



14th PRIORITY PROJECT LIST REPORT

PREPARED BY:

LOUISIANA COASTAL WETLANDS CONSERVATION AND RESTORATION

TASK FORCE

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Breaux Act

(Coastal Wetlands Planning, Protection and Restoration Act)

14th 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 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. Dramatic annual wetland losses from 1990 to the present of 24 square miles per year in the state continue to threaten the resource. 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 that are 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. A global 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 14th 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, that if all implemented would achieve no net loss of coastal marsh in Louisiana by the year 2050. 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 (refer to 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 14.

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 member 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 Task Force established the Technical Committee and the Planning and Evaluation 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 Planning and Evaluation 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 Planning and Evaluation 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 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.

The Task Force also established a Citizen Participation Group to provide general input from the diverse interests across the coastal zone: local officials, landowners, farmers, sportsmen, commercial fishermen, oil and gas developers, navigation interests, and environmental organizations. The Citizen Participation Group was formed to promote citizen participation and involvement in formulating priority project lists and the restoration plan. The group meets at its own discretion, but may at times meet in conjunction with other CWPPRA elements, such as the Technical Committee. The purpose of the Citizen Participation Group is to maintain consistent public review and input into the plans and projects being considered by the Task Force and to assist and participate in the public involvement program.

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. This Academic Advisory Group 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), and

- The Mississippi River Sediment, Nutrient, and Freshwater Redistribution study – March 1995 – July 2000 (managed by the Corps of Engineers).

Public Involvement. Even with its widespread membership, the Citizen Participation Group cannot represent all of the diverse interests concerned about Louisiana's coastal wetlands. 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 each of the last eight years 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 14th PRIORITY PROJECT LIST

IDENTIFICATION & SELECTION OF CANDIDATE PROJECTS

Regional Planning Team (RPT) meetings were held during the period of February 10 through February 12, 2004 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 choose no more than one project per hydrologic basin, except that two projects may be selected from Terrebonne and Barataria basins because of the high loss rates in those basins. A total of up to eleven projects could be nominated. A schedule of meetings is shown in Table 1.

Table 1: RPT Meetings to Nominate Projects

Region 1: New Orleans, Louisiana	February 12, 2004
Region 2: New Orleans, Louisiana	February 12, 2004
Region 3: Morgan City, Louisiana	February 11, 2004
Region 4: Grand Chenier, Louisiana	February 10, 2004

The Engineering and Environmental Work Groups and the Academic Advisory Group (AAG) met on March 9 and 10, 2004 to review and reach consensus on preliminary project features, benefits, and fully funded cost estimates for nominated projects. The Engineering and Environmental Work Groups also identified any potential issues associated with each nominee. The Planning and Evaluation (P&E) Subcommittee prepared a matrix of nominated projects' cost estimates and benefits and furnished it to the Technical Committee and State Wetlands Authority (SWA) on March 11, 2004. The matrix is included as Table 2.

Table 2: 14th Project Priority List - Nominee Project Matrix by Basin

Rg-Prjc	Basin	Type	Project	Preliminary Fully Funded Cost Range	Preliminary Benefits (Net Acres Range)	Potential Issues				
						Oysters	Land Rights	Pipelines/Utilities	O&M	Other Issues
1-1	PO	SP/MC	Irish Bayou to Bayou Chevee Shoreline Protection and Marsh Creation	\$30M - \$40M	350-400				X	X Gulf Sturgeon
2-1	BS	FD/HR	White Ditch Resurrection and Outfall Management	\$15M - \$20M	250-300		X		X	
2-2	BA	BI	Riverine Sand Mining/Scofield Island Restoration	\$30M - \$40M	200-250	X		X		
2-3	BA	SP/MC	South Shore of the Pen Shoreline Protection and Marsh Restoration	\$15M - \$20M	200-250			X	X	
2-4	MR	MC	Venice Ponds Marsh Creation	\$40M - \$50M	250-300		X	X		
3-1	TE	MC	Penchant Basin Marsh Creation	\$5M - \$10M	50-100		X	X		X Flotant Marsh

Rg-Prjc	Basin	Type	Project	Preliminary Fully Funded Cost Range	Preliminary Benefits (Net Acres Range)	Potential Issues				
						Oysters	Land Rights	Pipelines/Utilities	O&M	Other Issues
3-2	TE	SP/MC	North Lost Lake Marsh Restoration	\$20M - \$30M	200-250			X	X	
3-3	AT	TR/HR	Plumb Island Point Terracing/Hydrologic Restoration	\$5M - \$10M	100-150			X	X	
3-4	TV	MC	East Marsh Island Marsh Creation	\$10M - \$15M	200-250					
4-1	ME	SP	Gulf of Mexico Shoreline Stabilization - Joseph's Harbor East to Little Constance Bayou	over \$50M	300-350			X	X	
4-2	CS	SP	Holly Beach Breakwaters west extension (Long Beach)	\$15M - \$20M	0-50			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: FD=Freshwater Diversion; HR=Hydrologic Restoration; MC=Marsh Creation; OM= Outfall Management; SP=Shoreline Protection; TR=Terracing.

The CWPPRA Technical Committee met publicly on March 19, 2004 to consider the preliminary costs, wetland benefits, and potential issues of the nominees. Six candidate projects were selected for detailed assessment by the Environmental, Engineering, and Economic Work Groups, and the AAG.

Phase 0 analysis of the six candidate projects took place from May 2004 through November 2004. Interagency field visits were conducted during May and June 2004 at each project site/area with members of the Engineering and Environmental Work Groups, the AAG, and Louisiana Department of Natural Resources (LDNR) staff. The Environmental and Engineering Work Groups and AAG met to refine the projects and develop boundaries on July 20, 2004, based on site visits. Detailed Project Information Sheets were developed by the Environmental, Engineering, and Economics Work Groups. These sheets included addressing "compatibility with Coast 2050" and Phase I and II engineering and design, and cost estimates. On September 28, 2004, the Engineering Work Group met to review and approve the Phase I and II cost estimates developed by the agencies and the Environmental Work Group finalized Wetland Value Assessments (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 September 29, 2004. The Economics Work Group reviewed cost estimates, added monitoring, Operations and Maintenance (O&M), etc., and developed annualized costs in the month of October.

The Environmental and Engineering Work Groups and AAG also met on September 30, 2004 to perform evaluations on the seven demonstration projects. Demonstration projects were evaluated using defined parameters. Within each of these parameters a project was graded as either 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 14th Priority Project List Candidate Demonstration Projects

Demonstration Project Name	Lead Agency	Total Fully Funded Cost	Parameter (P _n)						Total Score
			P ₁	P ₂	P ₃	P ₄	P ₅	P ₆	
Barrier Island Sand Blowing Demo	USACE	\$1,774,000	3	2	2	3	3	2	15
Floating Wave Attenuator Demo	EPA	\$1,278,000	3	2	2	2	2	2	13
Evaluation of Bioengineered Reefs Performing as Submerged Breakwaters Demo	NMFS	\$1,308,000	2	2	2	2	2	3	13

Demonstration Project Name	Lead Agency	Total Fully Funded Cost	Parameter (P _n)						Total Score
			P ₁	P ₂	P ₃	P ₄	P ₅	P ₆	
Sand Fence Alternatives for Dune Formation and Colonial Nesting Bird Platforms on Barrier Islands Demo	NRCS	\$491,000	2	2	1	3	2	2	12
Flowable Fill Demo	NRCS	\$1,243,000	3	1	1	2	1	2	10
Beneficial Use of Dredge Disposal Areas Demo	NMFS	\$2,375,000	1	2	1	3	1	1	9
Wetland Enhancement via Treated Sewage Effluent Diversions Demo	USACE	\$1,111,000	1	2	2	1	1	1	8

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 AAHUs, WVA results (acres created, restored, and/or protected), prioritization score, and costs. The matrix is included as Table 4.

Table 4: 14th Priority Project List Candidate Project Evaluation Matrix

Project Name	AAHUs	WVA In Net Acres	Prioritization Score	Total Fully Funded Cost	Average Annual Cost (AAC)	Cost Effectiveness (AAC/AAHU)
Irish Bayou to Chef Menteur Pass Shoreline Protection and Marsh Creation	53	147	51.1	\$13,252,000	\$944,000	\$17,811
Riverine Sand Mining/Scotfield Island Restoration	229	234	55	\$44,545,000	\$3,602,200	\$15,730
South Shore of The Pen Shoreline Protection and Marsh Creation	51	116	50.25	\$17,514,000	\$1,327,900	\$26,037
Venice Ponds Marsh Creation	330	593	60.5	\$20,172,000	\$1,675,700	\$5,078
White Ditch Resurrection and Outfall Management	107	189	52.5	\$14,845,000	\$1,101,800	\$10,297
East Marsh Island Marsh Creation	117	189	35.5	\$16,824,700	\$1,345,700	\$11,502

Two public meetings were held in Abbeville, LA, and New Orleans, LA, respectively, November 17 and 18, 2004, to present projects to the public for comment.

The CWPPRA Technical Committee met on December 16, 2004 to select projects for recommendation to the CWPPRA Task Force for Phase I funding. Each agency received a total of four weighted votes, used to rank the six 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 on February 17, 2005. The Technical Committee also ranked the seven demonstration projects. Each agency received a total of two weighted votes, used to rank the seven demonstration projects. The Technical Committee did not recommend any demonstration projects for funding. The results of the CWPPRA Technical Committee vote

were outlined in Table 5. On February 17, 2005, the CWPPRA Task Force reviewed the Technical Committee recommendations and moved to adopt the recommendation without change. Due to the limited availability of funds at the time of the Task Force meeting, two projects were selected for funding and two projects were selected with contingent approval if funds would be available before August 31, 2005. The Task Force determined that if, after August 31, 2005 these two projects were not funded, they would be evaluated as candidate projects for PPL 15.

At the Task Force meeting held July 27, 2005, Phase I funding was approved for the South Shore of the Pen Shoreline Protection and Marsh Creation and the East Marsh Island Marsh Creation projects.

Table 5: 14th 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
BA-40	Riverine Sand Mining/Scofield Island Restoration	R2	4	2	4	4	2	4	6	20
BS-12	White Ditch Resurrection and Outfall Management	R2	3	1	2		4	3	5	13
BA-41	South Shore of The Pen Shoreline Protection and Marsh Creation	R2			3	2	3	2	4	10
TV-21	East Marsh Island Marsh Creation	R3	1			3	1	1	4	6
<hr/>										
+	Irish Bayou to Chef Menteur Pass Shoreline Protection and Marsh Creation	R1		3	1	1			3	5
+	Venice Ponds Marsh Creation	R2	2	4					2	6

Demonstration Projects

*Project No.	Nominee Project Name	Coast 2050 Region	EPA	COE	FWS	STATE	NRCS	NMFS	No. of Votes	Sum of Point Score
+	Barrier Island Sand Blowing Demo	N/A	1	2	2	2		2	5	9
+	Floating Wave Attenuator Demo	N/A	2	1		1			3	4
+	Evaluation of Bioengineered Reefs Performing as Submerged Breakwaters Demo	N/A			1		1	1	3	3
+	Sand Fence Alternatives for Dune Formation and Colonial Nesting Bird Platforms on Barrier Island Demo	N/A					2		1	2
+	Beneficial Use of Dredge Disposal Areas Demo	N/A							0	
+	Flowable Fill Demo	N/A							0	
+	Wetland Enhancement via Treated Sewage Effluent Diversions Demo	N/A							0	

*Each selected project received a two-letter code to identify its basin; these 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. 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 prioritizing 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 U.S. Fish and Wildlife Service (FWS) (U.S. Fish and Wildlife Service, 1980). HEP is widely used by the FWS 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, and cypress-tupelo swamp. 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. V₁--percent of wetland covered by emergent vegetation,
 - b. V₂--percent open water dominated by submerged aquatic vegetation,
 - c. V₃--marsh edge and interspersions,
 - d. V₄--percent open water less than or equal to 1.5 feet deep,
 - e. V₅--salinity, and
 - f. V₆--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. These estimates are shown in Appendix C.

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.

All of the projects were assigned a contingency cost of 25 % because detailed information such as soil borings, surveys, and – to a major extent – hydrologic data were not available, in addition to allowing for variations in unit prices.

Engineering and design, environmental compliance, supervision and administration, and supervision and inspection costs were reviewed for consistency, but ordinarily were not changed from what was presented by the lead agency.

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 figure 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 Priority Project Lists (PPL) 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, discussed in more detail in the following paragraphs, are listed below:

- 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

I. Cost-effectiveness

Scoring for this criterion should be based on the current estimated total fully-funded project cost and the net acres created/protected/restored at Target Year (TY) 20. The fully-funded cost estimate (100%) must be reviewed and approved by the Engineering and Economics Work Groups. Monitoring costs should be removed from the fully funded cost estimate, unless the project has a project-specific monitoring cost not covered by CRMS. The net acreage figure must be derived from the official WVA conducted for the project and any new figures must be reviewed and approved by the Environmental Work Group.

