

# ***Coastal Restoration in Louisiana The Corps Perspective***

**NCER 2011**

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®

**US Army Corps of Engineers  
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# Overview

- Overview of major Louisiana restoration programs and studies
- Successful completion of 6 feasibility studies in 24 months
- Future of Coastal Restoration



# Coastal Restoration Efforts

- New Orleans District is actively engaged in ecosystem restoration and planning
  - Coastal Wetlands Planning, Protection and Restoration Act
  - Beneficial Use of Dredged Material
  - Louisiana Coastal Area (LCA)
  - Louisiana Coastal Protection & Restoration (LACPR)
  - MRGO Ecosystem Restoration
  - Southwest Coastal Louisiana
  - Freshwater diversions and river management
  - Mississippi River hydrodynamic model and Delta Management study
- All efforts focus on environmental sustainability and balance of interests



# Land Area Change in Coastal Louisiana (1932 to 2010)

By Brady K. Coaklin, John A. Barrs, Gregory D. Dwyer, William Skovlin, Michelle Fischer, Holly Beck, Nadine Traska, Brad Saffin, David Heckman

## Introduction

The U.S. Geological Survey (USGS) published this report to provide information on land area change in coastal Louisiana from 1932 to 2010. This report is the first in a series of reports that will provide information on land area change in coastal Louisiana from 1932 to 2010. The report is the first in a series of reports that will provide information on land area change in coastal Louisiana from 1932 to 2010.

## Methodology

This report uses data from the National Wetlands Inventory (NWI) and the National Wetlands Inventory (NWI) to estimate land area change in coastal Louisiana from 1932 to 2010. The NWI is a national inventory of wetlands, marshes, and other wetland areas. The NWI is a national inventory of wetlands, marshes, and other wetland areas.



Figure 1. Map of Louisiana showing the study area and the location of the study area within the state.

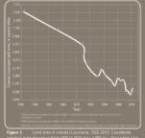


Figure 2. Line graph showing land area change in coastal Louisiana from 1932 to 2010.

