



17th PRIORITY PROJECT LIST REPORT

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**LOUISIANA COASTAL WETLANDS CONSERVATION AND RESTORATION
TASK FORCE**

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Coastal Wetlands Planning, Protection and Restoration Act

17th Priority Project List Report

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Main Report – Volume 1

I. INTRODUCTION

Approximately 90 percent of the total coastal marsh loss within the lower 48 states occurs in the State of Louisiana. These losses are due to a combination of human and natural factors, including subsidence, shoreline erosion, freshwater and sediment deprivation, saltwater intrusion, oil and gas production and canals, navigation channels, and herbivory. Louisiana still contains 30 percent of all the coastal marshes and 45 percent of all intertidal coastal marshes in the lower 48 states. Annual wetland losses in the state were 24 square miles per year from 1990 to 2000. From 2000 to 2050, 513 square miles are projected to be lost. In addition, significant land losses possibly occurred from the fall of 2004 to the fall of 2005 due to Hurricanes Katrina and Rita, a total of 118 square miles of new water appeared. Concern over this loss exists because of the living resources and national economies dependent on Louisiana's coastal wetlands. These wetlands provide habitat for fisheries, waterfowl, neotropical birds, and furbearers; amenities for recreation and tourism; a buffer for coastal flooding; and a natural landscape for a culture unique to the world. Consequently, benefits go well beyond the local and state levels by providing positive economic impacts to the entire nation.

The coastal wetland loss problem in Louisiana is extensive and complex. Agencies of diverse purposes and missions involved with addressing the problem have proposed many alternative solutions. These proposals have had a wide spectrum of approaches for diminishing, neutralizing, or reversing these losses. An observation of these efforts by federal, state and local governments and the public has led to the conclusion that a comprehensive approach is needed to address this significant environmental problem. In response to this, the Coastal Wetlands Planning, Protection and Restoration Act (Public Law 101-646) – also known as the Breaux Act – was signed into law by President George H.W. Bush on November 29, 1990. This report documents the implementation of Section 303(a) of the cited legislation.

STUDY AUTHORITY

Section 303(a) of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA, or the Breaux Act), displayed in Appendix A, directs the Secretary of the Army to convene the Louisiana Coastal Wetlands Conservation and Restoration Task Force to:

. . . initiate a process to identify and prepare a list of coastal wetlands restoration projects in Louisiana to provide for the long-term conservation of such wetlands and dependent fish and wildlife populations in order of priority, based upon the cost-effectiveness of such projects in creating, restoring, protecting, or enhancing coastal wetlands, taking into account the quality of such coastal wetlands, with due allowance for small-scale projects necessary to demonstrate the use of new techniques or materials for coastal wetlands restoration.

STUDY PURPOSE

The purpose of this study effort was to prepare the 17th Priority Project List (PPL) and transmit the list to Congress, as specified in Section 303(a)(3) of the CWPPRA. Section 303(b) of the Act calls for preparation of a comprehensive restoration plan for coastal Louisiana. In November 1993, the Louisiana Coastal Wetlands Restoration Plan was submitted. In December 1998, *Coast 2050: Toward a Sustainable Coastal Louisiana* was signed by all federal and state Task Force members. This plan consisted of several regional ecosystem strategies, which if all implemented could maintain a self-sustaining ecosystem along the Louisiana coast. A broad coalition of federal, state, and local entities, landowners, environmentalists, and wetland scientists developed the plan. In addition, all 20 coastal parishes approved the Coast 2050 plan.

PROJECT AREA

The entire coastal area, which comprises all or part of 20 Louisiana parishes, is considered to be the CWPPRA project area. To facilitate the study process, the coastal zone was divided into four regions with nine hydrologic basins (Plate 1). Plate 2 contains a listing of project names for each PPL, referenced by number and grouped by sponsoring agency. A map of the Louisiana coastal zone is presented in Plates 3-7, indicating project locations by number of Priority Project Lists 1 through 17. All Plates can be found at the end of this report.

STUDY PROCESS

The Interagency Planning Groups. Section 303(a)(1) of the CWPPRA directs the Secretary of the Army to convene the Louisiana Coastal Wetlands Conservation and Restoration Task Force, to consist of the following members:

- The Secretary of the Army (Chairman)
- The Administrator, Environmental Protection Agency
- The Governor, State of Louisiana
- The Secretary of the Interior
- The Secretary of Agriculture
- The Secretary of Commerce

The State of Louisiana is a full voting member of the Task Force, with the exception of budget matters, as stipulated in President George H.W. Bush's November 29, 1990, signing statement (Appendix A). In addition, the State of Louisiana may not serve as a "lead" Task Force agency for design and construction of wetlands projects of the PPL.

In practice, the Task Force members named by the law have delegated their responsibilities to other members of their organizations. For instance, the Secretary of the Army authorized the Commander of the Corps of Engineers New Orleans District to act in his place as chairman of the Task Force. The other federal agencies on the CWPPRA Task Force include: U.S. Fish and Wildlife Service (USFWS) of the U.S. Department of Interior, the Natural Resources Conservation Service (NRCS) of the U.S. Department of Commerce,

and the U.S. Environmental Protection Agency (USEPA). The Governor's Office of the State of Louisiana represents the state as a Task Force member.

The Task Force established the Technical Committee and the Planning and Evaluation (P&E) Subcommittee, to assist it in putting the CWPPRA into action. Each of these bodies contains the same representation as the Task Force – one member from each of the five federal agencies and one from the state. The P&E Subcommittee is responsible for the actual planning of projects, as well as the other details involved in the CWPPRA process (such as development of schedules, budgets, etc.). This subcommittee makes recommendations to the Technical Committee and lays the groundwork for decisions that will ultimately be made by the Task Force. The Technical Committee reviews all materials prepared by the subcommittee, makes appropriate revisions, and provides recommendations to the Task Force. The Technical Committee operates at an intermediate level between the planning details considered by the subcommittee and the policy matters dealt with by the Task Force, and often formalizes procedures and formulates policy for the Task Force.

The P&E Subcommittee established several working groups to evaluate projects for priority project lists. The Environmental Work Group was charged with estimating the benefits (in terms of wetlands created, protected, enhanced, or restored) associated with various projects. The Engineering Work Group reviewed project and design cost estimates for consistency. The Economic Work Group performed the economic analysis, which permitted comparison of projects on the basis of their cost effectiveness. The Monitoring Work Group established a standard procedure for monitoring of CWPPRA projects, developed a monitoring cost estimating procedure based on project type, and a review of all monitoring plans.

Involvement of the Academic Community. While the agencies sitting on the Task Force possess considerable expertise regarding Louisiana's coastal wetlands problems, the Task Force recognized the need to incorporate another invaluable resource: the state's academic community. The Task Force therefore retained the services of the Louisiana Universities Marine Consortium (LUMCON) to provide scientific advisors to aid the Environmental Work Group in performing Wetland Value Assessments (WVAs). This Academic Advisory Group (AAG) also assisted in carrying out feasibility studies authorized by the Task Force. These include:

- The Louisiana Barrier Shoreline study – March 1995 - March 1999 (managed by the Louisiana Department of Natural Resources)
- The Mississippi River Sediment, Nutrient, and Freshwater Redistribution study – March 1995 – July 2000 (managed by the Corps of Engineers)

Public Involvement. The CWPPRA public involvement program provides an opportunity for all interested parties to express their concerns and opinions and to submit their ideas concerning the problems facing Louisiana's wetlands. The Task Force has held at least eight public meetings annually to obtain input from the public. In addition, the Task Force distributes a quarterly newsletter ("Watermarks") with information on the CWPPRA program and on individual projects.

II. PLAN FORMULATION PROCESS FOR THE 17TH PRIORITY PROJECT LIST

IDENTIFICATION & SELECTION OF CANDIDATE & DEMONSTRATION PROJECTS

Regional Planning Team (RPT) meetings were held during the period of January 9 through January 11, 2007 to provide a forum for the public and their local government representatives to identify potential projects for implementation under the priority list process. The RPT met to examine basin maps, discuss areas of need and Coast 2050 strategies, and to propose projects and demonstration projects. A separate coast-wide voting meeting was held on February 7, 2007 for the 17th PPL to choose no more than two projects per hydrologic basin, except that three projects were selected from Terrebonne and Barataria Basins because of the high loss rates in those basins. In addition, six demonstration projects were selected as nominees. Two were subsequently withdrawn. A total of twenty projects and six demonstration projects (two withdrawn) were nominated. A schedule of meetings is shown in Table 1.

Table 1: RPT Meetings to Propose/Nominate Projects

Region 1: New Orleans, LA	January 11, 2007
Region 2: New Orleans, LA	January 11, 2007
Region 3: Morgan City, LA	January 10, 2007
Region 4: Abbeville, LA	January 9, 2007
Coast-wide Voting Meeting, Baton Rouge, LA	February 7, 2007

The Engineering and Environmental Work Groups and the AAG met February 28 through March 1, 2007 to review and reach consensus on preliminary project features, benefits, and fully funded cost estimates for the twenty nominated projects. The Engineering and Environmental Work Groups also identified any potential issues associated with each nominee. The P&E Subcommittee prepared a matrix of nominated projects' cost estimates and benefits and furnished it to the Technical Committee and Coastal Protection Restoration Authority (CPRA) on March 2, 2007. The matrix is included as Table 2.

Table 2a: 17th Project Priority List - Candidate Nominee Project Matrix by Basin

Rg.	Basin	Type	Project	Preliminary Fully Funded Cost Range	Preliminary Benefits (Net Acres Range)	Potential Issues				
						Oysters	Land Rights	Pipelines/Utilities	O&M	Other Issues
1	PO	MC/SP	Irish Bayou Shoreline Protection and Marsh Creation Project	\$25M - \$30M	250-300				X	X
1	PO	MC/SP	Orleans Landbridge Marsh Creation and Shoreline Protection Project	\$20M - \$25M	150-200		X	X	X	X
2	MR	DV	Red Pass Crevasses Project	\$0M - \$5M	50-100		X	X		X
2	MR	MC	Pass a Loutre Restoration Project	\$30M - \$35M	950-1000			X		X
2	BS	DV	Bohemia Mississippi River Reintroduction Project	\$5M - \$10M	400-450			X		X
2	BS	MC/SP/HR	Caernarvon Outfall Management/Lake Lery Shoreline Restoration Project	\$30M - \$35M	450-500		X	X		X
2	BA	MC	West Point a la Hache Marsh Creation Project	\$20M - \$25M	350-400		X	X		
2	BA	MC	Bayou Dupont Marsh Creation and Ridge Restoration Project	\$15M - \$20M	100-150		X			
2	BA	MC/SP	Bayou Thunder Marsh Creation and Shoreline Protection Project	\$15M - \$20M	100-150	X		X	X	X
3	TE	TR	Falgout Canal Terracing and Freshwater Enhancement Project	\$5M - \$10M	50-100		X	X		
3	TE	MC	Beach and Back Barrier Marsh Restoration – East Island Project	\$20M - \$25M	50-100					X
3	TE	MC/TR	Southeast Lake Boudreaux Marsh Creation and Terracing Project	\$15M - \$20M	200-250					X
3	AT	TR	East Atchafalaya Bay Sediment Trapping Project	\$5M - \$10M	100-150					X
3	AT	SP	Point Chevreuil Shoreline Protection Project	\$20M - \$25M	150-200		X		X	X
3	TV	MC/SP	Vermilion Bay Shoreline Protection and Marsh Creation Project	\$15M - \$20M	250-300		X		X	
3	TV	SP	Marone Point Shoreline Protection Project	\$15M - \$20M	200-250				X	X
4	CS	MC	Calcasieu Ship Channel Sediment Bypass Project	\$15M - \$20M	250-300				X	X
4	CS	MC	East Cove Marsh Creation Project	\$15M - \$20M	550-600	X				
4	ME	SP	Rockerfeller Gulf of Mexico Shoreline Stabilization Project, Joseph's Harbor East	\$20M - \$25M	150-200			X		X
4	ME	MC/SP	Southeast White Lake Shoreline and Marsh Creation Project	\$15M - \$20M	100-150			X	X	X

Basin codes are: PO=Pontchartrain; BS=Breton Sound; MR=Mississippi River Delta; BA=Barataria; TE=Terrebonne; AT=Atchafalaya; TV=Teche/Vermilion; ME=Mermentau; CS=Calcasieu/Sabine.

Type codes: CP=Conservation Plan; DM=Demo; FD=Freshwater Diversion; HC=Herbivory Control; HR=Hydrologic Restoration; MC=Marsh Creation; MM=Marsh Management; MT=Monitoring; OF=Outfall Management; O&M= Operation and Maintenance; SP=Shoreline Protection; ST=Sediment/Nutrient Trapping; TR=Terracing; BI=Barrier Island; DV=Diversions; VP=Vegetative Plantings.

Table 2b: 17th Project Priority List Demonstration Nominee Project Matrix

Demonstration Project Name	Meets Demonstration Project Criteria?	Lead Agency	Total Fully Funded Cost	Technique Demonstrated
Bioengineered Oyster Reef Project Demo	Yes	NMFS	\$1,125,000	Investigates specific designs of bioengineered reefs and their ability to mitigate shoreline erosion in poor soil environments. Performance of the reefs will be compared to traditional submerged rock breakwaters and their potential to serve as an oyster reef.
Sediment Containment System for Marsh Creation Demo	Yes	NRCS	\$590,000	To demonstrate the effectiveness of a sediment trapping system in a small dredge application and to facilitate sedimentation in the outfall of freshwater diversion sites.
Beach Angel Project – Zigzag/Sand Trap Jetty Project Demo	Yes	LDNR	\$1,562,500	Demonstrates a method of trapping sediment subaqueous with a biodegradable product.
Positive Displacement Pump Solution Restoration Project Demo	Yes	LDNR	\$1,248,443	Demonstrates the ability to transport material without a booster pump and/or without a dredge.

At the February 15, 2007 Task Force meeting, the Task Force decided to allow ten candidate projects to be considered under PPL17. The original number of candidates to be selected was set at six by the Task Force. The CWPPRA Technical Committee met publicly on March 14, 2007 to consider the preliminary costs, wetland benefits, and potential issues of the twenty nominees. Ten candidate projects were selected for detailed assessment by the Environmental, Engineering, and Economic Work Groups, and the AAG (Table 4).

Phase 0 analysis of the ten candidate projects took place from May 2007 through August 2007. Interagency field visits were conducted during April and May 2007 at each project site/area with members of the Engineering and Environmental Work Groups, and the AAG. The Environmental and Engineering Work Groups and AAG met to refine the projects and develop boundaries on May 17, 2007, based on site visits. Detailed project information packages were developed by the Environmental, Engineering, and Economics Work Groups. These packages included fact sheets addressing "compatibility with Coast 2050," Project Information Sheets containing the benefits analyses, Preliminary Engineering and Design Reports containing the preliminary design and cost estimates, and Economic Analyses containing fully-funded twenty-year project costs. On June 19 through June 21, 2007, the Engineering Work Group met to review and approve the Phase I and II cost estimates developed by the agencies for the ten PPL17 candidates and three PPL17 demonstration candidates. In July 2007, the Environmental Work Group finalized WVAs for each project.

The Environmental and Engineering Work Groups and AAG reviewed and approved prioritization fact sheets and scores for each of the candidate projects at a meeting on July 26, 2007. The Environmental and Engineering Work Groups and AAG also met on July 26, 2007 to evaluate and rank the three demonstration projects. The Economics Work Group reviewed cost estimates and developed annualized costs in the month of August 2007.

Demonstration projects were evaluated using defined parameters. Within each of these parameters a project was graded as low, medium or high and assigned point scores of 1, 2, or 3, respectively. The summary of the evaluation from the Environmental and Engineering Work Groups and AAG is shown in Table 3.

The parameters used to evaluate the demonstration projects were:

(P₁) Innovativeness - The demonstration project should contain technology that

has not been fully developed for routine application in coastal Louisiana or in certain regions of the coastal zone. The technology demonstrated should be unique and not duplicative in nature to traditional methods or other previously tested techniques for which the results are known. Techniques which are similar to traditional methods or other previously tested techniques should receive lower scores than those which are truly unique and innovative.

(P₂) Applicability or Transferability - Demonstration projects should contain technology which can be transferred to other areas of the coastal zone. However, this does not imply that the technology must be applicable to all areas of the coastal zone. Techniques, which can only be applied in certain wetland types or in certain coastal regions, are acceptable but may receive lower scores than techniques with broad applicability.

(P₃) Potential Cost Effectiveness - The potential cost-effectiveness of the demonstration project's method of achieving project objectives should be compared to the cost-effectiveness of traditional methods. In other words, techniques which provide substantial cost savings over traditional methods should receive higher scores than those with less substantial cost savings. Those techniques which would be more costly than traditional methods, to provide the same level of benefits, should receive the lowest scores. Information supporting any claims of potential cost savings should be provided.

(P₄) Potential Environmental Benefits - Does the demonstration project have the potential to provide environmental benefits equal to traditional methods? Somewhat less than traditional methods? Above and beyond traditional methods? Techniques with the potential to provide benefits above and beyond those provided by traditional techniques should receive the highest scores.

(P₅) Recognized Need for the Information to be Acquired - Within the restoration community, is there a recognized need for information on the technique being investigated? Demonstration projects which provide information on techniques for which there is a great need should receive the highest scores.

(P₆) Potential for Technological Advancement - Would the demonstration project significantly advance the traditional technology currently being used to achieve project objectives? Those techniques which have a high potential for completely replacing an existing technique at a lower cost and without reducing wetland benefits should receive the highest scores.

Table 3: Review of 17th Priority Project List Candidate Demonstration Projects

Demonstration Project Name	Total Fully Funded Cost	Parameter (Pn)						Total Score
		P ₁	P ₂	P ₃	P ₄	P ₅	P ₆	
Bioengineered Oyster Reef Demo	\$1,981,822	3	2	2	2	3	2	14
Sediment Containment System for Marsh Creation Demo	\$1,163,343	3	3	2	2	2	2	14
Positive Displacement Pump Demo	\$3,069,108	3	3	2	1	2	2	13

Demonstration Project Parameters: (P₁) Innovativeness; (P₂) Applicability or Transferability; (P₃) Potential Cost Effectiveness; (P₄) Potential Environmental Benefits; (P₅) Recognized Need for the Information to be Acquired; (P₆) Potential for Technological Advancement.

Parameter Grading as to effect: 1= low; 2 = medium; 3 = high

The Environmental and Engineering Work Groups prepared a candidate project information package for the CWPPRA Technical Committee, consisting of updated Project Information Sheets and matrix. The matrix included average annual habitat units (AAHUs), acres created, restored, and/or protected, prioritization score, and costs. The matrix is included as Table 4.

