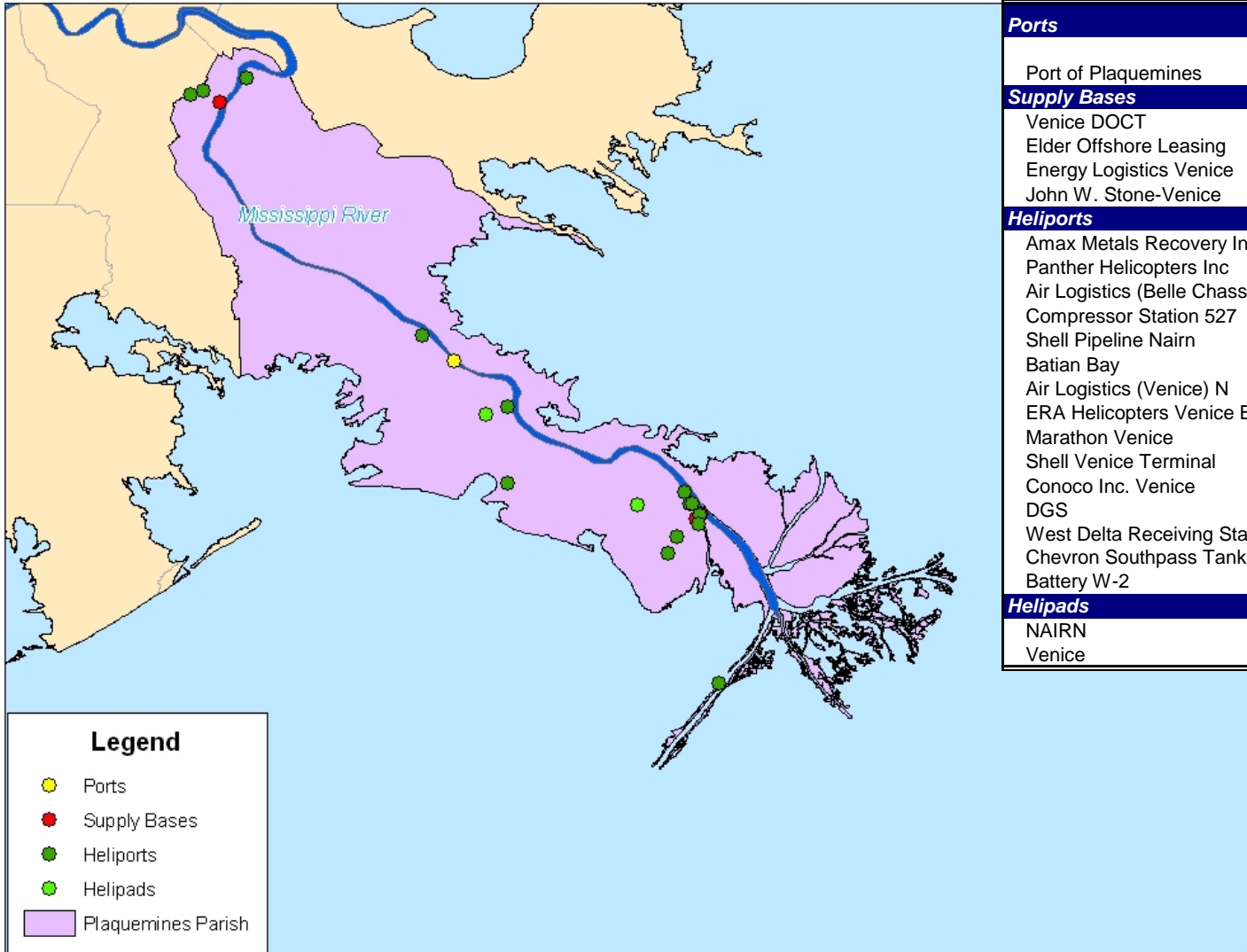


Note: Includes impacts from oil and gas extraction as well as support activities for oil and gas operations.
 Source: CES Estimate

Plaquemines is a central point for natural gas and crude oil pipelines in the Gulf of Mexico