Basin	1932	1937	1942	1947	1952	1957	1962	1967	1972	1977	1982	1987	1992	1997	2002	2007	2010
Calcasieu-Sabine Basin	1,424	1,375	1,326	1,277	1,228	1,179	1,130	1,081	1,032	983	934	885	836	787	738	689	640
Mormontou Basin	1,424	1,375	1,326	1,277	1,228	1,179	1,130	1,081	1,032	983	934	885	836	787	738	689	640
Toche-Vermilion Basin	1,424	1,375	1,326	1,277	1,228	1,179	1,130	1,081	1,032	983	934	885	836	787	738	689	640
Atchafalaya Delta Basin	1,424	1,375	1,326	1,277	1,228	1,179	1,130	1,081	1,032	983	934	885	836	787	738	689	640
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Breton Sound Basin	1,424	1,375	1,326	1,277	1,228	1,179	1,130	1,081	1,032	983	934	885	836	787	738	689	640
Pontchartrain Basin	1,424	1,375	1,326	1,277	1,228	1,179	1,130	1,081	1,032	983	934	885	836	787	738	689	640
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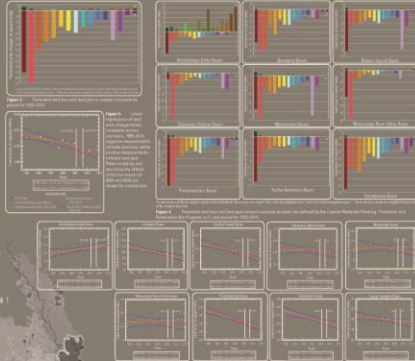
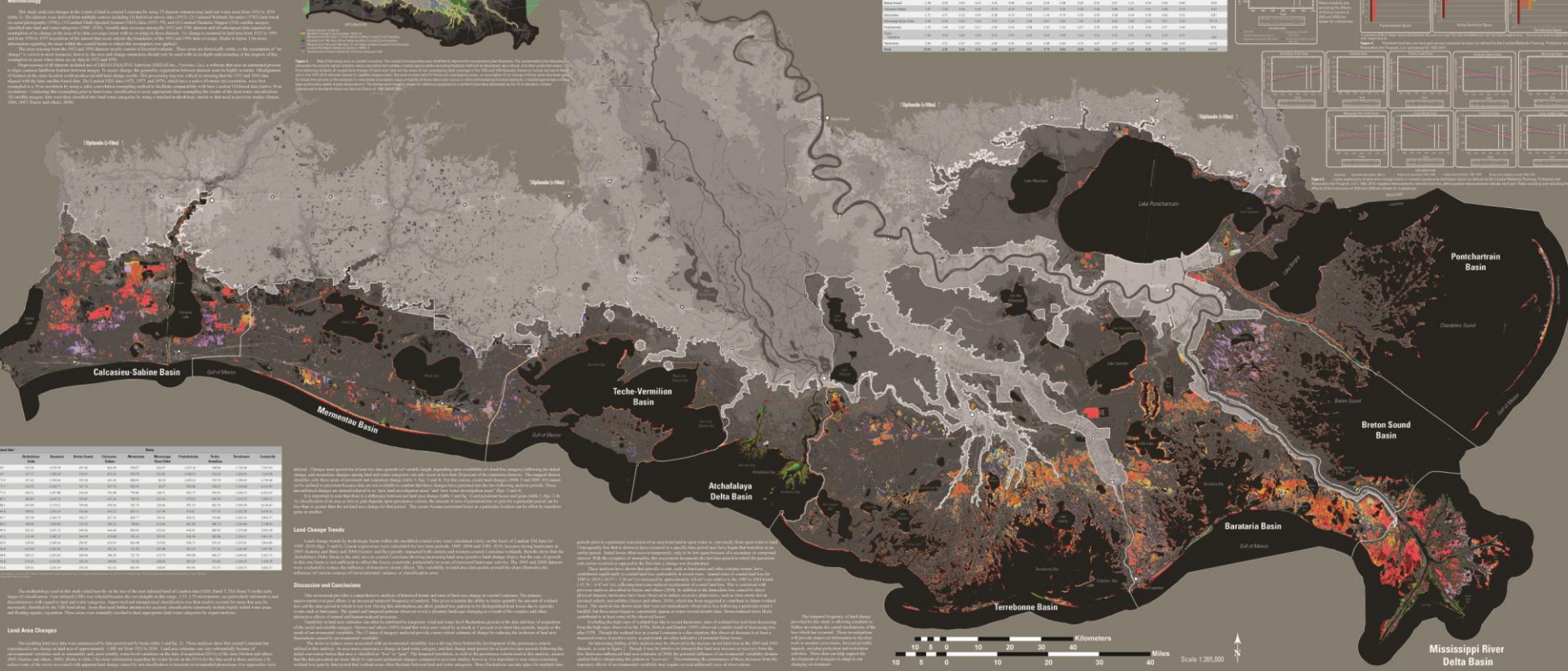


Figure 3. Grid of small maps and charts showing land area change in various basins.



Basin	1932	1937	1942	1947	1952	1957	1962	1967	1972	1977	1982	1987	1992	1997	2002	2007	2010
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**Land Change Trends**  
This report shows that land area change in coastal Louisiana from 1932 to 2010 was negative for all basins. The total land area change was -784,000 acres, or a loss of 55 percent of the land area that was present in 1932.

**Discussion and Conclusions**  
The loss of land area in coastal Louisiana from 1932 to 2010 was a result of a combination of factors, including subsidence, erosion, and sea level rise. The loss of land area in coastal Louisiana from 1932 to 2010 was a result of a combination of factors, including subsidence, erosion, and sea level rise.



# Mississippi River Drainage Basin



# Resources at Risk

- Fisheries
  - ▶ 20% of US commercial harvest
  - ▶ Over one billion pounds landed annually
  - ▶ World class recreational fishery
  
- Energy Production
  - ▶ 27% of domestic offshore crude oil supply
  - ▶ 32% of domestic offshore natural gas
  - ▶ LOOP facility connected to 50% of refineries
  
- Ports and Shipping
  - ▶ Rank #1 nationally by tonnage
  - ▶ Lower Mississippi River is largest port complex in the world
  
