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Annual Project Reviews
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LOUISIANA DEPARTMENT OF NATURAL RESOURCES
COASTAL RESTORATION AND MANAGEMENT

STATE OF LOUISIANA
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DEPARTMENT OF NATURAL RESOURCES
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A report of:

Louisiana Department of Natural Resources
Coastal Restoration Division
Database Analysis Section

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The purpose of this document is to provide the public with easily accessible information about projects constructed to date and the current efforts to address Louisiana's coastal land loss problem. The information contained in this report is current through November 2000. For more detailed information on these projects, or other relevant efforts, please refer to:

Coast 2050: Toward a Sustainable Coastal Louisiana
Louisiana Coastal Wetlands Conservation Plan
1999 Status Report for Coastal Wetlands Conservation and Restoration Program
The 1997 Evaluation Report to the U.S. Congress on the Effectiveness of Louisiana Coastal Wetland Restoration Projects

For more information on project monitoring:
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COASTAL RESTORATION IN LOUISIANA

Louisiana currently experiences 80% of the nation's coastal wetland loss, at an average rate of 25 to 35 square miles per year (Figures 1 and 2). Areas that were once healthy and viable wetlands are becoming open water at an alarming rate. It is estimated that it could cost the nation $36.6 billion from lost public use value over the next 50 years if this trend of wetland loss continues (Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority, 1998).

The state of Louisiana has initiated a series of programs to offset this dramatic wetland loss. The Louisiana State and Local Coastal Resources Management Act was passed in 1978 and established a state coastal management program which oversees the regulation of developmental activities which effect wetland loss. The resulting Louisiana Coastal Resources Program became a federally approved coastal zone management program in 1980. In 1989, the Louisiana Legislature passed Act 6 of the second extraordinary session (R.S. 49:213-214) and a subsequent constitutional amendment which created the Coastal Restoration Division (CRD) within the Louisiana Department of Natural Resources. Act 6 also established the Wetland Trust Fund, which provides revenues derived from oil and gas activities to wetland restoration in Louisiana. This legislation also resulted in the first Wetland Restoration Plan for the state of Louisiana.

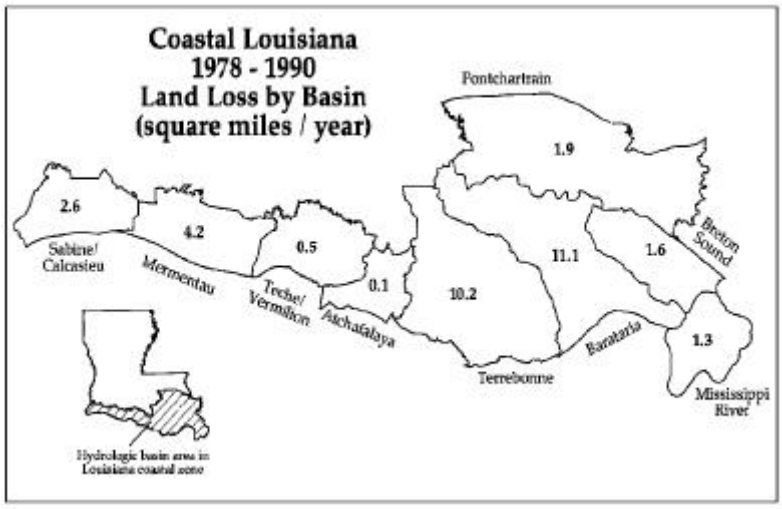


Figure 1. Coastal Louisiana land loss (square miles / year) by basin from 1978 to 1990 (Barras et al., 1994[1]).

In 1990, the U.S. Congress recognized the national significance of wetland loss in Louisiana and passed the Coastal Wetlands Planning, Protection, and Restoration Act (Breaux Act)(Public Law 101-646, Title III) to contribute federal monies to state restoration activities. The Breaux Act dedicates approximately $40 million per year to wetland restoration projects in Louisiana. The Breaux Act also created a partnership between Louisiana and five federal agencies: U.S. Departments of Army, Agriculture, Commerce, and Interior, and the U.S. Environmental Protection Agency. The state of Louisiana and these federal partners worked together to create a comprehensive restoration plan which has recently been replaced by "Coast 2050," to be discussed later.

The Breaux Act program includes project monitoring to determine the effects of the restoration projects. CRD's Biological Monitoring and Database Analysis Sections cooperate with federal, state, and local agencies to monitor and evaluate all restoration projects. The type of monitoring activity varies depending on the type of project and its specific goals and objectives. Breaux Act projects are typically monitored over the 20-year project life.

[1]Barras, J.A., P.E. Bourgeois, and L.R. Handley. 1994. Land loss in coastal Louisiana 1956-1990. National Biological Survey, National Wetlands Research Center Open File Report 94-01.

The Breaux Act also mandated that Louisiana develop a Coastal Wetlands Conservation Plan with the goal of no net loss of coastal wetlands from developmental activities. The Coastal Management Division (CMD) is responsible for permitting, monitoring and enforcement of regulated activities within the coastal zone to ensure that wetlands are created or enhanced in compensation for those lost from these activities. The plan also provides a supplement to the federal Wetland Reserve Program, encouraging farmers to convert farmland back into wetlands.

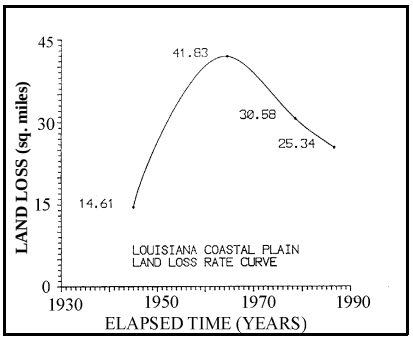


Figure 2. Wetland loss rates of the entire Louisiana coastal area expressed in square miles per year (after Dunbar et al. 1992[2]).

Through the Water Resources Development Act (WRDA), the U.S. Congress authorized the U.S. Army Corps of Engineers to construct large-scale diversion projects along the Mississippi River, such as the Caernarvon and Davis Pond Freshwater Diversion projects located near New Orleans.

In addition to the state-funded and Breaux Act-funded programs, several other wetland restoration programs have been created, each focusing on a specific component of Louisiana's wetland loss problem. These programs include: the Parish Coastal Wetlands Restoration Program (Christmas Tree Program); the Department of Natural Resources (DNR)/Natural Resources Conservation Service (NRCS)/Louisiana Department of Agriculture and Forestry, Office of Soil and Water (SWCC) Vegetation Planting Program; and the WRDA Sections 204 and 1135 beneficial use of dredged material programs.

In 1997, a significant planning effort was initiated to combine elements of these previous coastal restoration initiatives in Louisiana, called "Coast 2050." Coast 2050 incorporated initiatives from private citizens, local governments, state and federal agencies, and the scientific community to modify the 1993 Restoration Plan and align the efforts of these other programs to restore and protect coastal wetlands in Louisiana towards a common goal of sustainability.

