

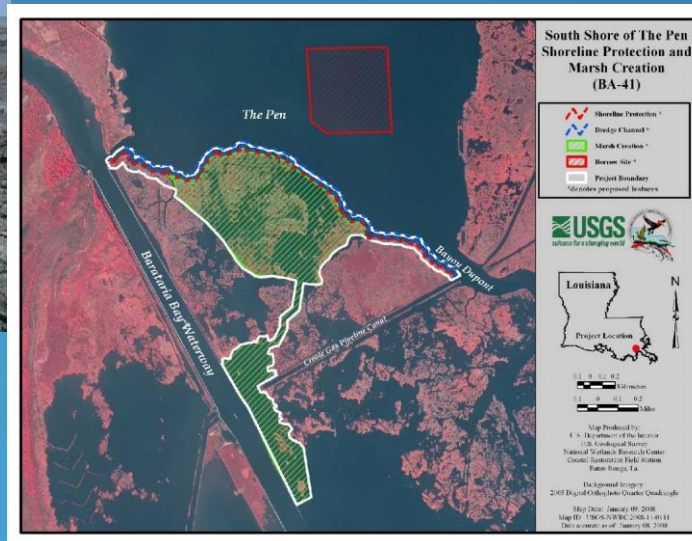
# Understanding Land Loss and Restoration in Coastal Louisiana

Lafayette Rotary Club  
July 16, 2014



Increasing the barrier shoreline width with dredged sediment.

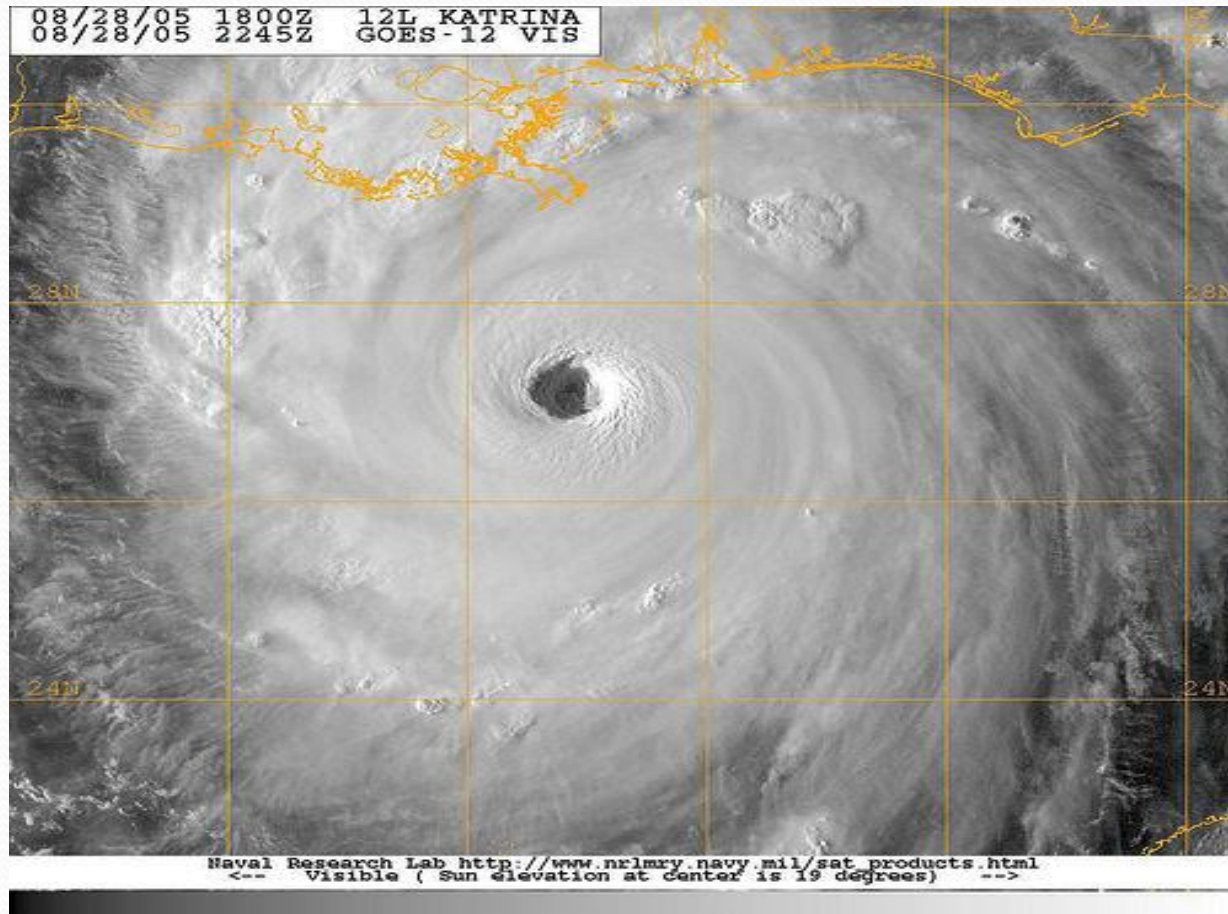
CWPPRA Project BA-35



CWPPRA Project BA-41



# Causes of Wetland Loss







Old River Control Structure



Levees



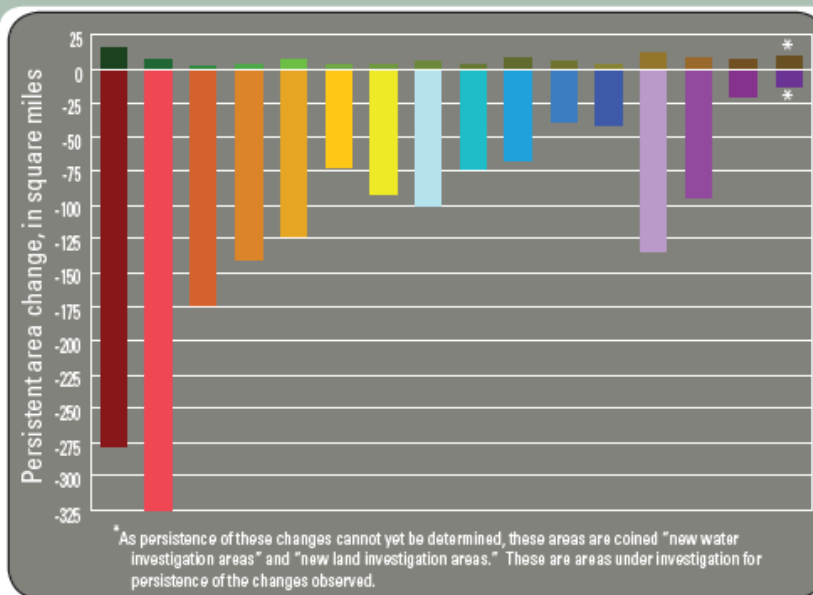
Construction of manmade  
waterways – Gulf Intercoastal  
Waterway (GIWW)











**Figure 3.** Persistent land loss and land gain across coastal Louisiana by period for 1932–2010.

#### EXPLANATION



<sup>1</sup>Gains determined by the last date a particular pixel transitioned from water to land and remained land throughout the period of observation.

