



US Army Corps
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Weekly Brief

25 April 2006

One Team: Relevant, Ready, Responsive, Reliable



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Topics



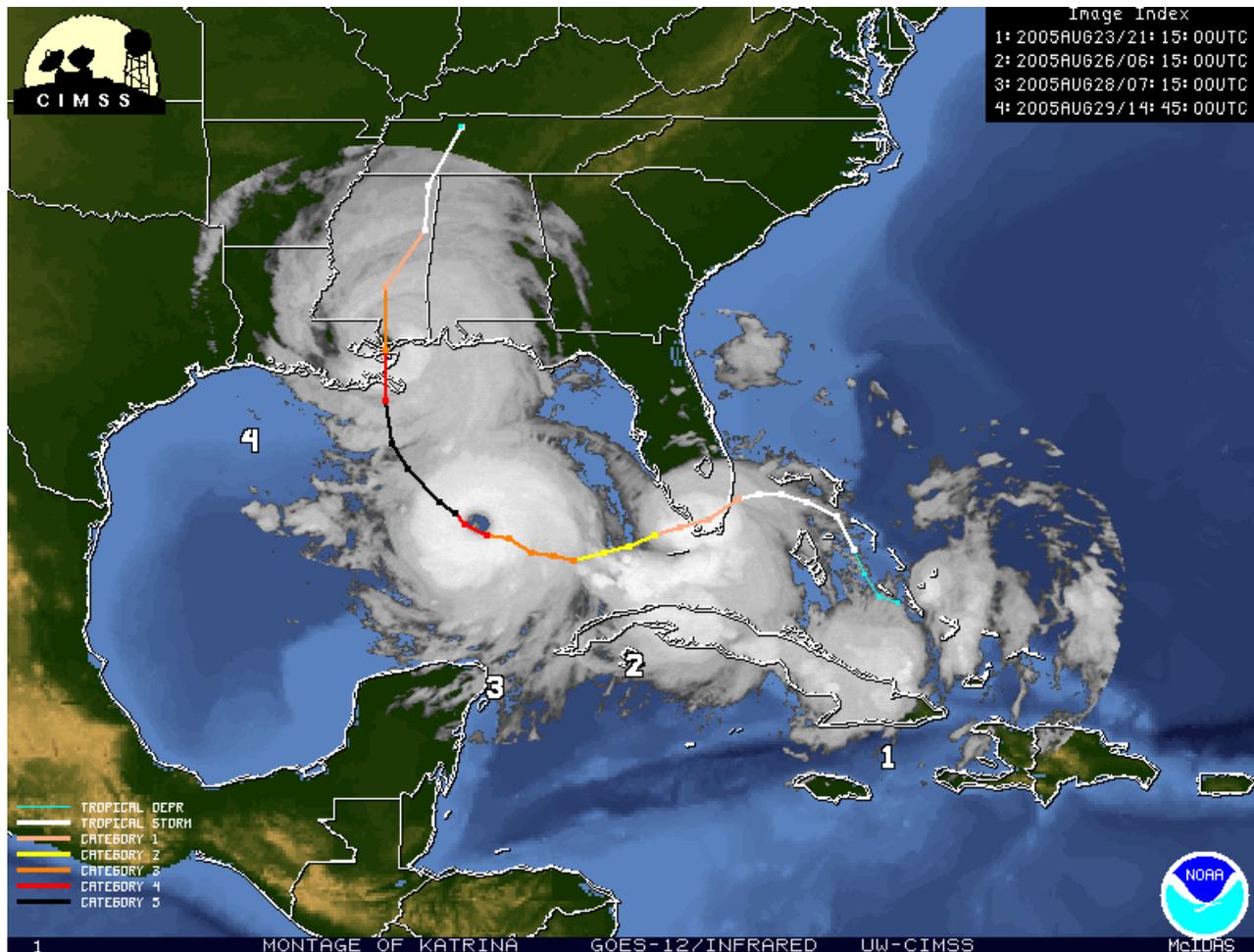
- Hurricane Katrina & Rita
- Corps emergency missions
- Hurricane protection system
- Congressionally authorized levels of hurricane protection
- Hurricane protection system restoration summaries
- New Orleans outfall canals
- Louisiana Coastal Protection and Restoration (LaCPR)
- Additional improvements