- Wildlife and Waterfowl
  - ▶ Habitat for over 5 million migratory waterfowl
  - ▶ 70% of Mississippi Flyway waterfowl population

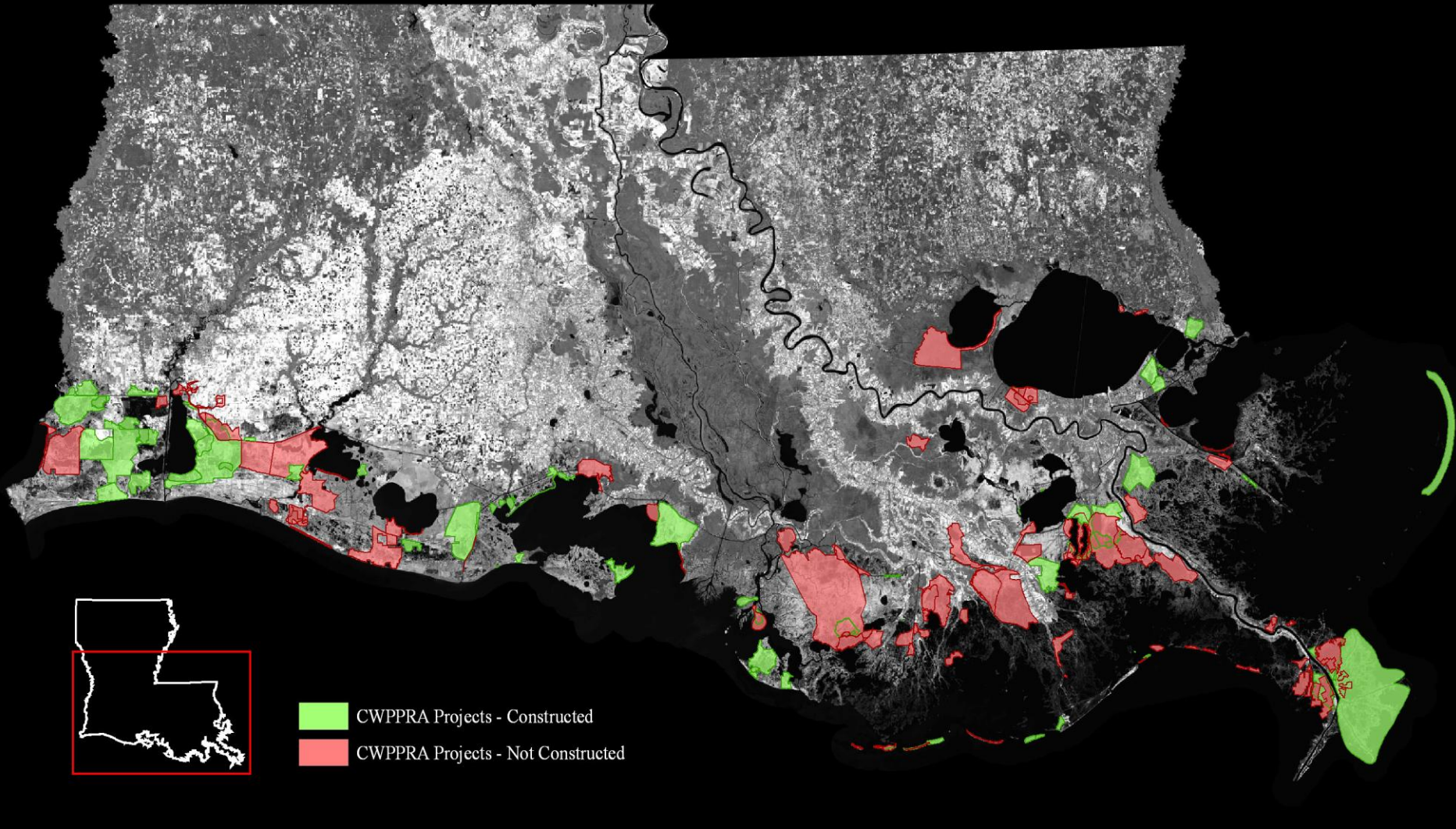


# *Integrated Water Resources Management*

- Complex National Problem
- Shared responsibility - Corps, Federal Partners, States, local governments
- Derive/Implement nationally beneficial solutions
- New perspective on land/water management requiring difficult decisions and tradeoffs
- Emphasis on efficiencies
- Transparency through collaboration