Table 4: 17th Priority Project List Candidate Project Evaluation Matrix

Project Name	AAHUs	WVA Net Acres	Prioritization Score	Total Fully Funded Cost	Average Annual Cost (AAC)	Cost Effectiveness (AAC/AAHU)
Irish Bayou Wetland Creation and Shoreline Protection	86	191	49.0	\$19,647,483	\$1,412,331	\$16,422
Bayou Dupont Marsh and Ridge Creation	121	187	44.0	\$21,626,767	\$1,579,559	\$13,054
Bayou Thunder Marsh Creation and Shoreline Protection	101	163	45.3	\$20,920,120	\$1,516,609	\$15,016
Caernarvon Outfall Management/Lake Lery Shoreline Restoration	302	652	52.5	\$25,137,149	\$1,955,719	\$6,476
Bohemia Mississippi River Reintroduction	989	635	71.0	\$6,923,792	\$541,255	\$547
West Pointe a la Hache Marsh Creation	126	203	50.3	\$16,136,639	\$1,254,322	\$9,955
Pass a Loutre Restoration	800	1,305	62.5	\$26,591,033	\$2,092,202	\$2,615
Southeast Lake Boudreaux Marsh Creation and Terracing	127	231	44.8	\$20,431,032	\$1,584,535	\$12,477
Beach and Back Barrier Marsh Restoration – East Island	247	92	60.0	\$19,535,422	\$1,503,061	\$6,085
East Cove Marsh Creation	210	509	53.5	\$18,413,579	\$857,414	\$4,083

Two public meetings were held in Abbeville, LA, and New Orleans, LA, respectively, August 29 and 30, 2007, to present projects to the public for comment.

The CWPPRA Technical Committee met on September 12, 2007 to select projects for recommendation to the CWPPRA Task Force for Phase I funding. Each agency cast a total of six weighted votes, used to rank the ten candidate projects. Projects were ranked by number of agency votes first and total weighted score second. The top four projects were selected for recommendation to the CWPPRA Task Force for Phase I funding approval. The Technical Committee also ranked the three demonstration projects. Each agency cast one weighted vote, used to rank the three demonstration projects. The Technical Committee recommended two demonstration projects to the CWPPRA Task Force for funding. The results of the CWPPRA Technical Committee vote are outlined in Table 5. On October 17, 2007, the CWPPRA Task Force reviewed the Technical Committee recommendations and moved to adopt the recommendation without change.

Table 5: 17th Priority Project List Candidate Selection Process – Agency Voting Record

*Project No.	Nominee Project Name	Coast 2050 Region	EPA	COE	FWS	STATE	NRCS	NMFS	No. of Votes	Sum of Point Score
BS-15	Bohemia Mississippi River Reintroduction	R2	6		2	3	5	4	5	20
BS-16	Caernarvon Outfall Management/Lake Lery Shoreline Protection	R2		5	6		6	6	4	23
BA-47	West Pointe a la Hache Marsh Creation	R2	5		4	4	4		4	17
BA-48	Bayou Dupont Marsh and Ridge Creation	R2	1			6	3	3	4	13
<hr/>										
+	Irish Bayou Wetland Creation and Shoreline Protection	R1		6	1	1	1		4	9
+	East Cove Marsh Creation	R4	2	3		2	2		4	9
+	Pass a Loutre Restoration	R2	4	4	5				3	13
+	Beach and Back Barrier Marsh Restoration – East Island	R3	3			5		1	3	9
+	Southeast Lake Boudreaux Marsh Creation and Terracing Project	R3		1	3			2	3	6
+	Bayou Thunder Marsh Creation and Shoreline Protection	R2		2				5	2	7

Demonstration Projects

*Project No.	Demonstration Project Name	Coast 2050 Region	EPA	COE	FWS	STATE	NRCS	NMFS	No. of Votes
LA-08	Bioengineered Oyster Reef Demo	N/A	1		1			1	3
LA-09	Sediment Containment System for Marsh Creation Demo	N/A		1		1	1		3
+	Positive Displacement Pump Demo	N/A							0

*Each selected project received a two-letter code to identify its basin; these codes are: PO-Ponchartrain; BS-Breton Sound, MR- Mississippi River Delta; BA-Barataria; TE-Terrebonne; AT-Atchafalaya; TV-Teche/Vermilion; ME-Mermentau; CS-Calcasieu/Sabine.

Projects below bolded line were not selected for funding.

+ These projects were not selected for funding.

EVALUATION OF CANDIDATE PROJECTS

Benefit Analysis (WVA). The WVA is a quantitative, habitat-based assessment methodology developed for use in analyzing benefits of project proposals submitted for funding under the Breaux Act. The WVA quantifies changes in fish and wildlife habitat quality and quantity that are projected to emerge or develop as a result of a proposed wetland enhancement project. The results of the WVA, measured in AAHUs, can be combined with economic data to

provide a measure of the effectiveness of a proposed project in terms of annualized cost per AAHU protected and/or gained.

The Environmental Work Group developed a WVA for each project. The WVA has been developed strictly for use in ranking proposed CWPPRA projects; it is not intended to provide a detailed, comprehensive methodology for establishing baseline conditions within a project area. It is a modification of the Habitat Evaluation Procedures (HEP) developed by the USFWS (USFWS, 1980). HEP is widely used by the USFWS and other federal and state agencies in evaluating the impacts of development projects on fish and wildlife resources. A notable difference exists between the two methodologies. The HEP generally uses a species-oriented approach, whereas the WVA uses a community approach.

The following coastal Louisiana wetland types can be evaluated using WVA models: fresh marsh (including intermediate marsh), brackish marsh, saline marsh, cypress-tupelo swamp, barrier headland, barrier island, coastal chenier ridge, and bottomland hardwoods. Future reference in this document to "wetland" or "wetland type" refers to one or more of these four communities.

These models operate under the assumption that optimal conditions for fish and wildlife habitat within a given coastal wetland type can be characterized, and that existing or predicted conditions can be compared to that optimum to provide an index of habitat quality. Habitat quality is estimated or expressed through the use of a mathematical model developed specifically for each wetland type. Each model consists of the following components:

1. A list of variables that are considered important in characterizing fish and wildlife habitat:
 - a. V_1 --percent of wetland covered by emergent vegetation,
 - b. V_2 --percent open water dominated by submerged aquatic vegetation,
 - c. V_3 --marsh edge and interspersions,
 - d. V_4 --percent open water less than or equal to 1.5 feet deep,
 - e. V_5 --salinity, and
 - f. V_6 --aquatic organism access.
2. A Suitability Index graph for each variable, which defines the assumed relationship between habitat quality (Suitability Index) and different variable values; and
3. A mathematical formula that combines the Suitability Index for each variable into a single value for wetland habitat quality; that single value is referred to as the Habitat Suitability Index, or HSI.

The WVA models have been developed for determining the suitability of Louisiana coastal wetlands for providing resting, foraging, breeding, and nursery habitat to a diverse assemblage of fish and wildlife species. Models have been designed to function at a community level and therefore attempt to define an optimum combination of habitat conditions for all fish and wildlife species utilizing a given marsh type over a year or longer.

The output of each model (the HSI) is assumed to have a linear relationship with the suitability of a coastal wetland system in providing fish and wildlife habitat. A comprehensive discussion of the WVA methodology is presented in Appendix B.

Designs and Cost Analysis. During the plan formulation process, each of the Task Force agencies assumed responsibility for developing designs and estimates of costs and benefits for a number of candidate projects. The cost estimates for the projects were to be itemized as follows:

1. Construction Cost
2. Contingencies Cost (25%)
3. Engineering and Design
4. Environmental Compliance
5. Supervision and Administration (Federal and Non-Federal)
6. Supervision and Inspection (Construction Contract)
7. Real Estate
8. Operations and Maintenance
9. Monitoring

In addition, each lead agency provided a detailed itemized construction cost estimate for each project.

An Engineering Work Group was established by the P&E Subcommittee, with each federal agency and the State of Louisiana represented. The Engineering Work Group reviewed each estimate for accuracy and consistency.

When reviewing the construction cost estimates, the Engineering Work Group verified that each project feature had an associated cost and that the quantity and unit prices for those items were reasonable. In addition, the Engineering Work Group reviewed the design of the projects to determine whether the method of construction was appropriate and the design was feasible.

A 25% contingency was applied to construction, operations and maintenance costs on all projects because detailed project specific information such as soil borings, surveys, and hydrologic data were not collected. Construction unit costs, engineering and design, environmental compliance, real estate acquisition, supervision and administration, and supervision and inspection costs were reviewed for reasonableness.

Economic Analysis. The Breaux Act directed the Task Force to develop a prioritized list of wetland projects "based on the cost-effectiveness of such projects in creating, restoring, protecting, or enhancing coastal wetlands, taking into account the quality of such coastal wetlands." The Task Force satisfied this requirement through the integration of a traditional time-value analysis of life-cycle project costs and other economic impacts, and an evaluation of wetlands benefits using the WVA. The product of these two analyses was an Average Annual Cost per AAHU for each project. These values are used as the primary ranking criterion. The method permits incremental analysis of varying scales of investment and also accommodates the varying salinity types and habitat quality characteristics of projected wetland outputs.

The major inputs to the cost effectiveness analysis are the products of the lead Task Force agencies and the Engineering and Environmental Work Groups. The various plans were refined into estimates of annual implementation costs and respective AAHUs.

Financial costs chiefly consist of the resources needed to plan, design, construct, operate, monitor, and maintain the project. These are the costs, when adjusted for inflation, which the Task Force uses in budgeting decisions. The economic costs include, in addition to the financial cost, monetary indirect impacts of the plans not accounted for in the

financial costs. Examples would include impacts on dredging in nearby commercial navigation channels, effects on water supplies, and effects on nearby facilities and structures not reflected in right-of-way and acquisition costs.

The stream of costs for each project was brought to present value and annualized at the current discount rate, based on a 20-year project life. Beneficial environmental outputs were annualized at a zero discount rate and expressed as AAHUs. These data were then used to rank each plan based on cost per AAHU produced. Annual costs were also calculated on a per-acre basis. Costs were adjusted to account for projected levels of inflation and used to monitor overall budgeting and any future cost escalations in accordance with rules established by the Task Force.

Following the review by the Engineering Work Group, costs were expressed as first costs, fully funded costs, present worth costs, and average annual costs. The Cost per Habitat Unit criterion was derived by dividing the average annual cost for each wetland project by the AAHU for each wetland project. The average annual cost figures are based on price levels for the current year, the most current published discount rate, and a project life of 20 years. The fully funded cost estimates include operation and maintenance and other compensated financial costs. The fully funded cost estimates developed for each project were used to determine how many projects could be supported by the funds expected to be available in the current fiscal year.

Prioritization Criteria. The Breaux Act was initially authorized in November 1990, with three additional authorizations resulting in authority through 2019. The Consolidated Appropriations Act of 2005 (signed on December 8, 2004) provided a ten year extension of the Breaux Act Authority from 2009-2019. Prior to this ten year extension, it was expected that the funding requirements of all projects on the first 13 PPLs would exceed the anticipated funding available in the program, with a projected shortfall of nearly \$400 million. The initial purpose of the prioritization effort was to develop a process to prioritize those projects on PPLs 1-13 for which construction has not been authorized. The CWPPRA Task Force will continue to use the prioritization process as a tool in making future funding approval decisions within available funds. The process is not intended to suggest that some projects are not worthy of construction. It is intended to identify those projects that, based on their degree of support for the goals of the Louisiana Coastal Area (LCA) Feasibility Study, implementability and cost-effectiveness, are the highest priority for funding using presently existing available monies. The Prioritization Criteria is discussed in more detail in Appendix F.

- I. Cost effectiveness
- II. Address the area of need; high loss area
- III. Implementability
- IV. Certainty of benefits
- V. Sustainability of benefits
- VI. Consistent with hydrogeomorphic objective of increasing riverine input in the deltaic plain or freshwater input and saltwater penetration limiting in the Chenier plain
- VII. Consistent with hydrogeomorphic objective of increased sediment input
- VIII. Consistent with hydrogeomorphic objective of maintaining or establishing landscape features critical to a sustainable ecosystem structure and function

III. DESCRIPTION OF CANDIDATE PROJECTS

This section provides a concise narrative of each candidate project. The project details provided include the Coast 2050 strategy, project location, problem, goals, proposed solution, benefits, costs, sponsoring agency and contact persons, and a map identifying the project area and features if applicable.

Project Name: Irish Bayou Wetland Creation and Shoreline Protection

Coast 2050 Strategy:

- Coastwide: Dedicated dredging to create, restore, or protect wetlands
- Coastwide: Maintenance of Gulf, bay and lake shoreline integrity
- Region 1, Restore/Sustain Wetlands: #9, dedicated delivery of sediment for marsh building
- Region 1, Protect Bay and Lake Shorelines: #10, maintain shoreline integrity of Lake Pontchartrain to protect regional ecosystem values
- Region 1, Maintain Critical Landforms: #15, maintain Eastern New Orleans land bridge by marsh creation and shoreline protection
- Mapping Unit Strategies: Region 1, East Orleans Land Bridge, #35, dedicated dredging; #36 maintain shoreline integrity

Project Location: Region 1, Pontchartrain Basin, Orleans Parish, East Orleans land bridge mapping unit, Norfolk Southern Railroad to Point aux Herbes south along Lake Pontchartrain to Bayou Chevee.

Problem: The landfall of Hurricane Katrina in southeast Louisiana destroyed thousands of acres of marsh and other coastal habitats in the Lake Pontchartrain basin. The hurricane weakened the Lake Pontchartrain shore between the lake rim and interior marshes near Bayou Chevee. In some cases the storm removed large expanses of the shoreline and exposed interior marshes. Currently only a portion of the lakeshore is protected by a rock dike (PPL 5, PO-22). This dike was originally tied to the shoreline; however the interior marsh has eroded away. Continued shoreline erosion and future storms could create a direct path of open water connecting Lake Pontchartrain with Irish Bayou and the Bayou Sauvage NWR.

Goals: The goals of the project are to reduce shoreline erosion and create marsh in order to prevent the lake shoreline from breaking into the interior marsh ponds.

Proposed Solution: Construct 16,810 LF of new foreshore rock dikes and raise the height of 3,000 LF of existing rock dikes to be used for containment and to protect shoreline and interior marshes. Create 121 acres of marsh in shallow open water sites behind the rock shoreline protection.

Project Benefits: The project would benefit about 232 acres of brackish marsh and open water. Approximately 191 acres of marsh would be created/protected over the 20-year project life.

Project Costs: The total fully funded cost for the project is \$19,647,483.

Preparers of Fact Sheet:






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**Irish Bayou Wetland Creation and Shoreline Protection
(PPL17 Candidate)**



-  PO-22 Existing Rock Dike
-  Bayou Sauvage Shoreline Protection *
-  Shoreline Protection *
-  Marsh Creation *
-  Project Boundary *

* denotes proposed features



Map ID: USGS-NWRC 2007-11-0242
Map Date: August 05, 2007



Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Image Source:
2005 Digital Orthophoto Quarter Quadrangles

Project Name : Bayou Dupont Marsh and Ridge Creation

Coast 2050 Strategy:

- Coastwide Strategy – Dedicated dredging, to create, restore, or protect wetlands

Project Location: Region 2, Barataria Basin, Jefferson Parish, adjacent to Bayou Dupont southeast of the Pen.

Problem: There is widespread historic and continued rapid land loss in the project area due to altered hydrology, wind erosion, and subsidence. Wetlands in the project vicinity are being lost at the rate of -1.72% /year based on USGS data from 1988 to 2006.

Goals: Project goals include 1) creating/nourishing marsh and associated edge habitat for aquatic species through pipeline sediment delivery from the Mississippi River, and 2) creating a ridge along a portion of the southwestern shoreline of Bayou Dupont. Specific Phase 0 goals include creating 184 acres brackish marsh, nourishing 118 acres of brackish marsh and constructing about 15 acres of maritime ridge habitat.

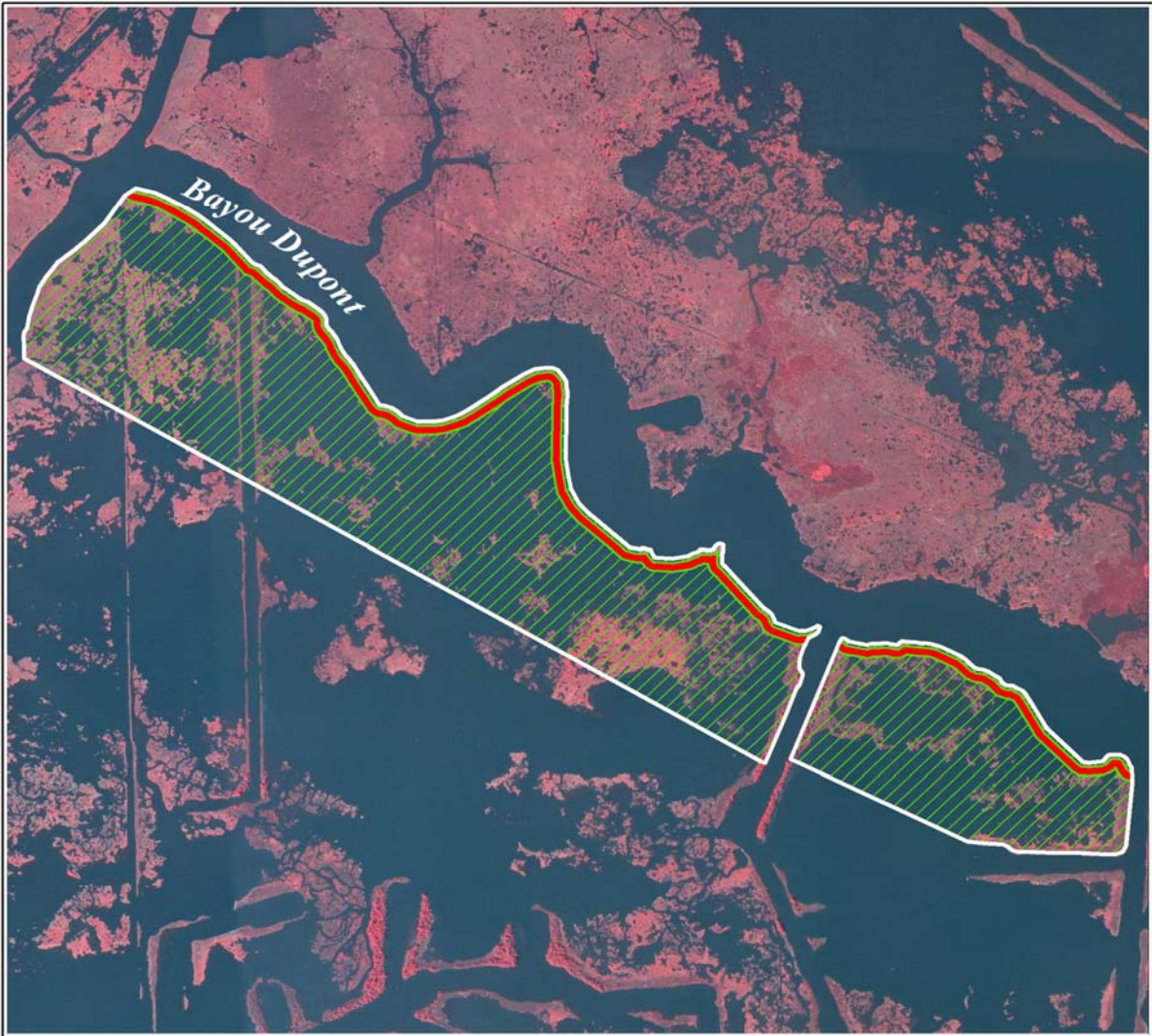
Proposed Solution: Approximately 184 acres of marsh would be created and 103 acres of existing marsh would be nourished via confined disposal of sediment dredged from the Mississippi River. About 17 acres of ridge would be created along the bayou after the fill material consolidates to allow shaping up to a +6 ft crown, 30 ft wide. Approximately 10 acres of a bayou side marsh berm would be constructed during the ridge shaping. Containment dikes would be breached no later than three years after construction. The created marsh and ridge would be planted as well as intense Chinese Tallow control would be conducted for the ridge. Collectively, this would be the first step to restoring the banklines of Bayou Dupont.