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Hurricane Katrina

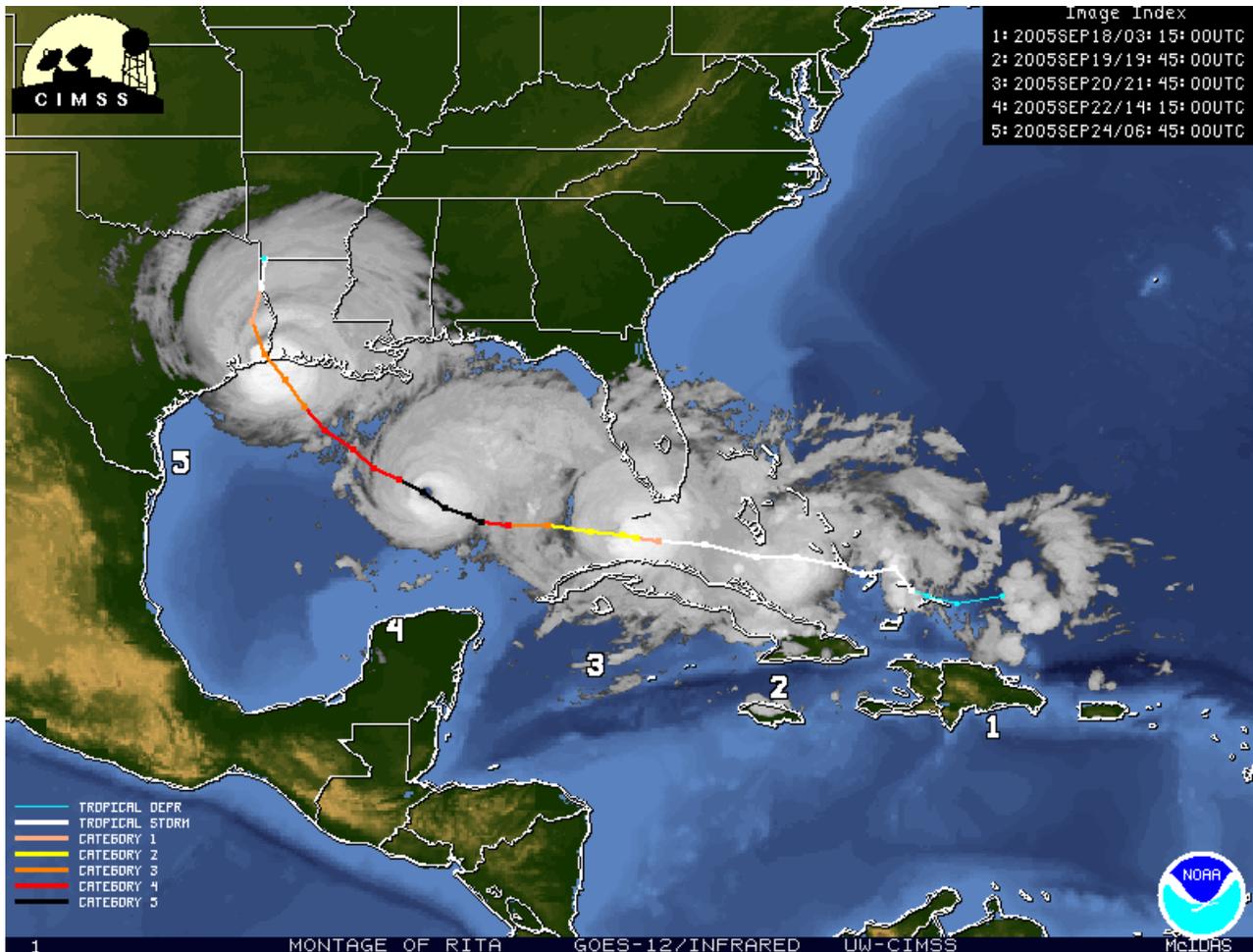


- ***One of America's largest natural disasters***
- ***Cat 5 strength less than 12 hours before landfall***
- ***127 MPH wind at Louisiana landfall***
- ***Maximum surge of 28 to 30 feet along Mississippi coast***
- ***75 percent of New Orleans flooded***
- ***More than 1,300 dead***



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Hurricane Rita



- **175 MPH max sustained winds in Gulf of Mexico**
- **120 MPH max sustained winds at landfall**
- **Cat 3 strength at landfall**

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Corps of Engineers Emergency Missions



Task Force Hope Personnel: 2,237 currently assigned

- **Water: Completed**
- **Ice: Completed**
- **Emergency power: 299 generators installed**
- **Flood water removal:**
 - *By pumping*
 - *Accomplished in 53 days*
 - *Volume -- more than 732,000 acre-feet (250 billion gallons) removed*
- **Temporary roofing:**
 - *131,210 structures*
 - *100 % complete*
- **Temporary structures**
 - *1,036 total required*
 - *92 % complete*
- **Debris removal**
 - *40.2 million cubic yards removed*
 - *82 % complete*
- **Structural debris removal**
 - *0.85 million cubic yards removed*
 - *11 % complete*



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Louisiana & Mississippi Debris Missions



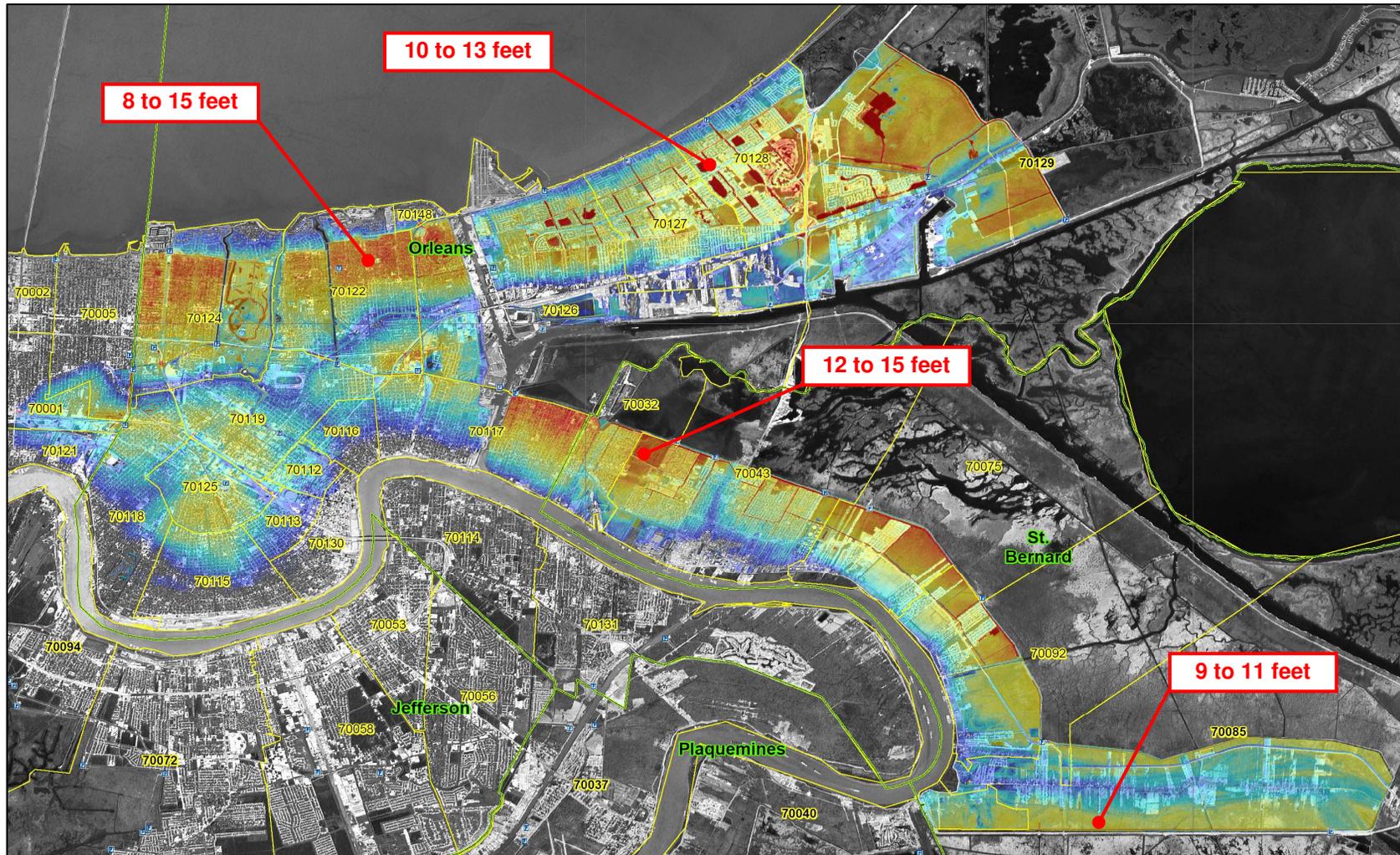
measured in million cubic yards (mcy)	Louisiana (% comp.)	Mississippi (% comp.)
Estimated Total Debris	27.0 (78%)	22.2 (86%)
Estimated Total Structural Debris	7.1 (3%)	0.86 (76%)
Overall Total	33.6 (63%)	23.8 (85%)