Less than \$20,000/ net acre	10
Between \$20,000 and \$40,000/net acre	7.5
Between \$40,000 and \$60,000/net acre	5
Between \$60,000 and \$80,000/net acre	2.5
More than \$80,000/net acre	1

Alternate Net Acres for Swamps: The “cost/net acre” approach used above does not work for swamp projects because the wetland loss rates estimated for Louisiana coastal wetlands using historical and recent aerial photography have not detected losses for swamps. However, future loss rates for swamps have been estimated by Coast 2050 mapping unit. This information, combined with other information regarding project details/benefits can be used to provide an “alternate net acres” estimate for swamp projects. *Attachment 1* contains a description of how alternate net acres will be derived for the purposes of assessing the cost-effectiveness of swamp projects, along with the assessment of alternate net acres for two listed swamp projects.

II. Address area of need, high loss area

The purpose of this criterion is to encourage the funding of projects that are located in basins undergoing the greatest loss. Additionally, projects should be located, to the maximum extent practicable, in localized “hot spots” of loss where they are likely to substantially reduce or reverse that loss. The appropriate basin determination on the following tables should be selected based on the location of the majority of the project benefits, and the project’s Future Without Project (FWOP) loss rates should be applied. Either table or a combination of both tables (pro-rating) may be used for scoring depending upon what type of loss rates were developed for use in the WVA. Specific basins are assigned to high, medium, and low categories based on recent basin-wide loss rates (1990 to 2001).

For projects with sub-areas affected by varying land loss rates, the score shall be a weighted average which reflects the proportion of the total emergent marsh acreage affected by each loss rate. *Example: Project located in Calcasieu/Sabine basin. The total emergent marsh acreage in the project area is 1,000 acres of which 200 acres are in Subarea 1 and experience an internal loss rate of 3%/yr, and 800 acres are in Subarea 2 with an internal loss rate of 1%/yr. The project would receive a weighted score of $(0.2*7.5)+(0.8*5) = 5.5$*

For project areas affected by both internal loss and shoreline loss, the score shall be a weighted average which reflects the proportion of the total emergent marsh acreage affected by each loss rate. *Example: Project located in Calcasieu/Sabine basin. The total emergent marsh acreage in the project area is 1,000 acres of which 200 acres are in Subarea 1 and experience a shoreline erosion rate of 30 feet/yr, and 800 acres are in Subarea 2 with an internal loss rate of 0.1%/yr. The project would receive a weighted score of $(0.2*7.5)+(0.8*4) = 4.7$*

INTERNAL LOSS RATE

Basin	High ≥2.0%/yr	Medium < 2.0% to ≥ 0.5%/yr	Low < 0.5%/yr to ≥ 0.01%/yr
Barataria and Terrebonne	10	7.5	5
Calcasieu/Sabine, Mermentau, and Pontchartrain	7.5	5	4
Breton, Mississippi River	5	4	3
Atchafalaya and Teche/Vermilion	4	3	1

SHORELINE EROSION RATE

Basin	High ≥ 25 ft/yr	Medium ≥ 10 to < 25 ft/yr	Low 0 to < 10 ft/yr
Barataria Terrebonne	10	7.5	5
Calcasieu/Sabine Mermentau Pontchartrain	7.5	5	4
Breton Mississippi River	5	4	3
Atchafalaya Teche/Vermilion	4	3	1

III. Implementability

Implementability is defined as the expectation that a project has no serious impediment(s) precluding its timely implementation. Impediments include issues such as design-related issues, landrights, infrastructure relocations, and major public concerns. The Work Groups will, by consensus or vote, agree on impediments which will warrant a point-score deduction. Other issues which sponsoring agencies believe may significantly affect implementability may also be identified.

The predominant landrights issue affecting implementability is identified as non-participating landowners (i.e., demonstrated unwillingness to execute required servitudes, rights-of-way, etc.) of tracts critical to major project features, *unless* the project is sponsored

by an agency with condemnation authority which has confirmed its willingness to use such authority. Other difficult or time-consuming landrights issues (e.g., reclamation issues, tracts with many owners/undivided interests) are not defined as issues affecting implementability unless identified as such by the agency procuring landrights for the project. Infrastructure issues are generally limited to modifications/relocations for which project-specific funding is not included in estimated project costs, or if the infrastructure operator/owner has confirmed its unwillingness to have its operations/structures relocated/modified.

Significant concerns include issues such as large-scale flooding increases, significant navigation impacts, basin-wide ecological changes which would significantly affect productivity or distribution of economically- or socially-important coastal resources.

The project has no obvious issues affecting implementability 10 pts

Subtract 3 points for each identified implementability issue, negative scores are possible.

IV. Certainty of benefits

The Adaptive Management review indicated that some types of projects are more effective in producing the anticipated benefits. Factors that influence the certainty of benefits include soil substrate, operational problems, lack of understanding of causative factors of loss, success of engineering and design as well as construction, etc. Scoring for this criterion should be based on selecting project types which reflect the planned project features. If a project contains more than one type of feature, the relative contribution of each type should be weighed in the scoring, as in the example below.

*Example: A project in the Chenier Plain with two major project components: inland shoreline protection and hydrologic restoration. Approximately 80% of the anticipated benefits (i.e., net acres at TY20) are expected to result from shoreline protection features and approximately 20% of the benefits (i.e. net acres at TY 20) are anticipated to result from hydrologic restoration. Scoring for this project should be $(0.8*10)+(0.2*5) = 9$*

Certainty of Benefits Scores by Project Type

Inland shoreline protection - chenier plain	10
River diversions- deltaic plain	9
Terracing - chenier plain	8
Inland shoreline protection - deltaic plain	8
Marsh creation - chenier plain	7
Marsh creation - deltaic plain	7
Barrier island projects *	7
Gulf shoreline protection - chenier plain**	6
Gulf shoreline protection - deltaic plain**	5
Freshwater diversion -chenier plain	5
Freshwater diversion - deltaic plain	5
Hydrologic restoration - chenier plain	5
Vegetative plantings (low energy area)	5

Terracing - deltaic plain	3
Hydrologic restoration - deltaic plain	2
Vegetative plantings (high energy area)	2

* Refers to traditional barrier island projects which create marsh and dune habitats by dedicated dredging. If shoreline protection is a project component, then the score should be weighted by apportioning the benefits between shoreline protection (score of 5) and traditional dedicated dredging techniques (score of 7).

** Gulf shoreline protection means typical structures currently being used around the state and nation such as breakwaters, revetments, concrete mats, etc. Does not include experimental structures being tested at various locations.

V. Sustainability of benefits

This criterion should be scored as follows: The TY20 net acres (i.e., TY20 FWP acres – TY20 FWOP acres) should be projected through TY30 based on application of FWOP conditions (i.e., internal loss). The percent decrease in net acres from TY20 to TY30 is used in the matrix below to produce an indicator of sustainability. Assume that, after TY20, project features such as water control structures would be locked open, controlled diversions and siphons would be closed, and shoreline protection structures would only provide full protection until the next projected maintenance event would be necessary (i.e., FWP conditions would continue from TY20 until the next maintenance event would be required).

For shoreline protection projects in the Deltaic Plain, effectiveness will be reduced by 50% from the year the next scheduled maintenance event is required until TY30. For shoreline protection projects in the Chenier Plain, effectiveness will be reduced by 25% from the year the next scheduled maintenance event is required until TY30. The effectiveness of shoreline protection projects utilizing concrete panels will be reduced by 10%. A 50% reduction in effectiveness will also be applied to barrier island projects using rock shoreline protection. Vegetative plantings used for shoreline protection return to FWOP erosion rates after TY20. For all shoreline protection projects, it is critical that information be provided to substantiate when the next projected maintenance event would occur.

Selected project types (e.g., uncontrolled sediment diversions) may be considered for continued application of FWP conditions provided that a valid rationale is provided.

SUSTAINABILITY SCORING CATEGORIES

% decrease in net acres between TY20 and TY30	Score
0 to 5% (or gain)	10
6 to 10%	8
11 to 15%	6
16 to 20%	4
21 to 30%	2
> 30%	1

VI. Consistent with hydrogeomorphic objective of increasing riverine input in the deltaic plain or freshwater input and saltwater penetration limiting in the Chenier plain

DELTAIC PLAIN PROJECTS

The project would significantly increase direct riverine input into the benefited wetlands (structure capable of diverting $\geq 2,500$ cfs). 10

The project would result in the direct riverine input of between 2,500 cfs and 1,000 cfs into the benefited wetlands. 7

The project would result in some minor increases of direct riverine flows into the benefited wetlands (structure or diversion $<1,000$ cfs). 4

The project would result in an increase of indirect riverine flows into the benefited wetlands. 2

The project will not result in increases in riverine flows. 0

CHENIER PLAIN PROJECTS

The project will divert freshwater from an area where excess water adversely impacts wetland health to an area which would be benefited from freshwater inputs OR the project will provide a significant level of salinity control to an area where it is in need. 6

The project will result in increases in freshwater inflow to an area where it is in need OR the project may provide some minor and/or local salinity control benefits. 3

The project will not affect freshwater inflow or salinity. 0

VII. Consistent with hydrogeomorphic objective of increased sediment input

The purpose of this criterion is to encourage projects that bring in sediment from exterior sources (i.e., Atchafalaya River north of the delta, Mississippi River, Ship Shoal, or other exterior sources). Therefore, for projects to score on this criterion, they must have some outside sediment sources as project components. Large river diversions similar to Benny's Bay (i.e. >-12 ft bottom elevation) and large marsh creation projects (i.e. ≥ 5 million cubic yards) can be expected to input a substantial amount of sediment into areas of need and should rank higher than diversions and marsh creation projects of smaller magnitude. Quantities of sediment deposited by river diversions must be reviewed and approved by the Engineering Work Group. Mining sediment from outside systems should receive emphasis. Large scale mining of river sediments such as proposed in the Sediment Trap project represent a major input of sediment from outside the system. Major mining of Ship Shoal for use on barrier islands should also be considered to be more beneficial than dredging minor volumes of sediment for placement on barrier islands. Mining ebb tidal deltas should also receive less emphasis than major mining of Ship Shoal due to the limited quantity of high quality sand available from ebb tidal deltas. Ebb tidal deltas are sediment sinks disconnected from input into the system and should be emphasized over flood tidal deltas or other similar interior bay borrow sites. In all cases, to receive any points, the source of the sediment should be considered to be exterior to, and have no natural sediment

input into, the basin in which the project is located. Because of the recognized differences in logistics between river-source marsh creation projects/diversions and barrier island projects, a separate scoring category is used for barrier island projects. Projects which do not supply sediment from external sources cannot receive points for this criterion.

Scoring categories for diversions and marsh creation projects utilizing the Mississippi River or Atchafalaya River as a sediment source:

The project will result in the significant placement of sediment (≥ 5 million cubic yards) from exterior sources.	10
The project will input some sediment (< 5 million cubic yards) from external sources.	5
The project will not increase sediment input over that presently occurring.	0

Scoring categories for barrier island projects utilizing offshore and ebb tidal delta sediment sources:

The project will result in the significant placement of sediment (≥ 1 million cubic yards) from an offshore sediment source.	10
The project will input some sediment (> 2 million cubic yards) from an ebb tidal delta source.	5
The project will not increase sediment input over that presently occurring	0

VIII. Consistent with hydrogeomorphic objective of maintaining or establishing landscape features critical to a sustainable ecosystem structure and function

Certain landscape features provide critical benefits to maintaining the integrity of the coastal ecosystem. Such features include barrier islands, lake and bay rims/shorelines, cheniers, landbridges, and natural levee ridges. Projects which do not maintain or establish at least one of those features cannot receive points for this criterion.

The project serves to protect, for at least the 20 year life of the project, landscape features which are critical to maintaining the integrity of the mapping unit in which they are found or are part of an ongoing effort to restore a landscape feature deemed critical to a basin (e.g., Barataria land bridge, Grand and White Lake land bridge) or the coast in general (e.g., barrier islands)	10
The project serves to protect, for at least the 20 year life of the project, any landscape feature described above.	5
The project does not meet the above criteria.	0

Once the projects have been evaluated and scored by the Environmental and Engineering Work Groups, each score will be weighted using the following table and the following formula to create one final score. A maximum of 100 points is possible.

Weighting per criteria:

1.	Cost-Effectiveness	20%
2.	Area of Need	15%
3.	Implementability	15%
4.	Certainty of Benefits	10%
5.	Sustainability	10%
6.	HGM Riverine Input	10%
7.	HGM Sediment Input	10%
8.	HGM Structure and Function	10%
TOTAL		100%

$$(C1*2.0) + (C2*1.5) + (C3*1.5) + (C4*1.0) + (C5*1.0) + (C6*1.0) + (C7*1.0) + (C8*1.0)$$

Prioritization Criteria - Attachment 1

COST / “ALTERNATE NET ACRES” (SWAMP)

“COST / NET ACRE” does not work for swamp projects because the wetland loss rates estimated for Louisiana coastal wetlands using historical and recent aerial photography, have not detected losses for swamps. In spite of this, swamp ecologists and others know that the condition of many of swamps is very poor, and that the trend is for rapid decline. They also know that the ultimate result of this trend will be conversion of the swamps to open water. This conversion is expected to happen very quickly when swamp health reaches some critical low threshold. Because of this, it is not possible to estimate “net acres” as is done for marsh projects. However, future loss rates for swamps have been estimated by Coast 2050 mapping unit (Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority 1998). This information, combined with other information regarding project details/benefits can be used to provide an “**alternate net acres**” estimate for swamp projects.