The parish is also an important port and supply base for the offshore industry



Ports	Owner
Port of Plaquemines	Plaquemines Parish Port, Harbor & Terminal District
Supply Bases	
Venice DOCT	ASCO Fuel & Lubricant
Elder Offshore Leasing	Elder Offshore Leasing
Energy Logistics Venice	Energy Logistics/Liberty Services Inc
John W. Stone-Venice	John W. Stone Oil Distributor LLC
Heliports	
Amax Metals Recovery Inc.	Amax Metals Recovery Inc.
Panther Helicopters Inc	Lance Panepinto
Air Logistics (Belle Chasse)	Air Logistics
Compressor Station 527	Tennessee Gas Pipeline
Shell Pipeline Nairn	Shell Pipeline Corp
Batian Bay	Texas Eastern Transmission Corp
Air Logistics (Venice) N	Air Logistics
ERA Helicopters Venice Base	ERA Helicopters Inc
Marathon Venice	Marathon Oil Company
Shell Venice Terminal	Shell Offshore Inc
Conoco Inc. Venice	Conoco, Inc
DGS	Chevron USA
West Delta Receiving Station	Marathon Oil Company
Chevron Southpass Tank	
Battery W-2	Chevron USA Inc. Venice
Helipads	
NAIRN	
Venice	