The Coast 2050 effort has been affirmed by the adoption of the plan by the Louisiana Coastal Wetlands Conservation and Restoration Task Force (Breaux Act Task Force) and the Wetlands Conservation and Restoration Authority (State Wetlands Authority) as their official restoration plan. It also has the support of the 20 coastal parish councils and police juries within the coastal zone.

The Louisiana Department of Natural Resources and its partners on the Breaux Act Task Force and the State Wetlands Authority have implemented projects throughout coastal Louisiana that are already making a difference. These projects are reducing coastal erosion, providing improved habitat conditions for coastal fisheries and wildlife species, and in some cases are actually building new wetlands.

This report describes the coastal restoration projects completed or nearing completion in the four Coast 2050 regions from 1987 - 2000. It includes results from monitoring data collected through the CRD monitoring program. *Together with our federal and local partners, we are making a difference in the war against coastal land loss.*

Coast 2050 Strategic Goals

Goal 1: *Assure vertical accumulation to achieve sustainability*

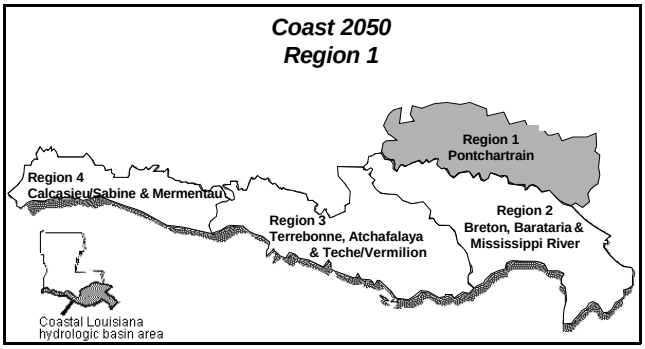
Goal 2: *Maintain estuarine gradient to achieve diversity*

Goal 3: *Maintain exchange and interface to achieve system linkages*

[2]Dunbar, J.B., L.D. Britch, and E.B. Kemp, III. 1992. Land loss rates: report 3, Louisiana coastal plain. Technical Report GL-90-2, U.S. Army Corps of Engineers District, New Orleans, La. 28 pp.

REGION 1

Region 1 encompasses the Lake Pontchartrain basin, extending from the Mississippi River on the west, to the Prairie Terrace on the north, to the Chandeleur Islands on the east, and the Mississippi River Gulf Outlet (MRGO) on the south. It covers all or part of the following parishes: Livingston, Tangipahoa, St. Tammany, St. Bernard, Orleans, Jefferson, St. Charles, St. John the Baptist, St. James, and Ascension.



Region 1 contains 576,570 acres of coastal wetlands which consist of: approximately 110,000 acres bottomland hardwood; 213,570 acres swamp; 34,700 acres fresh marsh; 27,700 acres intermediate marsh; 110,900 acres brackish marsh; and 79,700 acres saline marsh.

Lakes Pontchartrain, Maurepas and Borgne are the dominant hydrologic features within the region. The Amite and Tickfaw rivers, as well as Bayou Manchac, drain into Lake Maurepas. These contribute to significant water movement within the area. Lake Pontchartrain is affected by freshwater inflows from Pass Manchac, North Pass, and the Tangipahoa and Tchefuncte rivers, and the Bonnet Carrè Spillway. Major navigation channels include the MRGO and the Gulf Intracoastal Waterway (GIWW).

The construction of the MRGO in the early 1960s caused wetland loss in Region 1 both in the immediate vicinity (from the actual dredging to create the channel) and in more remote areas such as the Pontchartrain/ Maurepas Land Bridge (from the saline water it conveyed into the region). Marshes east of New Orleans have lost significant amounts of marsh due to levee-induced ponding of water. Other major causes of land loss have been shoreline erosion, subsidence, and altered hydrology.

The most critical concerns from parish governments and the public are preserving the present habitats and current levels of productivity. Near the Manchac and North Shore areas, and around the Pearl River mouth, conversion of some intermediate and brackish marsh to fresh marsh is needed. Open water in the interior of the forested wetlands near Lake Maurepas is also recommended for reconversion back to forested wetland. Forested wetlands in the Central Wetlands are also denoted for expansion. Some of the saline Biloxi marshes are recommended for conversion to brackish marsh.

Specific regional ecosystem strategies, identified in the Coast 2050 process, to attain these goals include: (1) restoring swamps by utilizing small Mississippi River diversions and related flood protection, where needed; (2) restoring and sustaining marshes utilizing several small river diversions, and dedicated delivery of sediment; (3) protecting the integrity of the shorelines of Lakes Pontchartrain and Borgne and the Biloxi marshes; (4) restoring and maintaining the Chandeleur Islands; and (5) maintaining the Eastern Orleans Land Bridge by marsh creation and shoreline protection. These and other ecosystem strategies are shown in Figure 3.