<sup>2</sup>Loss is determined by the last date a particular pixel transitioned from land to water and remained water throughout the period of observation.

<sup>3</sup>Because this data range has only one ending dataset, some of these effects may be temporary phenomena.

<sup>4</sup>This data range contains at least one date in which the land/water data were created from Landsat Multispectral Scanner System (MSS).



# Coastal Restoration Activities

Current Funding Streams for Coastal Restoration.  
Louisiana is working to protect its coastline.





# CWPPRA

## Coastal Wetland Planning, Protection and Restoration Act

- ❖ Also known as CWPPRA (*pronounced quip-ruh*) or Breaux Act
- ❖ Federal Legislation Public Law 101-646 Title III CWPPRA
- ❖ Between \$30M and \$79M per year
- ❖ Has been funding projects for 23 years
- ❖ Since 1990, it has authorized 151 projects benefiting over 112,000 acres of wetland habitat.
- ❖ [www. LACoast.gov](http://www.LACoast.gov)





# Coastal Wetlands Planning, Protection and Restoration Act



**U.S. Department of Interior -  
U.S. Fish and Wildlife Service**



**U.S. Department of  
Commerce – NOAA, National  
Marine Fisheries Service**



**U.S. Department of Agriculture  
- Natural Resources  
Conservation Service**



**US Army Corps  
of Engineers®**  
New Orleans District

**U.S. Department of the  
Army - U.S. Army Corps of  
Engineers**

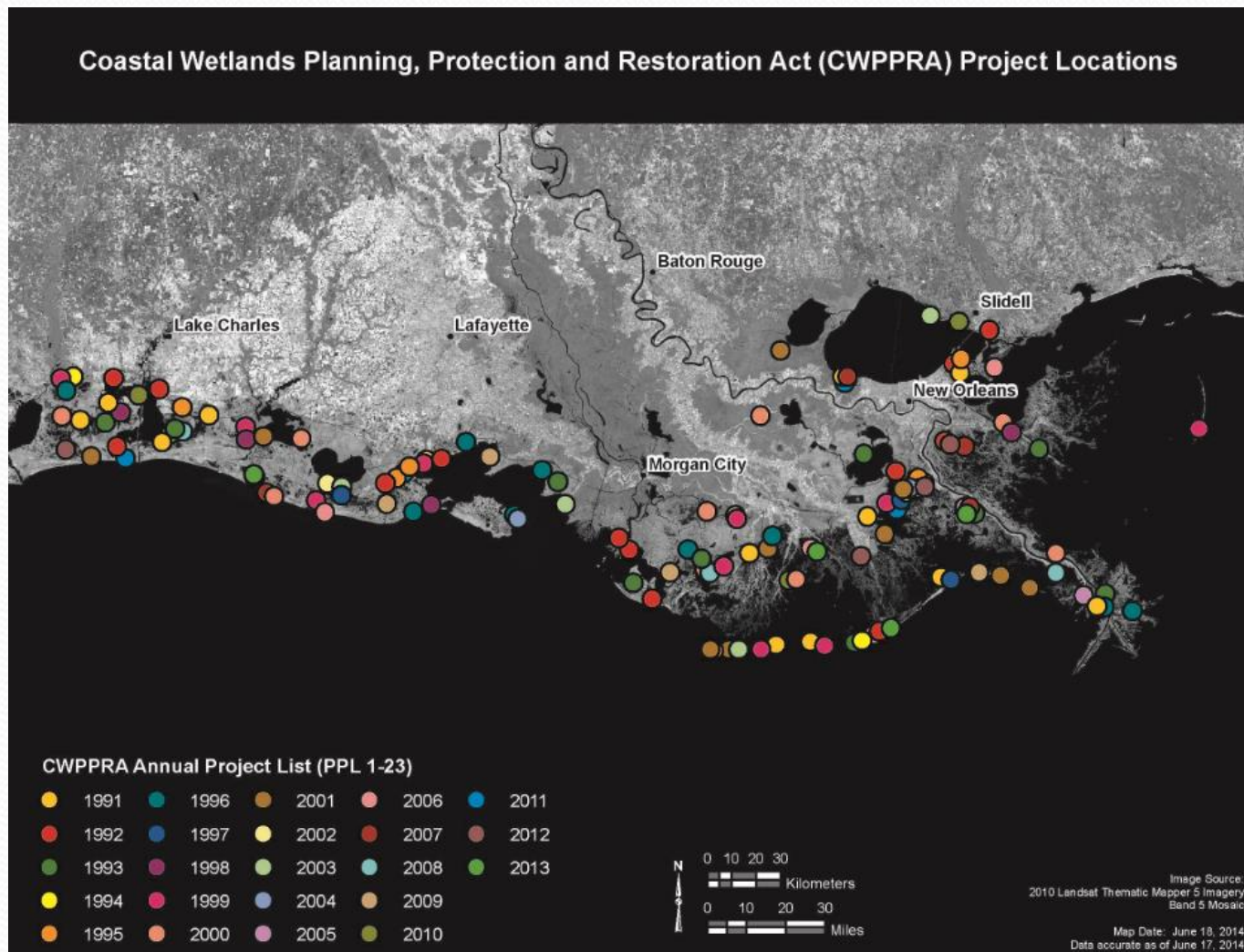


**U.S. Environmental  
Protection Agency**



**Louisiana Governor's  
Office**

# Louisiana Coastal Restoration Projects





# CWPPRA Projects

Using a Variety of Techniques for Coastal Restoration



# Bayou LaBranche Wetlands

## – One of the First CWPPRA Projects

I-10 Near New Orleans





# Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration

BA -35



Increasing the barrier shoreline width with dredged sediment.