Project Benefits: The project would benefit 317 acres of brackish fresh marsh and open water. Approximately 170 acres of brackish marsh and 17 acres of ridge would be created/protected over the 20-year project life.

Project Costs: The total fully funded cost for the project is \$21,626,767.




Preparers of Fact Sheet:

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Bayou Dupont Marsh and Ridge Creation (PPL17 Candidate)

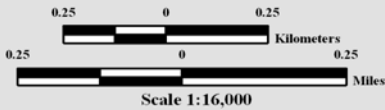


-  Ridge Restoration *
-  Marsh Creation *
-  Project Boundary *

* denotes proposed features



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National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La



Map ID: USGS-NWRC 2007-11-0310
Map Date: June 15, 2007

Image Source:
2005 Digital Orthophoto Quarter Quadrangles

Project Name: Bayou Thunder Marsh Creation and Shoreline Protection

Coast 2050 Strategy:

- Dedicated dredging to create marsh
- Maintain Caminada Bay shoreline integrity

Project Location: Region 2, Barataria Basin, Lafourche and Jefferson Parishes, Chenier Caminada, north of Highway 1.

Problem: The marshes between Caminada Bay and Highway 1 are experiencing both bay margin erosion and interior loss. Bay shoreline erosion estimates based on 1998 and 2005 aerial photography suggest that erosion in this area ranges from five feet/year to in excess of 50 feet/year in some areas. Significant interior losses are occurring as well. It is anticipated that in the next 20 years, half of the existing marshes in the project area will be converted to open water. Continued loss in this area may lead to adverse impacts to adjacent developed areas along Chenier Caminada and Highway 1. Based on anecdotal information, it appears that recent wetland losses in this area may contribute to local flooding of Highway 1.

Goals: Maintain landform separating Caminada Bay, Chenier Caminada, and Highway 1 through the creation of 175 acres and nourishment of an additional 173 acres of saline marsh. Provide shoreline protection as needed to reduce bay shoreline erosion along 1,500 feet of critically eroding shoreline.

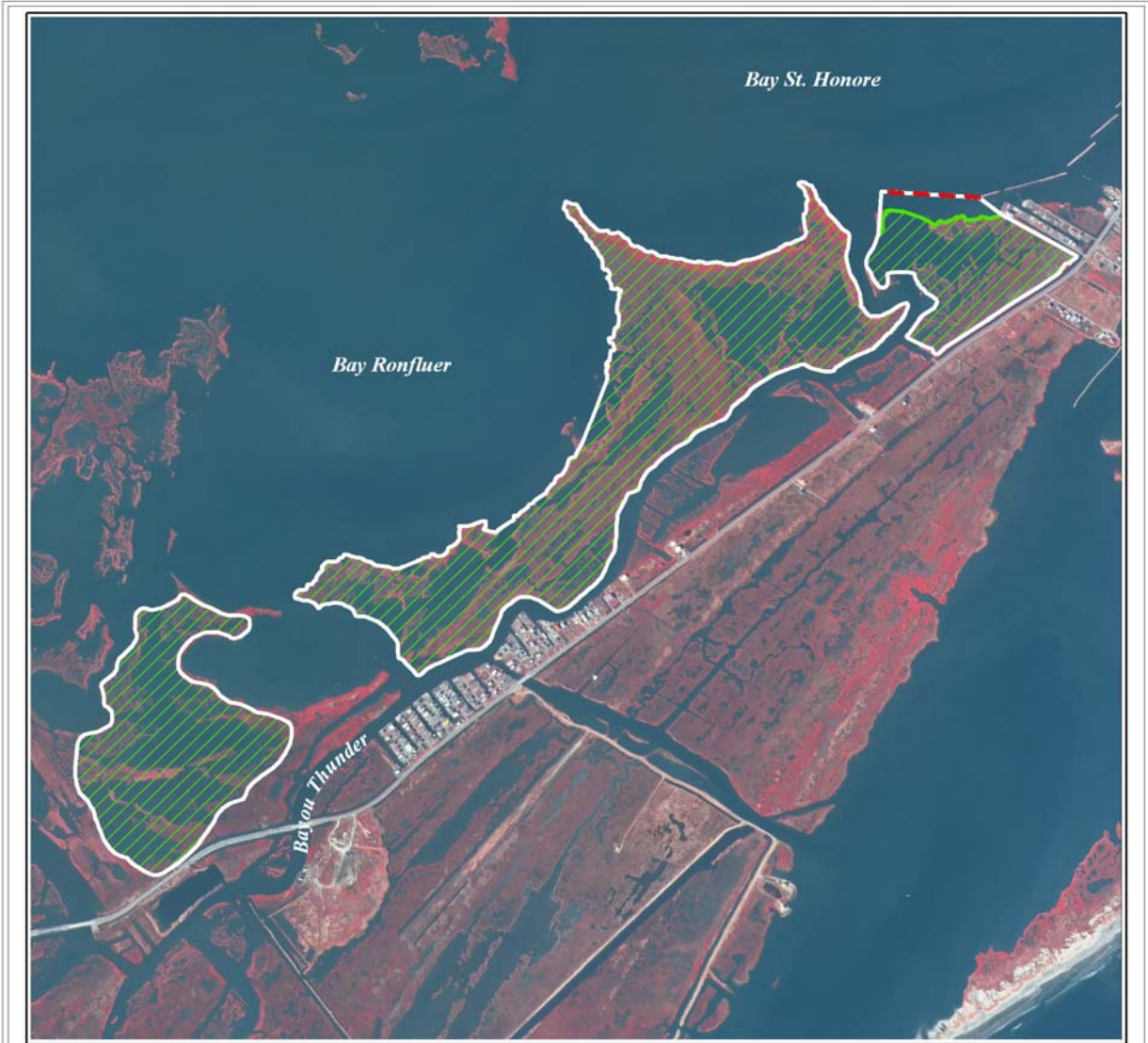
Proposed Solution: This project would create 175 acres marsh in existing open water areas and nourish an additional 173 acres fragmented marsh. Additionally, extension of the existing shoreline protection will be considered to maintain a continuous marsh buffer between Highway 1 and Caminada Bay.

Project Benefits: The project would benefit at least 348 acres of saline marsh and bay rim. Approximately 163 acres of marsh would be created/protected over the 20-year project life. Additionally, the project would maintain the landform that separates the open waters of Caminada Bay from Chenier Caminada and the Highway 1 corridor.

Project Costs: The total fully funded cost for the project is \$20,920,120.




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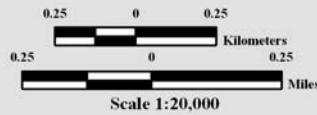
**Bayou Thunder Marsh Creation and Shoreline Protection
(PPL17 Candidate)**



-  **Shoreline Protection ***
 -  **Marsh Creation ***
 -  **Project Boundary ***
- * denotes proposed features



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 U.S. Geological Survey
 National Wetlands Research Center
 Coastal Restoration Field Station
 Baton Rouge, La



Map ID: USGS-NWRC 2007-11-0255
 Map Date: June 12, 2007

Image Source:
 2005 Digital Orthophoto Quarter Quadrangles

Project Name: Caernarvon Outfall Management and Lake Lery Shoreline Restoration

Coast 2050 Strategy:

- Region 2 - Restore and sustain marshes via managing outfall of existing diversions
- Coastwide - Dedicated dredging for wetland creation
- Coastwide - Maintenance of bay and lake shoreline integrity
- Coastwide - Vegetative Plantings

Project Location: Region 2, Breton Sound Basin, St. Bernard and Plaquemines Parishes, Caernarvon mapping unit, marshes located north and south of Lake Lery.

Problem: 1) According to USGS-NWRC mapping, much of the wetlands surrounding Lake Lery were heavily damaged along with the Lake Lery shoreline due to Hurricane Katrina. Wind induced waves within Lake Lery could further damage the lakes shorelines and cause accelerated interior marsh loss. 2) Marshes north of Lake Lery have historically not benefited from the diversion as have those marshes to the south and west. Those marshes to the east have been deteriorating from increased salinities and a lack of freshwater from the diversion. After Katrina, the two canals that transported the limited amount of freshwater eastward have been completely blocked with debris to a point where there is virtually no fresh water reaching those marshes. Furthermore, these same marshes were severely damaged from the storm and with the lack of fresh water from the diversion, it is unlikely that they will be restored without some assistance.

Goals: The goal of this project is to stop shoreline erosion and to promote accretion of marsh between the breakwater and the existing shoreline.

Proposed Solution: This project would divert a portion of the river water by dredging an 850 LF conveyance channel from the Caernarvon Outfall Canal across the Caernarvon Canal to the marshes east of Bayou Mandeville. This project would also restore approximately 32,000 linear feet of the Lake Lery shoreline and plant the restored lakeward edge. Approximately 396 acres of interior marsh along the southern shoreline of Lake Lery would be created or nourished.

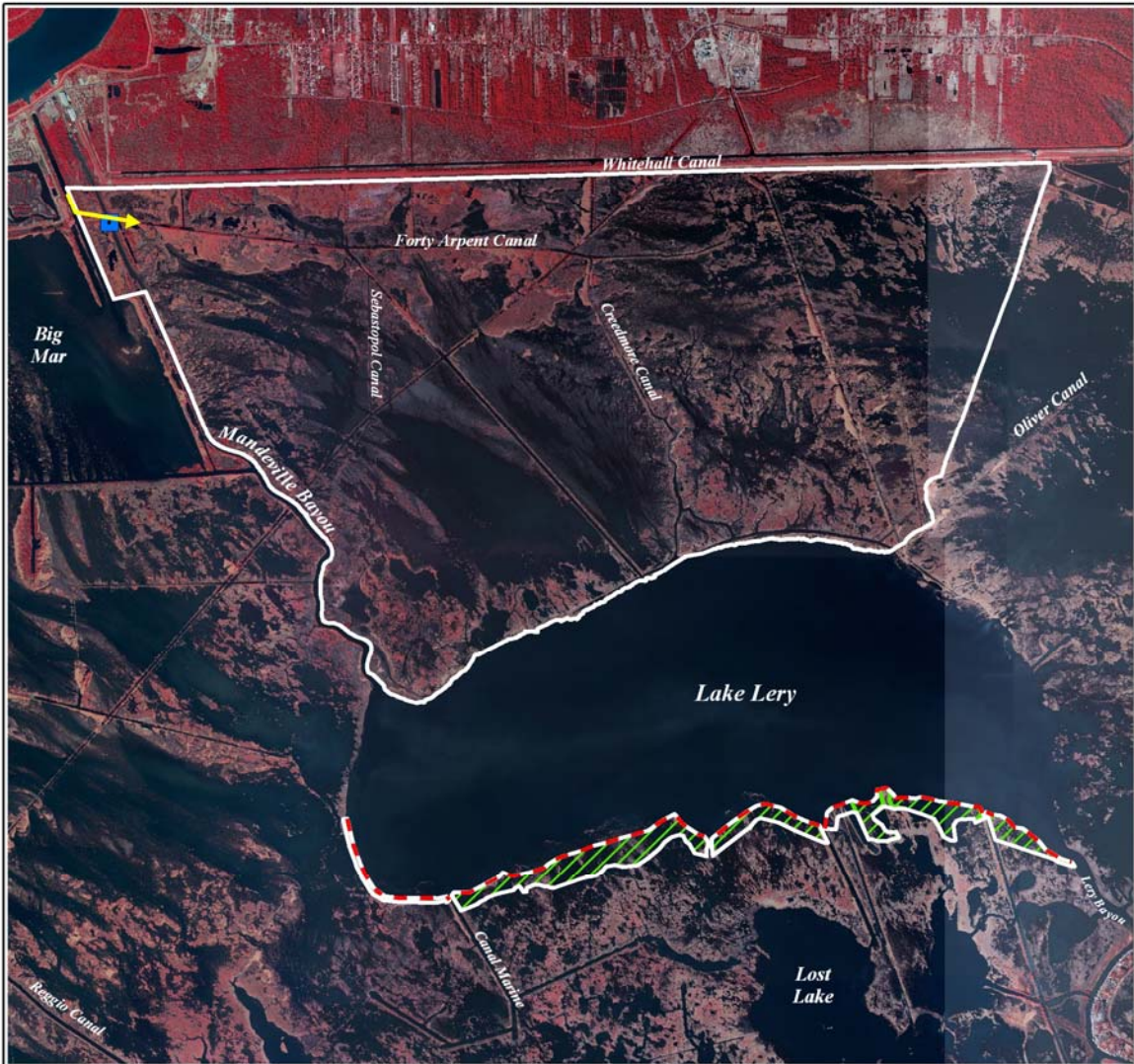
Project Benefits: The project would benefit approximately 10,899 acres of intermediate marsh and open water. Approximately 652 acres of marsh would be created/protected over the 20-year project life.

Project Costs: The total fully funded cost for the project is \$25,137,149.

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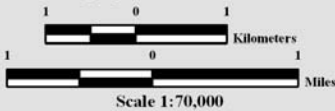


**Caernarvon Outfall Management/Lake Lery Shoreline Restoration
(PPL17 Candidate)**



-  Plug *
-  Diversion *
-  Shoreline Restoration *
-  Marsh Creation *
-  Project Boundary *

* denotes proposed features



Map ID: USGS-NWRC 2007-11-0296
Map Date: August 05, 2007



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National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, LA

Image Source:
2005 Digital Orthophoto Quarter Quadrangles

Project Name: Bohemia Mississippi River Reintroduction

Coast 2050 Strategies:

- Regional Ecosystem Strategy-Restore and sustain marshes
- Region Regional Strategy: #8 Construct most effective small diversions

Project Location: Region 2, Breton Sound Basin, Plaquemines Parish, East bank of the Mississippi River approximately 6.5 miles upstream of the Bayou Lamoque diversion structures.

Problem: As a result of the leveeing of the Mississippi River for navigation and flood control, this area was cut off from the historic overbank flooding of the river. Isolating the wetlands from the Mississippi River has severely limited the amount of new land that can be created here by the river. Freshwater, sediment, and nutrients that could be helping to build new wetlands here and elsewhere are shunted off the edge of the continental shelf in the Gulf of Mexico.

Goals:

- Create approximately 640 acres of marsh
- Convert saline and brackish marsh to brackish and intermediate marsh
- Increase submerged aquatic vegetative cover
- Increase shallow water habitat
- Improve habitat interspersion

Proposed Solution: Reintroduce Mississippi River water into the wetlands, restoring natural deltaic growth and habitats. An uncontrolled diversion with a capacity of approximately 10,000 cubic ft per second will be constructed.

Project Benefits: The project would benefit 5,227 acres of saline and brackish marsh and open water. Approximately 635 acres of marsh would be created/protected over the 20-year project life.

Project Costs: The total fully funded cost for the project is \$6,923,792.

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Bohemia Mississippi River Reintroduction (PPL17 Candidate)



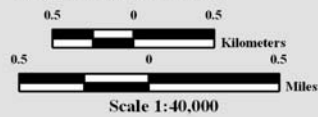
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U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Image Source:
2005 Digital Orthophoto Quarter Quadrangles



-  Control Structure *
-  Diversion Channel Improvement *
-  Forebay *
-  Marsh Creation *
-  Project Boundary *

* denotes proposed features



Map ID: USGS-NWRC 2007-11-0300
Map Date: June 19, 2007

Project Name: West Pointe a la Hache Marsh Creation

Coast 2050 Strategies:

- Dedicated dredging to create, restore, or protect wetlands
- Off-shore and riverine sand and sediment resources

Project Location: Region 2, Barataria Basin, Plaquemines Parish, in the outfall area of the West Pointe a la Hache siphon.

Problem: As a result of leveeing of the Mississippi River for navigation and flood control, the West Pointe a la Hache wetlands were cut off from the historic overbank flooding of the river. Without continued sediment input, marshes couldn't maintain viable elevations due to ongoing subsidence. In addition, oil and gas canals disrupted hydrology and facilitated saltwater intrusion further degrading the marsh. Beginning in 1993, the siphons at West Pointe a la Hache were operated to reintroduce Mississippi River water, fine sediments, and nutrients into this area. However, land loss rates have continued to be high. An opportunity exists to create marshes directly in the outfall of the siphons using sediment from the nearby Mississippi River. The created marshes should benefit from the effects of the reintroduced Mississippi River water from the siphons.

Goals:

- Convert approximately 250 acres of open water habitat to intermediate marsh.
- Nourish approximately 102 acres of existing intermediate marsh with dredged material.
- Maintain 203 acres of created/nourished marsh over the 20-year project life.

Proposed Solution: Dredge sediments from the Mississippi River to restore and nourish 352 acres of marsh habitat.

Project Benefits: The project would benefit 352 acres of marsh. Approximately 203 acres of marsh would be created/protected over the 20-year project life.