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New Orleans Maximum Flooding Depth



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Authorized Protection Levels



Design Hurricanes

Project Location	Date Authorized	Central Pressure Index	Wind		Forward Speed
			Speed	At Radius of	
Lake Pontchartrain & Vicinity	October 1965	27.6 inches	100 mph	34.5 miles	5.75 – 12.66 mph
Grand Isle & Vicinity	1965 – 1976	28.15 inches	87 mph	35 miles	13 mph
New Orleans to Venice	October 1962	28.1 inches	90 mph	34.5 miles	11 mph
West Bank & Vicinity	1986	27.4 inches	115 mph	34.5 miles	12.6 mph

Saffir-Simpson Scale (1970)

Scale Number	Winds (mph)
1	74 – 95
2	96 -110
3	111 – 130
4	131 – 155
5	155 +

Katrina at LA Landfall

Category 3
127 mph wind
27.17 inches central pressure
15 mph forward speed
90 miles – extent of hurricane force winds
230 miles – extent of tropical force winds

Congress currently authorizes protection from flood waters resulting from winds of 90-115 MPH.



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New Orleans and Vicinity Hurricane Protection System Emergency Supplemental Funding to Date



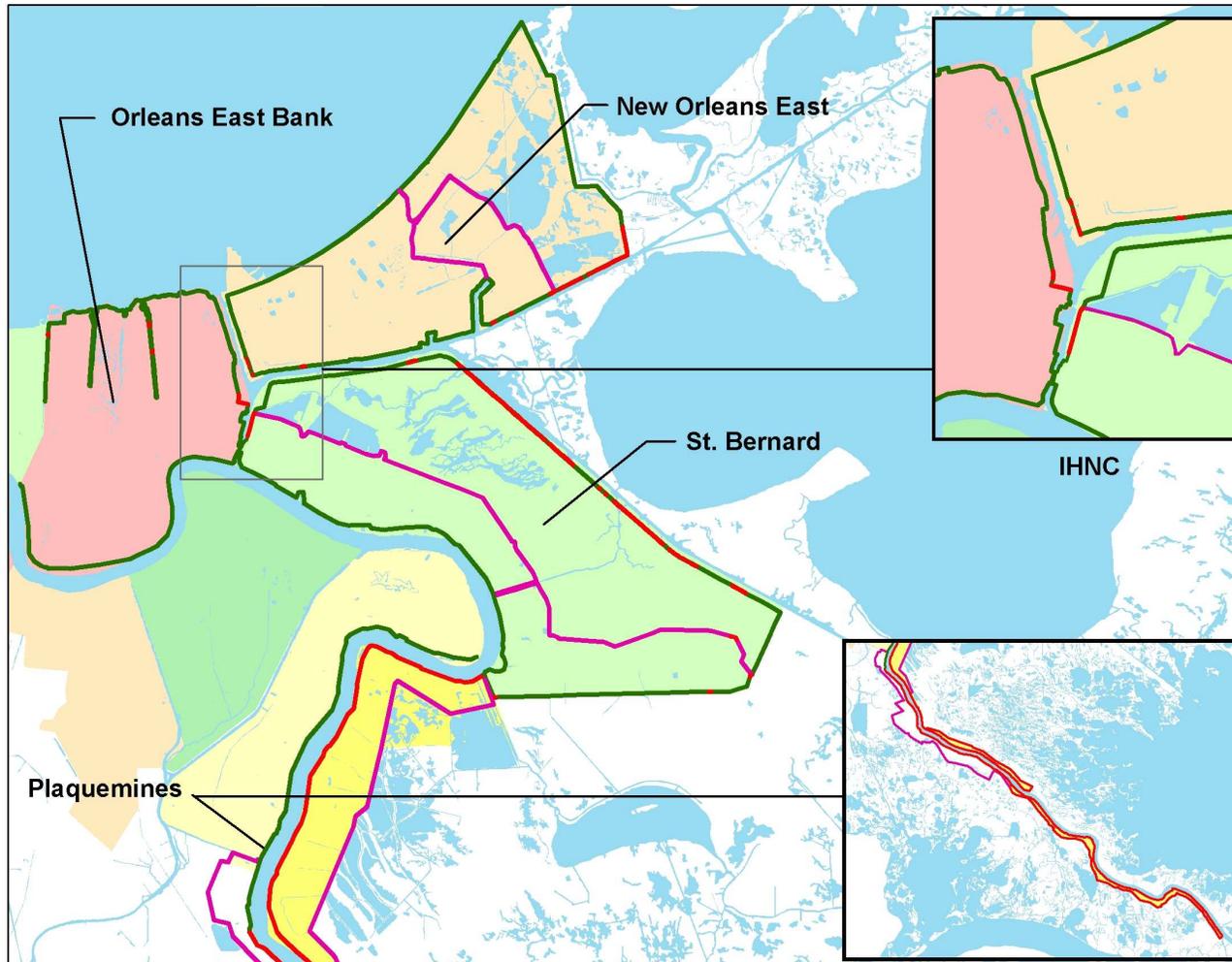
(Repair, Restore, & Complete)