# Mississippi River Sediment Delivery System-Bayou Dupont



Aero  
Photo

727.520.8181  
www.aerophoto.com

Bayou Dupont

Image # 90902 6039  
Date 09.02.09

BA-39





# Mississippi River Sediment Delivery System-Bayou Dupont



BA-39

Cutterhead dredge



# Mississippi River Sediment Delivery System-Bayou Dupont



BA-39

Pipe jack and bored under the road and railroad to deliver sediment to a marsh receiving area in Plaquemines Parish near the ConocoPhillips plant.



# Barataria Barrier Island Complex Project: Pelican Island to Pass La Mer to Chaland Pass Restoration

BA -38

About 2.5 million cubic yards of sand and silt were mined from an offshore borrow area in the Gulf of Mexico to construct the dune and marsh features.



Pipe  
Delivering  
Sediment



# Barataria Barrier Island Complex Project: Pelican Island to Pass La Mer to Chaland Pass Restoration



BA-35  
Installation of sand fencing  
was concurrent with dune  
construction.





# Whiskey Island Back Barrier Marsh Creation



TE-50

Approximately 316 acres of back barrier intertidal marsh habitat, 5,800 linear feet of tidal creeks, three 1-acre tidal ponds, and 13,000 linear feet of protective sand dune were created by semi-confined disposal and placement of dredged material.





# Whiskey Island Back Barrier Marsh Creation



TE-50



The sediment was dredged from a source in the Gulf of Mexico near the island.





# Pecan Island Terracing (ME-14)



# Little Vermilion Bay Sediment Trapping (TV-12)





## East Timbalier Island Sediment Restoration (TE-25)

- Almost three million cubic yards of sediment were utilized to establish a 200-foot wide dune and a 600-foot wide marsh along the length of the island.
- This created 170 acres of intertidal marsh and is helping to protect thousands of acres of existing fringing marsh to the north.
- To further stabilize the dredged sediments, 13,000 feet of sand fences and approximately 20,000 plugs of marsh grasses were added.









## Big Island Mining (AT-03)

West of  
Atchafalaya  
River in St.  
Mary Parish





## Big Island Mining (AT-03)

- Approximately 39,000 linear feet, or over 3 million cubic yards, of dredged material were utilized to create five delta lobes totaling 916 acres of marshlands.
- An additional 1200 acres are expected to accrete over the 20 year monitoring life of this project.





# Coastwide Nutria Control Program

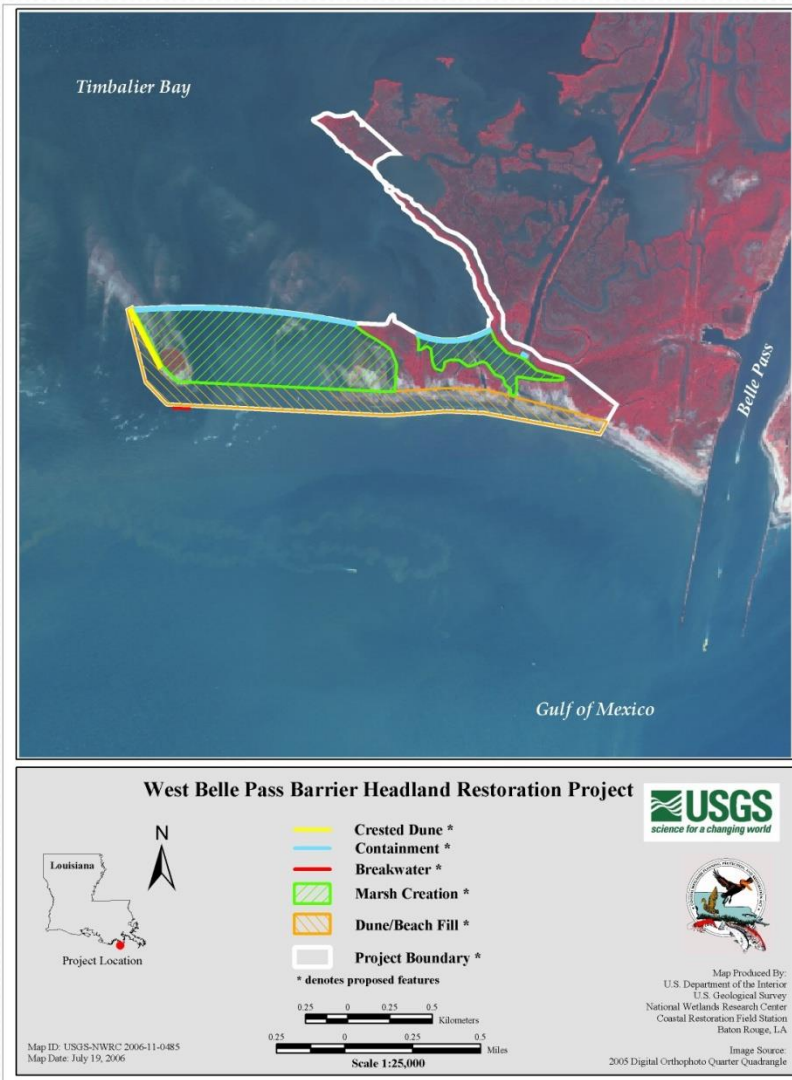
(LA-o3b)



# West Belle Pass Barrier Headland Restoration – 100<sup>th</sup> CWPPRA Project!

This project reestablished the West Belle headland by rebuilding a large portion of the beach, dune, and back barrier marsh that once existed.

Approximately 9,300 feet of beach and dune was rebuilt using nearly 2 million cubic yards of dredged sand, and 150 acres of marsh habitat will be rebuilt.





# Various Types of Projects...

- Freshwater / sediment diversion
- Barrier island restoration / shoreline protection
- Vegetative planting
- Hydrologic restoration
- Beneficial use of dredging material
- Sediment Trapping