EXAMPLES

Maurepas Diversion Project: Wetland loss rates for the Coast 2050 Amite/Blind Rivers mapping unit for 1974-90 were estimated by USACE to be 0.83% per year for the swamps, and 0.02% per year for fresh marsh. Based on these rates, about 50% of the swamp, and 1.2% of the fresh marsh will be lost in 60 years (LCWCRTF 1998. Appendix C). For the purposes of this example, in order to be consistent with other approaches, one can estimate the acres that would be lost in the project area in 20 years without the project. The project area is 36,121 acres (Lee Wilson & Associates 2001). The Amite/Blind Rivers mapping unit consisted of 138,900 acres of swamp and 3,440 acres of fresh marsh in 1990 (LCWCRTF 1998. Appendix C). Since we don’t have an estimate of the proportion of swamp and fresh marsh in our study area, we will assume the same proportions as in the Amite/Blind Rivers mapping unit, 98% swamp, 2% fresh marsh. Applying these

proportions and the loss rates for the mapping unit, to the project area, about 17,699 acres of swamp and about 9 acres of fresh marsh will be lost in 60 years in the Maurepas project area, without the project. With the project, we assume none of this will be lost. Assuming a linear rate of loss (not really the case for swamps), 5,900 acres of swamp and 3 acres of fresh marsh will be lost in 20 years without the project. With the project, we assume none of this will be lost, so the “alternate net acres” for this project are 5,903. COST / “ALTERNATE NET ACRES” is equal to the project cost estimate, \$57,500,000, divided by 5,903 = \$9,741. This then would fall within the “Less than \$20,000 / net acre” category for a score of 10.

Small Diversion into NW Barataria Basin: This project is in the Coast 2050 Des Allemands mapping unit. It is estimated that 60% of the swamp and 30% of the marsh in this unit will be lost in 60 years (LCWCRTF 1998. Appendix D). The project area includes 4,057 acres of swamp and 20 acres of fresh marsh (USGS & LDNR 2000). Applying the estimated future loss rates from Coast 2050 to this project area, we estimate that 2,434 acres of swamp and 6 acres of fresh marsh will be lost in 60 years without the project. Assuming a linear rate of loss (not really the case for swamps), we estimate that 811 acres of swamp and 2 acres of fresh marsh will be lost in 20 years without the project. With the project, we assume none of this will be lost. In addition, this project will restore 200 acres of existing open water to swamp (U.S. EPA 2000), for a total “alternate net acres” for this project of 1,013 acres. COST / “ALTERNATE NET ACRES” is equal to the project cost estimate, \$7,913,519, divided by 1,013 = \$7,812. This then would fall within the “Less than \$20,000 / net acre” category for a score of 10.

REFERENCES

Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority. 1998. Coast 2050: Toward a Sustainable Coastal Louisiana. Appendices C and D. Louisiana Department of Natural Resources. Baton Rouge, La.

Lee Wilson and Associates. 2001. Diversion Into the Maurepas Swamps. Prepared for U.S. EPA Region 6, Dallas, Texas.

U.S. EPA Region 6. 2000. Wetland Value Assessment Project Information Sheet- Small Freshwater Diversion to the Northwestern Barataria Basin.

USGS & LDNR. 2000. Northwestern Barataria Basin Habitat Analysis.

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 to Chef Menteur Pass Shoreline Protection and Marsh Creation

Coast 2050 Strategies: Coastwide: dedicated dredging to create, restore, or protect wetlands; maintenance of Gulf, bay, and lake shoreline integrity. Regional: dedicated delivery of sediment for marsh building; maintain shoreline integrity of Lake Pontchartrain to protect regional ecosystem values; maintain Eastern New Orleans landbridge by marsh creation and shoreline protection. Mapping Unit: dedicated dredging; maintain shoreline integrity.

Project Location: Region 1, Pontchartrain Basin, Orleans Parish, East Orleans landbridge mapping unit, Point aux Herbes south along Lake Pontchartrain to Chef Menteur Pass.

Problem: The project area consists of a relatively narrow segment of marsh and shallow open water between an existing Federal hurricane protection levee, Interstate-10, and Lake Pontchartrain. As the shoreline deteriorates and retreats, the threat to interior marsh and local infrastructure becomes elevated as they are exposed to the high-energy conditions of Lake Pontchartrain. The erosion rate along the shoreline of Lake Pontchartrain between Point aux Herbes and Chef Menteur Pass, based on an analysis of shoreline change, varies between 5 feet and 54 feet per year.

Goals: The goals of the project are to stop shoreline erosion and create marsh behind the shoreline in two key areas of loss in order to prevent the lake shore from breaking into the interior marsh ponds.

Proposed Solution: 1. Approximately 20,700 linear feet of rock dike will be constructed along the -2.0 foot contour extending from Point aux Herbes to Chef Menteur Pass. 2. Approximately 46 acres of marsh will be created by hydraulically dredging material from the bottom of Lake Pontchartrain, and placing it into the confined marsh creation sites as shown on the project map.

Project Benefits: The project would benefit about 249 acres of brackish marsh and open water. Approximately 147 acres of marsh would be created/protected over the 20-year project life.

Project Costs: Total fully funded cost = \$13,252,000.
Fully funded first cost = \$9,819,000.

Sponsoring Agency/Contact Person:

Martha Segura, U.S. Fish and Wildlife Service, (337) 291-3110, martha_segura@fws.gov
Chris Monnerjahn, USACE, (504) 862-2415,
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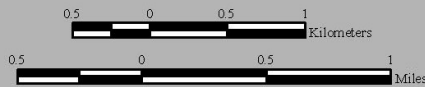
Irish Bayou to Chef Menteur Pass Shoreline Protection and Marsh Creation
(PPL14 Project Candidate)



- Existing Bayou Chevee (PO-22) CWPPRA Project
- Rock Dike *
- Marsh Creation *
- Bayou Sauvage National Wildlife Refuge

Project Boundary

* denotes proposed features



Map ID: USGS-NWRC 2005-11-0014
Map Date: October 21, 2004

Scale 1:42,000



Map 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:
1998 Digital Orthophoto Quarter Quadrangles

Project Name: Riverine Sand Mining/Scofield Island Restoration

Coast 2050 Strategy: Dedicated dredging, to create, restore, or protect wetlands; maintenance of gulf, bay and lake shoreline integrity; vegetative planting; off-shore and riverine sand and sediment resources; extend and maintain barrier headlands, islands and shorelines; beneficial use of dredged sediment; restore barrier islands.

Project Location: The project area is located between Scofield Bayou and where Bay Coquette has merged with the Gulf of Mexico along the Plaquemines Barrier Shoreline, in Plaquemines Parish, Louisiana. The project is located in Region Two, southeastern edge of Barataria Basin, Barataria Barrier Shorelines mapping unit or approximately 10 miles southwest of Venice.

Problem: A large breach exists in the shoreline that developed early in 2003, after Hurricane Lili. The Gulfside erosion rate is -13.0 feet/year based on 1853 to 1989 and -13.2 feet/yr from 2000 to 2004. With the passage of Hurricane Lili in 2002 and the relative high frequency of tropical storms in 2003, it is expected that the shoreline erosion rates and percent loss per year have increased. Wetlands, dune, and swale habitats within the project area have undergone substantial loss due to oil and gas activities (e.g., pipeline construction), subsidence, sea-level rise, and marine and wind induced erosion causing landward transgression and more recently breaching and breakup.

Goals: The goals of this project are to repair breaches and tidal inlets in the shoreline, reinforce the existing shoreline with sand, and increase the island width with back barrier marsh creation to increase longevity. The design approach is to maximize surface area habitat remaining after 20 years by preventing shoreline breaching through introduction of riverine sand and offshore fine sediment.

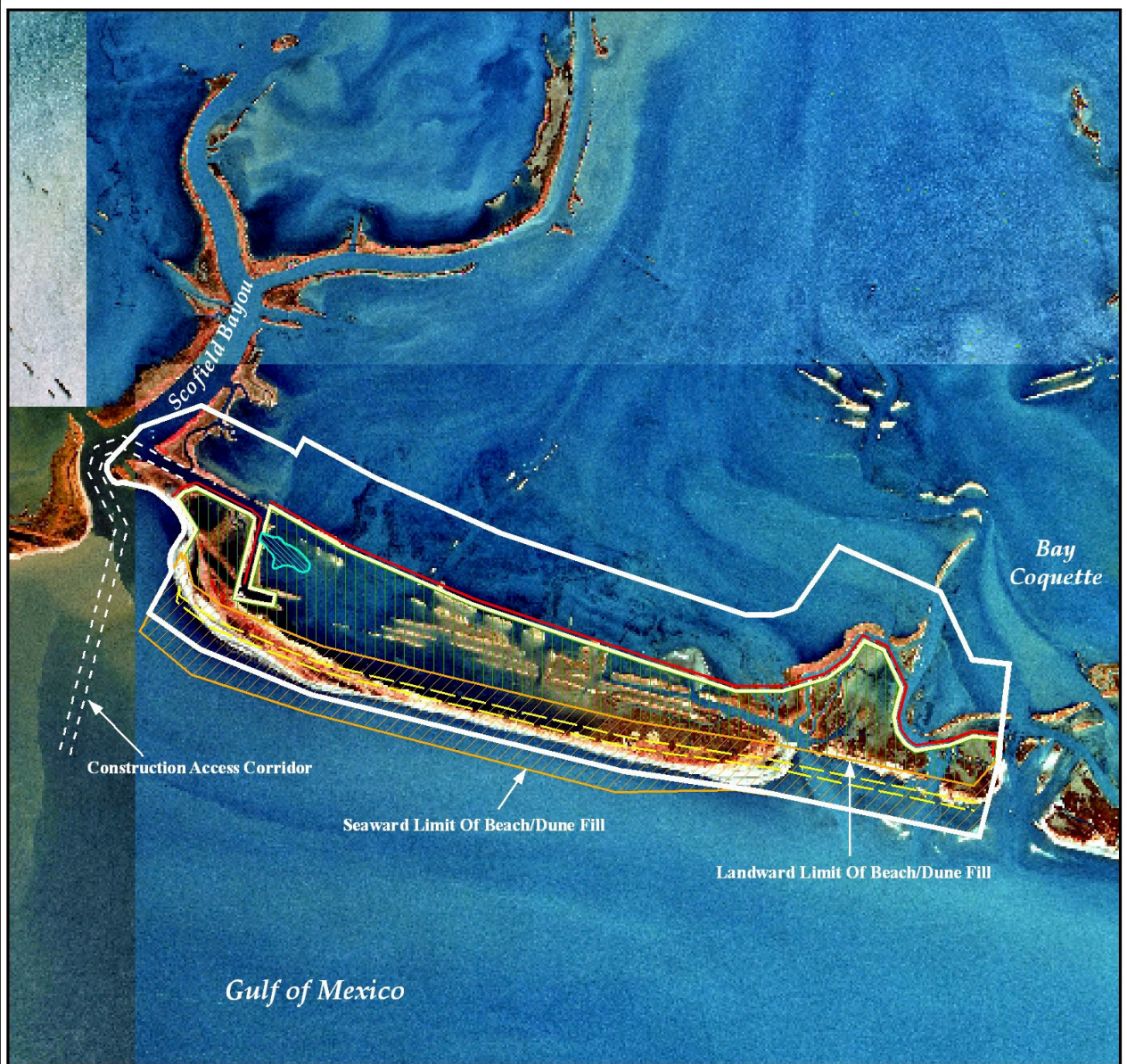
Proposed Solution: The project features include construction of approximately 101 acres of dune and 328 acres of supratidal elevations of dune fore and back slopes and marsh platform. Of that acreage, approximately 278 acres would settle to intertidal back barrier marsh. The dune would be +6 feet high, approximately 250 ft wide along 12,700 feet of Gulf shoreline. A double row of sand fencing would be installed along the length of the dune concurrent with heavy construction. A tidal pond would be constructed in the marsh platform and approximately three years after construction, retention dikes would be gapped as needed to ensure tidal exchange with the marsh platform. Other tidal features would be incorporated during advanced design. The dune and marsh platforms would be planted over three years and would include 4-inch containers of bitter panicum, Gulf cordgrass, and marshhay cordgrass, and gallon containers of seaots, multi-stem plugs of smooth cordgrass, 4-inch containers of matrimony vine, and tube-tainers of black mangrove. Additional woody species would be planted on the dune.

Project Benefits: The project would benefit over 500 acres of dune, swale, saline marsh and open water habitat. Breaching would be prevented for 20 years resulting in the net of 234 acres of barrier shoreline habitat.

Project Costs: Total fully funded cost = \$44,545,000.
Fully funded first cost = \$40,711,052.