Component	Funded (M)
Repair Existing System and Restore to Design Height	\$1,533
<u>Complete Authorized System</u>	
New Orleans to Venice (Hurricane Protection)	\$ 33
West Bank and Vicinity (Hurricane Protection)	\$147
Lake Pontchartrain and Vicinity (Hurricane Protection)	\$120
Southeast Louisiana (Interior Flood Damage Reduction)	\$225
Grand Isle (Hurricane Protection)	\$ 15
Larose to Golden Meadow (Hurricane Protection)	\$ 4
TOTAL	\$2,077 M



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Hurricane Protection System Restoration Program Summary



Hurricane Protection System

- 350 miles
- 71 pump stations

Damage

- 41 miles severe, 128 miles moderate damage
- 34 pump stations were non-operational

Cost

- \$ 798 million

Percent of Pre-Katrina Protection Restored

73 % Complete

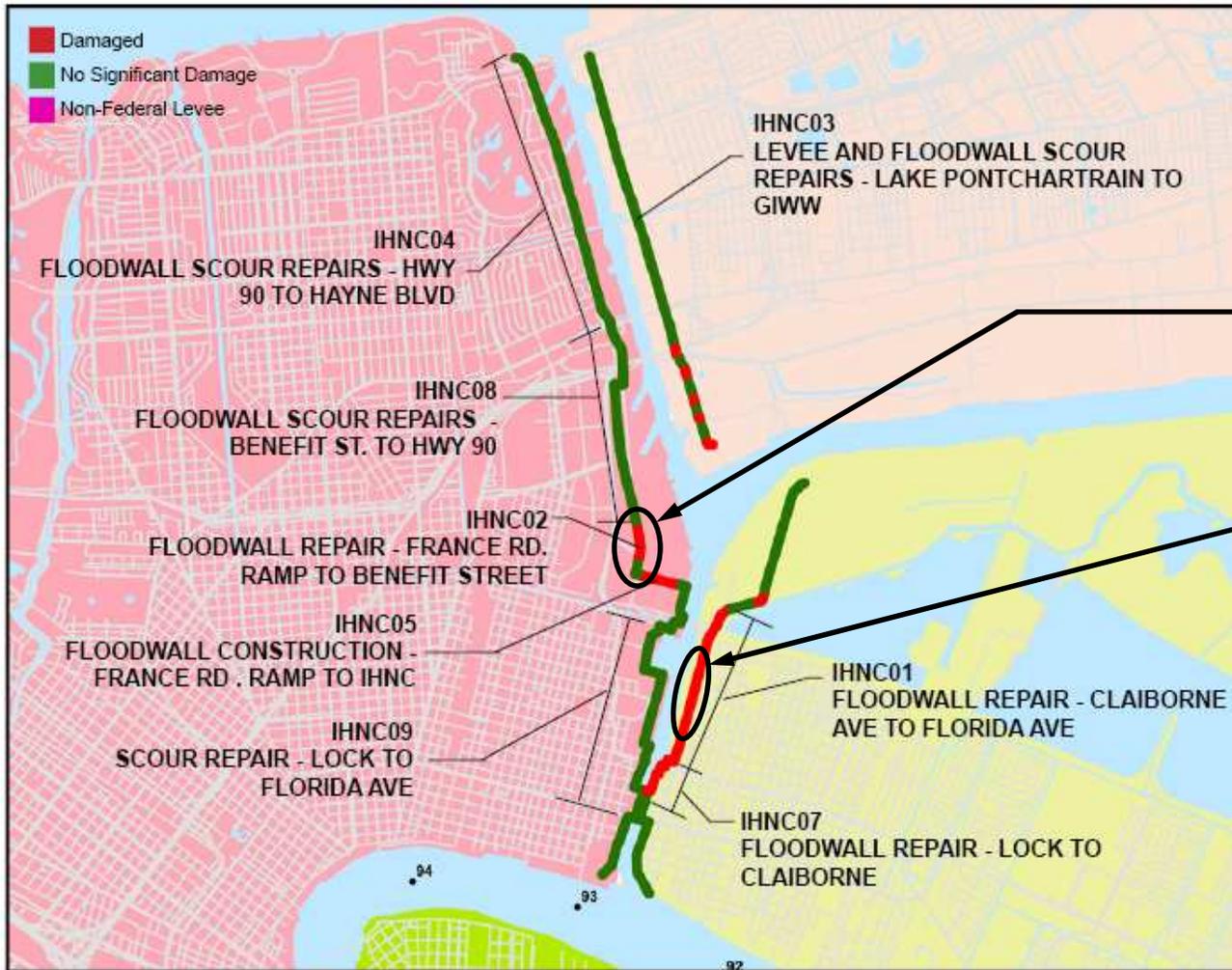
22 of 59 contracts complete

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Inner Harbor Navigation Canal