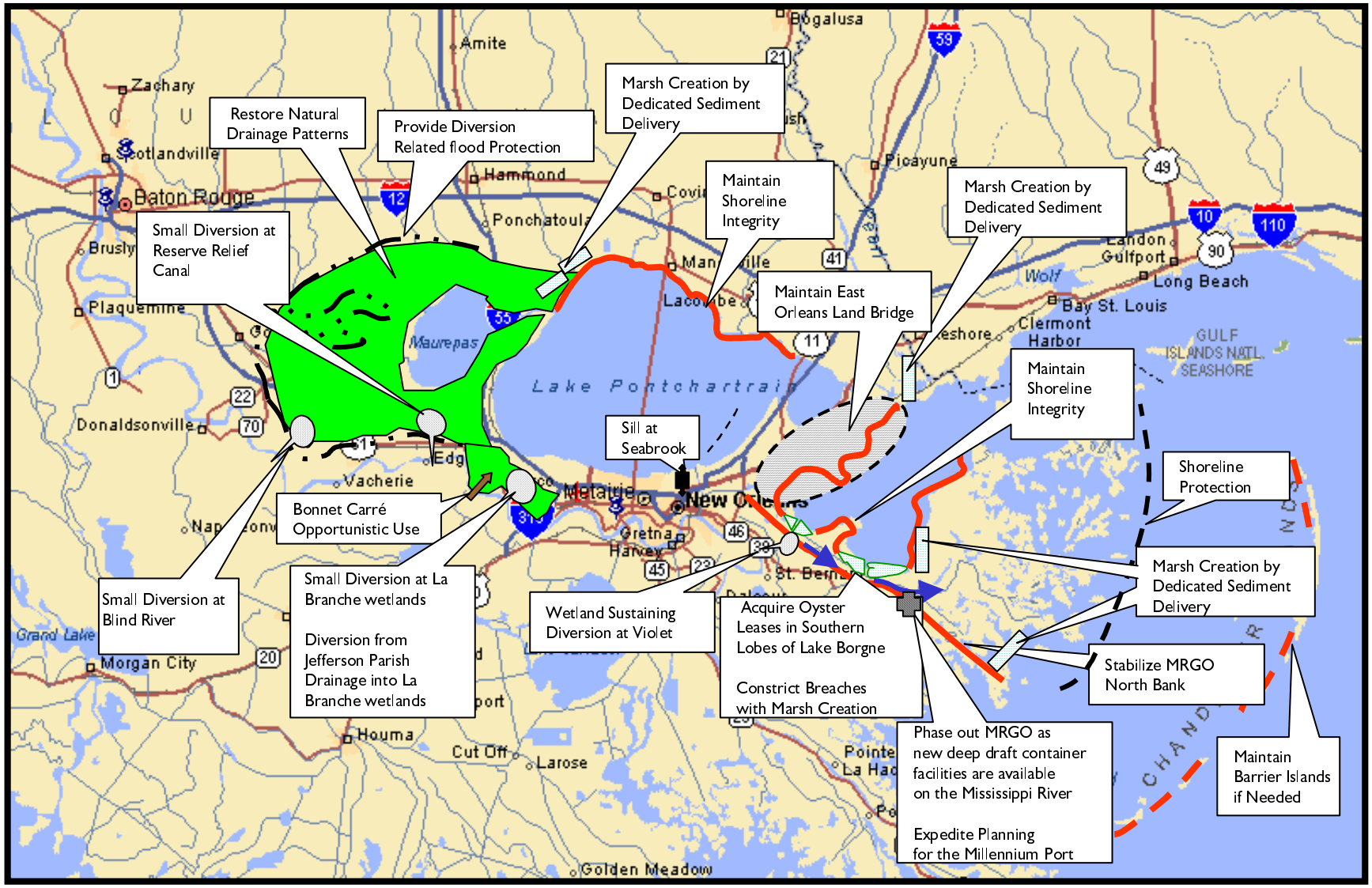


Figure 3. Coast 2050 Region 1 ecosystem strategies (Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority, 1998).

REGION 1 MONITORING RESULTS

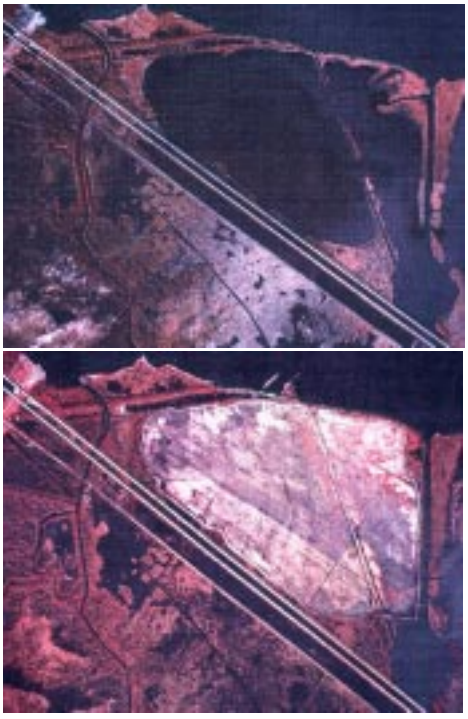
Estimates of wetland loss from Region 1 indicate that between 1932 and 1990, a total of 74,800 acres of wetlands have been lost (an average of 1,290 acres per year). Wetland restoration projects have been authorized in 41 locations in Region 1.

BREAUX ACT (CWPPRA)

A total of fourteen (14) projects have been authorized under the direction of the Breaux Act, which are estimated to benefit 6,365 acres with a current estimated cost of $24,087,371.

Five (5) projects which will address imminent marsh loss due to changes in natural hydrology include Fritchie Marsh (PO-06), and Bayou Sauvage Hydrologic Restoration projects, Phases 1 (PO-16) and 2 (PO-18), Hopedale Hydrologic Restoration (PO-24), and Bayou Bienvenue Pump Station Diversion (PO-25). These projects will improve hydrology and contribute to the protection of the land bridges between Lakes Pontchartrain and Borgne.

The dedicated dredging project, Bayou LaBranche Wetland (PO-17), involved filling an open-water area with material dredged from Lake Pontchartrain. Approximately 284 acres of emergent marsh were created based on aerial photography analysis from 1993 and 1997 conducted through the Breaux Act monitoring program. Monitoring data also indicate that the area was converted from 18.5% land/ 81.5% open water in 1993 to 81.7% land/18.3% open water in 1997. Approximately 51% of the area is now emergent marsh and 31% is scrub/shrub.



Aerial photograph of LaBranche wetlands in 1993 (top) and 1997 (bottom) showing wetland area created by the Bayou LaBrance Wetland Breaux Act Project.

The marsh management project, MRGO Back Dike Marsh Protection (PO-19), involved hydrologic modifications that resulted in conditions conducive to a productive fresh marsh. This project also aids in the prevention of continued bank erosion along the Mississippi River Gulf Outlet.

Two (2) projects are designed to protect the shoreline of Lake Pontchartrain, the LaBranche Terracing/Planting project (PO-28) and the Bayou Chevee project (PO-22). The Bayou Chevee project involves building rock dikes to armor the shoreline and create favorable conditions for submerged aquatic vegetation growth.

The vegetation planting project, Chandeleur Islands Restoration (PO-27), uses previously successful barrier island restoration techniques at 22 sites to help the Chandeleur Islands recover from damages sustained during Hurricane Georges in 1998. The recently authorized Opportunistic Use of Bonnet Carre Spillway (PO-26) project will divert water from the Mississippi during high flow to benefit the wetlands surrounding Lake Pontchartrain.

Three (3) projects in Region 1 have been deauthorized: Violet Freshwater Distribution (P0-09a), Red Mud Demonstration (PO-20), and Eden Isles East Marsh Creation (PO-21).

NON-BREAUX ACT

State

Six (6) projects have been implemented by the Coastal Restoration Division and funded by the Wetlands Trust Fund, which are estimated to benefit 2,443 acres with a current estimated cost of $3,658,435. The two freshwater diversion projects [Violet Siphon (PO-01) and Central Wetlands(PO-08)] have addressed the problems of increased salinity and reduced sediment and nutrient input by restoring input of fresh water, nutrients and sediment into selected areas.

Turtle Cove shoreline protection project along lake Pontchartrain in October 1994 (top), June 1995 (middle), and August 1996 (bottom).

Four (4) shoreline protection projects [Bayou Chevee (PO-02c), La Branche Shoreline (PO-03 and PO-03b), and Turtle Cove (PO-10)] have addressed the issue of erosion along critical areas of the Lake Pontchartrain shoreline. CRD monitoring information indicated that during the 12 month period between December 1995 and 1996, the shoreline position in the Turtle Cove project area prograded an average of 6.0 feet, while during the same 12 month period, erosion averaging -33.4 feet occurred in the adjacent reference area. Monitoring data collected also indicate that during the 26 month period from October 1994 to December 1996, the shoreline in the project area prograded an average of 23.4 feet, creating more than 5 acres of new wetlands and contributing to the accretion of 0.25 feet of sediment.