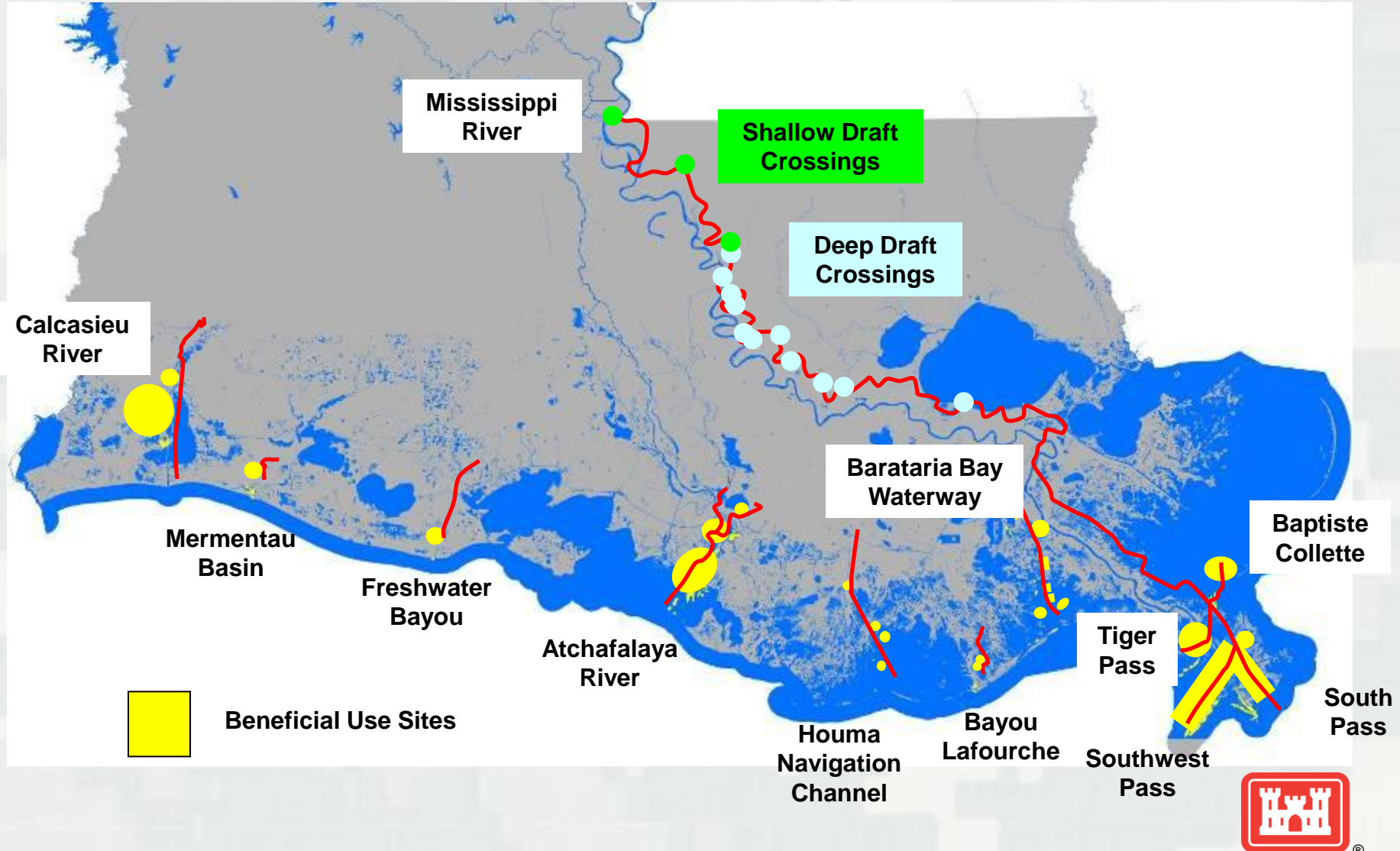
# *Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA)*