**Percent of Pre-Katrina
Protection Restored**

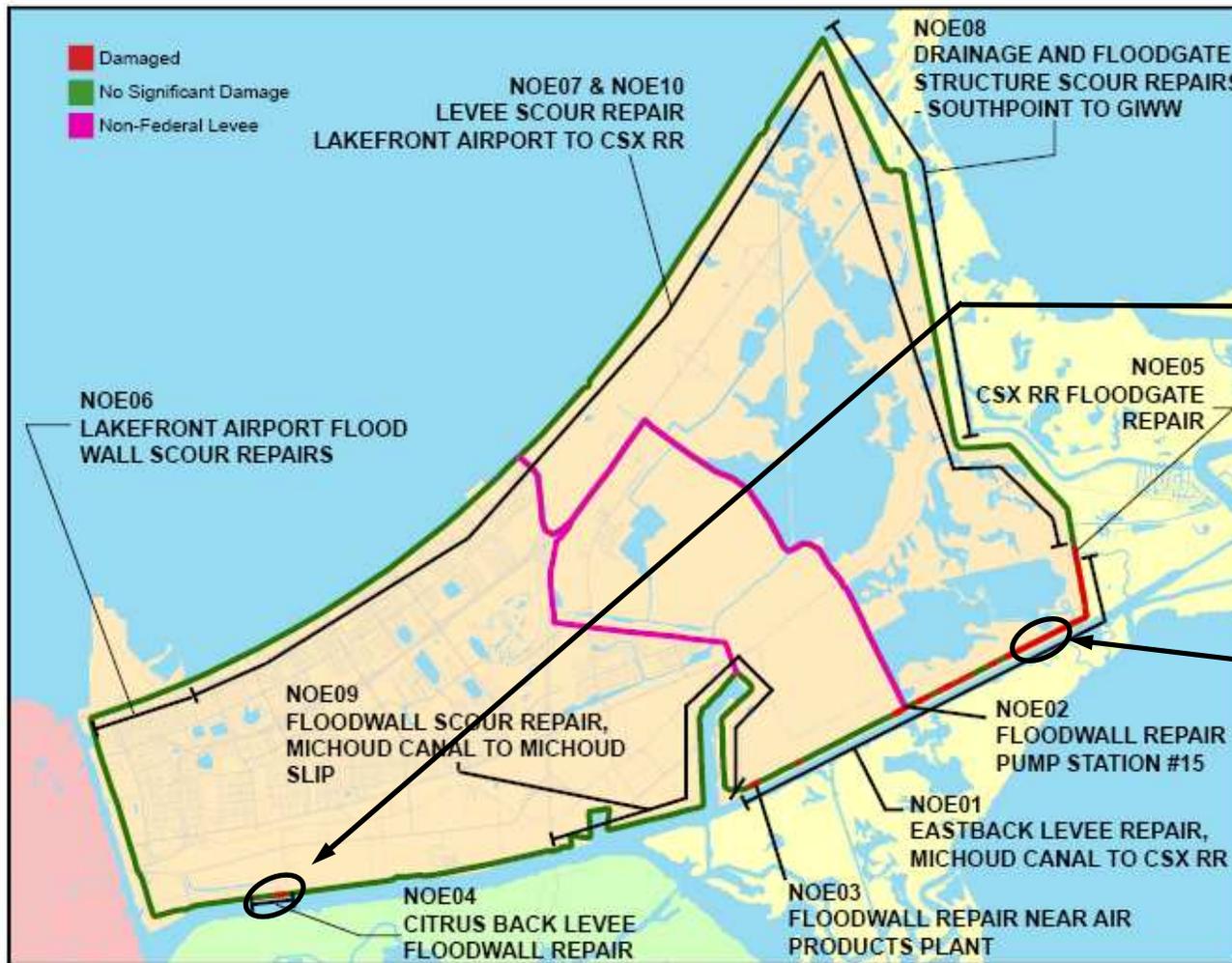
84 % Complete

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New Orleans East



Percent of Pre-Katrina
Protection Restored

77 % Complete

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New Orleans Outfall Canal Interim Closure Plan



- Three locations on Lake Pontchartrain
- Provides protection by 1 June 2006
- Provide New Orleans with rainwater drainage
- Prevent storm surge
- Pumps permit drainage while closed

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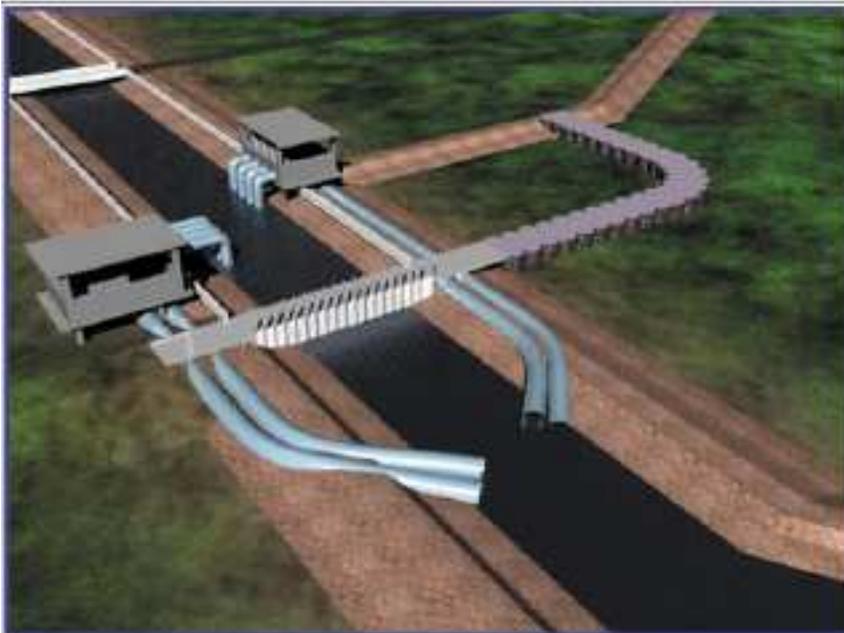