# 2014 Recently Completed Wetland Restoration Construction

Summer 2014







## Completed Construction

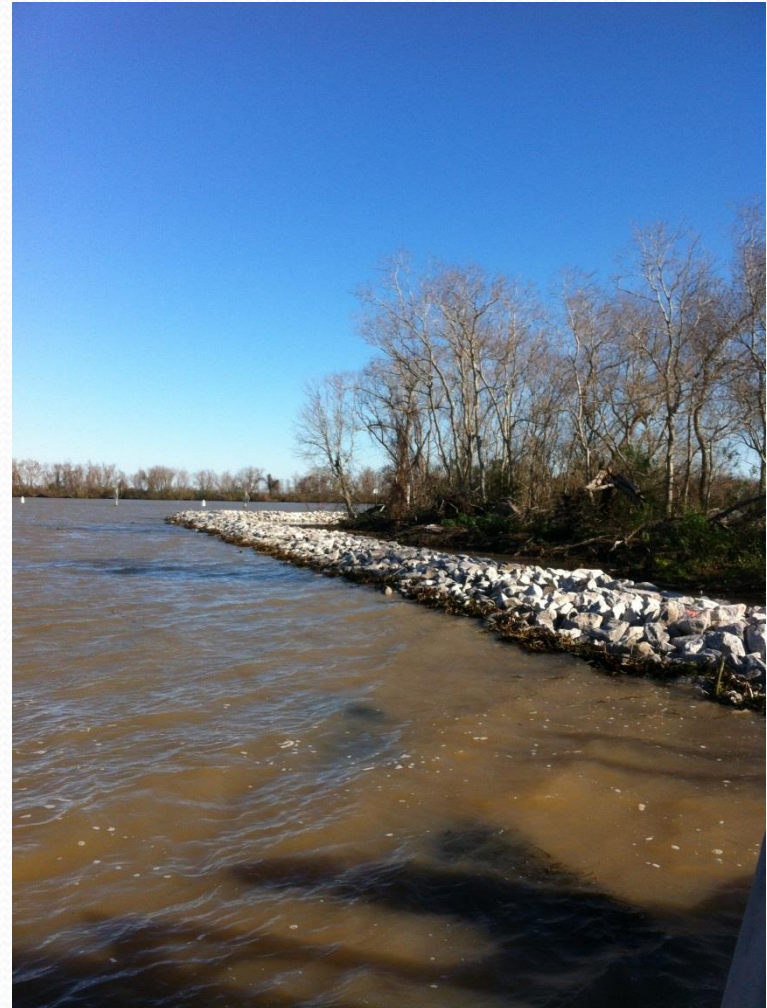
**Project Name:** TE-43 GIWW Bank  
Restoration of Critical Areas

- 10,584 lf of bankline protection

**Location:** Terrebonne Parish

**Date Completed:** March 24, 2014

**Final Construction Cost:** \$7.1 Million





## Completed Construction

**Project Name: LA-39 Coastwide Vegetative Plantings**

Program Year	Site Name	Parish	Status	Planting Date	Plant Numbers by Species				Contract Amount
					Smooth cordgrass	California bulrush	Other	Total	
1	Cameron Creole	Cameron	Completed	Spring 2013	49,340			49,340	\$ 379,037
1	South Lake DeCade	Terrebonne	Completed	Fall 2012	27,590	5,740		33,330	\$ 112,349
1	Marsh Island	Iberia	Completed	Spring 2013	7,743	1,166	207	9,116	\$ 97,520
2	The Prairie	St. John the Baptist	Completed	Spring 2014	525	13,040		13,565	\$ 98,498
2	West Little Lake	Lafourche	Awarded	Fall 2014	900	9,670		10,570	\$ 73,190
2	Decade Area	Terrebonne	Pending						
3	The Jaws	Vermilion	Awarded	Fall 2014		10,650		10,650	\$ 71,438
3	Little Vermilion Bay	Vermilion	Reviewing Submittals	Fall 2014		25,900		25,900	\$ 176,153
3	Willow Lake	Cameron	Plan & Spec Review	Fall 2014		17,664	297	17,961	
3	Mud Lake	Cameron	Pending						