# O&M Program

## Beneficial Use of Dredged Material



# ***MVN Beneficial Use of Dredged Material***

## ***FY 2010 Dredging Totals***

**Maintenance Dredging = 91,426,775 CY**

**Fluff = 15,679,328 CY**

**Not Available (Remote) = 25,145,863 CY**

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**Suitable & Available for BU = 50,601,584 CY**

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**Beneficial Use = 20,753,219 CY (41%)**



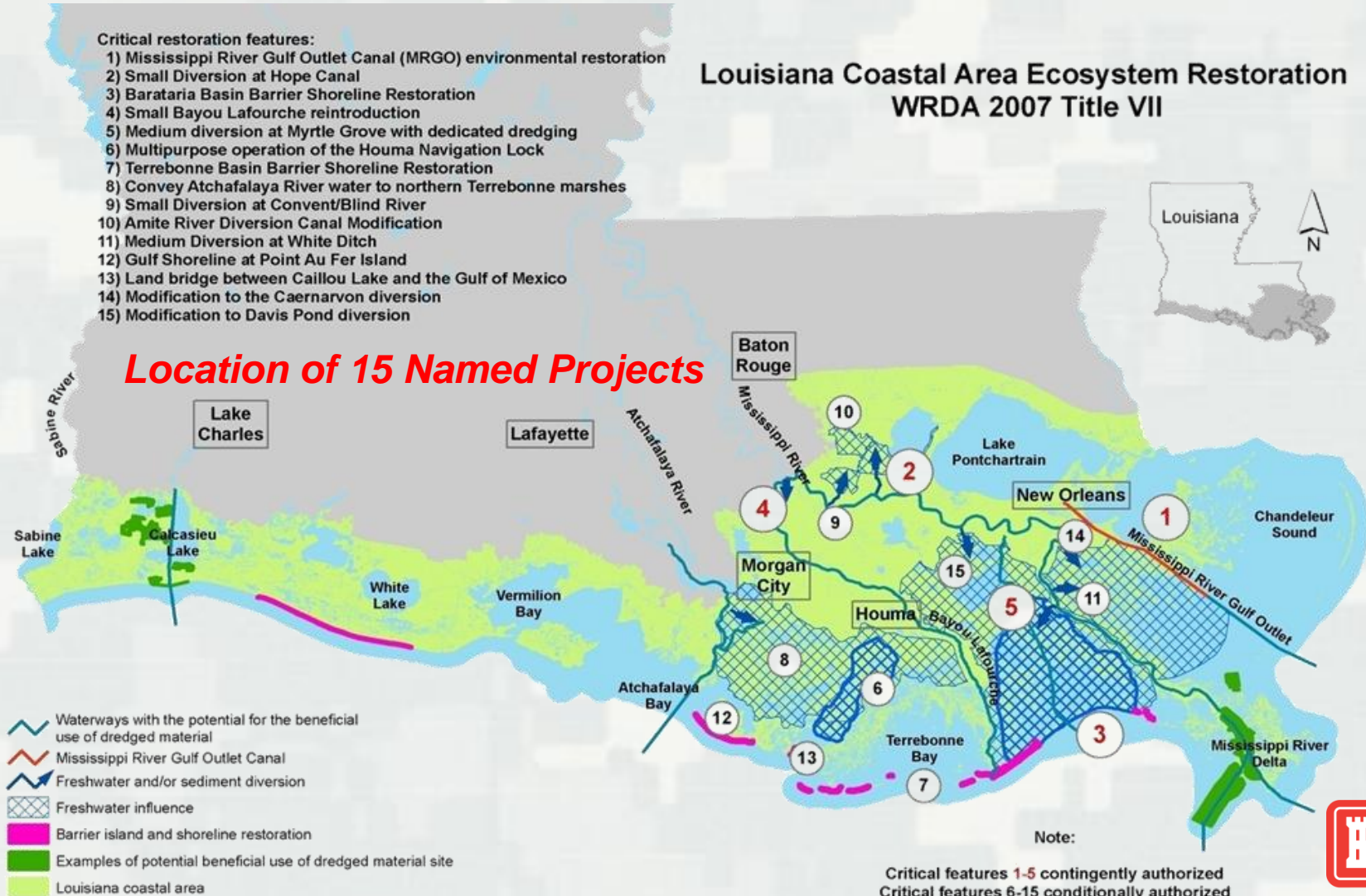
# Louisiana Coastal Area (LCA) Near-Term Plan