Parish Coastal Wetlands Restoration Program

Wooden enclosures built in close proximity to the shoreline are filled with recycled Christmas trees. By absorbing wave energy, the fences protect existing marsh vegetation and create conditions favorable for sediment deposition and subsequent colonization and growth of new marsh vegetation. Projects include Blind Lagoon, Crab Pond, Goose Point, La Branche, and The Prairie.

Elevation surveys at the LaBranche Christmas tree project indicate an accumulation of up to 0.35 feet of sediment during the first two years, and the creation of approximately three acres of new wetlands.

Through volunteering and donating trees, people of all ages become more aware of our coastal issues. Since 1990, approximately 6,044 linear feet of fences

Christmas tree project at Crab Pond.

have been built in region 1. Christmas tree fences are relatively inexpensive, with an average cost of $50 per linear foot in Pontchartrain Basin.

DNR/NRCS/SWCC Vegetation Planting Program

DNR/NRCS/SWCC Vegetation Planting projects have been implemented at ten sites (see table on page 10). Some sites have been planted in phases covering several project years. These projects include Bayou Bienvenue, Goose Point, LaBranche, Madisonville Lighthouse, Blind River, Turtle Cove, MRGO-North Shore, Hog Island, West Pearl River, and Salvador Pump-In.

Since 1988, more than 54,500 plants have been installed (72% have been smooth cordgrass, *Spartina alterniflora*) along more than 164,500 linear feet of shoreline. Projects such as the 1998 plantings at Goose Point have shown an increase in lateral spread of the vegetation by as much as 19 inches during the first growing season.

Section 204/1135

Three (3) Section 204 beneficial use of dredge material projects have currently been built along the Mississippi River Gulf Outlet (MRGO) between Mile -3 and Mile 14. These projects utilized dredged material from routine maintenance of the MRGO to create approximately 76 acres of new wetlands. All three of these projects were constructed in 1999.

Vegetation planted in St. Tammany parish.

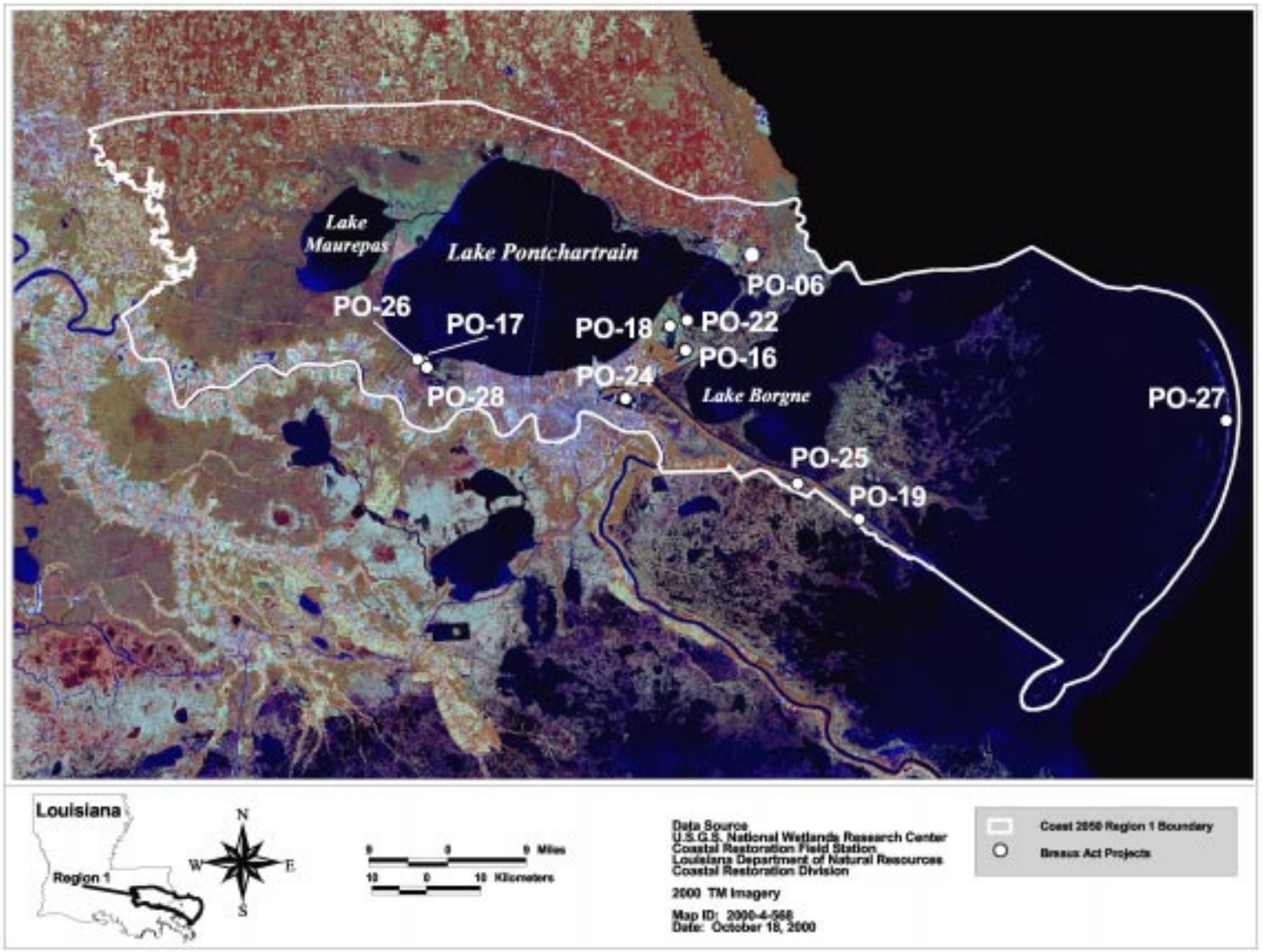


Figure 4. Location of Breaux Act projects authorized in Coast 2050 Region 1.