Sponsoring Agency/Contact Person:

Patrick Williams, National Marine Fisheries Service, (225) 389-0508, patrick.williams@noaa.gov

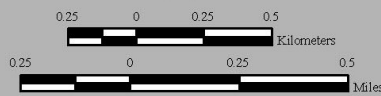


Riverine Sand Mining/Scofield Island Restoration
(PPL14 Project Candidate)



- Sand Fencing *
- Beach/Dune Fill *
- Tidal Pond *
- Project Boundary
- Containment Dike *
- Borrow Canal *
- Marsh Fill *

* denotes proposed features



Scale 1:23,000



Map 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:
1998 Digital Orthophoto Quarter Quadrangle

Map ID: USGS-NWRC 2005-11-0007
Map Date: October 15, 2004

Project Name: South Shore of The Pen Shoreline Protection and Marsh Creation

Coast 2050 Strategy: Preserve bay and lake shoreline integrity on the landbridge and dedicated dredging to marsh on the landbridge.

Project Location: Region 2, Barataria Basin, Jefferson Parish, South Shore of the Pen, Bayou Dupont, Barataria Bay Waterway.

Problem: The triangular landmass bounded by the southern shoreline of The Pen, the Barataria Bay Waterway (Dupre Cut) and the Pipeline Canal is deteriorating due to shoreline erosion (ranging from 4 to 27 feet per year) and interior marsh loss. Loss of this protective landmass would provide a more direct connection between the marine/tidal processes of the lower Barataria Basin and the freshwater-dominated upper basin.

Goals: The goals of this project are to stop shoreline erosion and to create (74 acres) and nourish (107 acres) of marsh located between The Pen and Barataria Bay.

Proposed Solution: Approximately 1,000 feet of concrete pile and panel wall and 10,900 feet of rock revetment would be constructed along the south shore of The Pen and Bayou Dupont. Two existing bayous will remain open and a site-specific opening to The Pen will be incorporated at the eastern marsh creation site. Dedicated dredging would be used to create approximately 74 acres of marsh, and nourish an additional 107 acres of marsh, within the triangular area bounded by the south shore of The Pen, the Barataria Bay Waterway (Dupre Cut) and the Creole Gas Pipeline Canal. Target elevation after compaction and settlement is 1.3 feet NAVD88. In the marsh nourishment zone, the target deposition thickness after compaction and settlement is 0 to 0.5 foot above existing marsh platform. Containment dikes constructed for marsh creation and nourishment will be degraded upon completion of construction.

Project Benefits: It is estimated that the project would prevent the loss of 47 acres of marsh due to shoreline erosion, create 74 acres of marsh, and nourish 107 acres of intermediate marsh. Over the 20-year project life, it is estimated that the project will produce 116 net acres.

Project Costs: Total fully funded cost = \$17,514,000.
Fully funded first cost = \$14,134,000.

Sponsoring Agency/Contact Person:

Quin Kinler, USDA, Natural Resources Conservation Service, (225) 382-2047,
quin.kinler@la.usda.gov

John Jurgensen, USDA, Natural Resources Conservation Service (318) 473-7694,
john.jurgensen@la.usda.gov



South Shore of The Pen Shoreline Protection and Marsh Creation

(PPL14 Project Candidate)



- - - - - Existing BA-26 Shoreline Protection
- Shoreline Protection*
- Marsh Creation*
- Marsh Nourishment*
- Project Boundary

* denotes proposed features



Scale 1:20,000



Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
1998 Digital Orthophoto Quarter Quadrangle

Map ID: USGS-NWRC 2004-11-0497
Map Date: August 20, 2004

Project Name: Venice Ponds Marsh Creation

Coast 2050 Strategy: Dedicated dredging for marsh creation.

Project Location: Region 2, Mississippi River Delta Basin, Plaquemines Parish, south of Venice, Louisiana, adjacent to the Red, Tiger, and Grand Passes.

Problem: The Birdsfoot Delta is losing land at a rapid rate, mainly due to a high subsidence rate of 3-5 feet per century, lack of sediment input, and damage from hurricanes. In September 2004, Hurricane Ivan did additional damage to the delta marshes. The project would create marsh in ponds that were nearly solid wetlands in 1956 and are now mostly open water.

Goals: The goals of the project are to create, maintain, nourish, and replenish existing deteriorating wetlands. The primary goal is to create over 700 additional acres of emergent marsh.

Proposed Solution: 1. Marsh will be created in Sites 1, 2 and 3 (see Project Map) by hydraulically dredging material from Grand and Tiger Passes. The target elevation after one year in the Sites will be a maximum of +3.0 ft. NGVD and a minimum of +1.0 ft. NGVD. Existing marsh boundaries will aid in the retention of dredged material and re-establishment of marsh habitat. Some earthen dikes will be constructed to contain and train the dredge slurry as needed. 2. A small crevasse channel, which will convey approximately 100 cfs, will be constructed to nourish the existing marsh, newly constructed marsh, and the wetland forest in Site 3. 3. A culvert will be constructed to maintain a hydrologic connection between Site 2 and the adjacent channel.

Project Benefits: The project would benefit 919 acres of fresh marsh and open water. Approximately 710 acres of new marsh would be created. At the end of 20 years, there would be approximately 593 acres of marsh remaining due to subsidence and other factors. This marsh would provide some additional protection to Venice during hurricanes.

Project Costs: Total fully funded cost = \$20,172,000.
Fully funded first cost = \$18,931,000.

Sponsoring Agency/Contact Person:




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Chris Monnerjahn, U.S. Army Corps of Engineers, (504) 862-2415,
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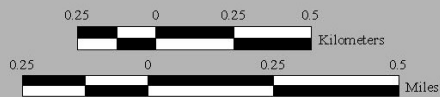
Venice Ponds Marsh Creation
(PPL14 Project Candidate)



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



Map 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 2004-11-0516
Map Date: October 25, 2004

Scale 1:21,500

Image Source:
1998 Digital Orthophoto Quarter Quadrangle

Project Name: White Ditch Resurrection and Outfall Management

Coast 2050 Strategies: Regional: manage outfall of existing diversions; construct most effective small diversions.

Project Location: Region 2, Breton Sound Basin, Plaquemines Parish, River aux Chenes Mapping Unit, White's Ditch.

Problem: The area is not receiving any water from the Mississippi River since the siphon operation has been discontinued. The addition of another siphon doubles the amount of diversion able to reach the area.

Goals: Reduce erosion rate by introduction of freshwater, nutrients, and to lesser degree sediment into interior marshes.

Proposed Solution: 1. Gated plug in the outfall channel (approx. two miles below siphon) to force water to enter interior marshes and 2. Install additional siphon of same size (existing – two 50 inch diameter steel pipes currently allow approximately 250 cfs).

Project Benefits: The project would benefit 8,224 acres of fresh/intermediate marsh and open water. Approximately 189 acres of marsh would be created/protected over the 20-year project life.

Project Costs: Total fully funded cost = \$14,845,000.
Fully funded first cost = \$11,213,250.

Sponsoring Agency/Contact Person:

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White Ditch Resurrection and Outfall Management

(PPL14 Project Candidate)

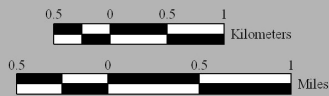


- Culvert
- Siphon

- Water Control Structure *
- Siphon *

Project Boundary

* denotes proposed features



Scale 1:57,000



Map 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:
 1998 Digital Orthophoto Quarter Quadrangle

Map ID: USGS-NWRC 2004-11-0498
 Map Date: September 14, 2004

Project Name: East Marsh Island Marsh Creation

Coast 2050 Strategy: Dedicated dredging to create, restore or protect wetlands; maintenance of gulf, bay and lake shoreline integrity; vegetative planting

Project Location: Region 3, Teche/Vermilion Basin, Iberia Parish, East end of Marsh Island Wildlife Refuge, SE of Lake Sand.

Problem: Substantial areas of interior emergent marsh on Marsh Island have been converted to open water, primarily due to Hurricane Lili. Areas targeted by this project are those with the greatest historic land loss and within close proximity to East Cote Blanche Bay. Marsh creation was initially planned behind the existing two easternmost rock dikes constructed as part of TV-14 CWPPRA Project but was dropped from the project due to costs.

Goals: Re-create brackish marsh habitat in the open water areas of the interior marsh primarily caused by hurricane damage. The project will also create marsh behind the two easternmost existing rock dikes.

Proposed Solution: Create approximately 189 acres of interior emergent marsh with hydraulically dredged material from East Cote Blanche Bay. The created areas will be planted with plugs of smooth cordgrass on approximately 5-ft centers. Nourish an additional 189 acres of marsh adjacent to areas of dredge fill.

Project Benefits: Approximately 189 acres of marsh will be created by completely filling in open ponds and planting the created areas. It is anticipated that an additional 189 acres of marsh will be benefited through marsh nourishment as a result of hydraulic dredging for marsh creation without containment dikes. This will allow additional finer material to flow throughout the adjacent marshes of the creation area and provide nourishment. This process will yield a total of 367 acres benefited over the project life. The loss rates for the interior ponded areas are estimated to be reduced by greater than 75%. This project provides a synergistic effect with the constructed TV-14 project.

Project Costs: Total fully funded cost = \$16,824,700.

Fully funded first cost = \$16,587,000

Sponsoring Agency/Contact Person:

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ron.boustany@la.usda.gov



East Marsh Island Marsh Creation
(PPL14 Project Candidate)



-  Rock Dike
-  Marsh Nourishment*
-  Marsh Creation*
-  Project Boundary

*denotes proposed features



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

Map ID: USGS-NWRC 2004-11-0461
Map Date: July 19, 2004

Scale 1:32,500

Image Source:
2001 Color Infrared Aerial Photography - Post Lili

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: Barrier Island Sand Blowing Demonstration Project

Coast 2050 Strategy: Regional: revised strategy 14 - restore and maintain barrier islands.

Project Location: It is recommended demonstrating this technology at Breton Island, although any other barrier island in Louisiana could be selected.

Problem: Barrier islands are rapidly disappearing as a result of tropical storm and hurricane activity. Storms cause surge that over-wash and often breach the islands. Many times breaches or gaps form in the island that continue to erode and eventually form large cuts in the island. Closing barrier island breaches quickly with high quality sediments is the easiest and least expensive strategy to maintain shoreline integrity. One of the challenges in barrier island restoration is finding the most cost effective and highest quality borrow source available. When a source of sand is found it is often times encumbered by pipeline networks and covered by layers of silts or organics and/or may be too far from the restoration site for cost effective mining and placement.

Goals: 1. To demonstrate the use of the sand blowing technology for the purposes of mining sand sites in the dry and placing (unloading) the sand in the dry. 2. To demonstrate the cost effectiveness of using confined upland disposal sites as a potential source of sand for barrier island restoration projects. 3. To demonstrate the effectiveness of using this placement method to close newly formed gaps (breaches) and/or over-wash areas resulting from major storm events such as tropical storms and hurricanes. 4. To demonstrate the effectiveness of using this placement method to place high quality sediments in precise areas, such as breaches or beaches, on eroding barrier islands.

Proposed Solution: The demonstration project involves the mining of high quality sand (dry) from a USACE, Mobile District's upland confined disposal site using the sand blowing method. The sand would then be placed on a barge and towed to Breton Island. The sand would then be offloaded from the barges and placed on Breton Island using the sand blowing method. The sand would be used to close breaches or areas of over-wash on the island.

Project Benefits: This project allows use of material not being used beneficially, would decrease impacts to water quality at the disposal site, and avoid impacts resulting from containment dike construction.

Project Costs: Total fully funded cost = \$1,774,000.
Fully funded first cost = \$1,703,000.

Sponsoring Agency and Contact Persons:

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Project Name: Floating Wave Attenuator Demonstration Project

Coast 2050 Strategy: Coastwide Common Strategy: maintenance of bay and lake shoreline integrity, stabilization of major navigation channels. Regional: Region 1- maintain shoreline integrity of Lake Borgne and Biloxi Marsh, maintain Eastern Orleans landbridge by marsh creation and shoreline protection, stabilize the entire north bank of the MRGO; Region 2 - construct wave absorber at the heads of bays, build entire Breaux Act landbridge shore protection project, preserve bay and lake shoreline integrity; Region 3 - maintain shoreline integrity and stabilize critical areas of Teche-Vermilion Bay systems including the gulf shorelines, maintain shoreline integrity of marshes adjacent to Caillou, Terrebonne, and Timbalier Bays; Region 4 - Stabilize Grand Lake and White Lake shorelines, stabilize Gulf of Mexico shoreline in the vicinity of Rockefeller Refuge, stabilize Gulf of Mexico shoreline from Calcasieu Pass to Johnson's Bayou.

Project Location: There are multiple projects planned and ongoing that fit within the strategies listed above. One possible application is in Region 1, Pontchartrain Basin, St. Bernard Parish, EPA's Lake Borgne Shoreline Protection Project (PO-30) near Bayou Dupre.

Problem: Shorelines throughout coastal Louisiana are eroding and exposing the interior marsh to breaches that form channels to convey saltwater into the interior marshes. The most common means of addressing this situation is installation of expensive rock dikes on or near the eroding shorelines, but poor soils that are common throughout the area result in the rock dikes sinking, requiring maintenance and rebuilding in many cases. In addition, the installation of rock dikes often requires dredging of flotation channels, which can be problematic when there are submerged cultural or ecological resources in the area.