## Louisiana Coastal Area Ecosystem Restoration WRDA 2007 Title VII

### Critical restoration features:

- 1) Mississippi River Gulf Outlet Canal (MRGO) environmental restoration
- 2) Small Diversion at Hope Canal
- 3) Barataria Basin Barrier Shoreline Restoration
- 4) Small Bayou Lafourche reintroduction
- 5) Medium diversion at Myrtle Grove with dedicated dredging
- 6) Multipurpose operation of the Houma Navigation Lock
- 7) Terrebonne Basin Barrier Shoreline Restoration
- 8) Convey Atchafalaya River water to northern Terrebonne marshes
- 9) Small Diversion at Convent/Blind River
- 10) Amite River Diversion Canal Modification
- 11) Medium Diversion at White Ditch
- 12) Gulf Shoreline at Point Au Fer Island
- 13) Land bridge between Caillou Lake and the Gulf of Mexico
- 14) Modification to the Caernarvon diversion
- 15) Modification to Davis Pond diversion

### Location of 15 Named Projects



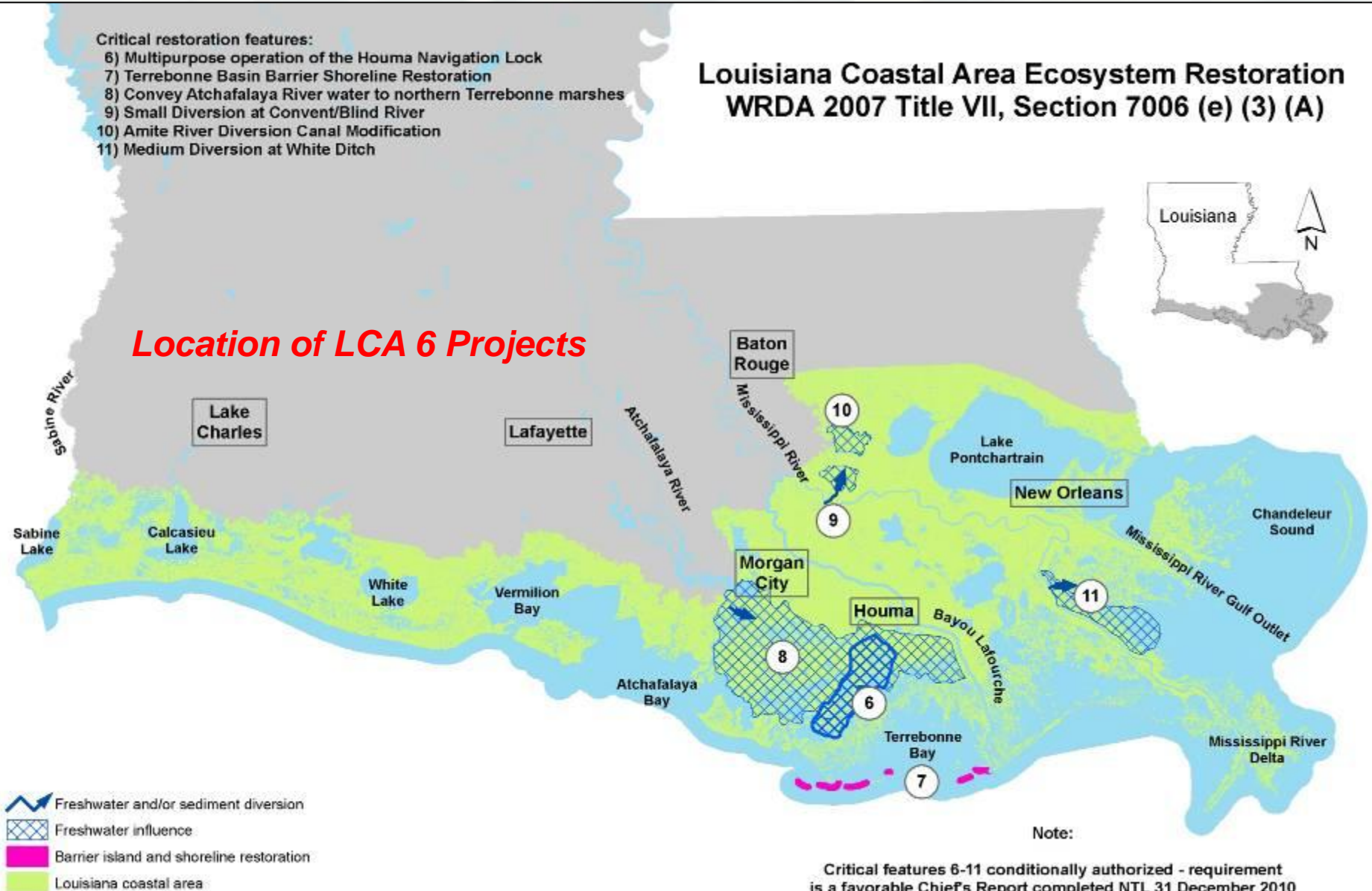
# LCA "6" Projects

**Critical restoration features:**

- 6) Multipurpose operation of the Houma Navigation Lock
- 7) Terrebonne Basin Barrier Shoreline Restoration
- 8) Convey Atchafalaya River water to northern Terrebonne marshes
- 9) Small Diversion at Convent/Blind River
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## Louisiana Coastal Area Ecosystem Restoration WRDA 2007 Title VII, Section 7006 (e) (3) (A)

### Location of LCA 6 Projects



# LCA “6” Study Team

## Corps Districts

- New Orleans
- St. Louis
- Rock Island
- Norfolk
- New York
- Walla Walla
- Baltimore
- Mobile
- Jacksonville
- Wilmington
- Ms Valley Division
- HQ-OWPR

## Federal Agencies

- U.S. Environmental Protection Agency (EPA)
- Natural Resources Conservation Service (NRCS)
- National Marine Fisheries Service (NMFS)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Geological Survey (USGS)

## State Agencies

- Office of the Governor Coastal Activities
- Louisiana Coastal Protection and Restoration Authority (CPRA)
- Louisiana Office of Coastal Protection and Restoration (OCPR)
- Louisiana Department of Wildlife and Fisheries (LDWF)

## Academia/Consultants

- Southeastern Louisiana University
- SJB Group, LLC
- GEC, Inc.
- Camp Dresser & McKee