Hurricane Katrina Impacts on Plaquemines Energy Economy

Infrastructure Impacted by Hurricane Katrina

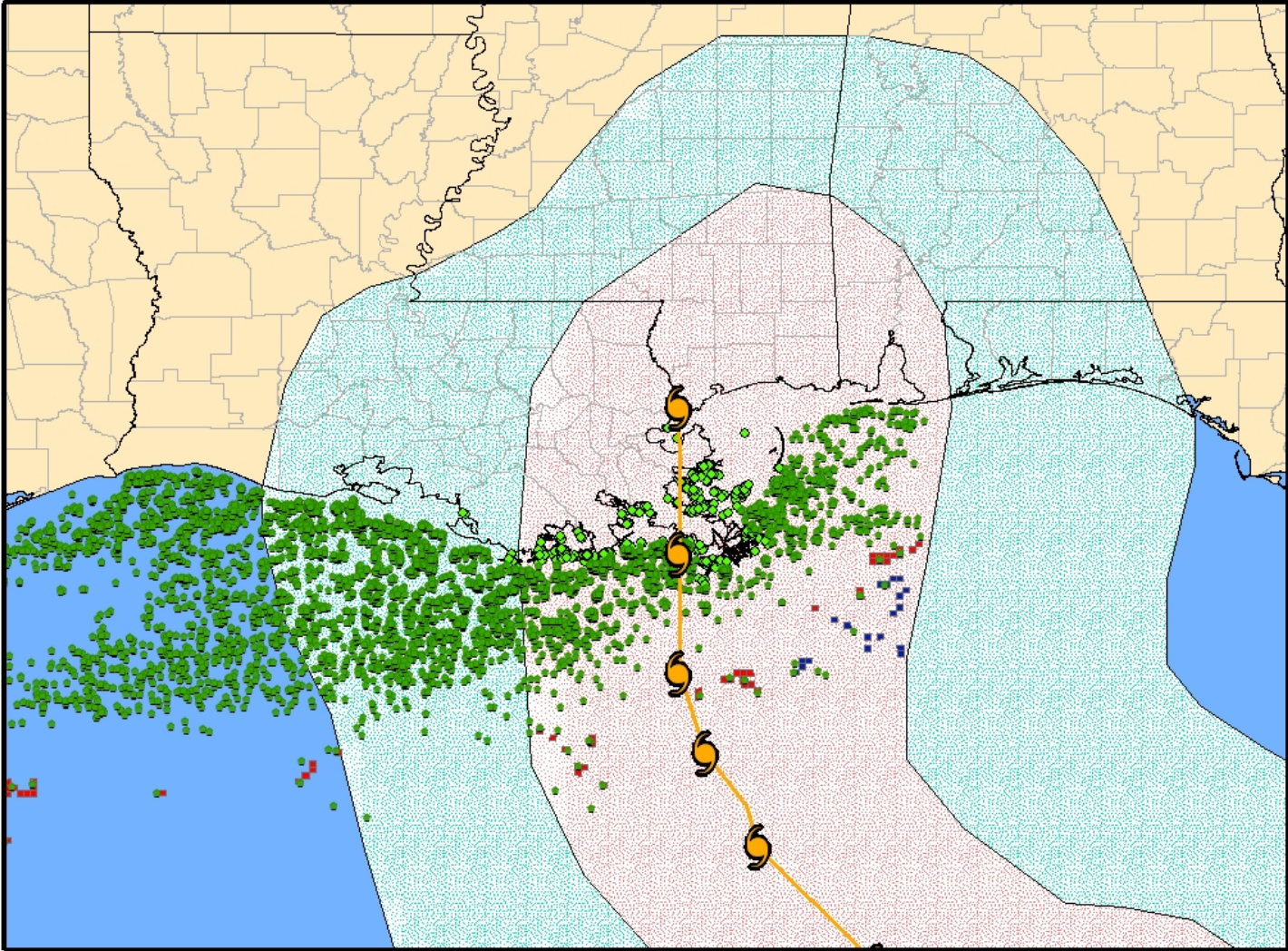


Targa Venice Facility



Chevron Pipeline at Empire Facility

- Production
- Gas processing
- Refining
- Petroleum storage and transport
- Offshore support interruption