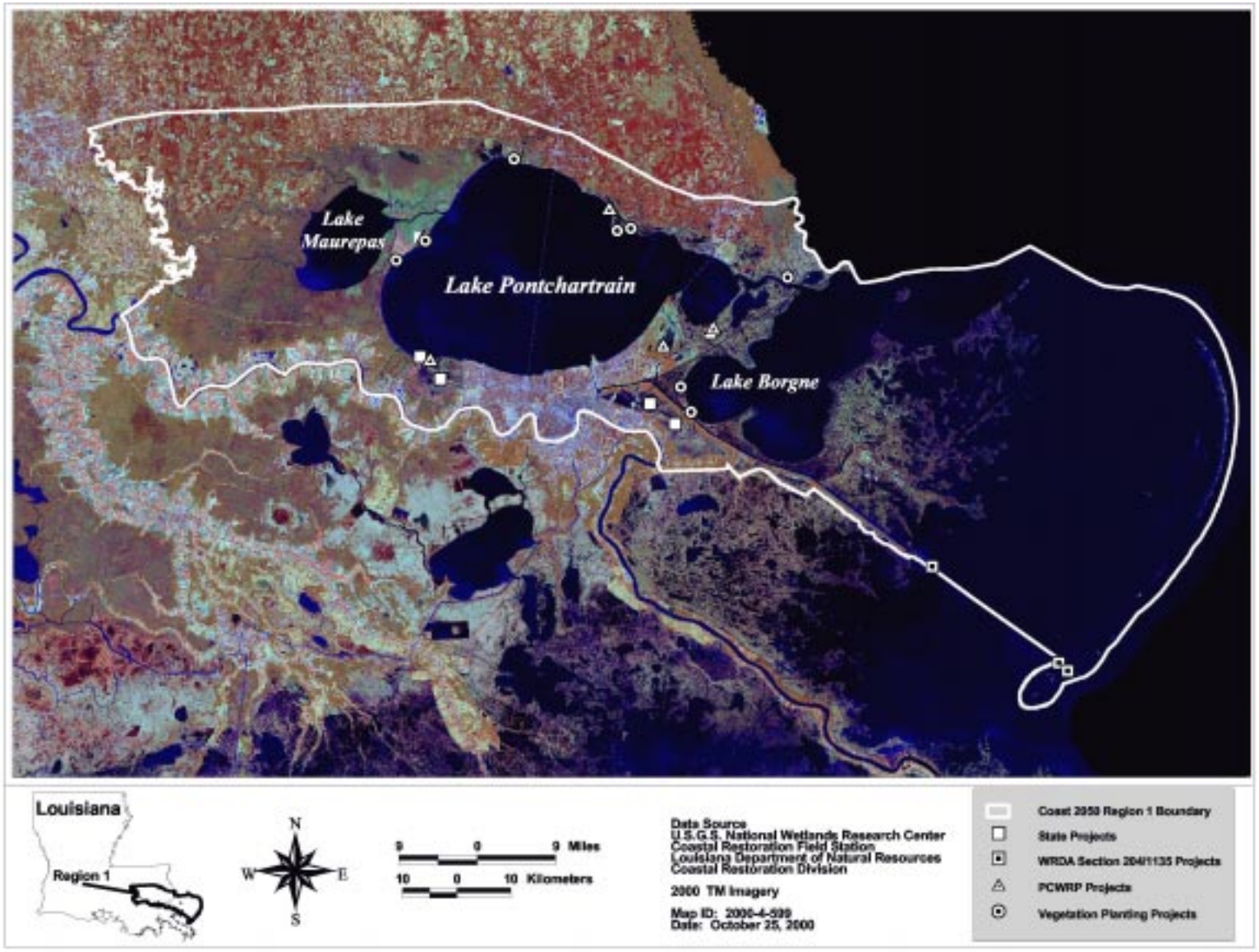


Figure 5. Location of non-Breaux Act projects in Coast 2050 Region 1.

Table 1. Restoration projects completed or pending in Coast 2050 Region 1.

Restoration Program[1]	Project Number[2]	Project Name	Project Type[3]	PPL[4]	Agency/ Sponsor[5]	Senator/Representative	Parish	Anticipated Acres Benefitted[6]	Activities[7]			Original Baseline Cost (top) and Current Cost Estimate (bottom)[8]
									Engineering, Design, and Landrights	Construction	Operation, Maintenance and Monitoring	
Breaux Act	PO-06 (PO-06)	**Fritchie Marsh Restoration**	HR	2	NRCS	Sen. John T. Schedler Rep. A. G. Crowe	St. Tammany	1,040	C $280,624	2001* $1,512,326	I $1,140,858	$3,048,389 $2,933,808
		This project was authorized to address imminent marsh loss caused by alterations in the natural hydrology. The implementation of this project will restore a more natural hydrologic regime to a wetland near Slidell, LA by facilitating the input of fresh water into the wetlands.										
	PO-09a (PO-09a)	**Violet Freshwater Distribution**	HR	3	NRCS	Sen. Lynn B. Dean Rep. Kenneth L Odinet, Sr.	St. Bernard	N/A	 $178,375	Deauthorized $724,913	 $959,274	$1,821,438 $1,862,562
		This project was authorized to manage the distribution of fresh water from the existing state-funded Violet Siphon (PO-01) project. The implementation of this project would conserve and enhance vegetated wetlands by distributing fresh water from the Mississippi River and municipal stormwater pumping stations into adjacent wetlands. Based on findings from pre-construction geotechnical investigations, the required design revisions made this project economically unjustifiable. This project is currently pending deauthorization.										
	PO-16 (XPO-52A)	**Bayou Sauvage Refuge Protection Phase 1**	HR	1	USFWS	Sen. Jon D. Johnson Rep. Kenneth L Odinet, Sr.	Orleans	1,550	C $87,000	1996 $873,698	I $654,692	$1,657,708 $1,615,390
		This project utilizes pumps to remove excess water from the project area, to promote the growth of fresh marsh vegetation, and protect black willow (*Salix nigra*). Construction was completed in May 1996 and biological monitoring has been initiated.										
	PO-17 (PPO-10)	**Bayou LaBranche Wetland**	DM	1	USACE	Sen. Joel T. Chaisson II Rep. Gary L. Smith	St. Charles	203	C $633,856	1994 $2,757,639	I $274,024	$4,461,301 $3,665,519
		This project utilized dredged material from Lake Pontchartrain to replace lost wetlands by directly creating a 70% land:30% water wetland area in shallow open water near New Orleans, LA. Construction was completed in April 1994 and biological monitoring has been initiated.										
	PO-18 (XPO-52B)	**Bayou Sauvage Refuge Protection Phase 2**	HR	2	USFWS	Sen. Jon D. Johnson Rep. Kenneth L Odinet, Sr.	Orleans	1,280	C $103,400	1997 $882,634	I $648,666	$1,452,035 $1,634,700
		This project utilizes pumps to remove excess water from the project area and to promote the growth of fresh marsh vegetation. Construction was completed in May 1996 and biological monitoring has been initiated.										
	PO-19 (XPO-71)	**MRGO Back Dike Marsh Protection**	MM	3	USACE	Sen. Lynn B. Dean Rep. Ernest Wooten	St. Bernard	755	C $278,491	1999 $44,120	N/A $20,000	$512,198 $342,611
		This project was authorized to address loss of fresh marsh on the Mississippi River Gulf Outlet (MRGO) disposal area. The project was reduced in scope from its original design to repair a shorter reach of earthen dikes and was completed by the USACE in January of 1999.										