- Battelle



# ***LCA 6 Streamlined Process***

- Concurrent Reviews
  - Independent External Peer Review /Public Review/Policy Review
  - Phased Agency Technical Review
- Compressed Reviews
- Non Federal Sponsor had the technical lead on 3 of the 6 studies
- Cost Certification
  - Increase contingencies
  - Letter from the NFS acknowledging risk



# Risk Management

- Policy Guidance Memo from Deputy Commanding General making this a top priority of the Corps
- Detailed Schedules
- Monthly In progress Reviews
- Identification of issues and quick resolution
- Communication

GI LCA-Atch Riv to NT Marsh		Classic Schedule Layout		
Activity ID	Activity Name	Original Duration	Start	Finish
<b>118963</b>	<b>GI LCA-Atch Riv to NT Marsh</b>	<b>203.0d</b>	<b>Feb-05-10 A</b>	<b>Dec-02-10</b>
A1100	AT Plan Selection	0.0d		Feb-05-10 A
A1124	AT Preliminary Draft Report Prepared and Reviewed @ MVN	12.0d	Feb-08-10 A	Feb-24-10
A1130	AT Prepare Agency Technical Review (ATR) Package	14.0d	Feb-08-10 A	Feb-24-10
A1132	AT State to Provide Draft Letter of Intent to MVN	0.0d		Feb-12-10 A
A1136	AT MVN Provide Comments to Draft Letter of Intent	24.0d	Feb-17-10 A	Mar-22-10
A1133	AT Agency Technical Review (ATR)	11.0d	Feb-24-10	Mar-10-10
A1134	AT Submit ATR Response (Calendar Days)	4.0d	Mar-11-10	Mar-14-10
A1135	AT Resolve ATR Comments	4.0d	Mar-15-10	Mar-18-10
A1210	AT March IPR - ATR	1.0d	Mar-16-10*	Mar-16-10
A1101	AT Submit Alternative Formulation Briefing Report to HQ/MVD	5.0d	Mar-19-10	Mar-25-10
A1138	AT Prepare Independent External Peer Review (IEPR)	5.0d	Mar-19-10	Mar-25-10
A1152	AT Received Letter of Intent from State	28.0d	Mar-23-10	Apr-29-10
A1140	AT Independent External Peer Review (IEPR)	63.0d	Mar-26-10	Jun-23-10
A3070	AT Public Notice of Meeting	1.0d	Apr-01-10	Apr-01-10
A1140a	AT Conference call w/IEPR Panels	1.0d	Apr-09-10*	Apr-09-10
A1102	AT Alternative Formulation Briefing - AFB (To Be Held in Wash DC)	0.0d		Apr-13-10
A1105	AT AFB Guidance Memo	7.0d	Apr-14-10	Apr-22-10
A1103	AT Brief MRC on High Water trip	0.0d		Apr-15-10*
A1220	AT April IPR - AFB	1.0d	Apr-20-10*	Apr-20-10
A1148	AT Prepare Draft Feas Report/NEPA for Public Review	9.0d	Apr-23-10	May-05-10