Legend



Shell Mars Tension Leg Platform

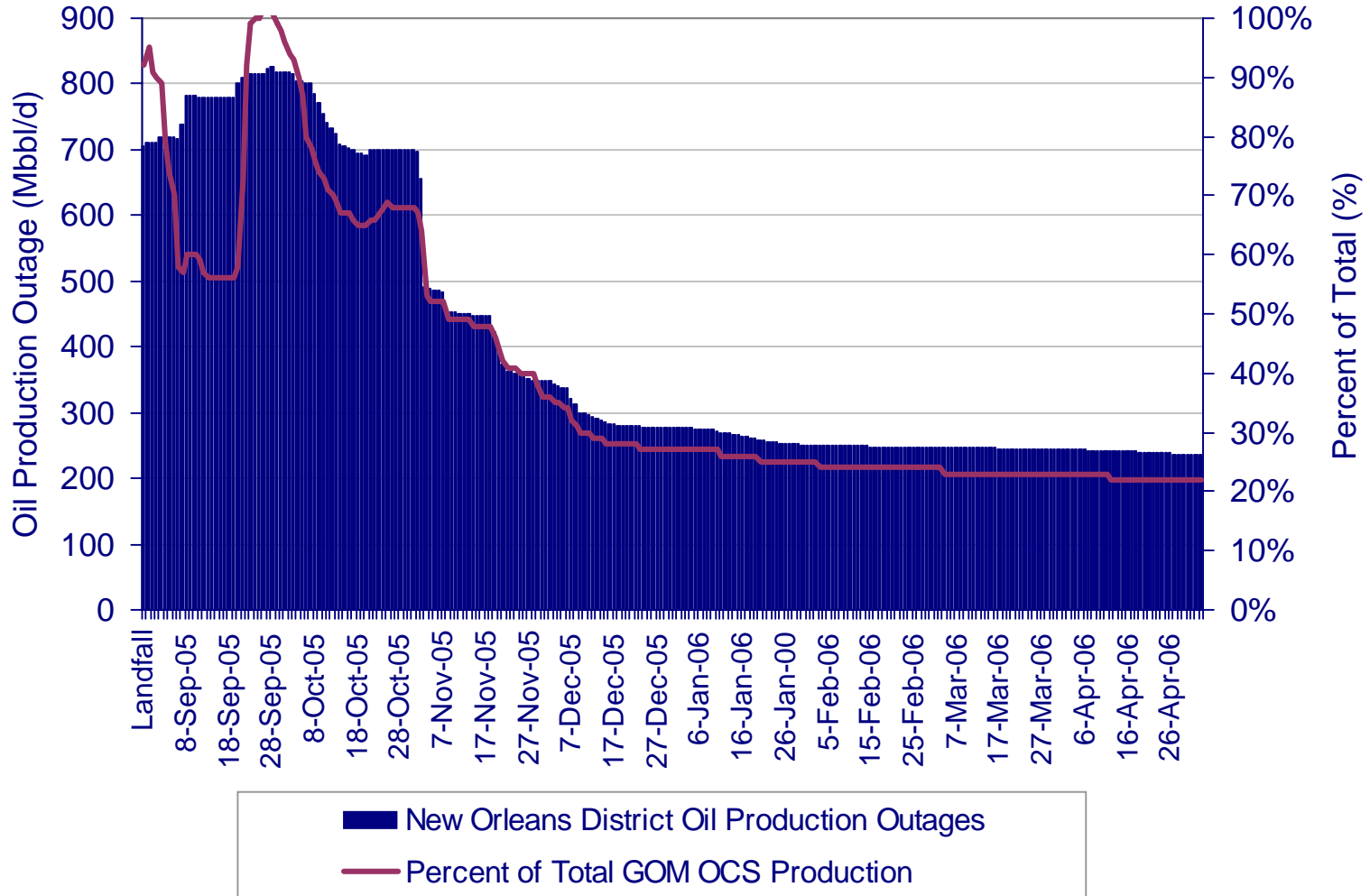


Semi-submersible damage

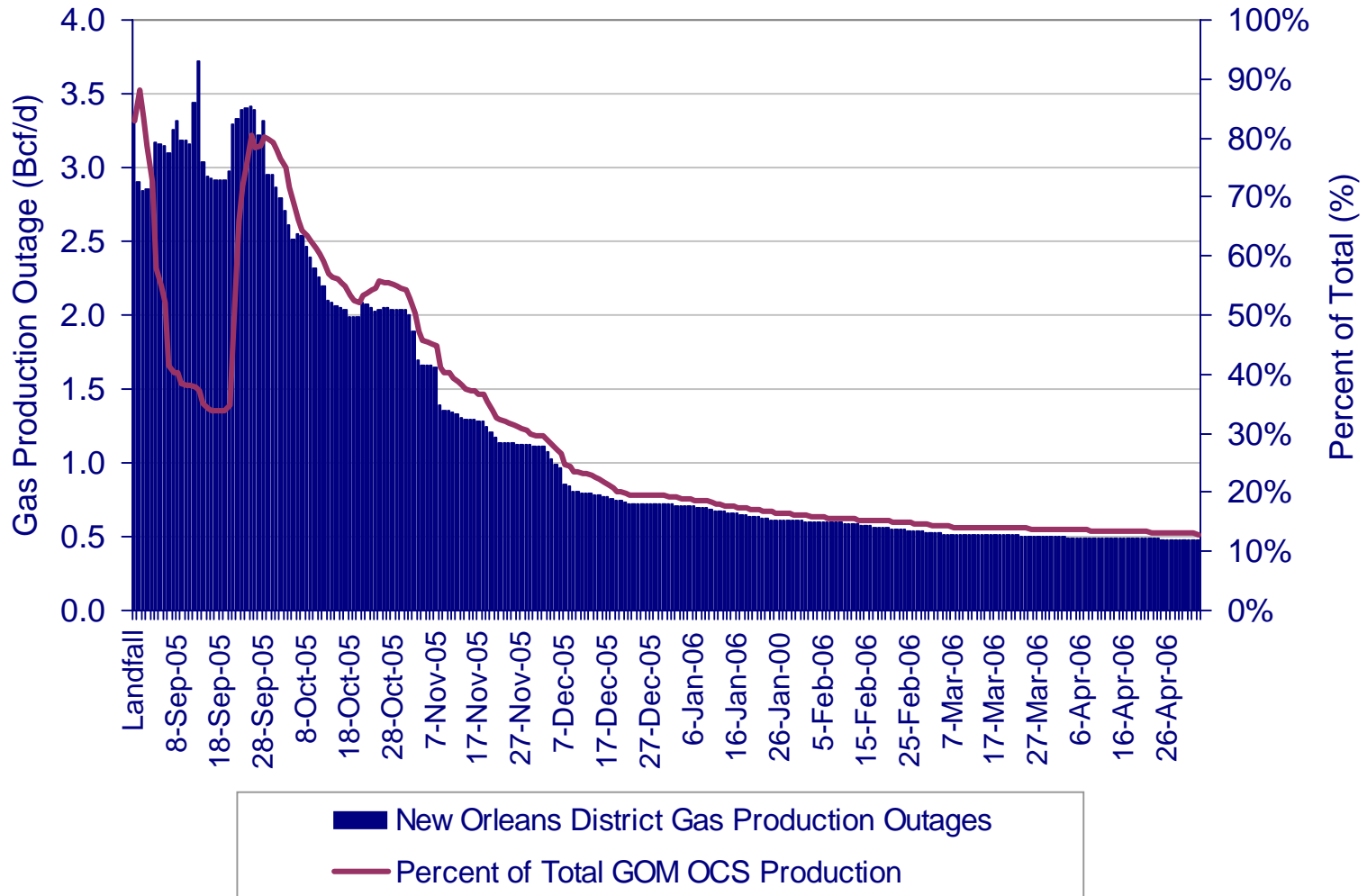


Ocean Warwick

New Orleans district shut-in crude production is around 20 percent of its total typical annual production.