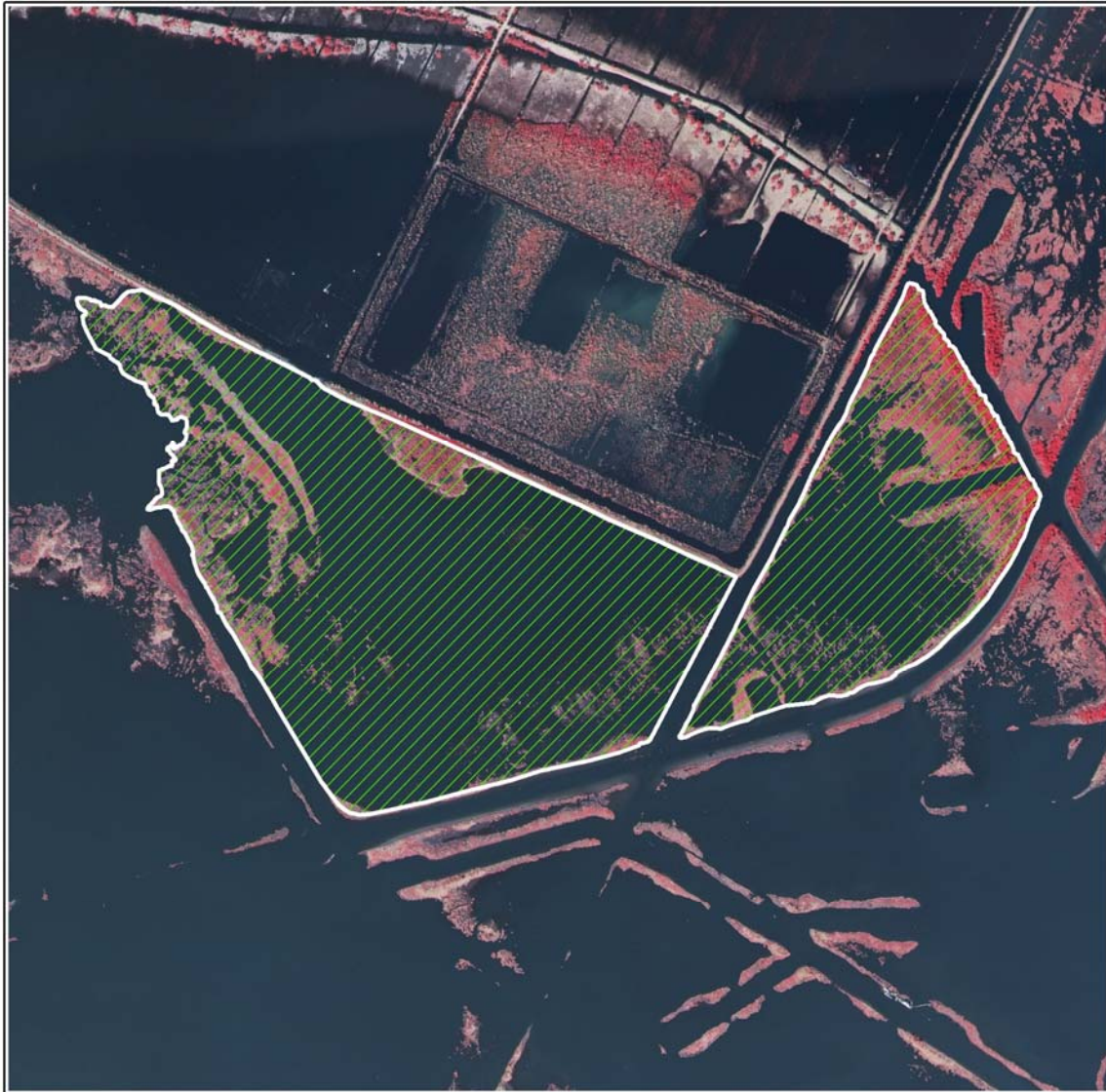
Project Costs: The total fully funded cost for the project is \$16,136,639

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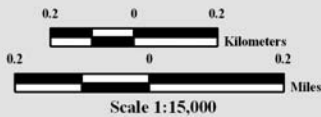
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West Pointe a la Hache Marsh Creation (PPL17 Candidate)



-  Marsh Creation *
 -  Project Boundary *
- * denotes proposed features



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 U.S. Geological Survey
 National Wetlands Research Center
 Coastal Restoration Field Station
 Baton Rouge, La

Map ID: USGS-NWRC 2007-11-0264
 Map Date: June 13, 2007

Image Source:
 2005 Digital Orthophoto Quarter Quadrangles

Project Name: Pass a Loutre Restoration

Coast 2050 Strategy:

- Regional Strategy – Continue building and maintaining delta splays

Project Location: Region 2, Mississippi River Delta Basin, Plaquemines Parish, north and south of Pass a Loutre on the Delta NWR and Pass a Loutre WMA.

Problem: Historically, Pass a Loutre was a major distributary of the Mississippi River at Head of Passes. This pass carried sediments that created and maintained in excess of 120,000 acres of marsh. Pass a Loutre is not a maintained navigation channel and over time has filled in considerably and carries much less flow than it did historically. As a result, much of the historic Pass a Loutre channel has silted in and is now very shallow and narrow. The decreased channel size has much less capacity to carry fresh water and sediments and marshes historically nourished by the channel are now being starved and are subsiding at an alarming rate. In addition, a hopper dredge disposal site located at the beginning of Pass a Loutre at Head of Passes has contributed to the infilling of the channel.

Goals: The goal of this project is to restore an important distributary of the Mississippi River so that it will once again create new wetlands and nourish existing marsh. Dredged material will create marsh immediately and the increased fresh water and sediment carrying capacity of the channel will create marsh over time and increase the abundance and diversity of submerged aquatic vegetation.

Proposed Solution: Pass a Loutre would be dredged for approximately 6.5 miles from Head of Passes to just east of Southeast Pass to restore channel flow to historic levels. Approximately 6.0M yd³ of material would be dredged and used to create approximately 465 acres of marsh on Delta NWR. Preliminary design includes a channel with a 300-ft bottom width and 30-ft depth. Several crevasses and cleanout of some existing crevasses are also proposed on Delta NWR and Pass a Loutre WMA.

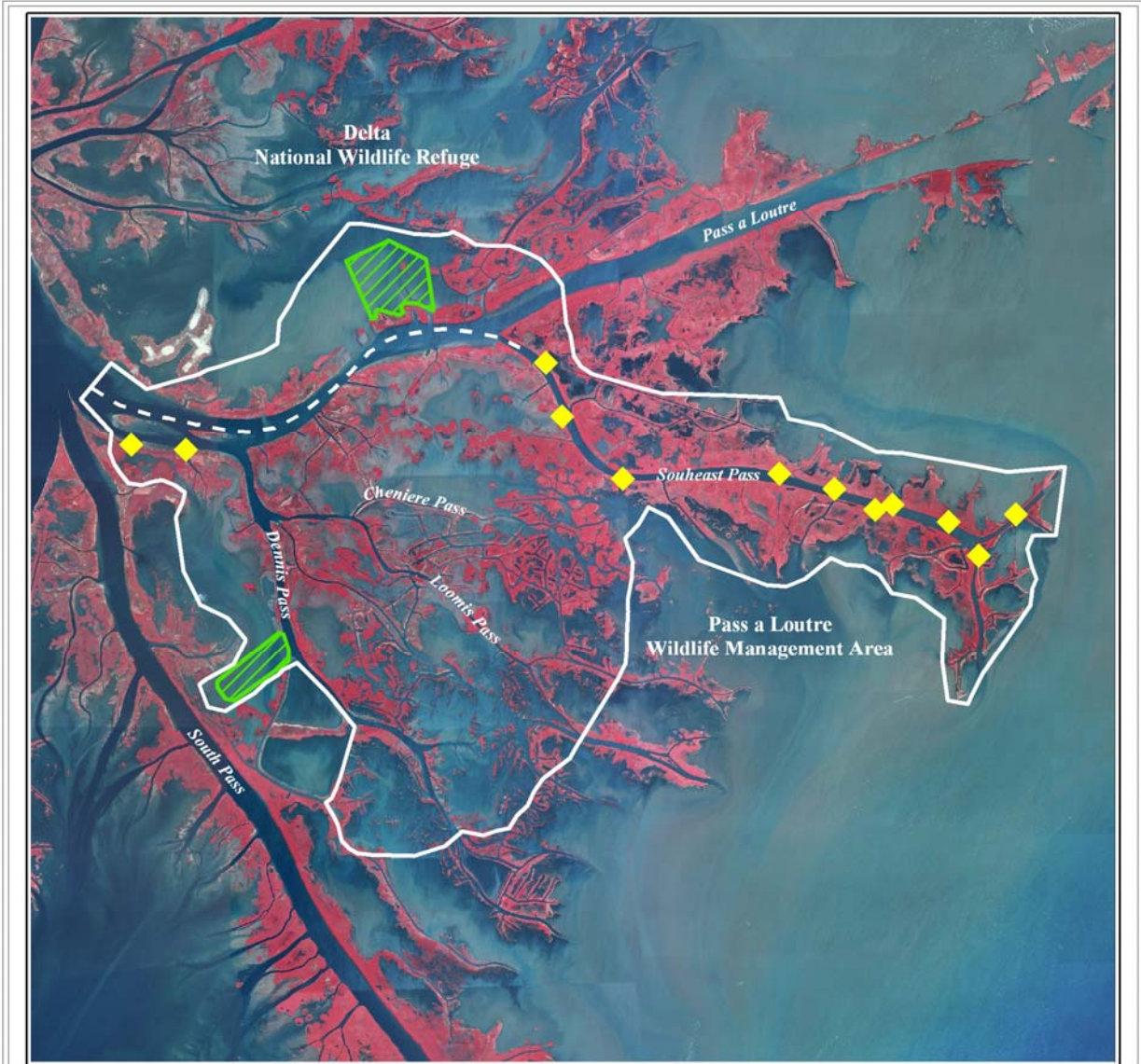
Project Benefits: The project would benefit 26,849 acres of marsh and open water habitats. A total of 1,305 acres of marsh would be protected/created over the 20-year project life.

Project Costs: The total fully-funded cost is \$26,591,033.

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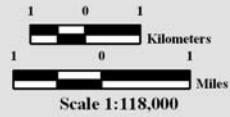
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Pass a Loutre Restoration (PPL17 Candidate)



-  Crevasse *
 -  Dredged Channel *
 -  Marsh Creation *
 -  Project Boundary *
- * denotes proposed features



Map ID: USGS-NWRC 2007-11-0321
Map Date: July 02, 2007



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National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Image Source:
2005 Digital Orthophoto Quarter Quadrangles

Project Name: Southeast Lake Boudreaux Marsh Creation and Terracing

Coast 2050 Strategy:

- Coastwide: Terracing and dedicated dredging to create, restore, or protect wetlands
- Boudreaux Mapping Unit: Establish and protect ridge function and beneficial use of dredged material

Project Location: Region 3, Terrebonne Basin, Terrebonne Parish, within southeast Lake Boudreaux west of the Bayou Petite Caillou Ridge and Hwy. 56, and south of Boudreaux Canal.

Problem: The interior marshes of Terrebonne Parish have experienced tremendous loss due to a variety of forces including subsidence, salt water intrusion, a lack of sediment supply, and oil and gas activities. The loss of these marshes has exposed significant infrastructure to open water conditions, and has made the area less suitable for fisheries and wildlife. The project would provide direct protection to the Petite Caillou Ridge and significant infrastructure including LA Hwy 56, which is currently subjected to wave energy entering from Lake Boudreaux. The 1978 to 2006 loss rate of the Boudreaux Mapping Unit is 2.8%/yr, with a subsidence rate of 1.1 to 2.0 ft/century.

Goals: Project goals include 1) creating emergent marsh and associated edge habitat, 2) reduce the wave erosion impacting the Petite Caillou ridge, and 3) constructing terraces and secondarily promote conditions more conducive to the colonization of submerged aquatic vegetation (SAV) than currently exist.

Proposed Solution: The project consists of both marsh creation and terracing by dedicated dredging to create habitat and provide buffer protection to the Petite Caillou Ridge and LA Hwy 56. Approximately 257 acres of intertidal brackish marsh will be created using material from Lake Boudreaux, in addition to the nourishment of 39 acres of existing marsh. In addition, approximately 53,450 linear feet of earthen terraces (3 ft height, 10 ft crown with 1:5 slopes) will be constructed with a marsh buggy to flank the existing and created marshes. Upon completion, the constructed areas will be vegetated with indigenous marsh species to predominantly include *Spartina alterniflora*.

Project Benefits: The project would benefit 712 acres of brackish marsh and open water. Approximately 231 acres of marsh would be created/protected over the 20-year project life.

Project Costs: The total fully funded cost for the project is \$20,431,032.




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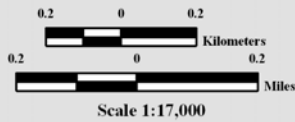


Southeast Lake Boudreaux Marsh Creation and Terracing (PPL17 Candidate)



-  Terrace Field * (see Note)
-  Marsh Creation *
-  Project Boundary *

* denotes proposed features
 Note: Terraces on map are a representative layout to be finalized by Engineering Workgroup. Tidal breaks will be inserted during the engineering phase.



Produced by:
 U.S. Department of the Interior
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 National Wetlands Research Center
 Coastal Restoration Field Station
 Baton Rouge, La

Map ID: USGS-NWRC 2007-11-0274
 Map Date: July 23, 2007

Image Source:
 2005 Digital Orthophoto Quarter Quadrangles

Project Name: Beach and Back Barrier Marsh Restoration - East Island

Coast 2050 Strategies:

- Coastwide Common Strategies-Dedicated dredging for wetland creation, vegetative planting, utilize offshore sand and sediment resources
- Regional Ecosystem Strategies- Restore and sustain marshes- #8; dedicated delivery of sediment for marsh building by any feasible means; restore barrier islands and gulf shorelines- #12; restore and maintain the Isles Dernieres and Timbalier barrier island chains
- Mapping Unit Strategies- #33. Protect bay/gulf shorelines

Project Location: Region 3, Terrebonne Basin, Terrebonne Parish, part of the Isles Dernieres, approximately 38 miles south of Houma, LA

Problem: East/Trinity Island is part of the Isles Dernieres barrier island chain, one of the most rapidly deteriorating barrier shorelines in the U.S. These barrier islands ensure that the estuaries behind them are low energy environments capable of supporting wetlands and emerging deltas where Mississippi River water is reintroduced. These islands lack a stable subaerial backbarrier platform upon which the islands can migrate landward.

Goals:

- Provide a back barrier platform to enable successful island migration;
- Extend the life of this barrier island by increasing its width;
- Create 160 ac of vegetated intertidal marsh using new dredged material and vegetative plantings;
- Protect the Terrebonne estuary and vegetated wetlands against the direct exposure to the Gulf of Mexico.
- Add sand to this sand-starved barrier island system

Proposed Solution: Dredged material will be placed on the back side of the island creating additional back barrier marsh and along the Gulf shoreline. The former will provide a stable back barrier platform on which the island can migrate landward, while the latter will provide additional sand for redistribution by currents and waves along the entire island's Gulf beach.

Project Benefits: The project would benefit about 2,155 acres of barrier island habitat. Approximately 92 acres of marsh would be created/protected over the 20-year project life.

Project Costs: The total fully funded cost for the project is \$19,535,422.

Preparers of Fact Sheet:

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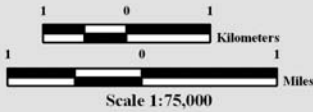
**Beach and Back Barrier Marsh Restoration - East Island
(PPL17 Candidate)**



-  Beach Fill *
 -  Toe to Fill *
 -  Marsh Creation *
 -  Project Boundary *
- * denotes proposed features



Produced by:
 U.S. Department of the Interior
 U.S. Geological Survey
 National Wetlands Research Center
 Coastal Restoration Field Station
 Baton Rouge, La



Map ID: USGS-NWRC 2007-11-0320
 Map Date: June 22, 2007

Image Source:
 2005 Digital Orthophoto Quarter Quadrangles

Project Name: East Cove Marsh Creation Project

Coast 2050 Strategy:

- Regional Strategy: Use dedicated dredging or beneficial use of sediment for wetland creation or protection.

Project Location: Region 4, Calcasieu-Sabine Basin, Cameron Parish, 1.5 miles north of Cameron, in the southwestern portion of the Cameron-Creole Watershed on the Cameron Prairie NWR.

Problem: Former project area brackish marshes have converted to open water due to subsidence and saltwater intrusion from the Calcasieu Ship Channel. The Cameron-Creole Watershed Hydrologic Restoration project was implemented in 1989 to relieve the saltwater intrusion problem but has not succeeded in revegetating the area. Hurricane Rita in 2005 breached the watershed levee scouring the marsh and allowing higher Calcasieu Lake salinities to enter the watershed causing more land loss. Sediment and water level drawdowns are needed to restore shallow open water areas to marsh.

Goals: The project purpose is to recreate approximately 604 acres of marsh via beneficial use of maintenance dredged material from the Calcasieu Ship Channel.

Proposed Solution: Place material beneficially from normal maintenance dredging of the Lower Calcasieu River from Mile Points 5 to 12 in two disposal areas in the southwest portion of the Cameron-Creole Watershed. The Corps of Engineers, New Orleans District dredges approximately 1.88 million cubic yards of maintenance material every 2 years from this reach. The project would transport approximately 3.76 million cubic yards of dredged material to two open water areas, totaling 604 acres, to restore a net 509 acres of marsh in two cycles: Cycle 1 (East) equals 228 net acres; Cycle 2 (West) equals 281 net acres. Following construction, retention levees would be degraded, man-made bayous (trenasses) constructed, and a 50-foot-wide perimeter of smooth cordgrass plantings installed for estuarine fisheries access and to achieve a functional marsh.

Project Benefits: The project would benefit 604 acres of brackish and saline marsh and open water. Approximately 509 net acres of marsh would be created over the 20-year project life.

Project Costs: The total fully funded cost for the project is \$18,413,579.

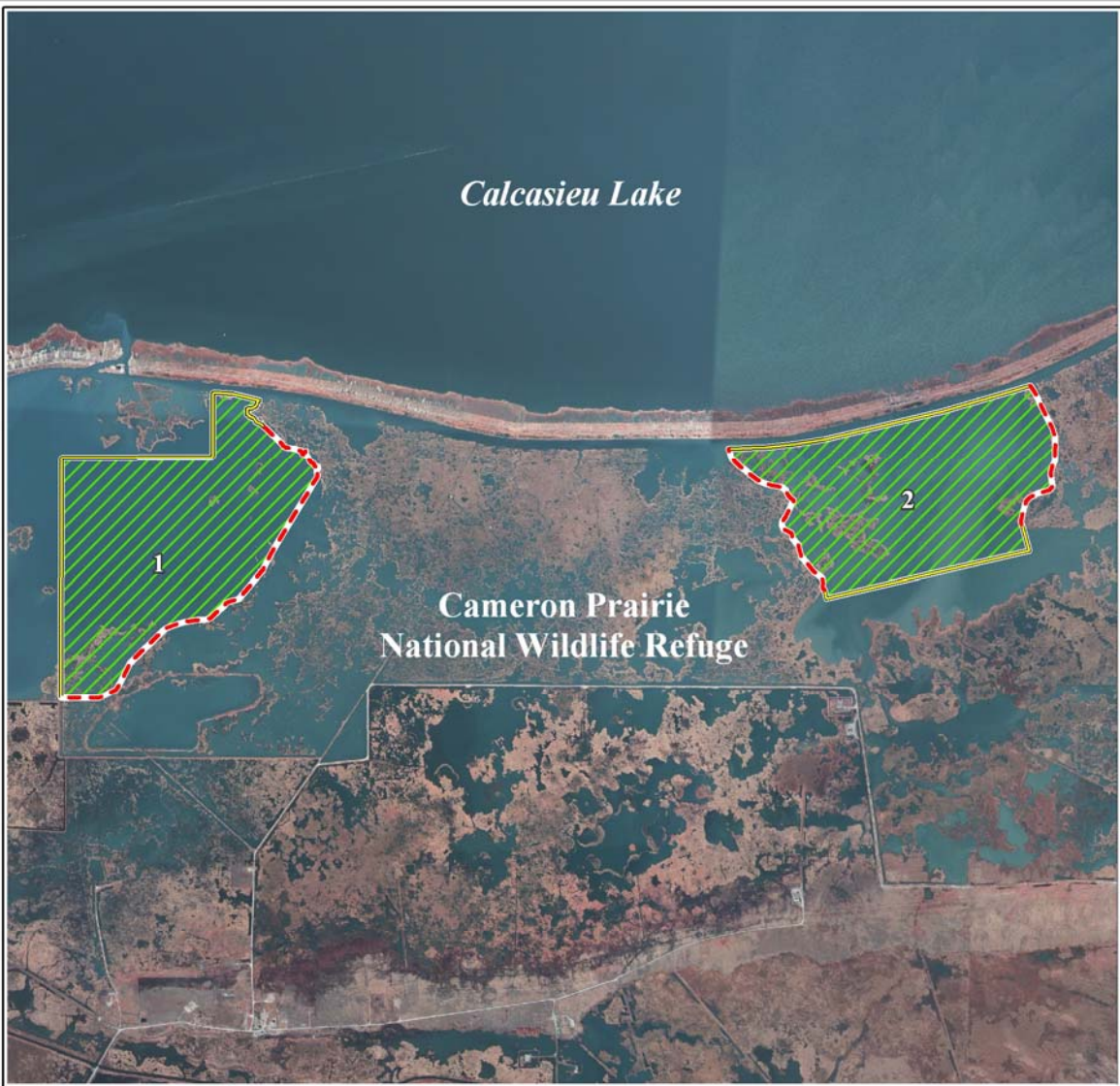
Preparers of Fact Sheet:

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Travis Creel, USACE, (504) 862-1071, travis.j.creel@mvn02.usace.army.mil

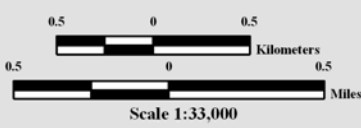
Rick Broussard, USACE, (504) 862-2402, Richard.W.Broussard@mvn02.usace.army.mil



**East Cove Marsh Creation
(PPL17 Candidate)**



-  Earthen Retention Dike *
 -  Earthen Weir *
 -  Marsh Creation *
 -  Project Boundary *
- * denotes proposed features



Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Map ID: USGS-NWRC 2007-11-0232
Map Date: July 05, 2007

Image Source:
2005 Digital Orthophoto Quarter Quadrangles

IV. DESCRIPTION OF CANDIDATE DEMONSTRATION PROJECTS

This section provides a concise narrative of each demonstration project. The project details provided include the Coast 2050 strategy, project location, problem, goals, proposed solution, benefits, costs, sponsoring agency, and contact persons.