**CONSTRUCTION UNDERWAY**







## Completed Construction

**Project Name:** Coastwide Vegetative Plantings (LA-39)  
The Prairie



525 *Spartina alterniflora* 'Vermilion' – trade gallons



13,040 *Schoenoplectus californicus* –trade gallons

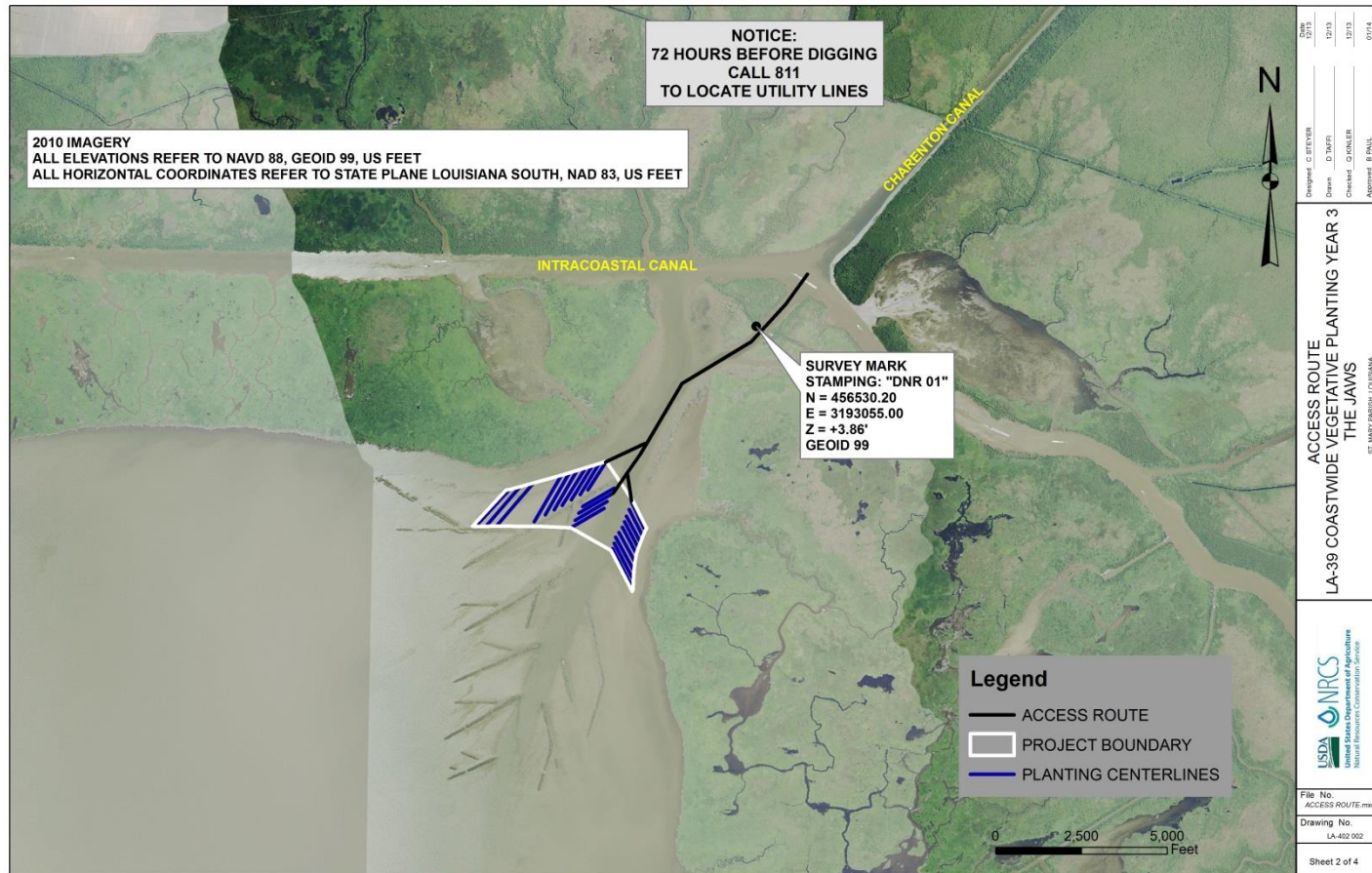






# Currently Under Construction

**Project Name:** Coastwide Vegetative Plantings (LA-39)  
The Jaws



10,650 *Schoenoplectus californicus* –trade gallons







## Currently Under Construction

**Project Name:** Coastwide Vegetative Plantings (LA-39)  
Little Vermilion Bay



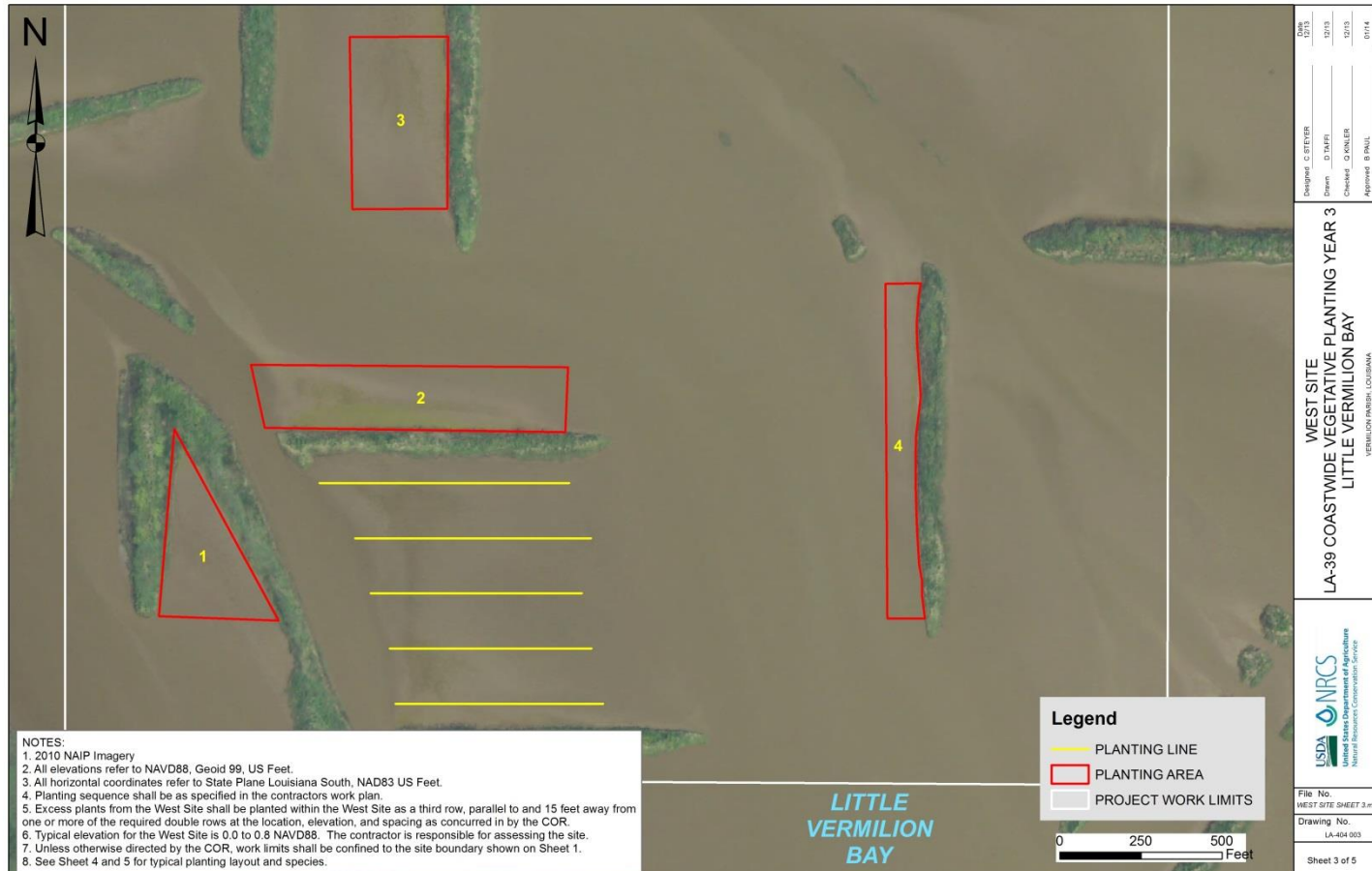
2,500 *Schoenoplectus californicus* –trade gallons