New Orleans district shut-in natural gas production is around 10 percent of its total typical annual production.

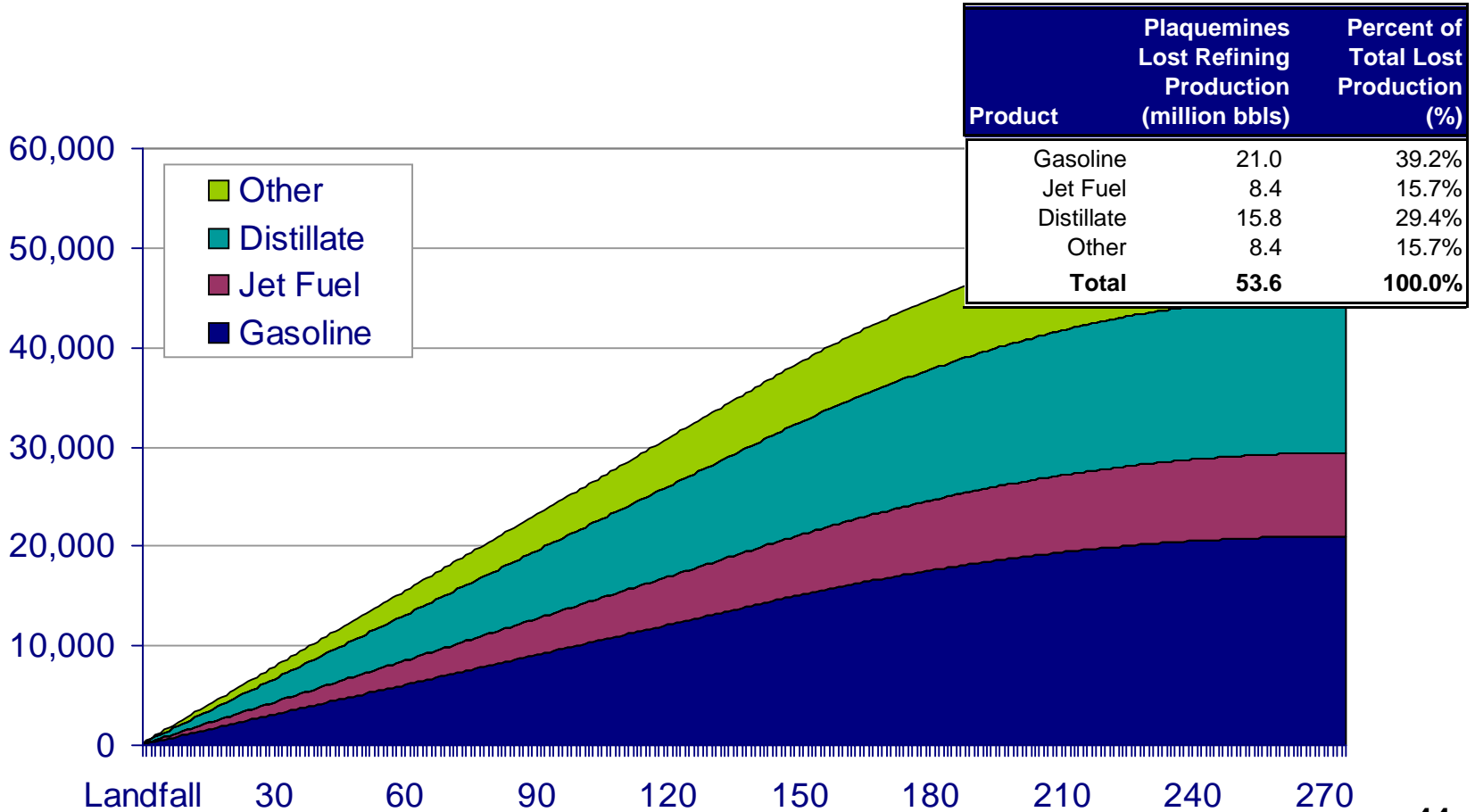


A significant number of crude and natural gas pipelines suffered damage during the storm interrupting production and delivery of energy commodities to market.