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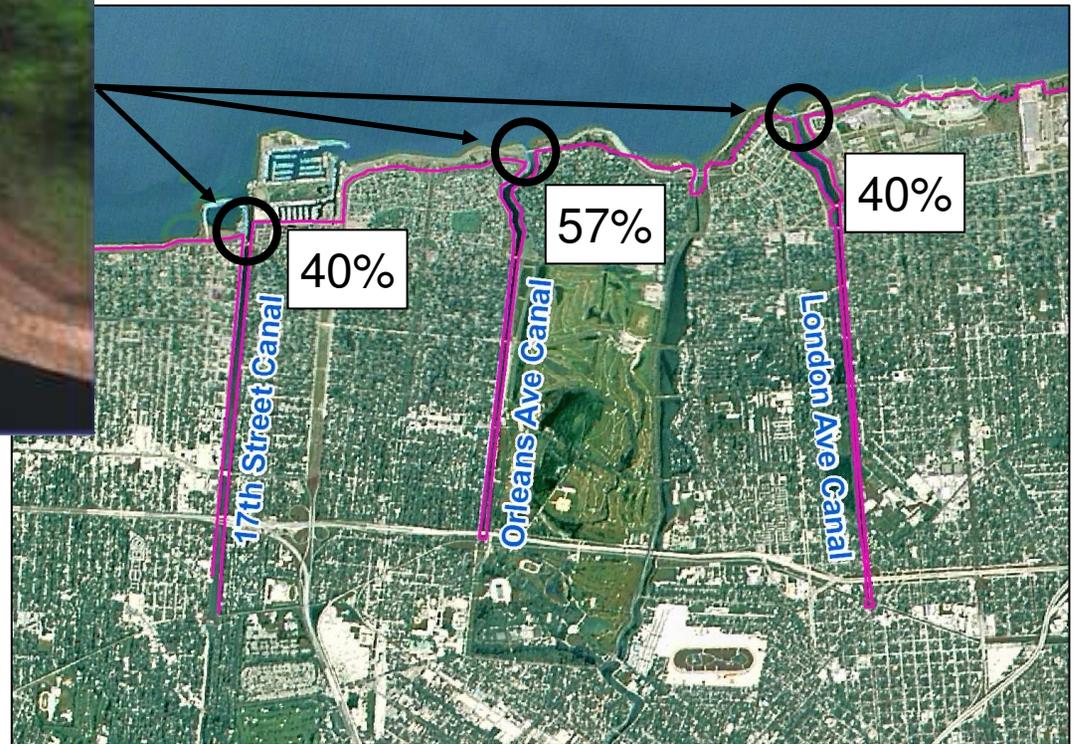
New Orleans Outfall Canal Interim Closure Structure Status



17 th St. Canal CS	40% Complete
Orleans Ave. CS	57% Complete
London Ave. Canal CS	40% Complete