## Currently Under Construction

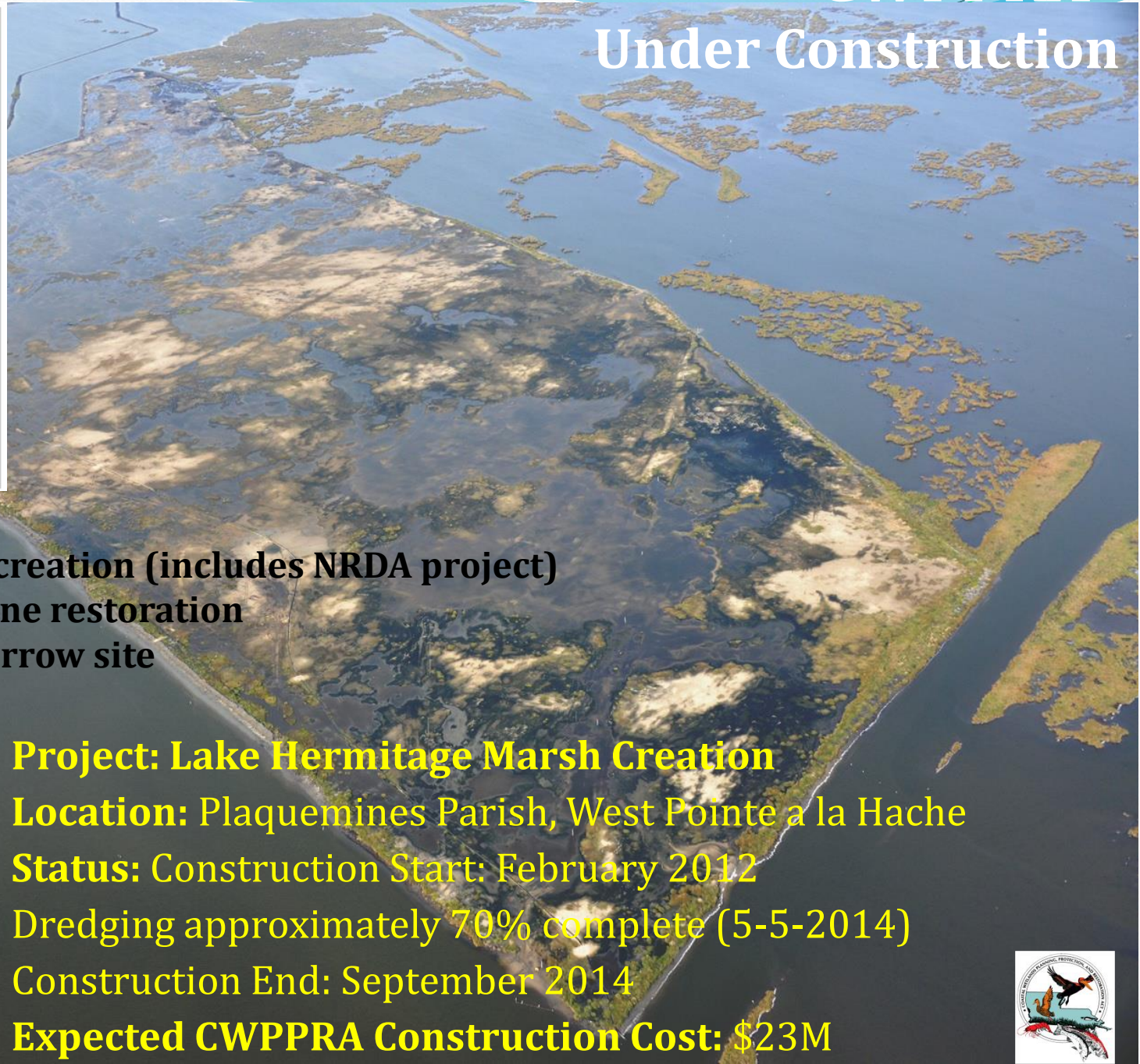
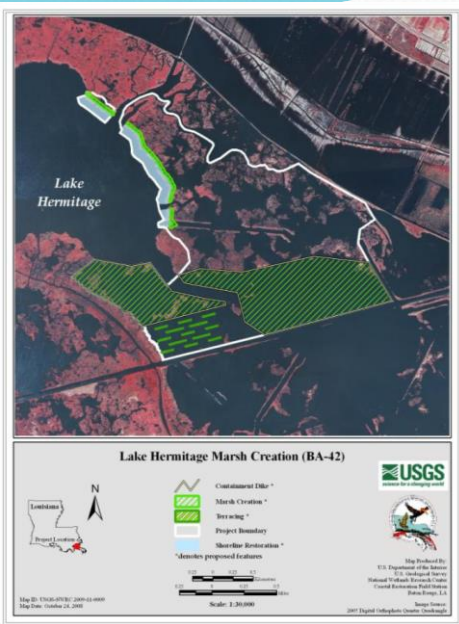
**Project Name:** Coastwide Vegetative Plantings (LA-39)  
Little Vermilion Bay



23,400 *Schoenoplectus californicus* –trade gallons







**896 acres of marsh creation (includes NRDA project)**  
**6,300 feet of shoreline restoration**  
**Mississippi River borrow site**

**Project: Lake Hermitage Marsh Creation**

**Location: Plaquemines Parish, West Pointe a la Hache**

**Status: Construction Start: February 2012**

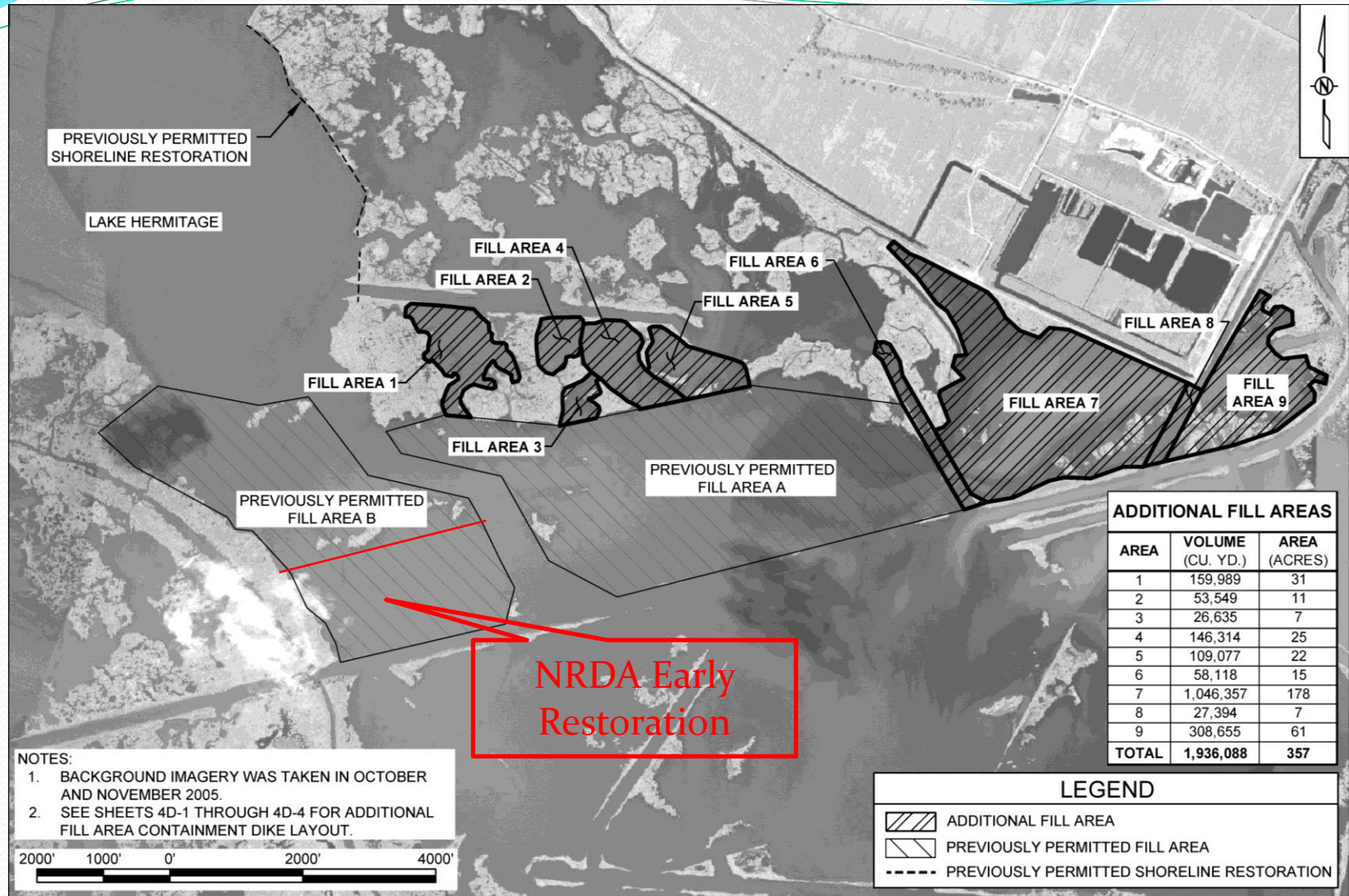
**Dredging approximately 70% complete (5-5-2014)**