Goals: Test several floating wave attenuation systems with different mooring systems to determine if the products can protect the shoreline in a low to moderate wave energy application.

Proposed Solution: Install three or four 500-foot long sections of floating wave attenuator systems as part of a project. Each product should be installed according to the manufacturer's installation recommendations, visually inspected once a year for structural integrity, sediment accretion, and wave energy reduction.

Project Benefits: If successful, the systems will protect the shorelines at a cost comparable to rock dikes, with less site disturbance and perhaps less operation and maintenance costs. In some cases, the system may be manufactured locally within Louisiana rather than importing stone from other states, resulting in a more environmentally preferred and sustainable alternative.

Project Costs: Total fully funded cost = \$1,278,000.
Fully funded first cost = \$1,155,000.

Sponsoring Agency/Contact Person:

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Project Name: Evaluation of Bioengineered Reefs Performing as Submerged Breakwaters Demonstration Project

Coast 2050 Strategy: Stabilize Gulf of Mexico shoreline from old Mermentau River to Dewitt Canal, preserve and stabilize the Gulf shoreline, maintain integrity of Gulf of Mexico shoreline where needed.

Project Location: Region 4, Mermentau Basin, Cameron/Vermilion Parish, Rockefeller Refuge west of Rollover Bayou.

Problem: Louisiana's coastline has received national attention for the past 2-3 decades due to its rapid erosion rates. Poor soil load bearing capacities is one example that could limit the use of more traditional restoration techniques along many areas of coastal Louisiana.

Goals: The goal of this project is to investigate specific designs of bioengineered reefs and their ability to mitigate erosion. Additional goals focus on environmental benefits both at the time of installation and over the development life of the oysterbreak; and investigation of stability and growth of the structures over time.

Proposed Solution: Many locations in coastal Louisiana would be appropriate. Because this is intended to be a biologically dominated engineered structure, there is a need for sufficient oyster spat and appropriate growing conditions. Maturity will be influenced by oyster growth rates. Thus, areas of high oyster growth would be preferred. The technology termed an "oysterbreak" is designed to stimulate the growth of biological structures in the shape of submerged breakwaters. The project would entail construction of a near-shore break-water along the Gulf of Mexico shoreline. The break-water would extend from the western bank of Joseph's Harbor canal westward for 600 feet. It would be designed to attenuate shoreline retreat along this stretch of Gulf shoreline, as well as promote shallowing, settling out, and natural vegetative colonization of over-wash material landward of the proposed structure. The resultant design would be placed offshore along the -3' contour. The crest height of the proposed structure would be 6 feet above the Gulf floor, with a 10 foot crown and 1:3 slope on both sides.

Project Benefits: This project is anticipated to benefit 2.4 acres of saline marsh (600 ln ft X 35 ft/yr X 5 yrs).

Project Costs: Total fully funded cost = \$1,308,000.
Fully funded first cost = \$428,000.

Sponsoring Agency/Contact Person:

John D. Foret, National Marine Fisheries Service, (337) 291-2107; John.Foret@noaa.gov

Project Name: Sand Fence Alternatives for Dune Formation and Colonial Nesting Bird Platforms on Barrier Islands Demonstration Project

Coast 2050 Strategy: Restore Barrier Islands and Gulf Shorelines

Project Location: Raccoon Island and Whiskey Island (proposed)

Problem: The Isles Dernieres barrier island chain is one of the most rapidly deteriorating barrier shorelines in the United States. Raccoon Island, which is documented to host the largest Brown Pelican nesting colony in the State of Louisiana, is estimated to be eroding at a rate of 54 feet/year in some areas and previous estimates suggested that future without action would result in complete loss of the island as early as 2007. Eight breakwaters were installed in 1997 on the eastern Gulf end of the island, which have successfully created large sand flats (tombolos and salients) extending as much as 300 feet from the breakwaters to the original coastline. However, no dune habitat currently exists and colonial seabird nesting numbers are declining as a result. Observations indicate that vegetation and other surface anomalies tend to cause sand accumulation and promote dune formation. Creating artificial obstructions on the large sand flats may promote rapid dune formation as well as provide additional platforms for nesting colonies of seabirds.

Goals: To test the use of natural materials in the development of sand accumulation and dune formation and the ability of the material to secondarily provide additional nesting platforms for colonies of nesting seabirds on the barrier island.

Proposed Solution: The newly formed sand flats that have recently developed behind the breakwaters on Raccoon Island consist largely of loose sands with very little vertical development towards dune formation. Although sand fences are often used to promote dune formation, the low elevation of Raccoon Island makes them vulnerable during storms and the fences may actually be a hazard to the high density of nesting birds. The use of biodegradable oyster shell sacks stacked in various experimental formations along with vegetative plantings of select dune plants may provide a much more feasible temporary structure on the sand flats to capture sands and promote dune formation as well as provide additional nesting platforms for an already space-limited colonial seabird nesting site.

Project Benefits: The demonstration project will test an innovative alternative to sand fencing for creating sand dunes on barrier islands. The advantages of the proposed methodology is that it is very cost effective, the materials are readily available, the materials used are composed of a biodegradable burlap sacks and naturally occurring oyster shells, and may provide additional erosion prevention during super-tidal events.

Project Costs: Total fully funded cost = \$491,000.
Fully funded first cost = \$329,000.

Sponsoring Agency/Contact Person:

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Project Name: Beneficial Use of Dredged Disposal Areas Demonstration Project

Coast 2050 Strategy: Dedicated dredging or beneficial use of sediment for wetland creation or protection, terracing, vegetation plantings, and beneficial use of dredged material.

Project Location: Region 4, Cameron Parish, just north and west of Black Lake.

Problem: This mapping unit has experienced significant land loss, 65% since 1932, most of which has been attributed to altered hydrology. Increased salinities within the project area have caused interior marsh breakup. As ponds have coalesced, water bodies have grown which exacerbated marsh breakup from wave action.

Goals: Create emergent marsh; reduce wave energy; establish submerged aquatic vegetation; increase fisheries habitat.

Proposed Solution: The proposed project will demonstrate the use of dredging technologies to mine upland disposal areas, and improving the design of single point discharge fields for maximum with marsh edge in marsh creation. If taken separately, earthen terraces and hydraulically placed dredged spoil are not new to those involved in wetland restoration. However, the mining of existing dredged spoil uplands as the dredge spoil source while using earthen terraces as perimeter protection has previously been untested in Louisiana and these techniques are potentially applicable across the coastal zone. For this demonstration, a 50-acre area of open water adjacent to existing broken marsh would be used. Approximately 2,700 linear feet of terraces would be constructed for wave suppression during the placement of dredged spoil mounds. Earthen perimeter terraces would have approximate 5' crowns with a 1:5 side slope, and spoil mounds would have a 24-foot diameter. Through the project life, it is anticipated that an additional 7 acres of emergent marsh would become established as a result of the vertical accretion of spoil mound edges by organic matter production. The project would increase the colonization of submerged aquatic vegetation by reducing wave fetch.

Project Benefits: The project would benefit about 50 acres of intermediate-to-brackish marsh and open water. Approximately 41 acres of marsh would be created/protected over the 5-year project life.

Project Costs: Total fully funded cost = \$2,375,000.
Fully funded first cost = \$2,363,000.

Sponsoring Agency/Contact Person:

John D. Foret, National Marine Fisheries Service (337,) 291-2107; John.Foret@noaa.gov

Project Name: Flowable Fill Demonstration Project

Coast 2050 Strategy: Maintenance of Gulf, bay and lake shoreline integrity; stabilization of major navigation channels; stabilize banks and/or cross-sections of navigational canals; maintain shoreline integrity.

Project Location: This project has two distinct locations within Coast 2050, Region 3. The first will be on one of the existing terraces on TV-12 Little Vermilion Bay Sediment Trapping Project located on the north side of Vermilion Bay, Vermilion Parish, Louisiana. The second site will be the rock structure associated with the TV-11b Freshwater Bayou Bank Stabilization Project also located in Vermilion Parish, Louisiana.

Problem: Several post constructed projects suffer from high maintenance due to rock slippage caused by storms, incessant wave energy or high tides coupled with high wake energy which shear off the top-most part of rock structures. Rock structures have also been subject to vandalism by the removal of material. Fresh spoil used to construct the seaward face of terraces or other earthen structures are very vulnerable to erosion until such time that protective vegetation on the terrace is established.

Goals: To test a technique whereby rock structures have increased integral strength without adding to overall structure weight, and earthen works are afforded protection from erosion on the windward edge of the project in the period immediately following initial and post construction.

Proposed Solution: For rock structures, slippage can be controlled by injecting/applying a flowable, fill material consisting of Portland cement, sand, water, and a plasticizer. This material will bond rocks together and reduce the incidence of re-working or adding new material to the structure due to rock loss. This Flowable Fill can also be applied to the erosive face of freshly constructed and existing earthen works to provide protection against wave energy. This material will set-up and cure in underwater applications. Flowable Fill could eliminate or reduce maintenance on existing and future projects.

Project Benefits: Eliminate or minimize post construction or yearly maintenance of structures built for the control of shoreline erosion. The application of flowable fill over existing or new rock type structures will assist in bonding the structure together resulting in less rock slippage and eventual loss which diminishes the effectiveness of the structures designed use and results in increased costs during the operation/maintenance phase of the project. A layer of flowable fill on the erosive face of earthen terraces will extend the life of the structure allowing for increased sedimentation within protected areas, which, over time which may allow the formation of emergent marsh vegetation. Successful demonstration of this project may also have ramifications for inclusion on new projects, especially rock structures whereby planned or additional structure height may be achieved with flowable fill instead of rock material. The substitution of flowable fill, in place of rock, could possibly lower project costs or increase structure coverage. The flowable fill material does not pose any inherent human or environmental health risks and is non-toxic to fish and wildlife.

Project Costs: Total fully funded cost = \$1,243,000.
Fully funded first cost = \$1,175,000.

Sponsoring Agency/Contact Person:

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Project Name: Wetland Enhancement via Treated Sewage Effluent Diversions Demonstration Project

Coast 2050 Strategy: Management of pump outfall for wetland benefits; Construct small diversions with outfall management; Enhance coastal water quality.

Project Location: Region 2, Barataria Basin, Jefferson Parish. The Rosethorne Terminus, Highway 45 at Highway 3134, south of the Intracoastal Canal.

Problem: There are deteriorating wetlands in the Barataria Basin that are critical and sensitive in terms of salt water intrusion and vegetative deterioration. "...Wetlands in the project area are increasingly threatened by a transition to more tidally influenced conditions that produce high rates of wetland loss in these low salinity marshes because of their highly organic, soft soil conditions..." (LACWCRTF, October 2003). There are not enough opportunities for small scale freshwater diversions to attack the problem.

Goals: The proposed project envisions re-routing wastewater (sewage) treatment plant effluents to adjacent wetlands. Elevated concentrations of Nitrogen and Phosphorus in the effluent discharge stream would serve as a fertilizer, enhancing the growth of the indigenous flora on approximately 2,500 acres of wetland in the case of Rosethorne location. The relatively long detention time of the flow stream through the wetlands would enable significant solids capture and Biological Oxygen Demand (BOD) reduction. Also, the assimilative capacity of the soil and biota of the ecosystem would significantly reduce the metals and organic concentrations in the discharged effluents.

Proposed Solution: The Rosethorne Sewage Effluent Diversion would consist of upgrading the capacity of the existing effluent system and installing approximately 1,700 feet of force main. Water control structures and a flow distribution system would also be constructed to channel the flow through the wetlands. The outlet of the discharge line would be placed at the most hydrologically upstream point of the target wetland feasible to insure that the maximum area of the wetland is benefited and the highest nutrient removal is achieved. The output flow stream from secondary treatment process of the Rosethorne Wastewater Treatment facility is currently discharged into the Intracoastal Canal. The proposed project involves re-routing the treated effluent from its current outfall into the Intracoastal Canal to a distributed discharge structure constructed along the wetland area. The pump station upgrade would involve replacing the existing pumps with larger capacity pumps and upgrading the electrical and instrumentation equipment. The force main would be made of PVC pipe and installed underground, terminating in a distribution header. The water control structures would consist of earthen berms and swales designed to channel the flow down gradient.

Project Benefits: A network of treated sewage effluent diversions can provide an opportunity to combine both freshwater and nutrient availability. Opportunity exists for utilizing the assimilative capacity of the wetlands. This would simultaneously benefit the wetlands by supplying needed nutrients and in a smaller scale mitigating the effects of saltwater intrusion.

Project Costs: Total fully funded cost = \$1,111,000.
Fully funded first cost = \$855,000.

Sponsoring Agency/Contact Person:

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V. PROJECT SELECTION

On February 17, 2005, the CWPPRA Task Force made its selection for the 14th PPL. The CWPPRA Task Force selection for the 14th PPL is shown in Table 6.

Due to the limited availability of funds at the time of the Task Force meeting, two projects were selected for funding and two projects were selected with contingent approval if funds would be available before August 31, 2005. The Task Force determined that if, after August 31, 2005 these two projects are not funded, they would be evaluated as candidate projects for PPL 15. No demonstration projects were selected.