Project Name: Bio-Engineered Oyster Reef Demonstration Project

Coast 2050 Strategy:

- Region 4 Strategy 15: Stabilizing Gulf of Mexico shoreline in the vicinity of Rockefeller Refuge

Project Location: Region 4, Mermentau Basin, Chenier subbasin, Cameron & Vermilion Parishes, along the Gulf of Mexico shoreline.

Problem: The purpose of this project is to test a new, bio-engineered product to address rapid shoreline retreat and wetland loss along the Gulf of Mexico shoreline in areas with soils of low load bearing capacity. For example, at Rockefeller Refuge, the direct Gulf of Mexico frontage has extremely low soil load bearing capacity (250-330psf), coupled with an average shoreline retreat of 30.9 ft/yr, present unique engineering challenges.

Goals: The goal of this demonstration project is to evaluate the proposed technique as a cost effective technique for protecting areas of Coastal Louisiana's Gulf of Mexico shoreline with poor load bearing capacities.

Proposed Solution: The demonstration project would consist of an Oysterbreak, approximately 1000' long. The Oysterbreak is a light-weight, modular shore protection device that uses accumulating biomass (an oyster reef) to dissipate wave energy. The bioengineered structure is designed to grow rapidly into an open structured oyster reef utilizing specifically designed structural components with spat attractant (agricultural byproducts) and enhanced nutrient conditions conducive to rapid oyster growth. The Oysterbreak is constructed by placing modular units into an open interlocked configuration. The units are sized to be stable under storm wave conditions. The height and width of the Oysterbreak are designed to achieve a moderate initial wave energy reduction. As successive generations of encrusting organisms settle on the Oysterbreak, the structure's ability to dissipate wave energy will increase.

Project Benefits: If the Oysterbreak successfully prevents beach erosion, it will provide the CWPPRA program with another restoration tool for the Gulf of Mexico shoreline in areas with soils of low load bearing capacity. Direct benefits for this project are approximately 4.5 acres (1,000 ft x 39 ft/yr x 5 yrs x 1 acre/43,560 sq ft) of wetlands will be protected. Secondary benefits include increased habitat diversity and complexity, increased nekton utilization, and recreational fishing benefits associated with natural oyster reefs.

Project Costs: The total fully funded cost for the project is \$1,981,822.

Preparers of Fact Sheet:

John D. Foret, NMFS, (337) 291-2107, john.foret@noaa.gov

Project Name: Sediment Containment for Marsh Creation Demonstration Project

Coast 2050 Strategy:

- Management of diversion outfall for wetland benefits
- Dedicated dredging to create restore or protect wetlands

Project Location: Coastwide

Problem: Small and medium freshwater diversions that flow into broad areas and small dredge projects require confinement and trapping features to form marsh because the materials entering the area are often too dilute or fine to result in any appreciable accumulation. A method to delineate smaller areas to concentrate sediments flowing across an area would improve suspended sediment retention efficiency and allow accumulations to occur within a more timely and cost-effective manner. A sediment trapping mechanism would also allow for taking advantage of finer materials that would otherwise largely flow through the target area or require costly construction of some form of containment.

Goals: The overall goal of the project is to demonstrate the effectiveness of a sediment trapping system to strategically define areas of accumulation and improve the efficiency of passive sediment retention in small and medium freshwater diversions as well as mechanized introduction of fluid material to create marsh.

Proposed Solution: The project will demonstrate the effectiveness of a sediment trapping system designed for dredge containment to facilitate both sediment retention and accumulation in freshwater diversion that are located in broad areas where sediments tend to dissipate and to demonstrate the ability of the system to perform in small dredge applications. The project will demonstrate that by isolating areas where accumulation can be concentrated, accretion rates will be greatly enhanced and speed up marsh creation.

Project Benefits: The project will benefit any area in coastal Louisiana by facilitating containment where suspended sediment load is adequate for potential marsh development but retention is low due to broad open water expanse or channelization. The project will also benefit small dredge projects by providing a cost-effective alternative to earthen containment, particularly in areas where construction of earthen containment may be problematic (e.g. flow lines and poor soils).

Project Cost: The total fully funded cost for the project is \$1,163,343.

Preparers of Fact Sheet:

Ron Boustany, NRCS, (337) 291-3067, ron.boustany@la.usda.gov

Project Name: Positive Displacement Pump Solution Demonstration Project

Coast 2050 Strategy:

- Coast wide Strategies: Offshore and riverine sand and sediment sources
- Potential Demonstration Project Location(s): Coast wide, Region 2, Barataria Basin, Jefferson or Brenton Sound Basin near Violet, Plaquemines Parish

Goals: The goal of this demonstration project is to demonstrate the ability of a newly patented type of positive displacement pump that has the ability to pump a high volume of sediment slurry over distances of 5-10 miles without a booster pump while replacing the need for a dredge to supply sediment to the system. It allows for both high volume and high pressure simultaneously, unlike pumps currently utilized. By using high pressure water to jet the sediment bed during slow river flow periods, this system can act as a passive unmanned source of sediment flow on a 24-hour, seven-day-a-week delivery system schedule with no need to halt the process to avoid vessel traffic or crew schedules. This allows for higher productivity rates and lower costs to produce coastal marshes. The energy efficiency of the system is enhanced via its use of a positive displacement pump having mechanical and hydraulic efficiencies on the order 92 to 95% compared to 50 to 60% for standard dredge and booster pumps. It utilizes a high pressure jet to set upstream of the pump system inlet to increase the suspended sediment load delivered.

Proposed Solution: A smaller prototype of the TurboPiston Pump would be utilized to demonstrate the potential capability to supply and to move sediments via pipeline over longer distances than current technology allows, without the need for additional booster pumps, in a relatively passive self controlled system.

Project Costs: The total fully funded cost for the project is \$3,069,108. The 24” TurboPiston Pump would be provided by Louisiana Pump, Inc. at no cost to this project.

Preparers of Fact Sheet:

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Rudy Simoneaux, LDNR, (225) 342-6750, Rudy.simoneaux@la.gov

V. PROJECT SELECTION

On October 17, 2007, the CWPPRA Task Force made its selection for the 17th PPL.
The CWPPRA Task Force selection for the 17th PPL is shown in Table 6.

Table 6: The 17th Priority Project List

1	2	3	4	5	6	7	8	9	10	11	12
Project Number	Project Name	Physical Type	Sponsoring Agency	Fully Funded Total Cost	Fully Funded Phase I Total Cost	Cumulative Fully Funded Phase I Total Cost	Fully Funded Phase II Total Cost	Cumulative Fully Funded Phase II Total Cost	Fully Funded Phase II/Increment I Total Cost (3 yr. C&QRM&M)	Cumulative Phase II/Increment I	Average Annual Habitat Units (AAHUs)
BS-15	Bohemia Mississippi River Reintroduction	DV	USEPA	\$6,923,792	\$1,359,699	\$1,359,699	\$5,564,093	\$5,564,093	\$5,051,039	\$5,051,039	989
BS-16	Caernarvon Outfall Management /Lake Lery Shoreline Protection	MC/SP/HR	USFWS	\$25,137,149	\$2,665,993	\$4,025,692	\$22,471,156	\$28,035,249	\$22,242,859	\$27,293,898	302
BA-47	West Point a la Hache Marsh Creation	MC	NRCS	\$16,136,639	\$1,620,740	\$5,646,432	\$14,515,899	\$42,551,148	\$14,250,533	\$41,544,431	126
BA-48	Bayou Dupont Marsh and Ridge Creation	MC	NMFS	\$21,626,767	\$2,013,881	\$7,660,313	\$19,612,886	\$62,164,034	\$18,623,781	\$60,168,212	121
	TOTALS					\$7,660,313		\$62,164,034		\$60,168,212	1538

Demonstration Projects

LA-08	Bioengineered Oyster Reef Demo	DE	NMFS	\$1,981,822	\$260,437		\$1,121,385				N/A
LA-09	Sediment Containment System for Marsh Creation Demo	DE	NRCS	\$1,163,343	\$257,068		\$906,275				

Project Physical Type:
 HR=Hydrologic Restoration
 MC=Marsh Creation
 SP=Shoreline Protection
 DE=Demonstration Project
 DV=Diversion

Sponsoring Agencies:
 USACE=US Army Corps of Engineers
 USEPA=Environmental Protection Agency
 NMFS=National Marine Fisheries Service
 NRCS=Natural Resources Conservation Service
 USFWS=US Fish and Wildlife Service

VI. DESCRIPTION OF PROJECTS SELECTED FOR PHASE I FUNDING

This section provides a concise narrative of each selected project that was funded for Phase I. The project details provided include the Coast 2050 strategy, project location, problem, goals, solution, benefits, costs, sponsoring agency and contact persons, and a map identifying the project area and features if applicable.

Project Name: Bohemia Mississippi River Reintroduction

Coast 2050 Strategies:

- Regional Ecosystem Strategy-Restore and sustain marshes
- Region Regional Strategy: #8 Construct most effective small diversions

Project Location: Region 2, Breton Sound Basin, Plaquemines Parish, East bank of the Mississippi River approximately 6.5 miles upstream of the Bayou Lamoque diversion structures.

Problem: As a result of the leveeing of the Mississippi River for navigation and flood control, this area was cut off from the historic overbank flooding of the river. Isolating the wetlands from the Mississippi River has severely limited the amount of new land that can be created here by the river. Freshwater, sediment, and nutrients that could be helping to build new wetlands here and elsewhere are shunted off the edge of the continental shelf in the Gulf of Mexico.

Goals:

- Create approximately 640 acres of marsh
- Convert saline and brackish marsh to brackish and intermediate marsh
- Increase submerged aquatic vegetative cover
- Increase shallow water habitat
- Improve habitat interspersions

Proposed Solution: Reintroduce Mississippi River water into the wetlands, restoring natural deltaic growth and habitats. An uncontrolled diversion with a capacity of approximately 10,000 cubic ft per second will be constructed.

Project Benefits: The project would benefit 5,227 acres of saline and brackish marsh and open water. Approximately 635 acres of marsh would be created/protected over the 20-year project life.

Project Costs: The total fully funded cost for the project is \$6,923,792.

Preparers of Fact Sheet:

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


Bohemia Mississippi River Reintroduction (PPL17 Candidate)



Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Image Source:
2005 Digital Orthophoto Quarter Quadrangles



-  Control Structure *
-  Diversion Channel Improvement *
-  Forebay *
-  Marsh Creation *
-  Project Boundary *

* denotes proposed features



Map ID: USGS-NWRC 2007-11-0300
Map Date: June 19, 2007

Project Name: Caernarvon Outfall Management and Lake Lery Shoreline Restoration

Coast 2050 Strategy:

- Region 2 - Restore and sustain marshes via managing outfall of existing diversions
- Coastwide - Dedicated dredging for wetland creation
- Coastwide - Maintenance of bay and lake shoreline integrity
- Coastwide - Vegetative Plantings

Project Location: Region 2, Breton Sound Basin, St. Bernard and Plaquemines Parishes, Caernarvon mapping unit, marshes located north and south of Lake Lery.

Problem: 1) According to USGS-NWRC mapping, much of the wetlands surrounding Lake Lery were heavily damaged along with the Lake Lery shoreline due to Hurricane Katrina. Wind induced waves within Lake Lery could further damage the lakes shorelines and cause accelerated interior marsh loss. 2) Marshes north of Lake Lery have historically not benefited from the diversion as have those marshes to the south and west. Those marshes to the east have been deteriorating from increased salinities and a lack of freshwater from the diversion. After Katrina, the two canals that transported the limited amount of freshwater eastward have been completely blocked with debris to a point where there is virtually no fresh water reaching those marshes. Furthermore, these same marshes were severely damaged from the storm and with the lack of fresh water from the diversion it is unlikely that they will be restored without some assistance.

Goals: The goal of this project is to stop shoreline erosion and to promote accretion of marsh between the breakwater and the existing shoreline.

Proposed Solution: This project would divert a portion of the river water by dredging an 850 LF conveyance channel from the Caernarvon Outfall Canal across the Caernarvon Canal to the marshes east of Bayou Mandeville. This project would also restore approximately 32,000 linear feet of the Lake Lery shoreline and plant the restored lakeward edge. Approximately 396 acres of interior marsh along the southern shoreline of Lake Lery would be created or nourished.

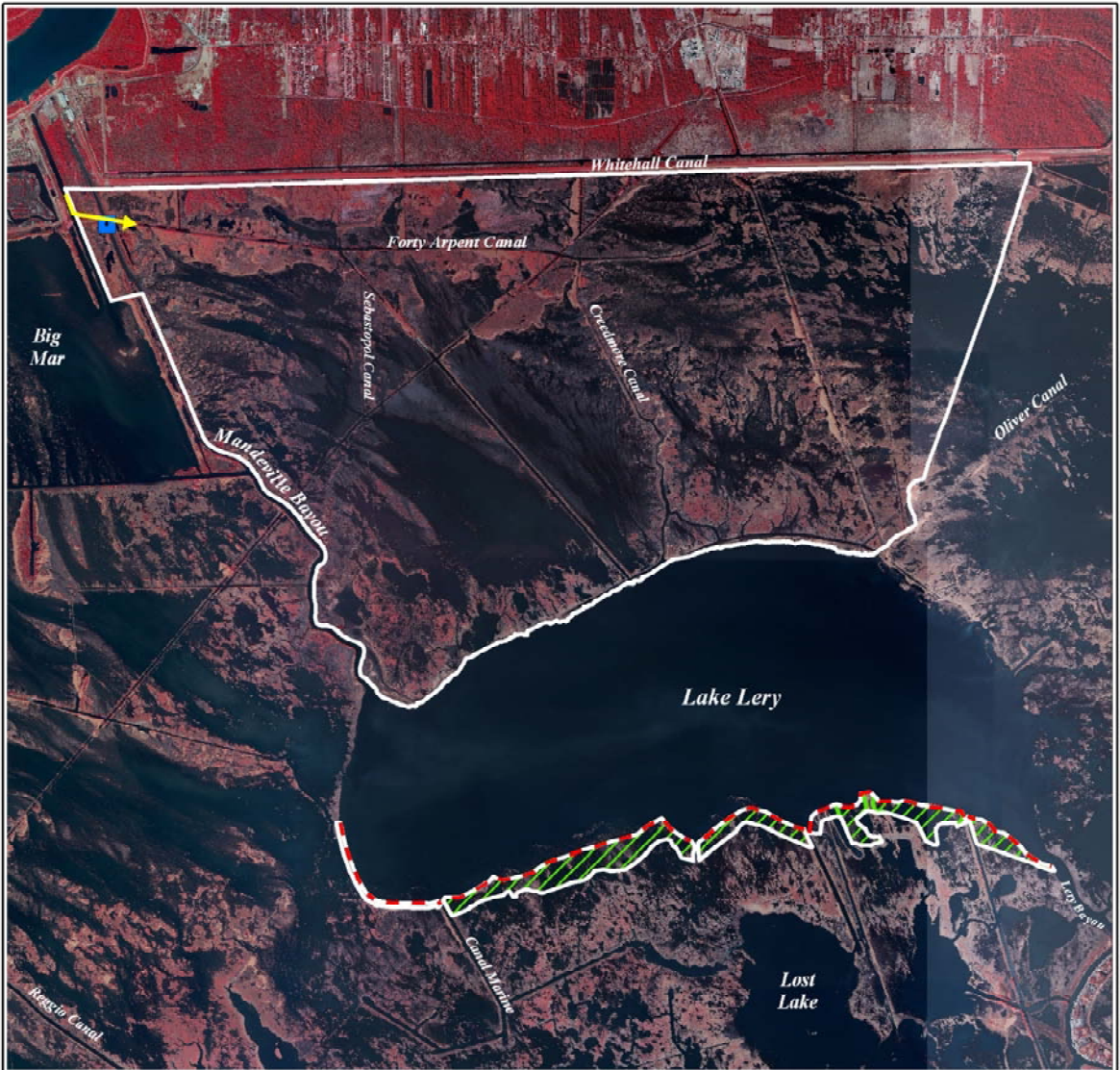
Project Benefits: The project would benefit approximately 10,899 acres of intermediate marsh and open water. Approximately 652 acres of marsh would be created/protected over the 20-year project life.

Project Costs: The total fully funded cost for the project is \$25,137,149.