**Construction End: September 2014**

**Expected CWPPRA Construction Cost: \$23M**







## Project Modifications:

- 1) Terrace field – now 104-acre NRDA Early Restoration marsh creation site
- 2) Change Order #3 – 246 acres of marsh creation – Fill Areas 7, 8, and 9



Fill Area A – complete  
367 acres



Lake Hermitage Marsh Creation BA 42

Image # 140415 2010  
Aero Date : 04.15.2014  
Photo 888.542.0231



CWPPRA

Under Construction



**Fill Area B - 283 acres  
(NRDA - 104 acres)  
95% complete**



**Lake Hermitage Marsh Creation BA 42**

Image # 140415 2011  
Aero Date : 04.15.2014  
Photo 888.542.0231



## Currently Under Construction

**Project Name:** Bayou Dupont Marsh and Ridge Creation (BA-48)

**Status:** In construction (with LDST)

- Mississippi River dredging anticipated to begin in October
- Construction completion projected for Fall 2015

**Expected Construction Cost:**  $\pm$  \$35M



## Currently Under Construction

**Project Name:** Delta-Wide Crevasses Project  
(MR-09)

**Location:** Plaquemines Parish, Mississippi  
River Delta

**Status:** Third and final construction event underway of 7 crevasse locations.  
Start: 3/05/14, Expected Completion: 6/25/14

**Expected Construction Cost:** This event: \$795,680  
Prior 2 events: \$ \$1,413,364



UNDER CONSTRUCTION UNTIL





## Currently Under Construction

**Project Name:** Delta-Wide Crevasses Project (MR-09)

**Location:** Plaquemines Parish, Mississippi River Delta

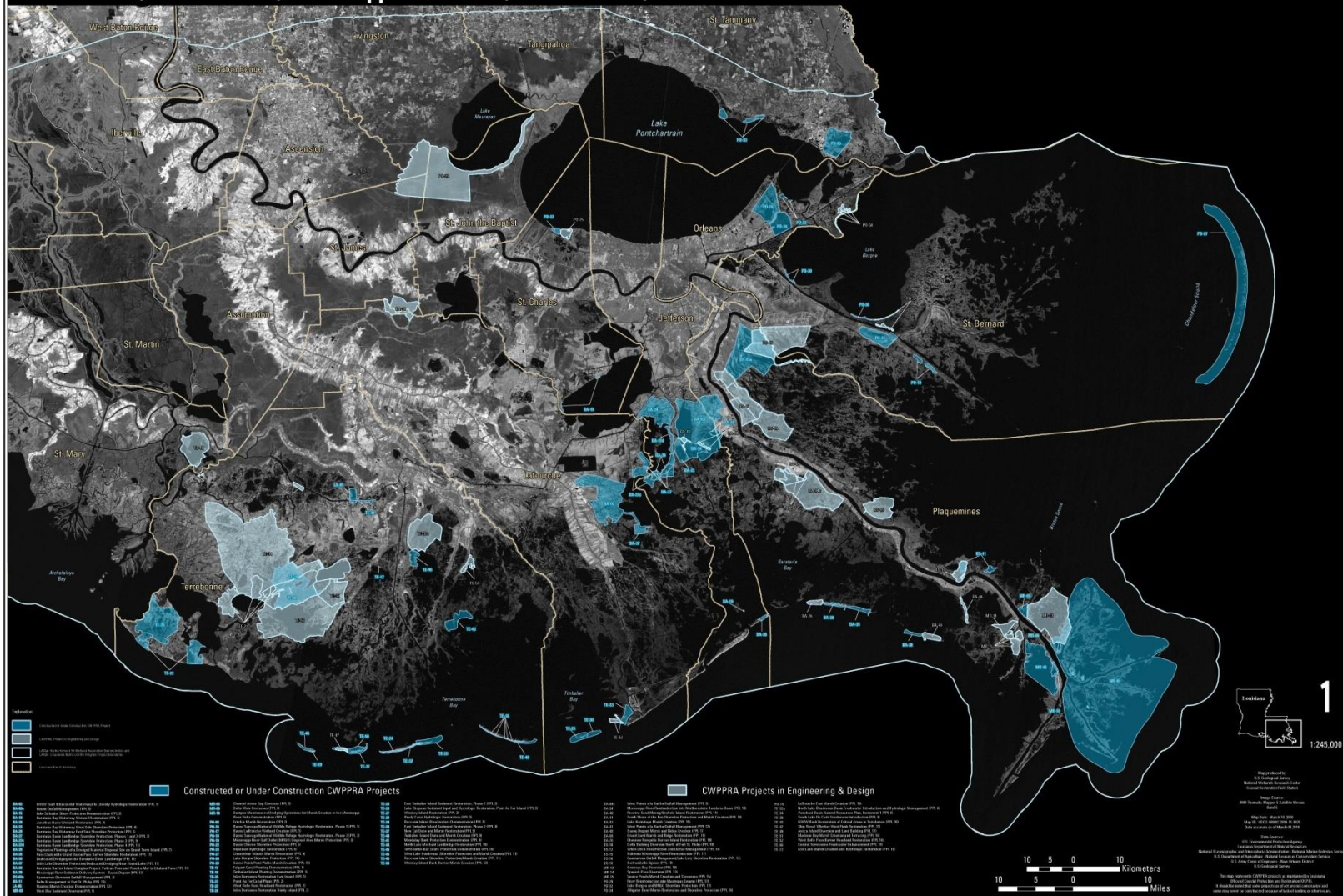
**Status:** Aerial and elevation surveys show the Project has created 499 acres of land for fresh marsh, as intended from the previously constructed components.