At the Task Force meeting held on July 27, 2005, funding was approved for the South Shore of the Pen Shoreline Protection and Marsh Creation and the East Marsh Island Marsh Creation projects.

Table 6: The 14th 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 Total Cost (3 yr C+O&M+M)	Cumulative Fully Funded Phase II Total Cost (3 yr C+O&M+M)	Average Annual Habitat Units (AAHUs)
BA-40	Riverine Sand Mining/Scofield Island Restoration	BI	NMFS	\$44,545,000	\$3,221,887	\$3,221,887	\$41,323,113	\$41,323,113	\$40,341,182	\$40,341,182	229
BS-12	White Ditch Resurrection and Outfall Management	FD/HR	NRCS	\$14,845,000	\$1,595,676	\$4,817,563	\$13,249,324	\$54,572,437	\$11,386,351	\$51,727,533	107
BA-41	South Shore of The Pen Shoreline Protection and Marsh Creation	SP/MC	NRCS	\$17,514,000	\$1,311,146	\$6,128,709	\$16,202,854	\$70,775,291	\$14,368,285	\$66,095,818	51
TV-21	East Marsh Island Marsh Creation	MC	NRCS	\$16,824,700	\$1,193,606	\$7,322,315	\$15,631,094	\$86,406,385	\$15,435,430	\$81,531,248	11
TOTALS				\$93,728,700		\$7,322,315		\$86,406,385		\$81,531,248	398

Project Physical Type:
FD=Freshwater Diversion
HR=Hydrologic Restoration
HC=Herbivore Control
MC=Marsh Creation
SD=Sediment Diversion
SP=Shoreline Protection
TR=Terracing
BI=Barrier Island
SNT=Sediment Trap
VP=Vegetative Planting

Sponsoring Agencies:
COE=US Army Corps of Engineers
EPA=Environmental Protection Agency
NMFS=National Marine Fisheries Service
NRCS=Natural Resources Conservation Service
FWS=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: Riverine Sand Mining/Scofield Island Restoration

Coast 2050 Strategy: Dedicated dredging, to create, restore, or protect wetlands; maintenance of gulf, bay and lake shoreline integrity; vegetative planting; off-shore and riverine sand and sediment resources; extend and maintain barrier headlands, islands and shorelines; beneficial use of dredged sediment; restore barrier islands

Project Location: The project area is located between Scofield Bayou and where Bay Coquette has merged with the Gulf of Mexico along the Plaquemines Barrier Shoreline, in Plaquemines Parish, Louisiana. The project is located in Region Two, southeastern edge of Barataria Basin, Barataria Barrier Shorelines mapping unit or approximately 10 miles southwest of Venice.

Problem: A large breach exists in the shoreline that developed early in 2003, after Hurricane Lili. The Gulfside erosion rate is -13.0 feet/year based on 1853 to 1989 and -13.2 feet/yr from 2000 to 2004. With the passage of Hurricane Lili in 2002 and the relative high frequency of tropical storms in 2003, it is expected that the shoreline erosion rates and percent loss per year have increased. Wetlands, dune, and swale habitats within the project area have undergone substantial loss due to oil and gas activities (e.g., pipeline construction), subsidence, sea-level rise, and marine and wind induced erosion causing landward transgression and more recently breaching and breakup.

Goals: The goals of this project are to repair breaches and tidal inlets in the shoreline, reinforce the existing shoreline with sand, and increase the island width with back barrier marsh creation to increase longevity. The design approach is to maximize surface area habitat remaining after 20 years by preventing shoreline breaching through introduction of riverine sand and offshore fine sediment.

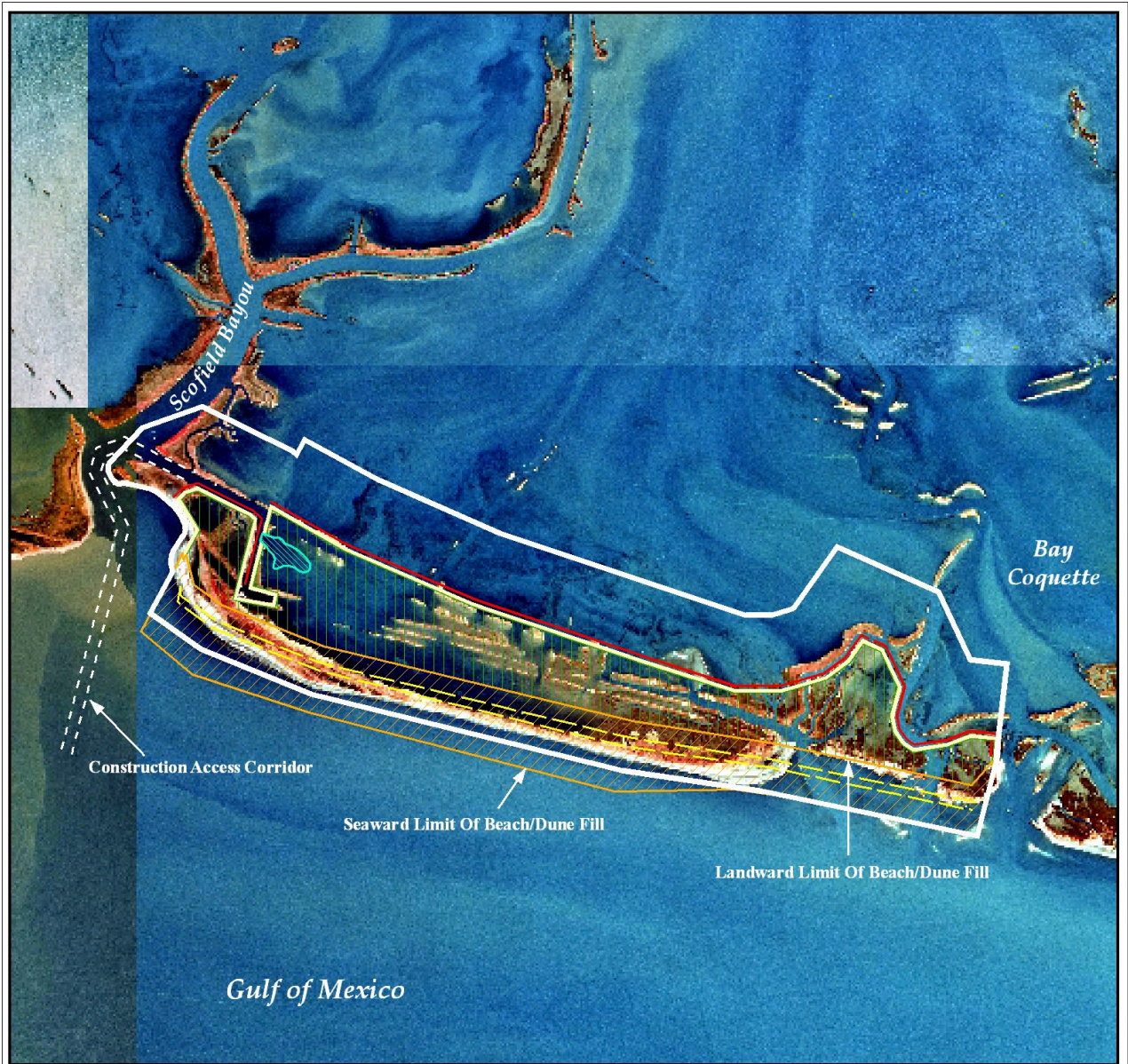
Proposed Solution: The project features include construction of approximately 101 acres of dune and 328 acres of supratidal elevations of dune fore and back slopes and marsh platform. Of that acreage, approximately 278 acres would settle to intertidal back barrier marsh. The dune would be +6 feet high, approximately 250 ft wide along 12,700 feet of Gulf shoreline. A double row of sand fencing would be installed along the length of the dune concurrent with heavy construction. A tidal pond would be constructed in the marsh platform and approximately three years after construction, retention dikes would be gapped as needed to ensure tidal exchange with the marsh platform. Other tidal features would be incorporated during advanced design. The dune and marsh platforms would be planted over three years and would include 4-inch containers of bitter panicum, Gulf cordgrass, and marshhay cordgrass, and gallon containers of seaots, multi-stem plugs of smooth cordgrass, 4-inch containers of matrimony vine, and tube-tainers of black mangrove. Additional woody species would be planted on the dune.

Project Benefits: The project would benefit over 500 acres of dune, swale, saline marsh and open water habitat. Breaching would be prevented for 20 years resulting in the net of 234 acres of barrier shoreline habitat.

Project Costs: Total fully funded cost = \$44,545,000.
Fully funded first cost = \$40,711,000.

Sponsoring Agency/Contact Person:

Patrick Williams, National Marine Fisheries Service, (225) 389-0508, patrick.williams@noaa.gov

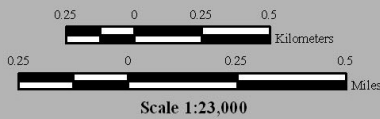


Riverine Sand Mining/Scofield Island Restoration
(PPL14 Project Candidate)



- Sand Fencing *
- Beach/Dune Fill *
- Tidal Pond *
- Containment Dike *
- Borrow Canal *
- Marsh Fill *
- Project Boundary

* denotes proposed features



Map 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 2005-11-0007
Map Date: October 15, 2004

Image Source:
1998 Digital Orthophoto Quarter Quadrangle

Project Name: White Ditch Resurrection and Outfall Management

Coast 2050 Strategies: Regional: manage outfall of existing diversions; construct most effective small diversions.

Project Location: Region 2, Breton Sound Basin, Plaquemines Parish, River aux Chenes Mapping Unit, White Ditch.

Problem: The area is not receiving any water from the Mississippi River since the siphon operation has been discontinued. The addition of another siphon doubles the amount of diversion able to reach the area.

Goals: Reduce erosion rate by introduction of freshwater, nutrients, and to lesser degree sediment into interior marshes.

Proposed Solution: 1. Gated plug in the outfall channel (approx. two miles below siphon) to force water to enter interior marshes and 2. Install additional siphon of same size (existing – two 50 inch diameter steel pipes currently allow approximately 250 cfs).

Project Benefits: The project would benefit 8,224 acres of fresh/intermediate marsh and open water. Approximately 189 acres of marsh would be created/protected over the 20-year project life.

Project Costs: Total fully funded cost = \$14,845,000.
Fully funded first cost = \$12,809,000.

Sponsoring Agency/Contact Person:

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Andy Tarver, USDA, Natural Resources Conservation Service, (318) 473-7685;
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White Ditch Resurrection and Outfall Management

(PPL14 Project Candidate)

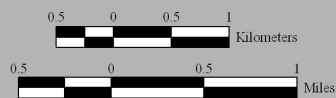


- Culvert
- Siphon

- Water Control Structure *
- Siphon *

Project Boundary

* denotes proposed features



Map 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 2004-11-0498
 Map Date: September 14, 2004

Scale 1:57,000

Image Source:
 1998 Digital Orthophoto Quarter Quadrangle

Project Name: South Shore of The Pen Shoreline Protection and Marsh Creation

Coast 2050 Strategy: Preserve bay and lake shoreline integrity on the landbridge and dedicated dredging to marsh on the landbridge.

Project Location: Region 2, Barataria Basin, Jefferson Parish, South Shore of the Pen, Bayou Dupont, Barataria Bay Waterway.

Problem: The triangular landmass bounded by the southern shoreline of The Pen, the Barataria Bay Waterway (Dupre Cut) and the Pipeline Canal is deteriorating due to shoreline erosion (ranging from 4 to 27 feet per year) and interior marsh loss. Loss of this protective landmass would provide a more direct connection between the marine/tidal processes of the lower Barataria Basin and the freshwater-dominated upper basin.

Goals: The goals of this project are to stop shoreline erosion and to create (74 acres) and nourish (107 acres) of marsh located between The Pen and Barataria Bay.

Proposed Solution: Approximately 1,000 feet of concrete pile and panel wall and 10,900 feet of rock revetment would be constructed along the south shore of The Pen and Bayou Dupont. Two existing bayous will remain open and a site-specific opening to The Pen will be incorporated at the eastern marsh creation site. Dedicated dredging would be used to create approximately 74 acres of marsh, and nourish an additional 107 acres of marsh, within the triangular area bounded by the south shore of The Pen, the Barataria Bay Waterway (Dupre Cut) and the Creole Gas Pipeline Canal. Target elevation after compaction and settlement is 1.3 feet NAVD88. In the marsh nourishment zone, the target deposition thickness after compaction and settlement is 0 to 0.5 foot above existing marsh platform. Containment dikes constructed for marsh creation and nourishment will be degraded upon completion of construction.

Project Benefits: It is estimated that the project would prevent the loss of 47 acres of marsh due to shoreline erosion, create 74 acres of marsh, and nourish 107 acres of intermediate marsh. Over the 20-year project life, it is estimated that the project will produce 116 net acres.

Project Costs: Total fully funded cost = \$17,514,000.
Fully funded first cost = \$14,134,000.