Preparers of Fact Sheet:

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Loland Broussard, NRCS, (337)291-3069, loland.broussard@la.usda.gov



**Caernarvon Outfall Management/Lake Lery Shoreline Restoration
(PPL17 Candidate)**



-  Plug *
-  Diversion *
-  Shoreline Restoration *
-  Marsh Creation *
-  Project Boundary *

* denotes proposed features

1 0 1
Kilometers

1 0 1
Miles

Scale 1:70,000



Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Map ID: USGS-NWRC 2007-11-0296
Map Date: August 05, 2007

Image Source:
2005 Digital Orthophoto Quarter Quadrangles

Project Name: West Pointe a la Hache Marsh Creation

Coast 2050 Strategies:

- Dedicated dredging to create, restore, or protect wetlands
- Off-shore and riverine sand and sediment resources

Project Location: Region 2, Barataria Basin, Plaquemines Parish, in the outfall area of the West Pointe a la Hache siphon

Problem: As a result of leveeing of the Mississippi River for navigation and flood control, the West Pointe a la Hache wetlands were cut off from the historic overbank flooding of the river. Without continued sediment input, marshes couldn't maintain viable elevations due to ongoing subsidence. In addition, oil and gas canals disrupted hydrology and facilitated saltwater intrusion further degrading the marsh. Beginning in 1993, the siphons at West Pointe a la Hache were operated to reintroduce Mississippi River water, fine sediments, and nutrients into this area. However, land loss rates have continued to be high. An opportunity exists to create marshes directly in the outfall of the siphons using sediment from the nearby Mississippi River. The created marshes should benefit from the effects of the reintroduced Mississippi River water from the siphons.

Goals: Convert approximately 250 acres of open water habitat to intermediate marsh. Nourish approximately 102 acres of existing intermediate marsh with dredged material. Maintain 203 acres of created/nourished marsh over the 20-year project life.

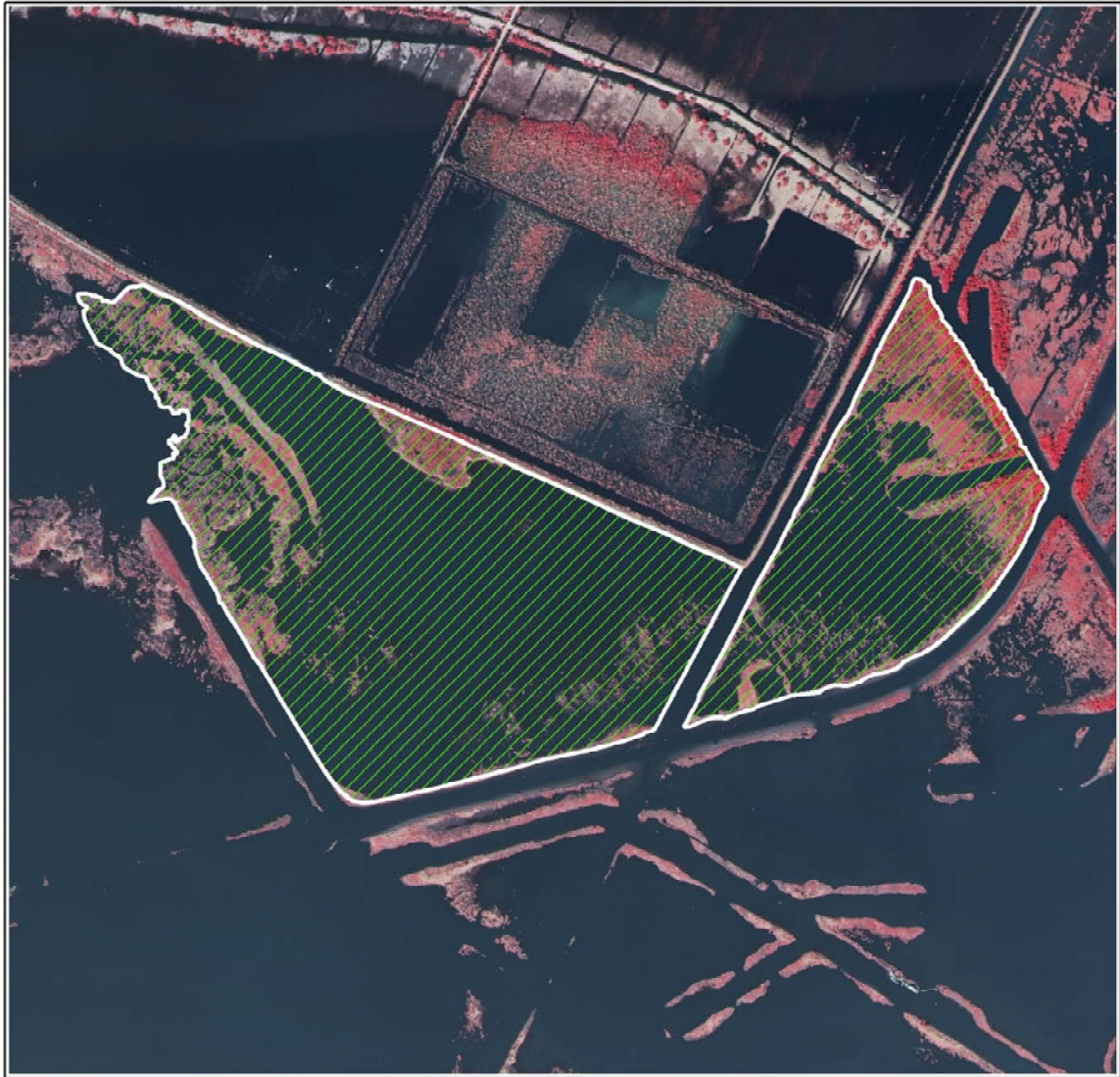
Proposed Solution: Dredge sediments from the Mississippi River to restore and nourish 352 acres of marsh habitat.

Project Benefits: The project would benefit 352 acres of marsh. Approximately 203 acres of marsh would be created/protected over the 20-year project life.

Project Costs: The total fully funded cost for the project is \$16,136,639

Preparers of Fact Sheet:

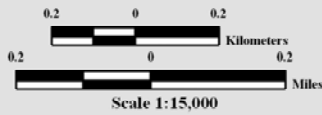
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John Jurgensen, NRCS, (318) 473-7694, john.jurgensen@la.usda.gov



West Pointe a la Hache Marsh Creation (PPL17 Candidate)



-  Marsh Creation *
-  Project Boundary *
- * denotes proposed features



Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Map ID: USGS-NWRC 2007-11-0264
Map Date: June 13, 2007

Image Source:
2005 Digital Orthophoto Quarter Quadrangles

Project Name: Bayou Dupont Marsh and Ridge Creation

Coast 2050 Strategy:

- Coastwide Strategy – Dedicated dredging to create, restore, or protect wetlands

Project Location: Region 2, Barataria Basin, Jefferson Parish, adjacent to Bayou Dupont southeast of the Pen.

Problem: There is widespread historic and continued rapid land loss in the project area due to altered hydrology, wind erosion, and subsidence. Wetlands in the project vicinity are being lost at the rate of -1.72% /year based on USGS data from 1988 to 2006.

Goals: Project goals include 1) creating/nourishing marsh and associated edge habitat for aquatic species through pipeline sediment delivery from the Mississippi River, and 2) creating a ridge along a portion of the southwestern shoreline of Bayou Dupont. Specific phase 0 goals include creating 184 acres brackish marsh, nourishing 118 acres of brackish marsh and constructing about 15 acres of maritime ridge habitat.

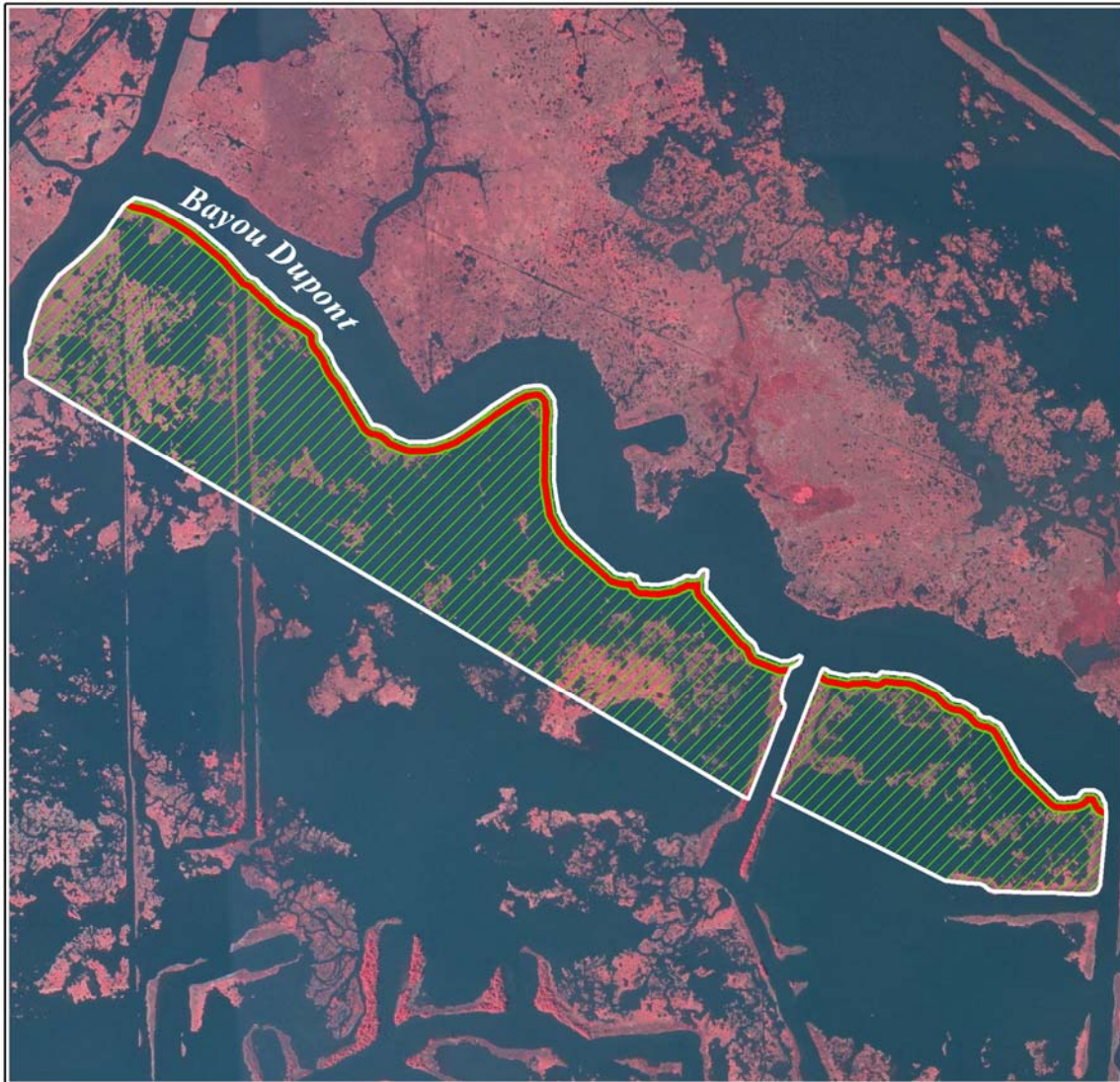
Proposed Solution: Approximately 184 acres of marsh would be created and 103 acres of existing marsh would be nourished via confined disposal of sediment dredged from the Mississippi River. About 17 acres of ridge would be created along the bayou after the fill material consolidates to allow shaping up to a +6 ft crown, 30 ft wide. Approximately 10 acres of a bayou side marsh berm would be constructed during the ridge shaping. Containment dikes would be breached no later than three years after construction. The created marsh and ridge would be planted as well as intense Chinese Tallow control would be conducted for the ridge. Collectively, this would be the first step to restoring the banklines of Bayou Dupont.

Project Benefits: The project would benefit 317 acres of brackish fresh marsh and open water. Approximately 170 acres of brackish marsh and 17 acres of ridge would be created/protected over the 20-year project life.

Project Costs: The total fully funded cost for the project is \$21,626,767.




Preparers of Fact Sheet:

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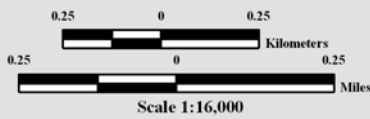


Bayou Dupont Marsh and Ridge Creation (PPL17 Candidate)



-  Ridge Restoration *
-  Marsh Creation *
-  Project Boundary *

* denotes proposed features



Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Eaton Rouge, La

Image Source:
2005 Digital Orthophoto Quarter Quadrangles

Map ID: USGS-NWRC 2007-11-0310
Map Date: June 15, 2007

Project Name: Bio-Engineered Oyster Reef Demonstration Project

Coast 2050 Strategy:

- Region 4 Strategy 15: Stabilizing Gulf of Mexico shoreline in the vicinity of Rockefeller Refuge.

Project Location: Region 4, Mermentau Basin, Chenier subbasin, Cameron & Vermilion Parishes, along the Gulf of Mexico shoreline.

Problem: The purpose of this project is to test a new, bio-engineered product to address rapid shoreline retreat and wetland loss along the Gulf of Mexico shoreline in areas with soils of low load bearing capacity. For example, at Rockefeller Refuge, the direct Gulf of Mexico frontage has extremely low soil load bearing capacity (250-330psf), coupled with an average shoreline retreat of 30.9 ft/yr present unique engineering challenges.

Goals: The goal of this demonstration project is to evaluate the proposed technique as a cost effective technique for protecting areas of Coastal Louisiana's Gulf of Mexico Shoreline with poor load bearing capacities.

Proposed Solution: The demonstration project would consist of an Oysterbreak, approximately 1000' long. The Oysterbreak is a light-weight, modular shore protection device that uses accumulating biomass (an oyster reef) to dissipate wave energy. The bioengineered structure is designed to grow rapidly into an open structured oyster reef utilizing specifically designed structural components with spat attractant (agricultural byproducts) and enhanced nutrient conditions conducive to rapid oyster growth. The Oysterbreak is constructed by placing modular units into an open interlocked configuration. The units are sized to be stable under storm wave conditions. The height and width of the Oysterbreak are designed to achieve a moderate initial wave energy reduction. As successive generations of encrusting organisms settle on the Oysterbreak, the structure's ability to dissipate wave energy will increase.

Project Benefits: If the Oysterbreak successfully prevents beach erosion, it will provide the CWPPRA program with another restoration tool for the Gulf of Mexico shoreline in areas with soils of low load bearing capacity. Direct benefits for this project are approximately 4.5 acres (1,000 ft x 39 ft/yr x 5 yrs x 1 acre/43,560 sq ft) of wetlands will be protected. Secondary benefits include increased habitat diversity and complexity, increased nekton utilization, and recreational fishing benefits associated with natural oyster reefs.

Project Costs: The total fully funded cost for the project is \$1,981,822.

Preparers of Fact Sheet:

John D. Foret, NMFS, (337) 291-2107, john.foret@noaa.gov

Project Name: Sediment Containment for Marsh Creation Demonstration Project

Coast 2050 Strategy:

- Management of diversion outfall for wetland benefits
- Dedicated dredging to create restore or protect wetlands

Project Location: Coastwide

Problem: Small and medium freshwater diversions that flow into broad areas and small dredge projects require confinement and trapping features to form marsh because the materials entering the area are often too dilute or fine to result in any appreciable accumulation. A method to delineate smaller areas to concentrate sediments flowing across an area would improve suspended sediment retention efficiency and allow accumulations to occur within a more timely and cost-effective manner. A sediment trapping mechanism would also allow for taking advantage of finer materials that would otherwise largely flow through the target area or require costly construction of some form of containment.

Goals: The overall goal of the project is to demonstrate the effectiveness of a sediment trapping system to strategically define areas of accumulation and improve the efficiency of passive sediment retention in small and medium freshwater diversions as well as mechanized introduction of fluid material to create marsh.

Proposed Solution: The project will demonstrate the effectiveness of a sediment trapping system designed for dredge containment to facilitate both sediment retention and accumulation in freshwater diversion that are located in broad areas where sediments tend to dissipate and to demonstrate the ability of the system to perform in small dredge applications. The project will demonstrate that by isolating areas where accumulation can be concentrated, accretion rates will be greatly enhanced and speed up marsh creation.

Project Benefits: The project will benefit any area in coastal Louisiana by facilitating containment where suspended sediment load is adequate for potential marsh development but retention is low due to broad open water expanse or channelization. The project will also benefit small dredge projects by providing a cost-effective alternative to earthen containment, particularly in areas where construction of earthen containment may be problematic (e.g. flow lines and poor soils).

Project Cost: The total fully funded cost for the project is \$1,163,343.

Preparers of Fact Sheet:

Ron Boustany, NRCS, (337) 291-3067, ron.boustany@la.usda.gov

VII. SUMMARY AND CONCLUSIONS

The 17th PPL consists of 4 projects, for a Phase I cost of \$7,660,313 and a Phase II cost of \$62,164,034, which will be funded as these projects mature. The total benefits of the projects are estimated to be 1538 AAHUs, based on a comparison of future with and without-project conditions over the 20 year project life. The 17th PPL also includes two demonstration projects with a total fully funded cost of \$3,145,165.

The CWPPRA Task Force believes the recommended projects represent the best strategy for addressing the immediate needs of Louisiana's coastal wetlands. The CWPPRA Task Force will conduct a final review of the plans and specifications for each project prior to the award of construction contracts by the lead Task Force agency and the allocation of construction funds by the Task Force.