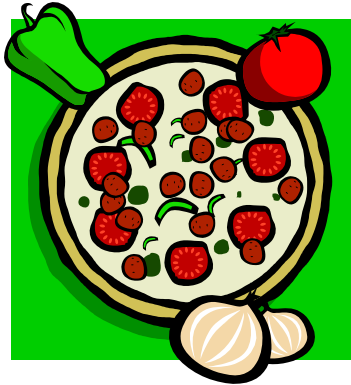
Operator	Diameter (inches)	Product	Operator	Diameter (inches)	Product
Tennessee Gas Pipeline Co	26	Gas	Southern Natural Gas Co	12-24	Gas
Tennessee Gas Pipeline Co	26	Gas	Equilon Pipeline Company LLC	12	Gas
Venice Gathering System LLC	26	Gas	Gulf South Pipeline Co LP	12	Gas
Venice Gathering System LLC	26	Gas	Apache Corporation	12	Bulk Oil
Southern Natural Gas Co	26	Gas	Equilon Pipeline Company LLC	12	Oil
Trunkline Gas Company LLC	24	Gas	Southern Natural Gas Co	12	Gas
Gulfterra Field Services LLC	20	Gas	Chevron Pipeline Co	12	Gas
Tennessee Gas Pipeline Co	20	Gas	Tennessee Gas Pipeline Co	12	Gas
Southern Natural Gas Co	20	Gas	Chandeleur Pipeline Co	12	Gas
Tennessee Gas Pipeline Co	20	Gas	Southern Natural Gas Co	12	Gas
Southern Natural Gas Co	18	Gas	SPN Resources LLC	10	Gas
Equilon Pipeline Company LLC	18	Oil	Transcontinental Gas Pipeline	10	Gas
Equilon Pipeline Company LLC	18	Oil	Total E&P USA Inc	10	Gas
Equilon Pipeline Company LLC	18	Gas	Apache Corporation	10	Gas
Chandeleur Pipeline Co	16	Gas	Apache Corporation	10	Gas
Marlin Energy Offshore LLC	14	Gas	Apache Corporation	10	Lift
Enbridge Offshore (Gas Gathering)	14	Gas	Apache Corporation	10	Gas
Southern Natural Gas Co	14	Gas	Exxon Mobil Corporation	10	Gas

Refinery Impacts: Cumulative Lost Production - Total

By the end of May 2006, shut-in production from the Alliance Refinery is estimated to be about 54 million barrels. This estimated lost production is equivalent to approximately 58 percent of Alliance's annual total production.



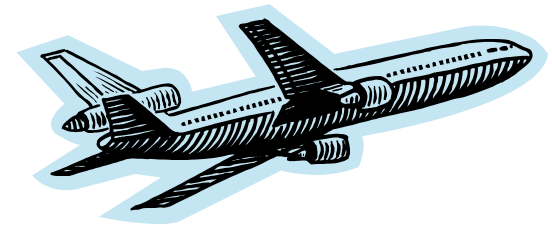
Lost production from Alliance refinery would have....



... delivered over 3.5 billion pizzas in the US



... fueled all the cars in Rhode Island for over 2 years



... fueled the over 100,000 commercial airline trips from New York to Los Angeles