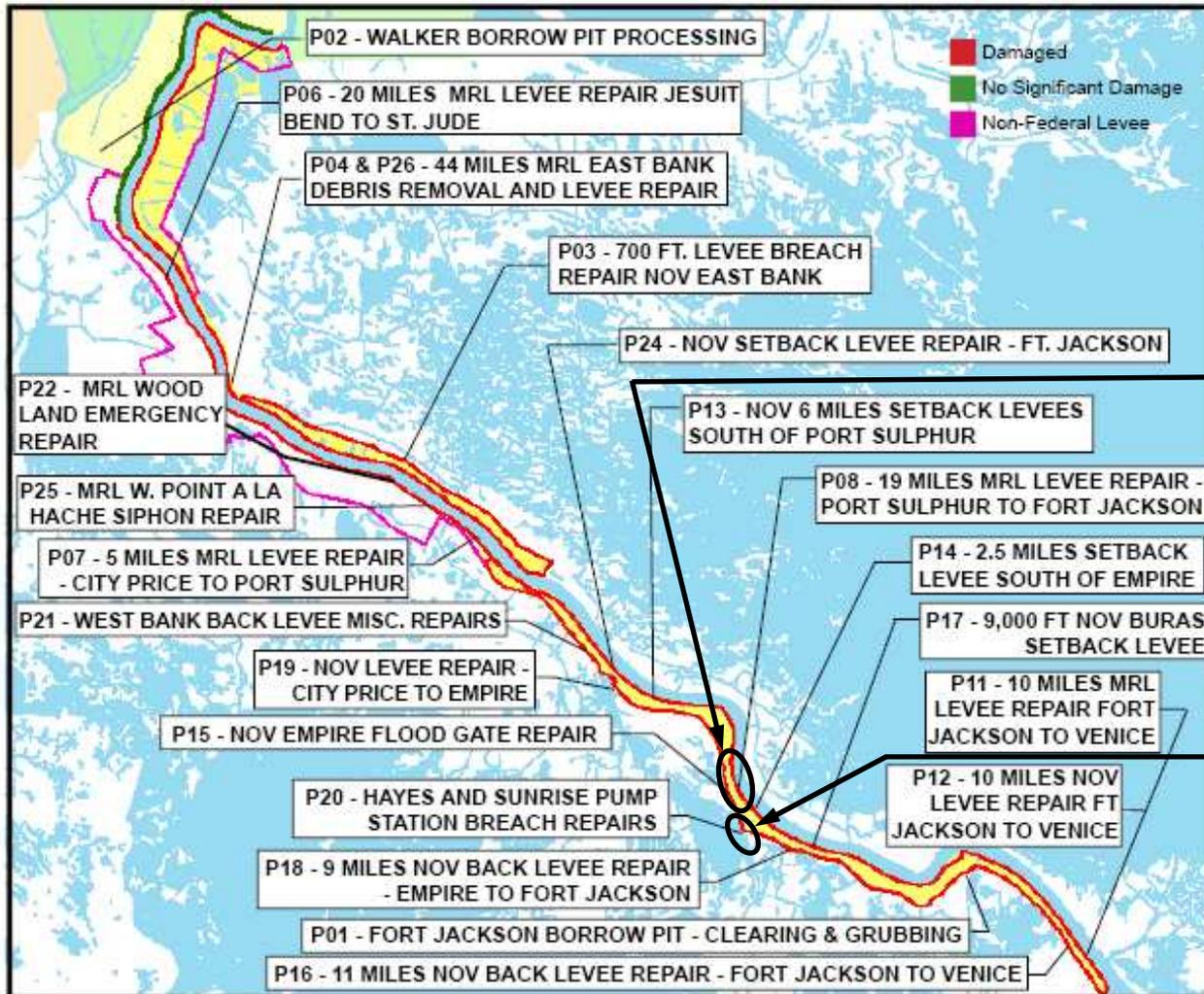
Interim Closure Structure





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Plaquemines Parish



Percent of Pre-Katrina
Protection Restored

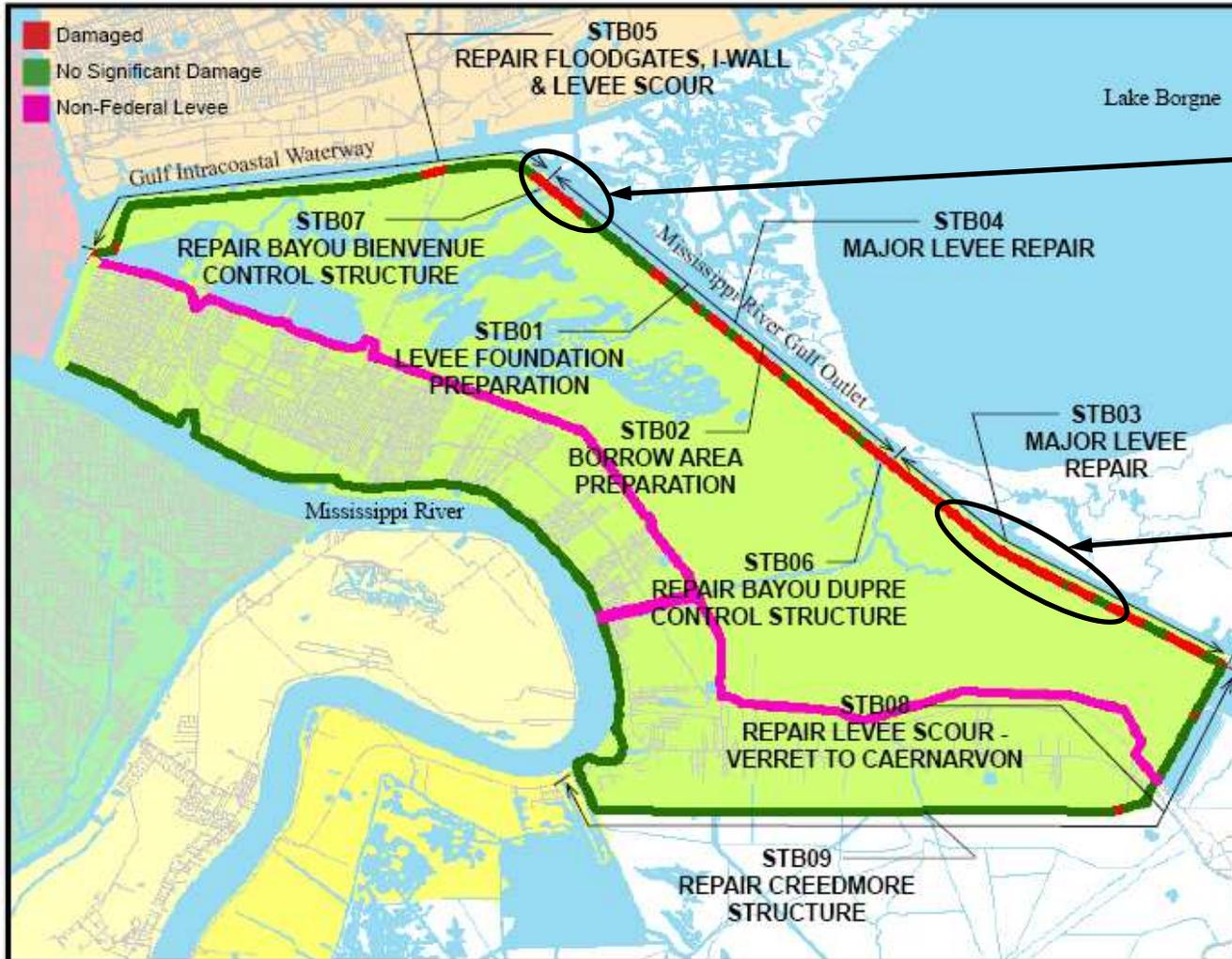
83 % Complete

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Saint Bernard Parish



**Percent of Pre-Katrina
Protection Restored
88 % Complete**

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Louisiana Coastal Protection and Restoration (LaCPR)



Congress directed analysis and design of:

- Category 5 Hurricane Protection
- Full range of measures for flood control, coastal restoration, and hurricane protection
- Preliminary Report to Congress – June 2006
- Final Technical Report – December 2007
- Submit reports on component areas for authorization as practicable

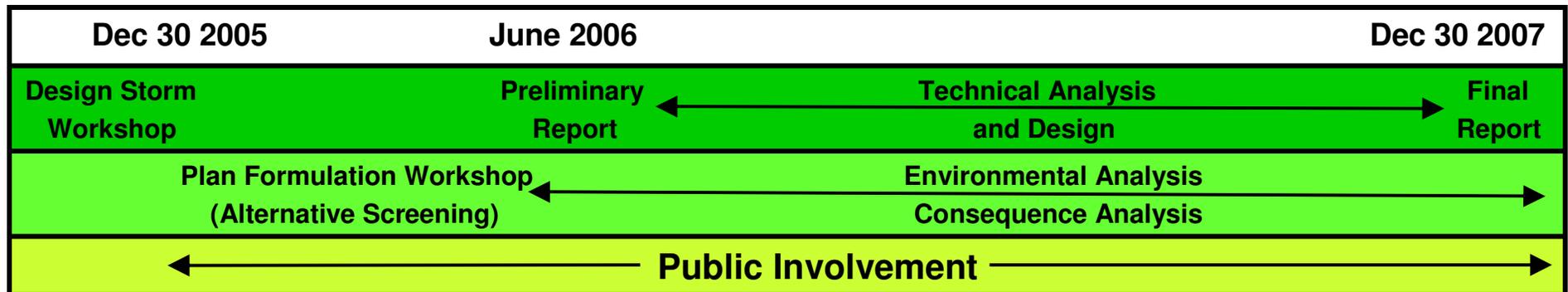


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Louisiana Coastal Protection and Restoration (LaCPR) - Status