Sponsoring Agency/Contact Person:

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John Jurgensen, USDA, Natural Resources Conservation Service, (318) 473-7694,
john.jurgensen@la.usda.gov



South Shore of The Pen Shoreline Protection and Marsh Creation

(PPL14 Project Candidate)



- - - - Existing BA-26 Shoreline Protection
- Shoreline Protection*
- Marsh Creation*
- Marsh Nourishment*
- Project Boundary

* denotes proposed features



Scale 1:20,000



Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
1998 Digital Orthophoto Quarter Quadrangle

Map ID: USGS-NWRC 2004-11-0497
Map Date: August 20, 2004

Project Name: East Marsh Island Marsh Creation

Coast 2050 Strategy: Dedicated dredging to create, restore or protect wetlands; maintenance of gulf, bay and lake shoreline integrity; vegetative planting

Project Location: Region 3, Teche/Vermilion Basin, Iberia Parish, East end of Marsh Island Wildlife Refuge, SE of Lake Sand.

Problem: Substantial areas of interior emergent marsh on Marsh Island have been converted to open water, primarily due to Hurricane Lili. Areas targeted by this project are those with the greatest historic land loss and within close proximity to East Cote Blanche Bay. Marsh creation was initially planned behind the existing two easternmost rock dikes constructed as part of TV-14 CWPPRA Project but was dropped from the project due to costs.

Goals: Re-create brackish marsh habitat in the open water areas of the interior marsh primarily caused by hurricane damage. The project will also create marsh behind the two easternmost existing rock dikes.

Proposed Solution: Create approximately 189 acres of interior emergent marsh with hydraulically dredged material from East Cote Blanche Bay. The created areas will be planted with plugs of smooth cordgrass on approximately 5-ft centers. Nourish an additional 189 acres of marsh adjacent to areas of dredge fill.

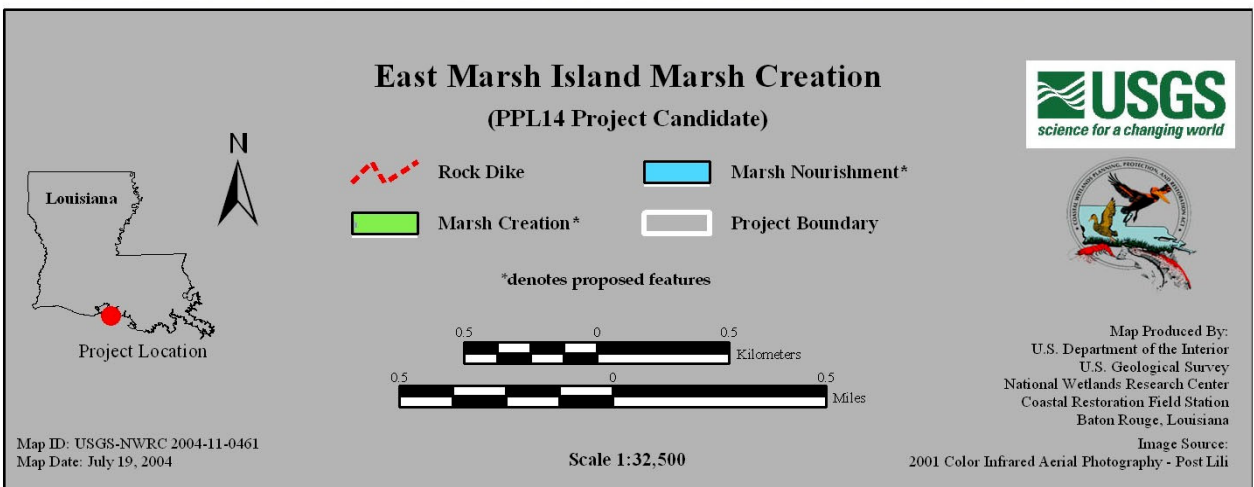
Project Benefits: Approximately 189 acres of marsh will be created by completely filling in open ponds and planting the created areas. It is anticipated that an additional 189 acres of marsh will be benefited through marsh nourishment as a result of hydraulic dredging for marsh creation without containment dikes. This will allow additional finer material to flow throughout the adjacent marshes of the creation area and provide nourishment. This process will yield a total of 367 acres benefited over the project life. The loss rates for the interior ponded areas are estimated to be reduced by greater than 75%. This project provides a synergistic effect with the constructed TV-14 project.

Project Costs: Total fully funded cost = \$16,824,700.

Fully funded first cost = \$16,587,000.

Sponsoring Agency/Contact Person:

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ron.boustany@la.usda.gov



VII. SUMMARY AND CONCLUSIONS

The 14th PPL consists of 4 projects, for a Phase I cost of \$7,322,315 and a Phase II cost of \$86,406,292, which will be funded as these projects mature. The total benefits of the projects are estimated to be 398 AAHUs, based on a comparison of future with and without-project conditions over the 20 year project life.

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 chairman.

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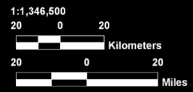
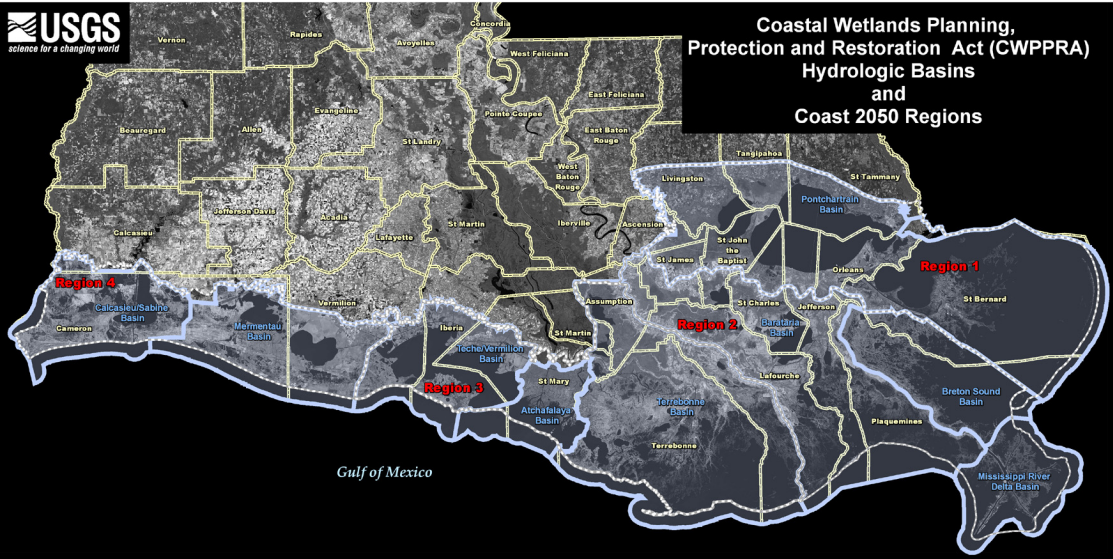
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Coastal Wetlands Planning, Protection and Restoration Act (CWPRA) Hydrologic Basins and Coast 2050 Regions



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

PLATE 2. SUMMARY OF PROJECTS 1-14 PRIORITY PROJECT LISTS

1st Priority Project List (deauthorized = underlined)

Environmental Protection Agency

TE-20 Eastern Isle Dernieres Barrier Island Restoration Demonstration

U.S. Department of the Army

MR-03 West Bay Sediment Diversion

PO-17 Bayou LaBranche Wetland Marsh Creation

BA-19 Barataria Bay Waterway Marsh Creation

TV-03 Vermillion River Cutoff Bank Protection

U.S. Department of Commerce

BA-18 Fouchon Hydrologic Restoration

TE-19 Lower Bayou La Cache Wetland Hydrologic Restoration

U.S. Department of Agriculture

BA-02 G.I.W.W. 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 Vegetative Planting

ME-08 Vegetative Plantings - Dewitt-Rollover Shore Protection Demo (Vegetative Planting de-authorized)

U.S. Department of the Interior

PO-16 Bayou Sauvage NWR Hydrologic Restoration

ME-09 Cameron Prairie Refuge NWR Erosion Prevention

CS-18 Sabine National Wildlife Refuge Erosion Protection

CS-17 Cameron-Creole Watershed Project Borrow Canal Plug

2nd Priority Project List

Environmental Protection Agency

TE-24 Isle Dernieres Island Restoration

U.S. Department of the Army

TE-23 West Belle Pass Headland Restoration

CS-22 Clear Marais Shore Protection

U.S. Department of Commerce

AT-02 East Atchafalaya Crevasse Creation

TE-22 Point Au Fer Canal Plugs

AT-03 Big Island Sediment Distribution

U.S. Department of Agriculture

CS-09 Brown Lake Hydrologic Restoration

ME-04 Freshwater Bayou Wetland Protection

BA-20 Jonathan Davis Wetlands Protection

CS-20 East Mud Lake Hydrologic Restoration

CS-21 Hwy. 384 Hydrologic Restoration

PO-06 Fritchie Marsh Creation

TV-09 Vermillion Bay / Boston Canal Shoreline Stabilization

BS-03a Caernarvon Diversion Outfall Management

U.S. Department of the Interior

PO-18 Bayou Sauvage NWR Hydrologic Restoration

3rd Priority Project List (deauthorized = underlined)

Environmental Protection Agency

TE-27 Whiskey Island Restoration

PO-20 Red Mud Demonstration

U.S. Department of the Army

PO-19 M.R.G.O. Disposal Area Marsh Protection

MR-06 Channel Armor Gap Crevasse

MR-07 Pass-a-Loutre Crevasse

U.S. Department of Commerce

BA-21 Restoration of Bayou Perot / Bayou Rigolettes Marsh

TE-25 East Timabalier Sediment Restoration, Phase 1

TE-26 Lake Chapeau Marsh Creation and Hydrologic Restoration, Pointe au Fer Isle

BA-15 Lake Salvador Shoreline Protection Demonstration

U.S. Department of Agriculture

BA-04c West Pointe-a-la-Hache Outfall Management

TV-04 Cote Blanche Marsh Management

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 Shore Protection Demonstration

U.S. Department of the Interior

CS-23 Replace Hog Island, West Cove and Headquarters Canal at Sabine Refuge Water Control Structures

4th Priority Project List (deauthorized = underlined)

Environmental Protection Agency

CS-26 Compost Demonstration

U.S. Department of the Army

BS-07 Grand Bay Crevasse

MR-08 Beneficial Use of Hopper Dredged Material Demonstration

U.S. Department of Commerce

PO-21 Eden Isles Marsh Sediment Restoration

TE-30 East Timbalier Barrier 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 Bank Protection (west)

CS-25 Plowed Terraces Demonstration

TE-31 Flotant Marsh Fencing Demonstration

5th Priority Project List

Environmental Protection Agency

BA-25 Bayou Lafourche Siphon Inc. (w/o cutoff structure)

U.S. Department of the Army

PO-22 Marsh Creation at Bayou Chevee

U.S. Department of Commerce

TV-12 Little Vermillion Bay Sediment Trapping

BA-25 Siphon at Myrtle Grove

U.S. Department of Agriculture

BA-03c Naomi Outfall Management

CS-11b Sweet Lake/ Willow Lake Hydrologic Restoration

TE-29 Raccoon Island Breakwater Demonstration

ME-13 Freshwater Bayou Bank Stabilization

U.S. Department of the Interior

TE-10 Grand Bayou Hydrologic Restoration

6th Priority Project List (deauthorized = underlined)

Environmental Protection Agency

TE-33 Bayou Boeuf Pump Station Increment 1

U.S. Department of the Army

TV-14 Marsh Island Hydrologic Restoration

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

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

U.S. Department of Commerce

CS-27 Black Bayou Hydrologic Restoration

MR-09 Delta-Wide Crevasse

TV-15 Sediment Trapping at “The Jaws”

U.S. Department of Agriculture

TE-34 Penchant Basin Natural Resources Plan, Increment I

TV-13a Oaks/Avery Canals Hydrologic Restoration Increment I (Bank stabilization)

BA-26 Barataria Bay Waterway “Dupre Cut” Bank Protection (east)

TV-16 Cheniere au Tigre Sediment Trapping Device

U.S. Department of the Interior

TE-32a Lake Boudreaux Basin Freshwater Introduction

LA-03a Nutria Harvest for Wetland Restoration

7th Priority Project List

U.S. Department of Commerce

BA-28 Vegetative Planting of Dredged Material Disposal Site on Grande Terre Isl.