... heat 10 percent of New England homes for a month

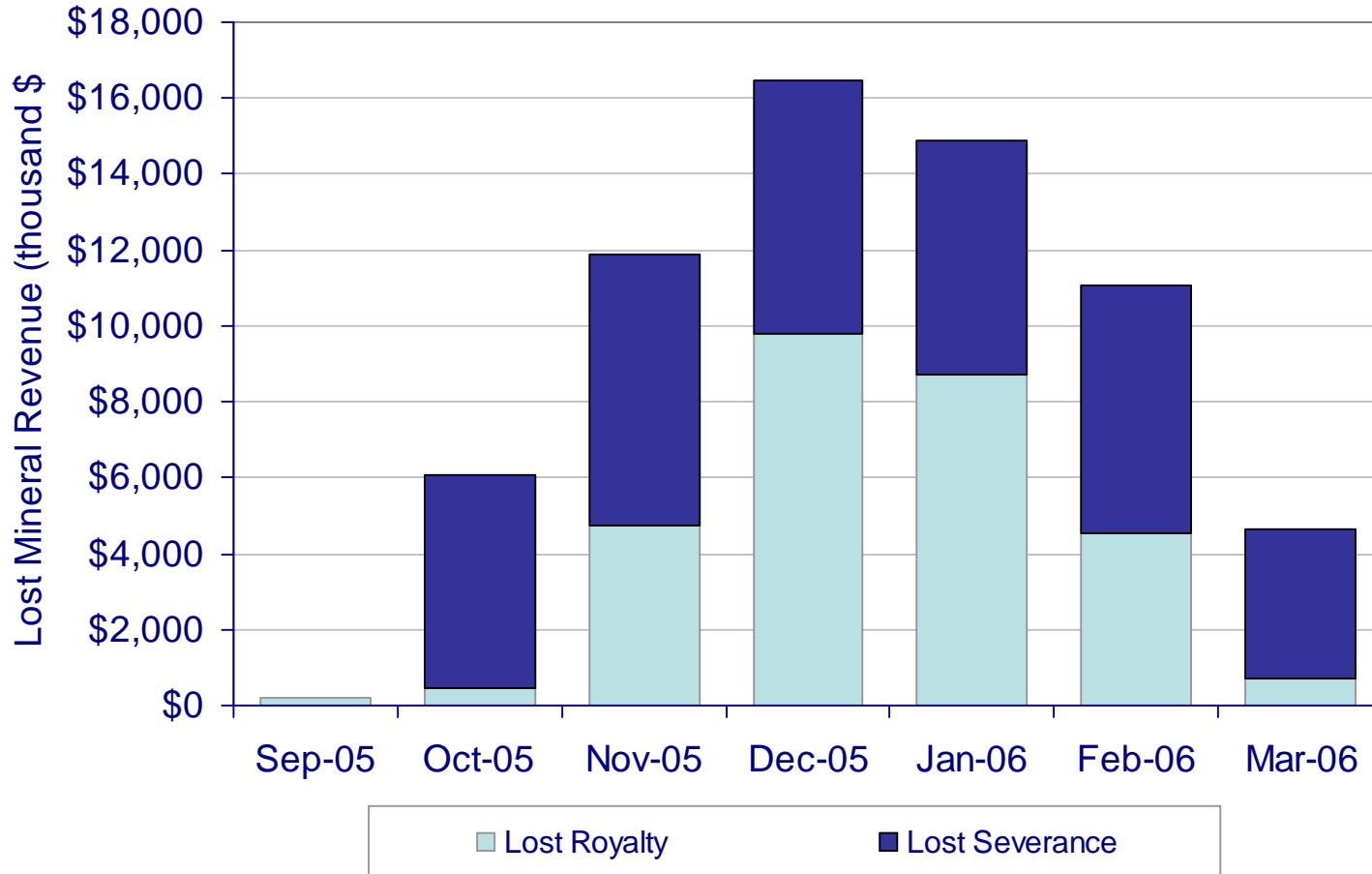


Venice Support, Supply and Crew Bases



Petroleum Helicopter Inc. – Boothville

Over \$65 million in lost mineral revenues was associated with shut-in oil and gas production in Plaquemines.



**Ongoing Energy Production and Infrastructure
Importance of the Parish**

- Plaquemines has played an important role in the region's energy economy and has the opportunity to continue to play an important role in future energy production and infrastructure development.
- The Parish helps to support an important region for OSC production.
- The parish is an exceptionally important area for state oil and gas production and mineral revenues.
- Plaquemines is one of the most important gas processing hubs along the Gulf Coast.
- Plaquemines is home to an important petroleum refinery.
- A major crude oil storage terminal and pipeline system is located in the Parish which ties to a facility responsible for 18 percent of all U.S. crude oil imports.
- The parish is home to an important petrochemical facility.

- Plaquemines establishes Louisiana proximity to OSC production.
- OCS production is important to the state's energy economy as well as our energy supplies to critical industry.
- Plaquemines is poised to continue support of ongoing OCS activities.
- Plaquemines is poised to continue support of growing deepwater opportunities.
- Plaquemines could support future activity in restricted areas in the eastern Gulf.