(Continued)

Restoration Program[1]	Project Number[2]	Project Name	Project Type[3]	PPL[4]	Agency/ Sponsor[5]	Senator/Representative	Parish	Anticipated Acres Benefitted[6]	Activities[7]			Original Baseline Cost (top) and Current Cost Estimate (bottom)[8]
									Engineering, Design, and Landrights	Construction	Operation, Maintenance and Monitoring	
Breaux Act (continued)	PO-20 (XTE-43)	**Red Mud Demonstration**	MC	3	EPA	Sen. Louis J. Lambert, Jr. Rep. Robert Faucheux, Jr.	St. James	N/A	C $26,836	1997 $321,499	I $122,165	$350,000 $470,500
		This project was authorized to determine whether red mud, produced as a by-product of removing alumina from bauxite, could be utilized as marsh creation material in combination with compost and marsh sediment. Construction of the experimental units was completed in 1997, however, due to unexpected problems with fill material, liners, and contaminants in the water source, this project was deauthorized.										
	PO-21 (PPO-4)	**Eden Isles East Marsh Creation**	HR	4	NMFS	Sen. John T. Schedler Rep. Matthew P. Schneider, III	St. Tammany	N/A	 $35,973	Deauthorized $0	 $2,947	$5,018,968 $38,920
		There was a change in land owners of the project area during the planning phase of this project. The new landowner chose not to participate in the restoration program. Consequently, the project was deauthorized.										
	PO-22 (XPO-69)	**Bayou Chevee Shoreline Protection**	SP	5	USACE	Sen. Jon D. Johnson Rep. Kenneth L Odinet, Sr.	Orleans	75	C $399,162	No Date $1,638,871	I $380,871	$2,890,821 $2,418,904
		The scope of this project has been modified from a Beneficial Use of Dredge Material project. The revised project will protect this now exposed wetland area from erosive wave energy from Lake Pontchartrain utilizing two sections of rock dikes.										
	PO-24 (PPO-38)	**Hopedale Hydrologic Restoration**	HR	8	NMFS	Sen. Lynn B. Dean Rep. Kenneth L Odinet, Sr.	St. Bernard	134	I $334,828	2001* $998,158	NI $1,090,261	$2,179,491 $2,423,247
		This project will abate site-specific wetland loss by replacing collapsed culverts installed in the 1950s near Ycloskey, LA. These degraded water control structures are currently preventing the drainage of high tides and stormwater runoff, resulting in impounded water on the marsh.										
	PO-25 (XPO-74a)	**Bayou Bienvenue Pump Station Diversion**	HR	8	NMFS	Sen. Lynn B. Dean Rep. Kenneth L Odinet, Sr.	Orleans/ St. Bernard	442	I $757,476	2001* $2,298,967	NI $838,473	$3,295,574 $3,894,916
		This project combines the use of existing pump stations with the construction of a 2,500 ft. long diversion channel, water control structures, and earthen terraces planted with smooth cordgrass (*Spartina alterniflora*) to force the flow of fresh water and nutrients through a deteriorated marsh area to abate site-specific marsh loss.										
	PO-26 (XPO-55a)	**Opportunistic Use of Bonnet Carre Spillway**	FD	9	USACE	Sen. Joel T. Chaisson II Rep. Gary L. Smith	St. Charles	177	I $68,427	No Date $0	NI $82,279	$150,706 $150,706
		To abate high salinity stress on vegetated wetlands surrounding Lake Pontchartrain, this project incorporates the removal of pins from the Bonnet Carre Spillway structure during high flow periods in the Mississippi River to allow no more that 4,000 cubic yards per second of water to flow from the river into Lake Pontchartrain. This will not be possible every year and the pins will be replaced by April first of each year to reduce the possibility of algal blooms in the lake.										

(Continued)

Restoration Program[1]	Project Number[2]	Project Name	Project Type[3]	PPL[4]	Agency/ Sponsor[5]	Senator/Representative	Parish	Anticipated Acres Benefitted[6]	Activities[7]			Original Baseline Cost (top) and Current Cost Estimate (bottom)[8]
									Engineering, Design, and Landrights	Construction	Operation, Maintenance and Monitoring	
Breaux Act (continued)	PO-27 (XPO-95)	**Chandeleur Islands Restoration**	VP	9	NMFS	Sen. Lynn B. Dean Rep. Kenneth L Odinet, Sr.	St. Bernard	220	I $212,331	No Date $1,343,061	NI $53,006	$1,286,718 $1,608,398
		This project was authorized to accelerate the recovery period of barrier island areas overwashed by Hurricane George in 1998. The overwash areas encompass 364 acres, are located at 22 sites along the Chandeleur Sound side of the island chain, and will be planted with smooth cordgrass *(Spartina alterniflora)*.										
	PO-28 (PPO-07a)	**LaBranche Terracing/Planting**	SNT/ SP	9	NMFS	Sen. Joel T. Chaisson II Rep. Gary L. Smith	St. Charles	489	I $989,812	No date $0	NI $37,378	$821,752 $1,027,190
		This area has experienced wetland loss as a result of Mississippi River levee construction, agricultural impoundment failure, transportation infrastructure construction, oil and gas development, and shoreline erosion. This project includes shoreline protection, marsh terraces, vegetative planting, and herbivore control components to create emergent marsh and protect interior marsh fringes and the Lake Pontchartrain shoreline from continued erosion.										
State	PO-01	**Violet Siphon**	FD	N/A	N/A	Sen. Lynn B. Dean Rep. Kenneth L Odinet, Sr.	St. Bernard	84	C	1992	I	$380,584
		The purpose of this project was to place the pre-existing siphon back into operation, to enlarge the size of the diversion so that more sediment and fresh water would be available to offset subsidence and saltwater intrusion.										
	PO-02c	**Bayou Chevee**	SP	N/A	N/A	Sen. Jon D. Johnson Rep. Kenneth L Odinet, Sr.	Orleans	75	C	1994	I	$62,000
		This project installed 2,000 ft. of brush fences at the mouth of Bayou Chevee.										
	PO-03	**LaBranche Shoreline Stabilization and Canal Closure**	SP	N/A	N/A	Sen. Joel T. Chaisson II Rep. Gary L. Smith	St. Charles	1,750	C	1987	I	$1,324,000
		The purpose of this project was to restore the integrity of the shoreline which separates Lake Pontchartrain from the western edge of the LaBranche wetlands.										
	PO-03b	**LaBranche Shoreline**	SP	N/A	N/A	Sen. Joel T. Chaisson II Rep. Gary L. Smith	St. Charles	50	C	1996	I	$1,290,851
		A wave breakwater was constructed along the Lake Pontchartrain shoreline, east of Bayou LaBranche, to protect the hydrologic boundary between the lake and the wetlands from being breached.										