Table 1. Land area (acres) for 22 crevasses in the MR-09 project area (source: Louisiana Office of Coastal Protection and Restoration, 2009 OMM Report for Delta Wide Crevasses).

Crevasse	2001	2002	2007	Change	Relative gain/loss	Rate (acres/year)
6	116	150	171	55	47.4%	7.9
7	24	28	30	6	25.0%	0.9
8	5	8	10	5	100%	0.7
9	39	45	45	6	15.4%	0.9
11	116	131	157	41	35.3%	5.9
12	21	28	40	19	90.5%	2.7
15	19	26	26	7	36.8%	1.0
20	28	28	39	11	39.3%	1.6
24	3	4	5	2	66.7%	0.3
27	7	10	29	22	314.3%	3.1
31	67	90	191	124	185.1%	17.7
36	125	136	181	56	44.8%	8.0
38	102	99	181	79	77.5%	11.3
45	47	51	54	7	14.9%	1.0
47	3	5	9	6	200%	0.9
51	21	24	23	2	9.5%	0.3
53	33	36	15	-18	-54.5%	-2.6
54	41	47	57	16	39.0%	2.3
81	10	.	29	19	190%	2.7
CO-2	2	7	19	17	850%	2.4
NC-1	5	6	11	6	120%	0.9
NC-3	6	11	17	11	183.3%	1.6
<b>Totals</b>	<b>840</b>	<b>970</b>	<b>1339</b>	<b>499</b>	<b>59.4%</b>	<b>71.3</b>
<b>Average</b>	<b>38</b>	<b>46</b>	<b>61</b>	<b>23</b>	<b>59.4%</b>	<b>3.2</b>

UNDER CONSTRUCTION







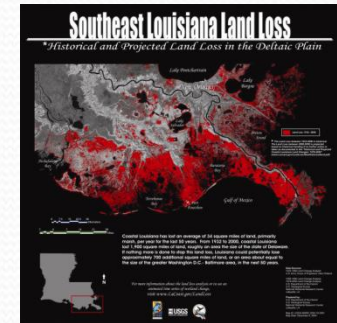
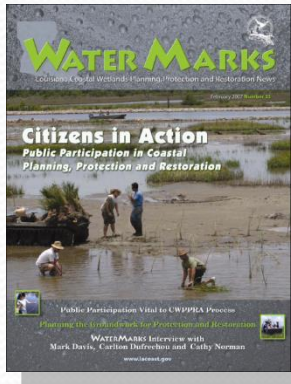
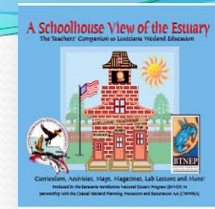
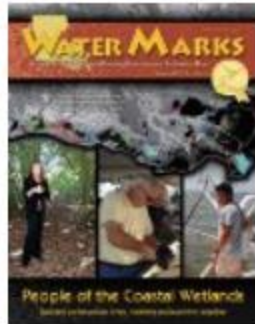


## Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Project Priority Lists 1 - 19 Projects in Atchafalaya, Calcasieu-Sabine, Mermentau, and Teche-Vermilion Basins





# How can you help spread the word?





# CWPPRA

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

*LaCoast.gov*

MANAGING AGENCIES

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Caernarvon Diversion Outfall Management BS-03a

## Barrier Islands - "A Place"



Watch this video to learn how important barrier islands are to coastal Louisiana.

## What is CWPPRA?

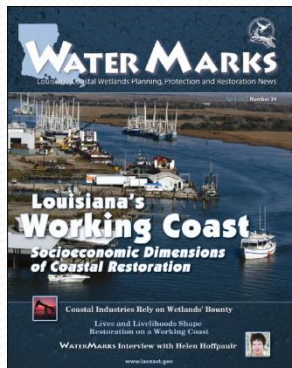
CWPPRA provides funding for Louisiana's coastal restoration. The Coastal Wetlands Planning, Protection and Restoration Act, (CWPPRA pronounced kwip-ruh), is federal legislation enacted in 1990 that is designed to identify, prepare, and fund construction of coastal wetlands restoration projects. These projects provide for the near-term conservation of wetlands. Read more...

## CWPPRA Projects

CWPPRA coastal restoration projects are highlighted below. Click for a larger map.

## Upcoming Events

- 07/16/2014 Coastal Protection and Restoration Authority Board, Buras, LA
- 08/06/2014 Governor's Advisory Commission Lake Charles, LA
- 08/20/2014 Coastal Protection and Restoration Authority Board Baton Rouge, LA





# Land Marks

www.LaCoast.gov

CELEBRATING SUCCESS IN COASTAL RESTORATION

Why Save Coastal Louisiana?

The Coastal Wetlands Planning, Protection and Restoration Task Force celebrated 100 Louisiana's coastal wetlands restoration projects completed today during its 2014 dedication event. The ceremony was held on April 30, 2014 at the Grand Bayou, in Houma, LA and included participants from the five federal managing agencies, the state, local, federal, state, governments, citizens, and dignitaries.

The ceremony marked the community and government partnership of over 23 years of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA), and highlighted 100 projects in the Southeast region. Participants participating in the ceremony were able to tour the Gulf Intracoastal Waterway Bank Restoration of Critical Areas in Terrebonne Parish (71-43). Community partners such as (continues on Page 2)

IN THIS ISSUE...

[Celebrating Success in Coastal Restoration](#)
[Why Save Coastal Louisiana](#)
[Life on the Line](#)

DATES TO REMEMBER...

[Celebrating Success in Coastal Restoration](#)
[Why Save Coastal Louisiana](#)
[Life on the Line](#)



For more information...

[www.LaCoast.gov](http://www.LaCoast.gov)



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