VIII. BIBLIOGRAPHY

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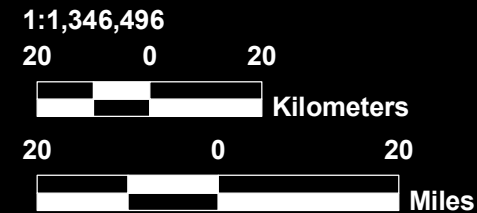
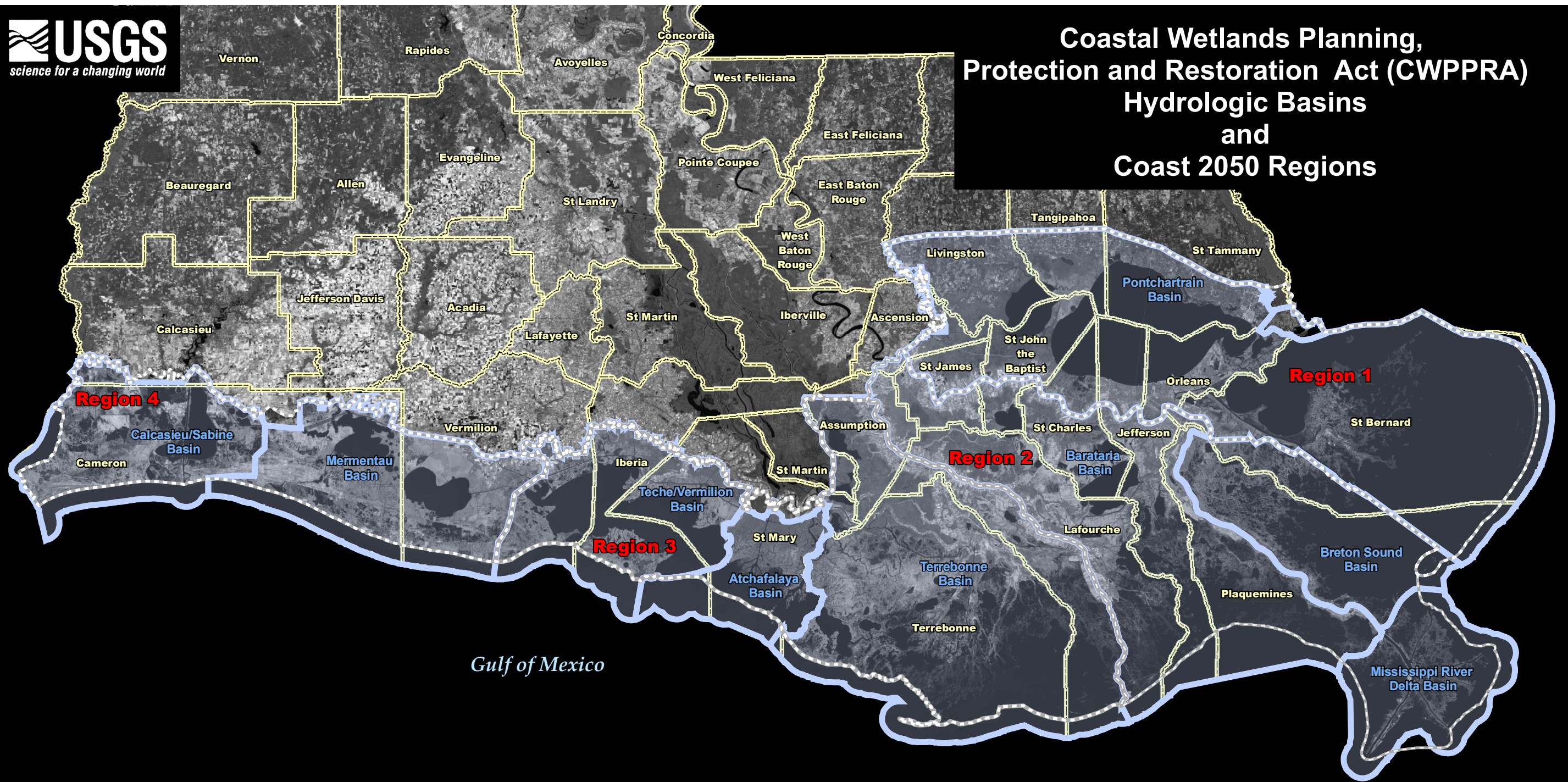
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Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Hydrologic Basins and Coast 2050 Regions




-  Region Boundary
-  Hydrologic Basin
-  Parish Boundary

Image Source:
2000 Thematic Mapper Imagery

Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, LA

Map ID: USGS-NWRC 2005-11-0319
Map Date: August 17, 2005

PLATE 2. SUMMARY OF PROJECTS 1-17 PRIORITY PROJECT LISTS

Deauthorized = underlined; Coastal Impact Assistance Program (CIAP) = *italics*

1st Priority Project List

U.S. Environmental Protection Agency

TE-20 Isles Dernieres Restoration East Island

U.S. Department of the Army

MR-03 West Bay Sediment Diversion

PO-17 Bayou LaBranche Wetland Creation

BA-19 Barataria Bay Waterway Wetland Creation

TV-03 Vermilion River Cutoff Bank Protection

U.S. Department of Commerce

BA-18 Fourchon Hydrologic Restoration

TE-19 Lower Bayou laCache Hydrologic Restoration

U.S. Department of Agriculture

BA-02 GIWW to Clovelly Hydrologic Restoration

TE-18 Vegetative Plantings - Timbalier Island Planting Demonstration

TE-17 Vegetative Plantings - Falgout Canal Planting Demonstration

CS-19 Vegetative Plantings - West Hackberry Planting Demonstration

ME-08 Vegetative Plantings - Dewitt-Rollover Planting Demonstration

U.S. Department of the Interior

PO-16 Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 1

ME-09 Cameron Prairie Refuge National Wildlife Refuge Shoreline Protection

CS-18 Sabine National Wildlife Refuge Erosion Protection

CS-17 Cameron Creole Plugs

2nd Priority Project List

U.S. Environmental Protection Agency

TE-24 Isles Dernieres Restoration Trinity Island

U.S. Department of the Army

TE-23 West Belle Pass Headland Restoration

CS-22 Clear Marais Bank Protection

U.S. Department of Commerce

AT-02 Atchafalaya Sediment Delivery

TE-22 Point Au Fer Canal Plugs

AT-03 Big Island Mining

U.S. Department of Agriculture

CS-09 Brown Lake Hydrologic Restoration

ME-04 Freshwater Bayou Wetland Protection

BA-20 Jonathan Davis Wetland Restoration

CS-20 East Mud Lake Marsh Management

CS-21 Hwy. 384 Hydrologic Restoration

PO-06 Fritchie Marsh Creation

TV-09 Vermilion Bay/Boston Canal Shoreline Stabilization

BS-03a Caernarvon Diversion Outfall Management

U.S. Department of the Interior

PO-18 Bayou Sauvage National Wildlife Refuge Hydrologic Restoration, Phase 2

3rd Priority Project List

U.S. Environmental Protection Agency

TE-27 [Whiskey Island Restoration](#)
PO-20 [Red Mud Demonstration](#)

U.S. Department of the Army

PO-19 [MRGO Disposal Area Marsh Protection](#)
MR-06 [Channel Armor Gap Crevasse](#)
MR-07 [Pass-a-Loutre Crevasse](#)

U.S. Department of Commerce

BA-21 [Bayou Perot/Bayou Rigolettes Marsh Restoration](#)
TE-25 [East Timabalier Island Sediment Restoration, Phase 1](#)
TE-26 [Lake Chapeau Sediment Input and Hydrologic Restoration](#)
BA-15 [Lake Salvador Shore Protection Demonstration](#)

U.S. Department of Agriculture

BA-04c [West Pointe-a la Hache Outfall Management](#)
TV-04 [Cote Blanche Hydrologic Restoration](#)
CS-04a [Cameron - Creole Maintenance](#)
BS-04a [White's Ditch Outfall Management](#)
TE-28 [Brady Canal Hydrologic Restoration](#)
PO-9a [Violet Freshwater Distribution](#)
ME-12 [Southwest Shore White Lake Demonstration](#)

U.S. Department of the Interior

CS-23 [Sabine Refuge Structure Replacement \(Hog Island\)](#)

4th Priority Project List

U.S. Environmental Protection Agency

CS-26 [Compost Demonstration](#)

U.S. Department of the Army

BS-07 [Grand Bay Crevasse](#)
MR-08 [Beneficial Use of Hopper Dredge Material Demonstration](#)

U.S. Department of Commerce

PO-21 [Eden Isles East Marsh Restoration](#)
TE-30 [East Timbalier Island Sediment Restoration, Phase 2](#)

U.S. Department of Agriculture

CS-24 [Perry Ridge Shore Protection](#)
BA-22 [Bayou L'Ours Ridge Hydrologic Restoration](#)
BA-23 [Barataria Bay Waterway West Side Shoreline Protection](#)
CS-25 [Plowed Terraces Demonstration](#)
TE-31 [Flotant Marsh Fencing Demonstration](#)

5th Priority Project List

U.S. Environmental Protection Agency

BA-25b [Mississippi River Reintroduction into Bayou Lafourche](#)

U.S. Department of the Army

PO-22 [Bayou Chevee Shoreline Protection](#)

U.S. Department of Commerce

TV-12 [Little Vermilion Bay Sediment Trapping](#)
BA-03c [Myrtle Grove Siphon](#)

U.S. Department of Agriculture

BA-03c [Naomi Outfall Management](#)
CS-11b [Sweet Lake/ Willow Lake Hydrologic Restoration](#)
TE-29 [Raccoon Island Breakwaters Demonstration](#)
ME-13 [Freshwater Bayou Bank Stabilization](#)

U.S. Department of the Interior

TE-10 [Grand Bayou Hydrologic Restoration](#)

6th Priority Project List

U.S. Environmental Protection Agency

TE-33 Bayou Boeuf Pump Station

U.S. Department of the Army

TV-14 Marsh Island Hydrologic Restoration

TE-35 Marsh Creation East of the Atchafalaya River – Avoca Island

MR-10 Flexible Dustpan Demo at Head of Passes (Demo)

U.S. Department of Commerce

CS-27 Black Bayou Hydrologic Restoration

MR-09 Delta-Wide Crevasses

TV-15 Sediment Trapping at “The Jaws”

U.S. Department of Agriculture

TE-34 Penchant Basin Natural Resources Plan, Increment 1

TV-13a Oaks/Avery Canal Hydrologic Restoration Increment 1

BA-26 Barataria Bay Waterway East Side Shoreline Protection

TV-16 Cheniere au Tigre Sediment Trapping Demonstration

U.S. Department of the Interior

TE-32a Lake Boudreaux Freshwater Introduction

LA-03a Nutria Harvest for Wetland Restoration

7th Priority Project List

U.S. Department of Commerce

BA-28 Grand Terre Vegetative Plantings

ME-14 Pecan Island Terracing

U.S. Department of Agriculture

BA-27 Barataria Basin Landbridge Shoreline Protection, Phase 1 and 2

TE-36 Thin Mat Floating Marsh Enhancement Demonstration

8th Priority Project List

U.S. Department of the Army

CS-28-1 Sabine Refuge Marsh Creation, Cycle 1

CS-28-2 Sabine Refuge Marsh Creation, Cycle 2

CS-28-3 Sabine Refuge Marsh Creation, Cycle 3

CS-28-4 Sabine Refuge Marsh Creation, Cycle 4

CS-28-5 Sabine Refuge Marsh Creation, Cycle 5

U.S. Department of Commerce

PO-25 Bayou Bienvenue Pump Station Diversion and Terracing

PO-24 Hopedale Hydrologic Restoration

U.S. Department of Agriculture

BA-27 Barataria Basin Landbridge, Shoreline Protection, Phase 2 Increment A

BA-27 Barataria Basin Landbridge, Shoreline Protection, Phase 2 Increment B

BA-27 Barataria Basin Landbridge, Shoreline Protection, Phase 2 Increment C

(These projects were merged with BA-27 after PPL 8 approval and are subsequently numbered as BA-27)

ME-11 Humble Canal Hydrologic Restoration

BS-09 Upper Oak River Freshwater Siphon

TV-17 Lake Portage Landbridge

9th Priority Project List

U.S. Environmental Protection Agency

BA-29 LA Highway 1 Marsh Creation

TE-40 Timbalier Island Dune and Marsh Restoration

TE-37 New Cut Dune and Marsh Restoration

U.S. Department of the Army

PO-26 Opportunistic Use of the Bonnet Carre Spillway

TV-11b Freshwater Bayou Bank Stabilization - Belle Isle Canal to Lock

MR-11 Periodic Introduction of Sediment and Nutrients at Selected Diversion Sites Demonstration

TV-19 Weeks Bay MC and SP/Commercial Canal/Freshwater Redirection

U.S. Department of Commerce

PO-27 Chandeleur Islands Marsh Restoration

TV-18 Four Mile Canal Terracing and Sediment Trapping

AT-04 Castille Pass Channel Sediment Delivery

PO-28 LaBranche Wetlands Terracing, Planting, and Shoreline Protection

BA-30 East Grand Terre Islands Restoration

U.S. Department of Agriculture

TE-39 South Lake Decade Freshwater Introduction

CS-29 Black Bayou Bypass Culverts Hydrologic Restoration

CS-30 Perry Ridge West Bank Stabilization

ME-17 Little Pecan Bayou Hydrologic Restoration

BA-27c Barataria Basin Landbridge Shoreline Protection, Phase 3

U.S. Department of the Interior

ME-16 Freshwater Introduction South of Hwy. 82

TE-41 Mandalay Bank Protection Demonstration

10th Priority Project List

U.S. Environmental Protection Agency

- PO-30 Lake Borgne Shoreline Protection
- BA-34 Small Freshwater Diversion to the Northwestern Barataria Basin

U.S. Department of the Army

- MR-13 Benneys Bay Diversion
- BA-33 Delta Building Diversion at Myrtle Grove
- BS-10 Delta Building Diversion North of Fort St. Phillip

U.S. Department of Commerce

- ME-18 Rockefeller Refuge Gulf Shoreline Stabilization

U.S. Department of Agriculture

- TE-43 GIWW Bank Restoration of Critical Areas in Terrebonne

U.S. Department of the Interior

- ME-19 Grand-White Lake Landbridge Restoration
- TE-44 North Lake Mechant Landbridge Restoration
- BS-11 Delta Management at Fort St. Phillip
- CS-32 East Sabine Lake Hydrologic Restoration
- TE-45 Terrebonne Bay Shore Protection Demonstration

11th Priority Project List

U.S. Environmental Protection Agency

- PO-29 River Reintroduction into Maurepas Swamp
- PO-31 Lake Borgne Shoreline Protection at Bayou Dupre
(This project merged with PO-30 after PPL 11 approval and is subsequently numbered as PO-30)
- TE-47 Ship Shoal: Whiskey West Flank Restoration

U.S. Department of the Army

- ME-21a Grand Lake Shoreline Protection, Tebo Point
- ME-21b Grand Lake Shoreline Protection, O&M Only (Transferred)

U.S. Department of Commerce

- BA-35 Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration
- BA-37 Little Lake Shoreline Protection/Dedicated Dredging near Round Lake
- BA-38 Barataria Barrier Island: Pelican Island and Pass La Mer to Chaland Pass

U.S. Department of Agriculture

- BA-27d Barataria Basin Landbridge Shoreline Protection, Phase 4
- LA-03b Coastwide Nutria Control Program
- CS-31 Holly Beach Sand Management
- TE-48 Raccoon Island Shoreline Protection/Marsh Creation, Ph 2

U.S. Department of the Interior

- BA-36 Dedicated Dredging on the Barataria Basin Landbridge
- ME-20 South Grand Chenier Hydrologic Restoration
- TE-46 West Lake Boudreaux Shoreline Protection and Marsh Creation

12th Priority Project List

U.S. Environmental Protection Agency

- BA-39 Bayou Dupont Sediment Delivery System

U.S. Department of the Army

- TE-49 Avoca Island Diversion and Land Building
- PO-32 Lake Borgne and MRGO Shoreline Protection
- ME-22 South White Lake Shoreline Protection
- MR-12 Mississippi River Sediment Trap

U.S. Department of Agriculture

- LA-05 Freshwater Floating Marsh Creation Demonstration

13th Priority Project List

U.S. Environmental Protection Agency

- TE-50 Whiskey Island Back Barrier Marsh Creation

U.S. Department of the Army

- MR-14 Spanish Pass Diversion
- LA-06 Shoreline Protection Foundation Improvements Demonstration

U.S. Department of Agriculture

- TV-20 Bayou Sale Ridge Protection

U.S. Department of the Interior

- PO-33 Goose Point/Point Platte Marsh Creation

14th Priority Project List

U.S. Environmental Protection Agency

TV-21 East Marsh Island Marsh Creation

U.S. Department of Commerce

BA-40 Riverine Sand Mining/Scofield Island Restoration

U.S. Department of Agriculture

BS-12 White Ditch Resurrection

BA-41 South Shore of the Pen Shoreline Protection and Marsh Creation

15th Priority Project List

U.S. Department of the Army/ U.S. Environmental Protection Agency

BS-13 *Bayou Lamoque Freshwater Diversion*

MR-15 Venice Ponds Marsh Creation and Crevasses

U.S. Department of the Interior

BA-42 Lake Hermitage Marsh Creation

U.S. Department of Commerce

ME-23 South Pecan Island Freshwater Introduction

16th Priority Project List

U.S. Environmental Protection Agency

TE-53 Enhancement of Barrier Island Vegetation Demonstration

U.S. Department of the Army

PO-34 Alligator Bend Marsh Restoration and Shoreline Protection

ME-24 Southwest Louisiana Gulf Shoreline Nourishment and Protection

U.S. Department of Commerce

TE-51 Madison Bay Marsh Creation and Terracing

TE-52 West Belle Pass Barrier Headland Restoration Project

17th Priority Project List

U.S. Environmental Protection Agency

BS-15 Bohemia Mississippi River Reintroduction

U.S. Department of the Interior

BS-16 Caernarvon Outfall Management/Lake Lery Shoreline Restoration

U.S. Department of Agriculture

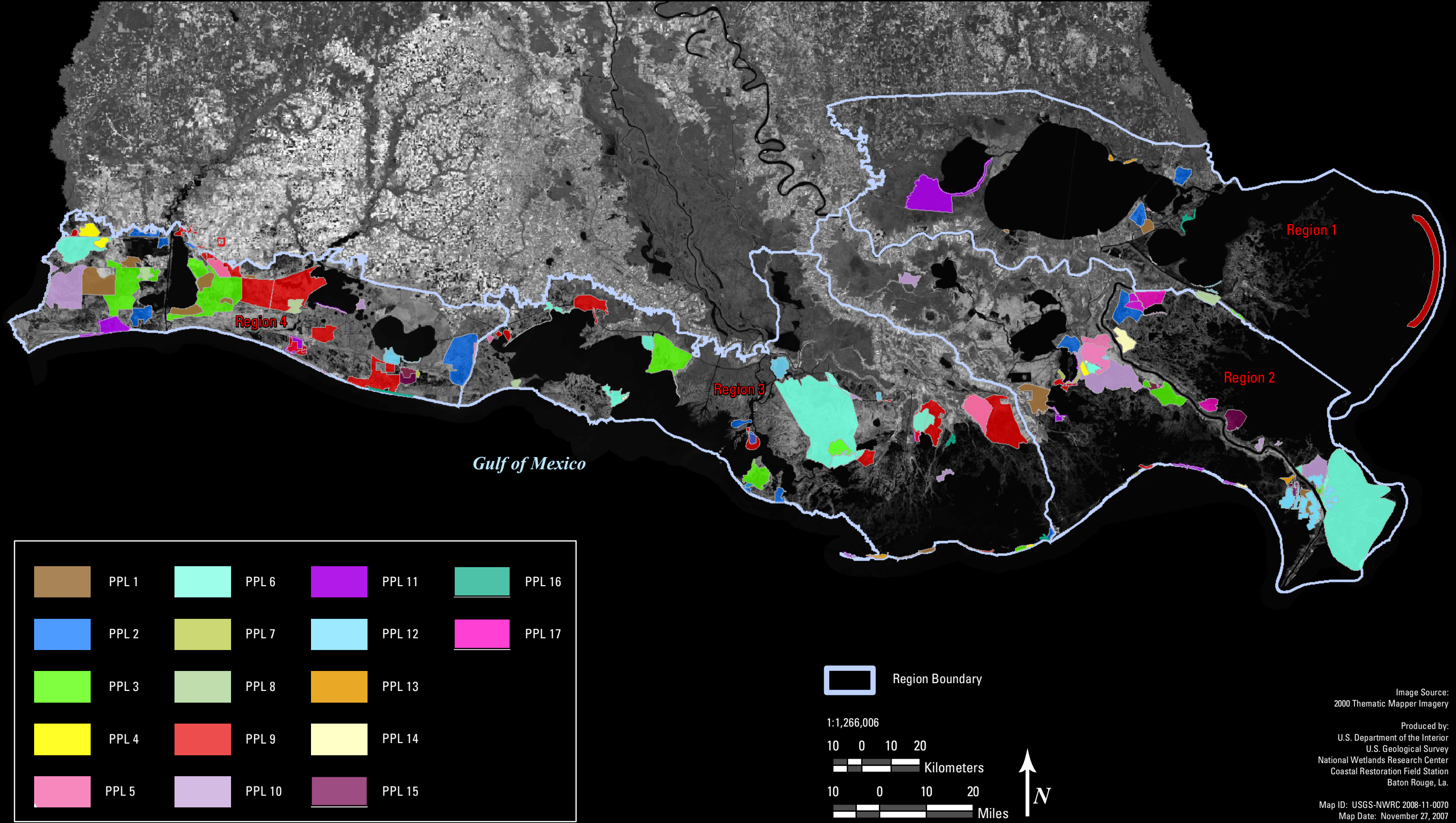
LA-09 Sediment Containment System for Marsh Creation Demonstration