(Continued)

Restoration Program[1]	Project Number[2]	Project Name	Project Type[3]	PPL[4]	Agency/ Sponsor[5]	Senator/Representative	Parish	Anticipated Acres Benefitted[6]	Activities[7]			Original Baseline Cost (top) and Current Cost Estimate (bottom)[8]
									Engineering, Design, and Landrights	Construction	Operation, Maintenance and Monitoring	
State (continued)	PO-08	**Central Wetlands**	FD	N/A	N/A	Sen. Lynn B. Dean Rep. Kenneth L Odinet, Sr.	St. Bernard	300	C	1992	I	$250,000
		This project was designed to provide freshwater, nutrients, and sediment associated with storm runoff to an area of marsh near the PO-01 Violet Siphon.										
	PO-10	**Turtle Cove**	SP	N/A	N/A	Sen. Ron J. Landry Rep.Robert Faucheux, Jr.	St. John	184	C	1994	I	$351,000
		The objective of this project was to construct a 1,640-ft rock-filled gabion breakwater to maintain and protect the Lake Pontchartrain shoreline that shelters The Prairie (an 800-acre expanse of shallow, open water and flotant marsh bordered by organic freshwater marsh) from high wave energies and to encourage sediment deposition behind the gabion structure.										
PCWRP		**Blind Lagoon**	SP	N/A	N/A	Sen. Jon D. Johnson Rep. Kenneth L Odinet, Sr.	Orleans	1	C	2000	I	$18,000
		Christmas trees were laid in a wind row manner to trap sediment and provide wildlife habitat in the Bayou Sauvage National Wildlife Refuge.										
		Crab Pond	SP	N/A	N/A	Sen. Jon D. Johnson Rep. Kenneth L Odinet, Sr.	Orleans	1	C	1991, 1994, 1997 1998, 2000	I	$91,646
		The Crab Pond is an open-water area adjacent to Chef Menteur Pass, and is located within the Bayou Sauvage National Wildlife Refuge. Christmas tree fences were constructed to prevent Chef Menteur Pass from eroding further into Crab Pond. Fences were originally constructed and filled in 1991 and maintenance was done in 1994, 1997, 1998, and 2000.										
		Goose Point	SP	N/A	N/A	Sen. Tom Schedler Rep. Diane G. Winston	St. Tammany	3	C	1991, 1992,1993, 1998, 2000	I	$72,935
		The Goose Point project is located along the northern shore of Lake Pontchartrain. The project was constructed to restrict the opening between Lake Pontchartrain and the inner marsh, to protect existing marsh vegetation from erosion, and to encourage the colonization and growth of new marsh vegetation.										
		The Prairie	SP	N/A	N/A	Sen. Joel T. Chaisson II Rep. Robert Faucheux, Jr.	St. John	3	C	1991, 1995, 1996, 1997, 1998, 1999, 2000	I	$107,382
		The Prairie is an 800-acre expanse of shallow, open water bordered by freshwater marsh between Lakes Maurepas and Pontchartrain. Wave action from Lake Pontchartrain was eroding the strip of land adjacent to the Prairie. The project was constructed to maintain the separation between The Prairie and Lake Pontchartrain, to promote the growth of marsh vegetation, and to prevent the thinning of the lake rim.										
		LaBranche	SP	N/A	N/A	Sen. Joel T. Chaisson II Rep. Gary L. Smith	St. Charles	5	C	1991 - 2000	I	$175,800
		The LaBranche Christmas tree fences were constructed in 1991 in a series of open-water ponds located within the LaBranche wetlands. These pond edges are susceptible to erosion by wind generated waves. The brush fences were designed to create emergent marsh in the LaBranche wetland area. Maintenance was funded in subsequent years.										

(Continued)

Restoration Program[1]	Project Number[2]	Project Name	Project Type[3]	PPL[4]	Agency/ Sponsor[5]	Senator/Representative	Parish	Anticipated Acres Benefitted[6]	Activities[7]			Original Baseline Cost (top) and Current Cost Estimate (bottom)[8]
									Engineering, Design, and Landrights	Construction	Operation, Maintenance and Monitoring	
Vegetation		**West Pearl River**	VP	N/A	N/A	Sen. John T. Schedler Rep. A. G. Crowe	St. Tammany	9	C	2000	I	$5,424
		This project consists of the planting of 400 stems of Giant cutgrass *(Zizaniopsis miliacea)* and 400 stems of California bulrush *(Scirpus californicus)* along a barren channel bank.										
		MRGO - North Shore	VP	N/A	N/A	Senator Lynn B. Dean Rep. Kenneth L Odinet, Sr.	St. Bernard	17	C	1995	I	$10,170
		The objective of this project was to vegetate a spoil disposal area along the Missisippi River Gulf Outlet (MRGO) in order to create marsh and to provide shoreline protection along Bayou Dupree. In this project, 1,500 stems of smooth cordgrass *(Spartina alterniflora)* were planted.										
		Blind River	VP	N/A	N/A	Sen. Louis J. Lambert Rep. John C. Diez	Ascension	14	C	2000	I	$8,136
		The objective of this project was to provide a vegetative buffer to reclaim eroded areas along the Blind River bank by planting 200 California bulrush *(Scirpus californicus)* and 1,000 Giant cutgrass (*Zizaniopsis miliacea*) in selected areas.										
		Bayou Bienvenue	VP	N/A	N/A	Senator Lynn B. Dean Rep. Kenneth L Odinet, Sr.	St. Bernard	13	C	1996	I	$7,580
		Vegetation was planted on Bayou Bienvenue along a levee within a dredge disposal area and along an interior borrow canal in the disposal area. In 1996, 688 stems of smooth cordgrass *(Spartina alterniflora)* and 430 stems of black mangrove (*Avicennia germinans*) were planted, totaling 5,590 linear feet of vegetation plantings.										
		LaBranche	VP	N/A	N/A	Sen. Joel T. Chaisson II Rep. Gary L. Smith	St. Charles	113	C	1991, 1992, 1994, 1996, 1998, 2000	I	$69,284
		The project objective was to establish marsh vegetation in the interior of a spoil disposal area. The vegetation was planted to trap sediment and reduce wave erosion. A total of 2,210 stems of smooth cordgrass *(Spartina alterniflora)*, 7,800 stems of California bulrush, and 209 stems of Giant cutgrass *(Zizaniopsis miliacea)* were planted, totalling 49,095 linear feet of vegetative plantings.										
		Turtle Cove	VP	N/A	N/A	Sen. Joel T. Chaisson II Rep. Gary L. Smith	St. John	6	C	1987, 1996	I	$3,254
		The objective of this project was to establish Giant cutgrass *(Zizaniopsis miliacea)* along an area of eroded shoreline on Lake Pontchartrain. The plants were installed behind a rock breakwater structure. In the project area, 480 stems of Giant cutgrass were planted over 2,400 linear feet.										
		Madisonville Lighthouse	VP	N/A	N/A	Sen. John J. Hainkel Jr. Rep. Diane G. Winston	St. Tammany	6	C	1988	I	$12,430
		The Madisonville Lighthouse project is located on a peninsula which extends about 600 feet into Lake Pontchartrain. Plants were installed along the sides of the peninsula where there was no rock protection and around a small island nearby to decrease erosion from wave action in Lake Pontchartrain. A total of 4,400 stems of smooth cordgrass (*Spartina alterniflora*) were planted.										