- There is no place in the state that has as concentrated an area of state jurisdictional oil and gas production as in Plaquemines parish.
- The parish accounts for over 20 percent and about 10 percent of total state oil and gas production, respectively.
- Plaquemines accounts for about 20 percent of total state mineral revenues.
- The Parish contributes over \$230 million per year in mineral revenue.
- This production accounts for approximately 1,800 direct jobs and almost 3,600 indirect and induced jobs. About \$80 million in total direct wages were paid for 2004, and \$136 million in indirect and induced wages.

- Katrina showed that Plaquemines is an important area for processing natural gas from the Gulf.
- The parish accounts for over 1.3 billion cubic feet per day of capacity, accounting for 7 percent of Louisiana capacity, and 6 percent of total coastal GOM gas processing capacity.
- Liquids separated from these facilities are important feedstocks for other Louisiana chemical facilities that employ as many as 23,500 workers.

- The U.S. needs petroleum refining capacity and the Alliance refinery in Plaquemines parish is an important part of the country's refining capacity.
- The Alliance refinery is an important regional producer of gasoline, diesel, jet fuel, and home heating oil.
- Refinery losses after Katrina pushed prices well over 50 cents per gallon for customers all along the eastern U.S. Current refinery outages have kept increased pressure on gasoline prices that are currently at record levels.
- As a regional manufacturing center, the Alliance refinery is an important employer and tax revenue contributor.

- The Chevron Oronite Oak Point Plant in Belle Chasse, Louisiana, U.S.A. is one of the largest and most advanced producers of high-quality blended fuel and lubricant additives in the world.
- Chevron Oronite develops, manufactures and markets fuel and lubricant additives and specialty chemicals. It specializes in technically advanced additives that improve the performance of fuels, lubricating oils, fluids and greases.
- Oronite manufactures over 250 lubricant and fuel additives for all types of diesel, gasoline and natural gas engines as well as additives for other lubricants such as gear oils and hydraulic oils.

- Chevron's Empire Terminal serves as a primary delivery point for Heavy Louisiana Sweet Crude produced in the GOM
- The terminal can handle 400,000 - 500,000 barrels per day
- Receives crude produced in Gulf from pipelines: Cypress, Breton Sound, MP 69, Delta System and Grand Bay
- Crude is delivered via outbound pipelines to Chalmette refinery, St. James Terminal, and Mars Blend tanks at LOOP
- Delivery to LOOP is at Clovelly, which is a eight cavern underground salt storage facility with a total capacity of 40 million barrels, a pump station with four 6,000-hp pumps, meters to measure the crude oil receipts and deliveries, and a 25 million barrel Brine Storage Reservoir.
- LOOP handles 12 to 15 percent of total US crude oil imports

Conclusions

- Ongoing support for the parish is important for national and regional energy markets.
- The parish's energy economy is a reflection of the diversity and importance of the whole Louisiana energy economy having production, refining, gas processing, petrochemical, logistic and transportation support, and storage/transportation infrastructure. There is probably no parish in the state that has most ALL of these aspects of the energy industry included in their boundaries.
- Failure to support this production and infrastructure could have important impacts on national energy markets at a critical time.
- The region is also an important part of the Louisiana economy. Facilitating speedy recovery in the parish is an important part of Louisiana's overall recovery. This recovery will pay dividends over time to the state and the nation in terms of ongoing and future energy production, processing, and deliverability.

The following facts highlight the importance of the energy industry in Plaquemines and prior to the hurricanes, the Parish was responsible for:

- 17 million barrels of oil each year;
- 105 billion cubic feet of gas each year;
- Close to 11,000 active state oil and gas wells;
- Over 750 miles of onshore pipelines;
- 1,102 active structures in federal offshore waters off the parish coast accounting for roughly half of the total oil production in the Gulf and one-third of the natural gas production;
- 247,000 barrels per day of refining capacity;
- 1.3 billion cubic feet per day of gas processing capacity;
- \$100 million per year in severance revenues and over \$140 million per year in royalty revenues – for a total of \$240 million in total mineral revenues which accounts for roughly 25 percent of state totals.
- Over the past decade, the Parish has contributed \$2.1 billion in mineral revenues.
- Direct employment of close to 1,800 people in oil and gas extraction accounting for \$80 million in annual wages.
- A total energy industry estimated to be \$1.2 billion per year, accounting for over 8,000 direct, indirect, and induced employment opportunities.