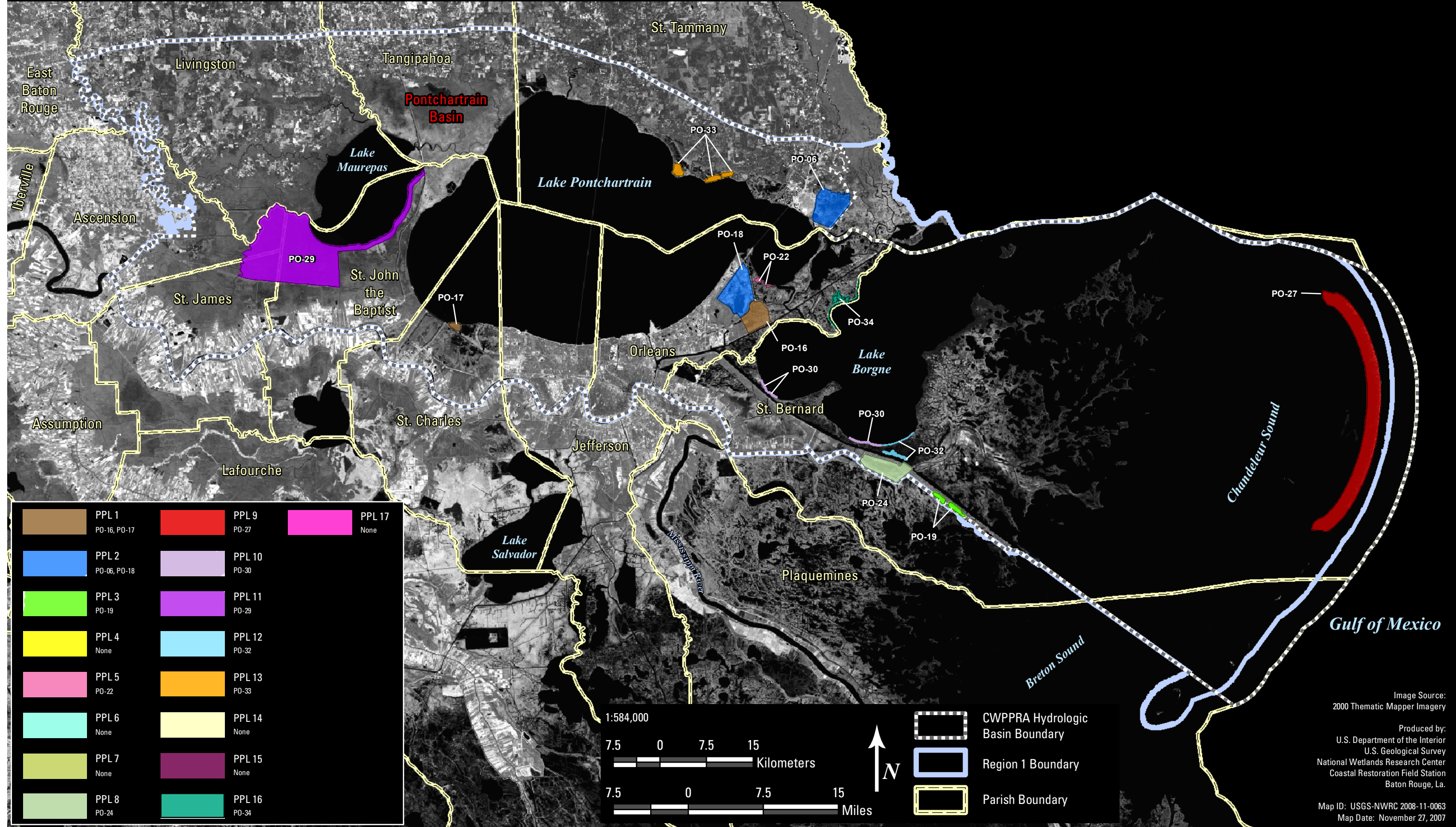
BA-47 West Pointe a la Hache Marsh Creation

U.S. Department of Commerce

BA-48 Bayou Dupont Ridge Creation and Marsh Restoration

LA-08 Bioengineered Oyster Reef Demonstration





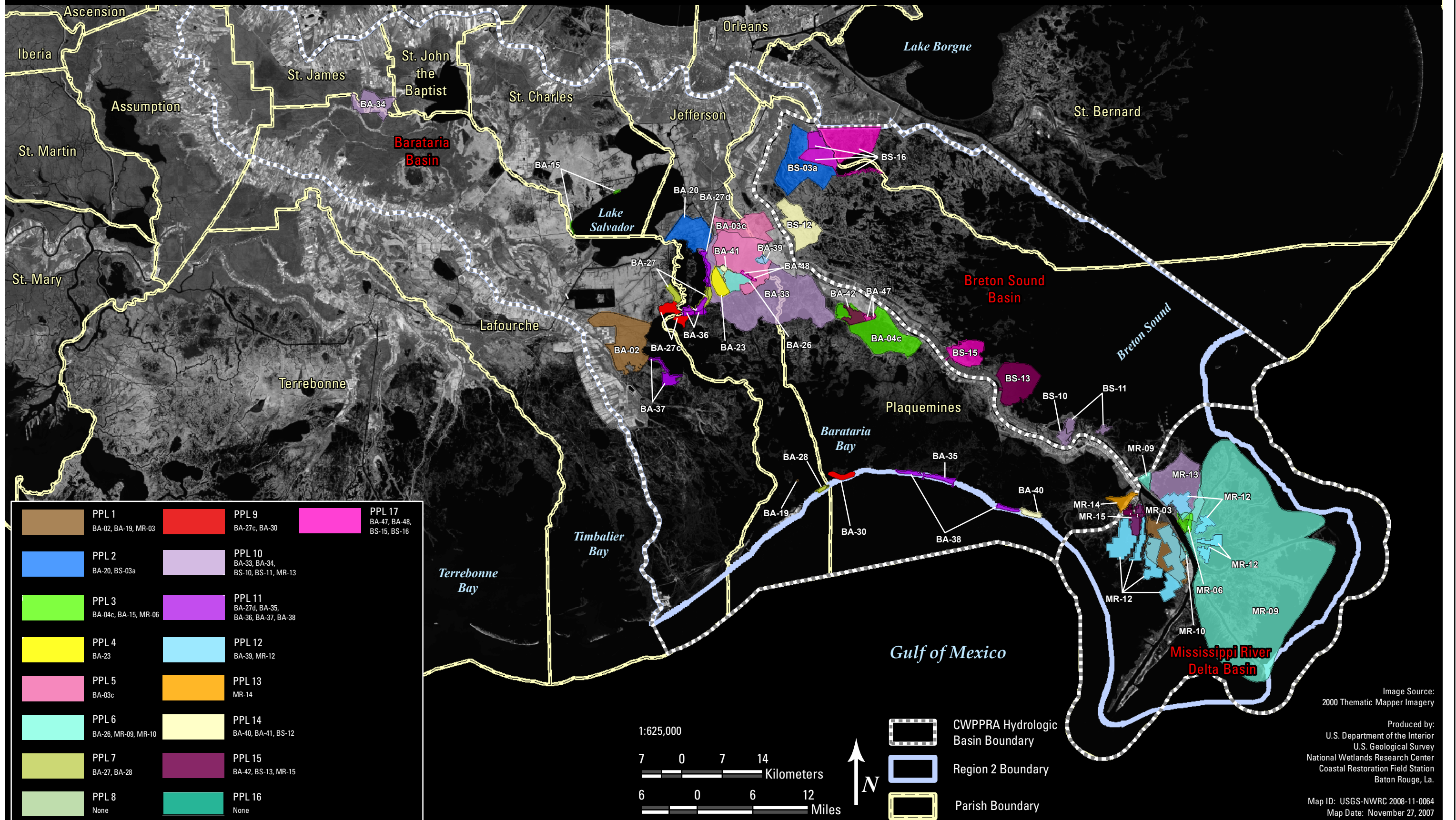
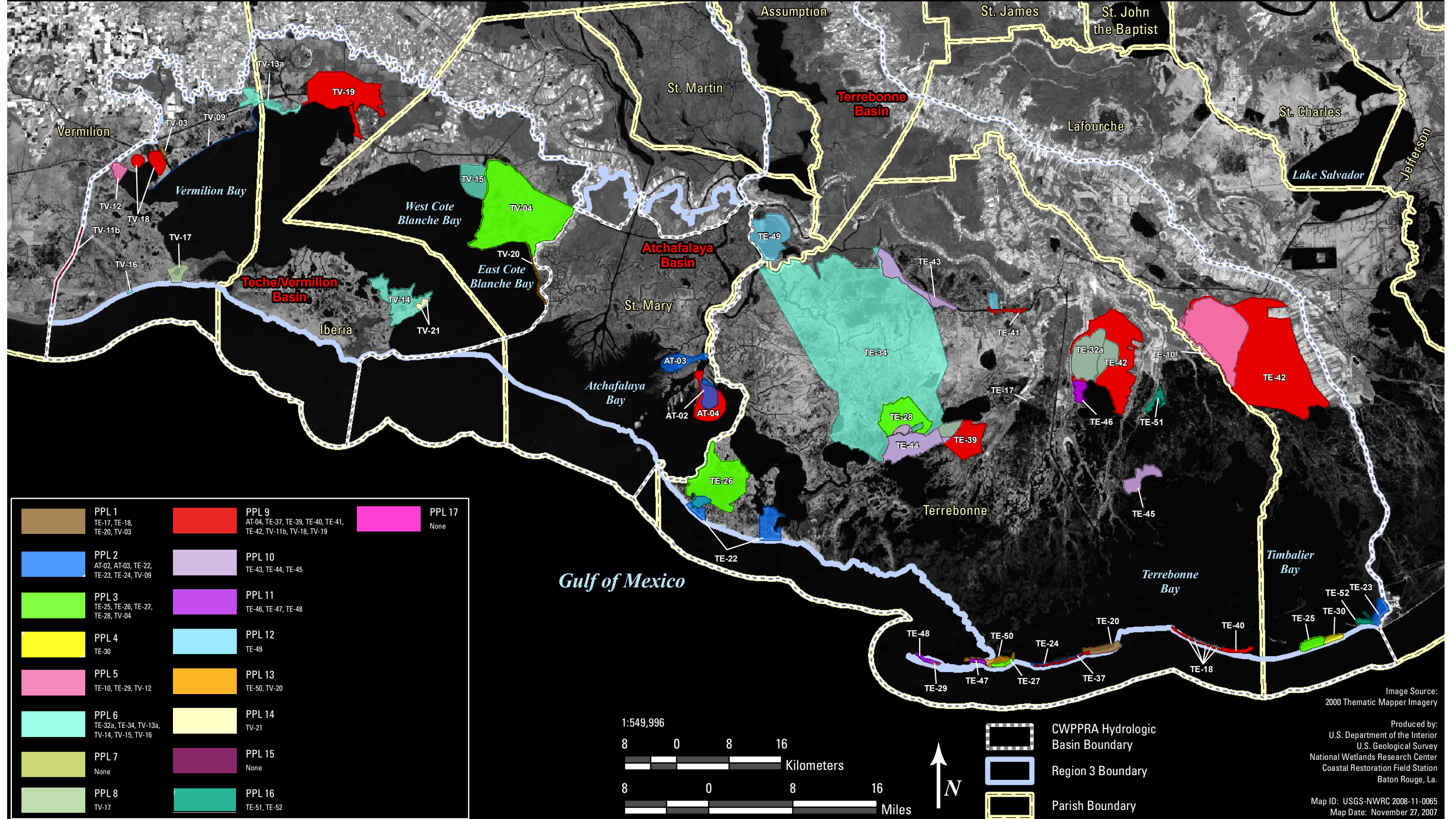


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Baton Rouge, La.

Map ID: USGS-NWRC 2008-11-0064
Map Date: November 27, 2007



	PPL 1 TE-17, TE-18, TE-20, TV-03		PPL 9 AT-04, TE-37, TE-39, TE-40, TE-41, TE-42, TV-11b, TV-18, TV-19		PPL 17 None
	PPL 2 AT-02, AT-03, TE-22, TE-23, TE-24, TV-09		PPL 10 TE-43, TE-44, TE-45		PPL 12 TE-49
	PPL 3 TE-25, TE-26, TE-27, TE-28, TV-04		PPL 11 TE-46, TE-47, TE-48		PPL 13 TE-50, TV-20
	PPL 4 TE-30		PPL 12 TE-49		PPL 14 TV-21
	PPL 5 TE-10, TE-29, TV-12		PPL 15 None		PPL 16 TE-51, TE-52
	PPL 6 TE-32a, TE-34, TV-13a, TV-14, TV-15, TV-16		PPL 7 None		
	PPL 7 None				
	PPL 8 TV-17				

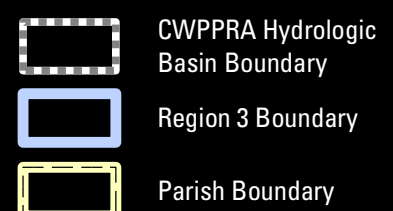
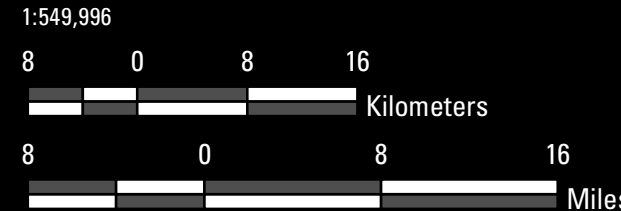
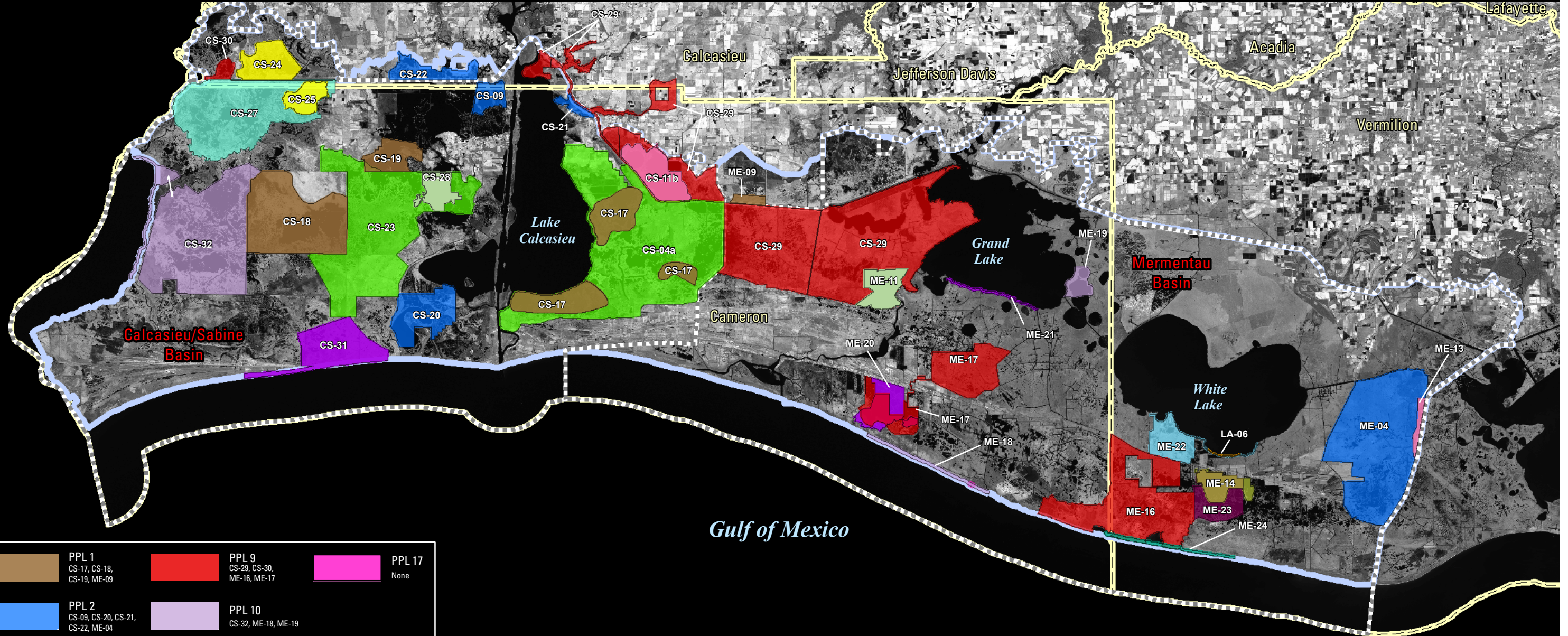


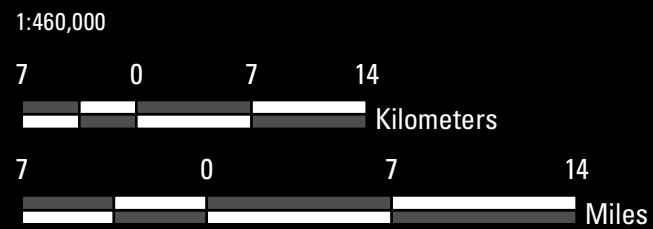
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2000 Thematic Mapper Imagery

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U.S. Department of the Interior
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Baton Rouge, La.

Map ID: USGS-NWRC 2008-11-0065
Map Date: November 27, 2007



	PPL 1 CS-17, CS-18, CS-19, ME-09		PPL 9 CS-29, CS-30, ME-16, ME-17		PPL 17 None
	PPL 2 CS-09, CS-20, CS-21, CS-22, ME-04		PPL 10 CS-32, ME-18, ME-19		
	PPL 3 CS-04a, CS-23		PPL 11 CS-31, ME-20, ME-21		
	PPL 4 CS-24, CS-25		PPL 12 ME-22		
	PPL 5 CS-11b, ME-13		PPL 13 LA-06		
	PPL 6 CS-27		PPL 14 None		
	PPL 7 ME-14		PPL 15 ME-23		
	PPL 8 CS-28, ME-11		PPL 16 ME-24		



- CWPPRA Hydrologic Basin Boundary
- Region 4 Boundary
- Parish Boundary

Image Source:
2000 Thematic Mapper Imagery

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Map ID: USGS-NWRC 2008-11-0066
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