(Continued)

Restoration Program[1]	Project Number[2]	Project Name	Project Type[3]	PPL[4]	Agency/ Sponsor[5]	Senator/Representative	Parish	Anticipated Acres Benefitted[6]	Activities[7]			Original Baseline Cost (top) and Current Cost Estimate (bottom)[8]
									Engineering, Design, and Landrights	Construction	Operation, Maintenance and Monitoring	
Vegetation (continued)		**Goose Point**	VP	N/A	N/A	Sen. John T. Schedler Rep. Diane G. Winston	St. Tammany	166	C	1991, 1993, 1994, 1995, 1996, 1997, 1998	I	$119,158
		This project was initiated to provide a vegetative buffer against wave action from Lake Pontchartrain, to recolonize bare mudflats, and to reduce interior marsh erosion along the Lake Pontchartrain. A total of 31,200 stems of smooth cordgrass *(Spartina alterniflora*), 500 stems of seashore paspalum *(Paspalum vaginatum)*, and 500 stems of California bulrush (*Scirpus californicus)* have been planted in the project area.										
		Hog Island	VP	N/A	N/A	Sen. John T. Schedler Rep. Crowe	St. Tammany	18	C	1999	I	$10,848
		In the project area, 800 stems of Giant cutgrass (*Zizaniopsis miliacaea*) and 800 stems of California bulrush (*Scirpus californicus*) were planted to provide a vegetative buffer along an eroding shoreline segment.										
		Salvador Pump-In	VP	N/A	N/A	Sen. Joel T. Chaisson II Rep. Gary L. Smith	St. Charles	11	C	1999	I	$6,780
		The goal of this project was to protect an area of eroded shoreline by planting 1,000 Giant cutgrass *(Zizaniopsis miliacea)* along 5,000 linear feet of shoreline to absorb wave energy and prevent continued erosion.										
Section 204/1135		**MRGO, Berm, Mi. -2 to -3**	DM	N/A	N/A	Senator Lynn B. Dean Rep. Kenneth L Odinet, Sr.	Plaquemines	N/A	C	1999	N/A	$150,000
		This Section 204 project utilized material from maintenance dredging activities along the Mississippi River Gulf Outlet (MRGO) to nourish the littoral system that feeds Breton Island. This project was completed in August 1999.										
		MRGO, Breton Island Rest., Mile 2.3 to 4.0	DM	N/A	N/A	Senator Lynn B. Dean Rep. Kenneth L Odinet, Sr.	Plaquemines	26	C	1999	N/A	$1,050,000
		This Section 204 project utilized material from maintenance dredging activities along the Mississippi River Gulf Outlet (MRGO) to repair Breton Island. This project was completed in November 1999.										
		MRGO, Mile 14 to 11 (1999)	DM	N/A	N/A	Senator Lynn B. Dean Rep. Kenneth L Odinet, Sr.	St. Bernard	50	C	1999	N/A	$350,000
		This Section 204 project provides for the unconfined placement of approximately 3,468,901 cubic yards of material dredged from miles 14.0 to 11.0 of the Mississippi River Gulf Outlet (MRGO) navigation channel into shallow water adjacent to the south jetty at about mile 15.3 to an elevation conducive to marsh establishment.										

(Continued)

Restoration Program[1]	Project Number[2]	Project Name	Project Type[3]	PPL[4]	Agency/ Sponsor[5]	Senator/Representative	Parish	Anticipated Acres Benefitted[6]	Activities[7]			Original Baseline Cost (top) and Current Cost Estimate (bottom)[8]
									Engineering, Design, and Landrights	Construction	Operation, Maintenance and Monitoring	
Mitigation	HPL-MIT	**Lake Pontchartrain Mitigation Project**	SP	N/A	N/A	Sen. Joel T. Chaisson II Rep. Robert Faucheux, Jr.	St. John	300	C	1996	N/A	$2,225,000
		This project consists of a near-shore, segmented breakwater system in Lake Pontchartrain parallel to a five-mile reach of the Manchac Wildlife Management Area. The project specifically mitigates for damages resulting from construction of the Lake Pontchartrain Hurricane Protection Project.										
	PO-4355NP4	**Fontainebleau State Park Mitigation**	SP/ DM	N/A	N/A	Sen. John T. Schedler Rep. Diane G. Winston	St. Tammany	6	C	1999	N/A	$225,000
		This project consists of repairing a breached area of shoreline and depositing approximately 9,000 cubic yards of sand for a feeder berm on the easternmost end of Fontainebleau State Park.										
Other	DSR-81768	**LaBranche Wetlands (X-mas Trees) (FEMA)**	SP	N/A	N/A	Sen. Joel T. Chaisson II Rep. Gary L. Smith	St. Charles	N/A	C	2000	N/A	$42,800
		A 700-foot section of a Christmas tree brush fence was repaired. This project was damaged by Hurricane Georges, Hurricane Earl, and Tropical Storm Francis in 1998.										

[1] Restoration Program: Breaux Act=Coastal Wetlands Planning Protection and Restoration Act (CWPPRA); State=Restoration projects funded entirely by the State of Louisiana through the Coastal Restoration Division; PCWRP=Parish Coastal Wetlands Restoration Program; Vegetation=DNR/NRCS/SWCC Vegetation Planting Program; Section 204/1135= Water Resource Development Act Sections 204 and 1135 beneficial use of dredge material projects; WRDA=Water Resources Development Act; Mitigation=mitigation projects implemented by the Coastal Restoration Division.

[2] Project Number: State Number (Federal Number)

[3] Project Type: HR=Hydrologic Restoration; DM=Beneficial Use of Dredged Material; MM=Marsh Management; MC=Marsh Creation; SP=Shoreline Protection; FD=Freshwater Diversion; VP=Vegetation Planting. SNT=Sediment and Nutrient Trapping.

[4] PPL: Priority Project List (as authorized by the Breaux Act Task Force).

[5] Agency/Sponsor: NRCS=Natural Resources Conservation Service; USFWS=U.S. Fish and Wildlife Service; USACE=U.S. Army Corps of Engineers; EPA=Environmental Protection Agency; NMFS=National Marine Fisheries Service.

[6] Anticipated Acres Benefitted: N/A for Breaux Act demonstration and deauthorized projects.

[7] Activities: C=Completed; I=Initiated; NI=Not Initiated; N/A=Not Applicable; a date in the construction column indicated construction completion date or anticipated date (*).

[8] Original Baseline Costs and Current Cost Estimates for Breaux Act projects are from the USACE. Costs for other restoration programs are from DNR's Contract and Budget Section. Original Baseline Cost and Current Cost Estimate both include Contingency funds. Breaux Act PPL 9 project costs are for Phase 1 only. Vegetation program project costs are estimated based on plant size and quantity.