- Partnership with State Coastal Protection and Restoration Authority
- Team formed
- Project Management Plan drafted
- Finalizing HQ guidance
- Frequent broad based public involvement planned



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Louisiana Coastal Protection and Restoration (LaCPR) - Report



- **Study approach requires innovation**
- **Accelerated schedule**
- **IPET forms basis for analysis and design**
- **Expert Team**
- **Outside and independent review**
- **Extensive public input**



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Southeast Louisiana Hurricane Protection



ADDITIONAL IMPROVEMENTS

The Bush Administration on Feb. 16 asked Congress to support an additional \$1.46 billion in new funding for improvements to southeast Louisiana's hurricane protection system. If approved, the proposal would pay for:

- Permanent pumps and closures for New Orleans' three outfall canals. **\$530 million**
- Two navigable closures that would prevent hurricane surge from entering the Industrial Canal area. **\$350 million**
- Storm-proofing existing interior drainage pump stations in Jefferson and Orleans Parishes. **\$250 million**
- Selective armoring for critical portions of the New Orleans levee system. **\$170 million**
- Incorporation of Plaquemines Parish west bank, non-federal levees into the federal levee system. **\$60 million**
- Restoration of critical areas of coastal wetlands and ecosystems needed to improve long-term hurricane and storm protection. **\$100 million**

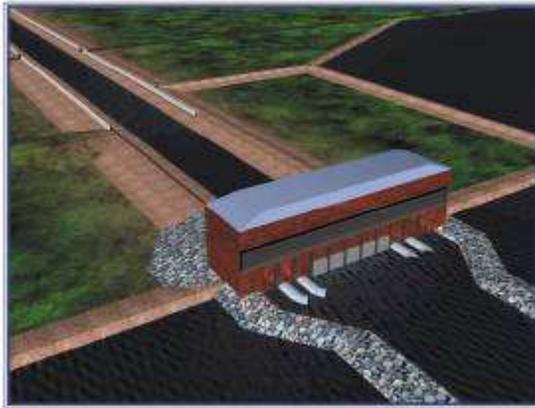


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Southeast Louisiana Hurricane Protection



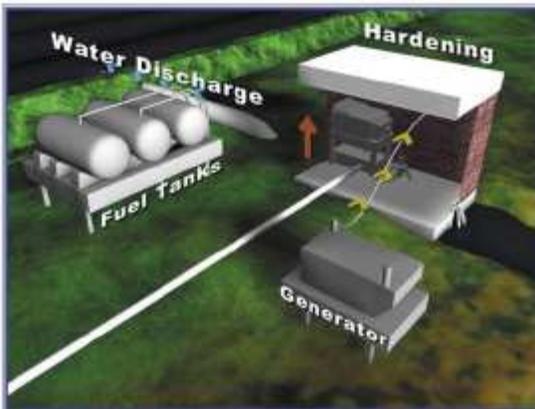
ADDITIONAL IMPROVEMENTS



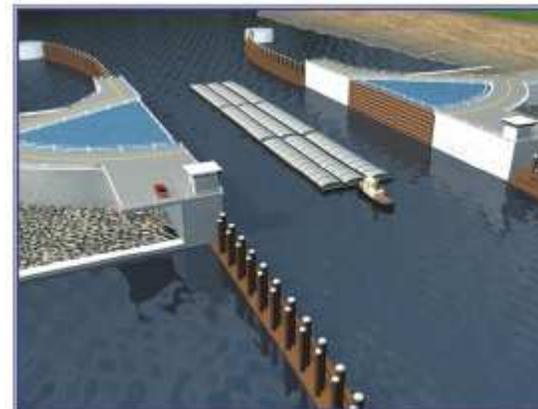
Permanent
Pumps &
Closures



Selective
Armoring



Storm-Proofing
Pump Stations



Navigable
Closures

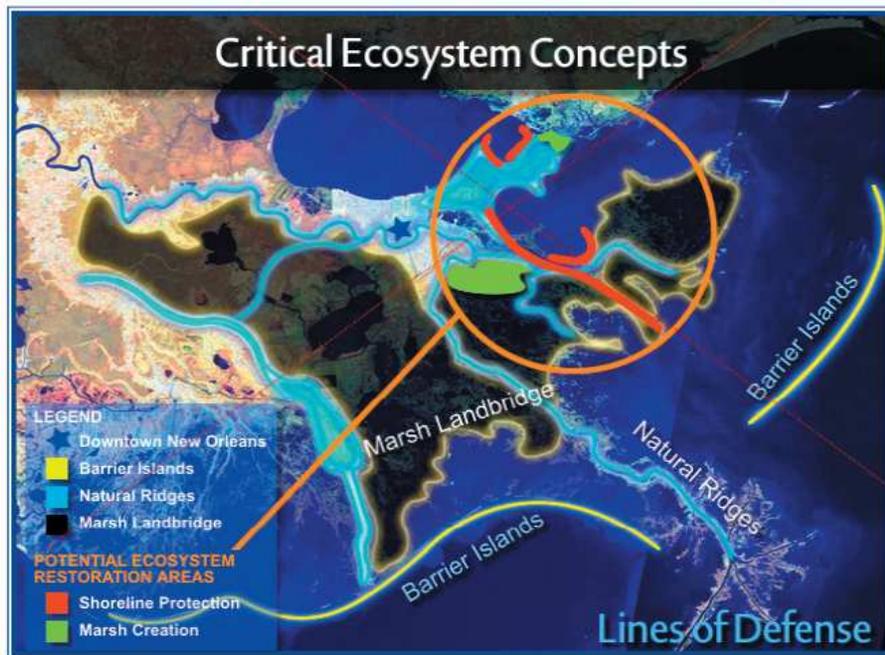


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Southeast Louisiana Hurricane Protection



ADDITIONAL IMPROVEMENTS



Wetlands and Ecosystem Restoration



Incorporations of non-federal levees in
Plaquemines