# *LCA 6 Summary*

- We hit our date!
- Buy in at all levels
- We leveraged all of the existing data, resources, and past reports to our advantage
- We streamlined the process as much as possible
- Vertical engagement was paramount
- Risk can be managed





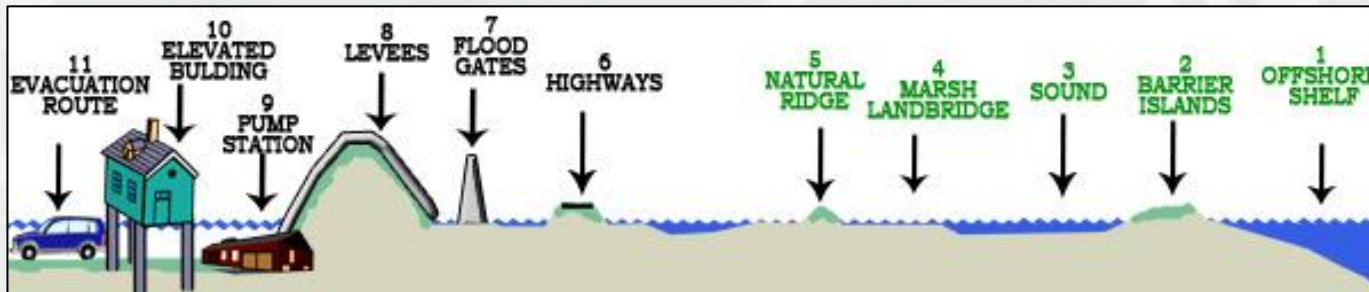
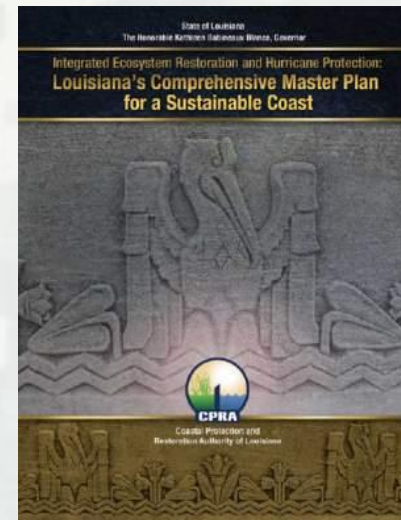
# ***Future of Coastal Restoration***

- Comprehensive Planning
- Challenges & Issues
- Keys to a Successful Program



# Comprehensive Planning

- State Master Plan provides the overarching vision of LA coastal protection and restoration
- WRDA 2007 Section 7002
- Multiple lines of defense strategy
- Coastal restoration is a foundation of all alternative actions



# ***Challenges & Issues***

- View of Sustainability
- Crediting – WRDA Section 7007
- Cost Share Agreements
- Use of funds related to the Deep Water Horizon oil spill



# *Keys to a Successful Program*

- Funding
- Environmental Compliance
- Willing Non-Federal sponsor