ME-14 Pecan Island Terracing

U.S. Department of Agriculture

BA-27 Barataria Basin Landbridge, Shoreline Stabilization – Phase 1

TE-36 Thin Mat Flotant Marsh (DEMO)

8th Priority Project List (deauthorized = underlined)

U.S. Environmental Protection Agency

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 Outfall Management and Marsh Creation

PO-24 Hopedale Hydrologic Restoration

U.S. Department of Agriculture

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

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

BA-27 Barataria Basin Land Bridge, 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 Introduction Siphon

TV-17 Lake Portage Land Bridge Phase 1

9th Priority Project List

U.S. Environmental Protection Agency

BA-29 LA Highway 1 Marsh Creation

TE-40 Timbalier Island Dune/Marsh Restoration

TE-37 New Cut Dune / 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

TV-19 Weeks Bay/Commercial Canal / GIWW

U.S. Department of Commerce

PO-27 Chandeleur Islands Restoration

TV-18 Four-Mile Cut/Little Vermillion Bay HR

AT-04 Castille Pass Sediment Delivery

PO-28 LaBranche Wetlands Terracing/Plantings

BA-30 East/West Grand Terre Islands Restoration

U.S. Department of Agriculture

TE-39 South Lake DeCade. Freshwater Introduction

CS-29 Black Bayou Bypass Culverts

CS-30 GIWW Bank Stabilization (Perry Ridge to Texas)

ME-17 Little Pecan Bayou Hydrologic Restoration

BA-27c Barataria Basin Land Bridge Shore Protection Phase 3

U.S. Department of the Interior

ME-16 FW Introduction South of Hwy. 82

TE-41 Mandalay Bank Protection Demonstration

10th Priority Project List

Environmental Protection Agency

PO-30 Lake Borgne Shoreline Protection

BA-34 Small Freshwater Diversion to the NW Barataria Basin

U.S. Department of the Army

MR-13 Benneys Bay 50,000 cfs 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 Land Bridge Protection Project

TE-44 North Lake Mechant Land Bridge Restoration

BS-11 Delta Management at Fort St. Phillip

CS-32 East Sabine Lake Hydrologic Restoration (with Terraces)

TE-45 Terrebonne Bay Shore Protection Demo

11th Priority Project List

U.S Environmental Protection Agency

- PO-29 Diversion into Maurepas Swamp
- PO-31 or PO-11-1 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: West Flank Restoration

U.S. Department of the Army

- ME-21 Grand Lake Shore Protection

U.S. Department of Commerce

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

U.S. Department of Agriculture

- BA-27d Barataria Basin Land Bridge Shoreline Protection (northeast only), Phase 4
- LA-03b Coastwide Nutria Control Program
- CS-31 Holly Beach Sand Management
- TE-48 Raccoon Island Shoreline Protection/Marsh Creation

U.S. Department of the Interior

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

12th Priority Project List

U.S Environmental Protection Agency

- BA-39 Bayou Dupont Marsh Creation

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 Demonstration

13th Priority Project List

U.S Environmental Protection Agency

- TE-50 Whiskey Island Backbarrier 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

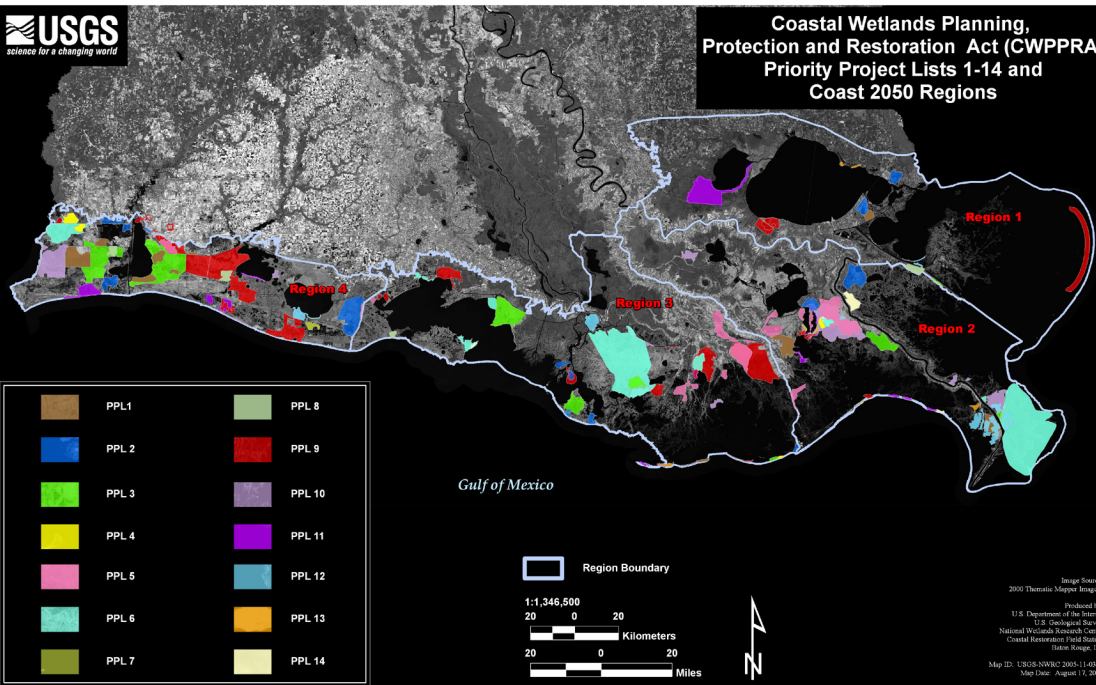
U.S. Department of Commerce

- BA-40 Riverine Sand Mining/Scotfield Island Restoration

U.S. Department of Agriculture

- BS-12 White Ditch Resurrection
- BA-41 South Shore of The Pen Shoreline Protection and Marsh Creation
- TV-21 East Marsh Island Marsh Creation

Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Priority Project Lists 1-14 and Coast 2050 Regions



	PPL 1		PPL 8
	PPL 2		PPL 9
	PPL 3		PPL 10
	PPL 4		PPL 11
	PPL 5		PPL 12
	PPL 6		PPL 13
	PPL 7		PPL 14

 Region Boundary

1:1,346,500

20 0 20

 Kilometers

20 0 20

 Miles

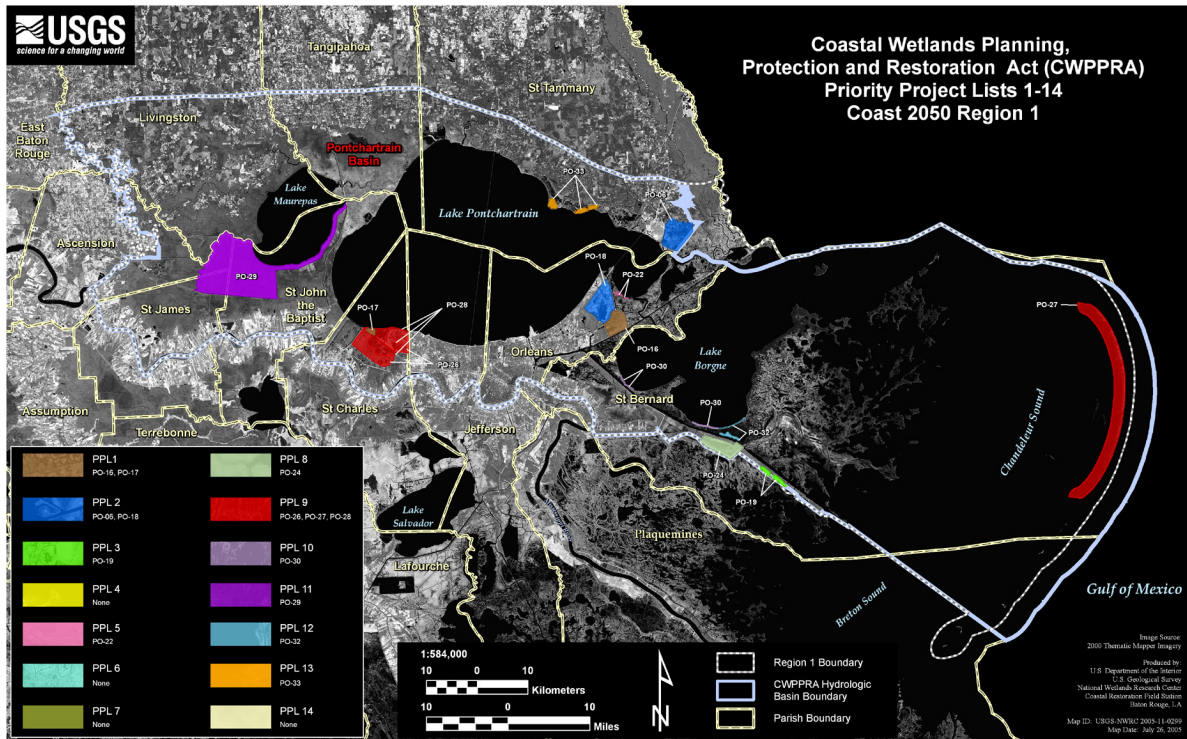
















Image Source:
2000 Thematic Mapper Imagery

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Eaton Rouge, LA

Map ID: USGS-NWRC 2005-11-0320
Map Date: August 17, 2005

Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Priority Project Lists 1-14 Coast 2050 Region 1



	PPL 1 PO-16, PO-17		PPL 8 PO-24
	PPL 2 PO-05, PO-18		PPL 9 PO-26, PO-27, PO-28
	PPL 3 PO-19		PPL 10 PO-30
	PPL 4 None		PPL 11 PO-29
	PPL 5 PO-22		PPL 12 PO-32
	PPL 6 None		PPL 13 PO-33
	PPL 7 None		PPL 14 None

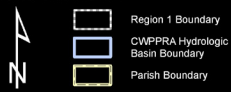


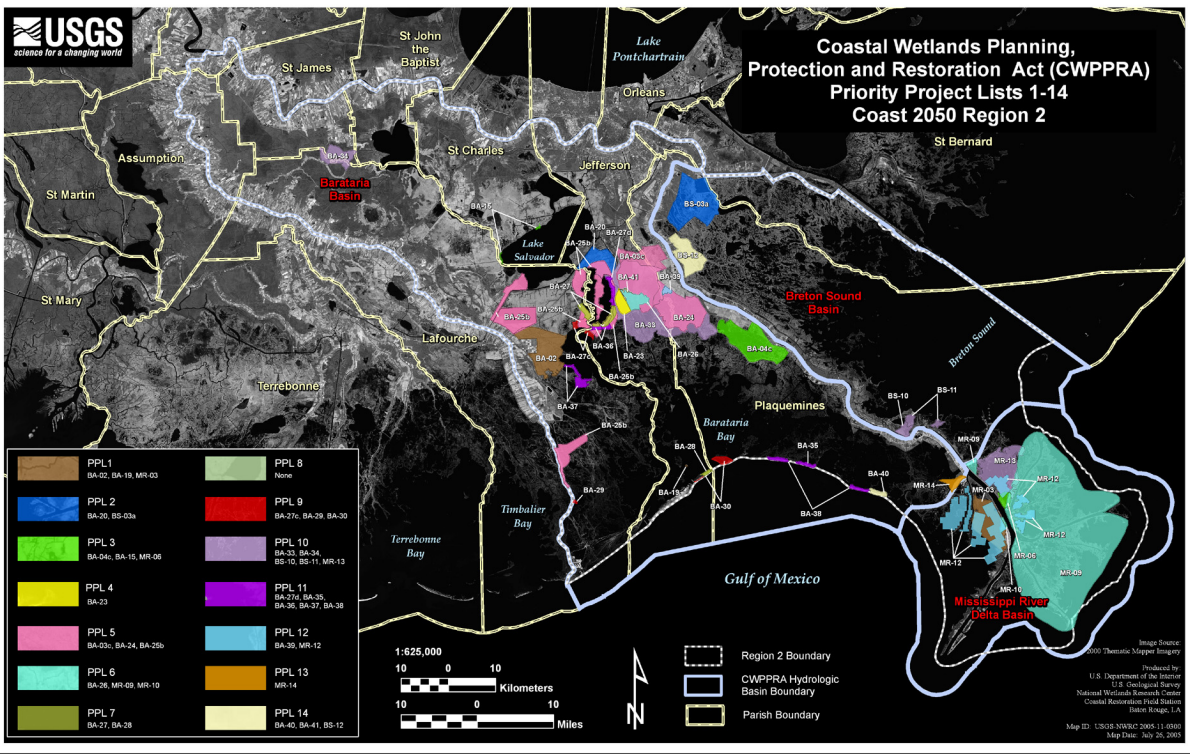
Image Source:
2000 Thematic Mapper Imagery

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

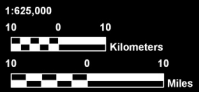
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Map Date: July 28, 2005



Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Priority Project Lists 1-14 Coast 2050 Region 2



PPL 1 BA-02, BA-19, MR-03	PPL 8 None
PPL 2 BA-20, BS-03a	PPL 9 BA-27c, BA-29, BA-30
PPL 3 BA-04a, BA-15, MR-08	PPL 10 BA-33, BA-34, BS-10, BS-11, MR-13
PPL 4 BA-23	PPL 11 BA-27d, BA-35, BA-36, BA-37, BA-38
PPL 5 BA-03c, BA-24, BA-25b	PPL 12 BA-39, MR-12
PPL 6 BA-26, MR-09, MR-10	PPL 13 MR-14
PPL 7 BA-27, BA-28	PPL 14 BA-40, BA-41, BS-12



- Region 2 Boundary
- CWPPRA Hydrologic Basin Boundary
- Parish Boundary

Image Source:
2000 Thematic Mapper Imagery

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Map ID: USGS-NWRC 2005-11-0300
Map Date: July 26, 2005

Coastal Wetlands Planning, Protection and Restoration Act (CWPBRA) Priority Project Lists 1-14 Coast 2050 Region 3

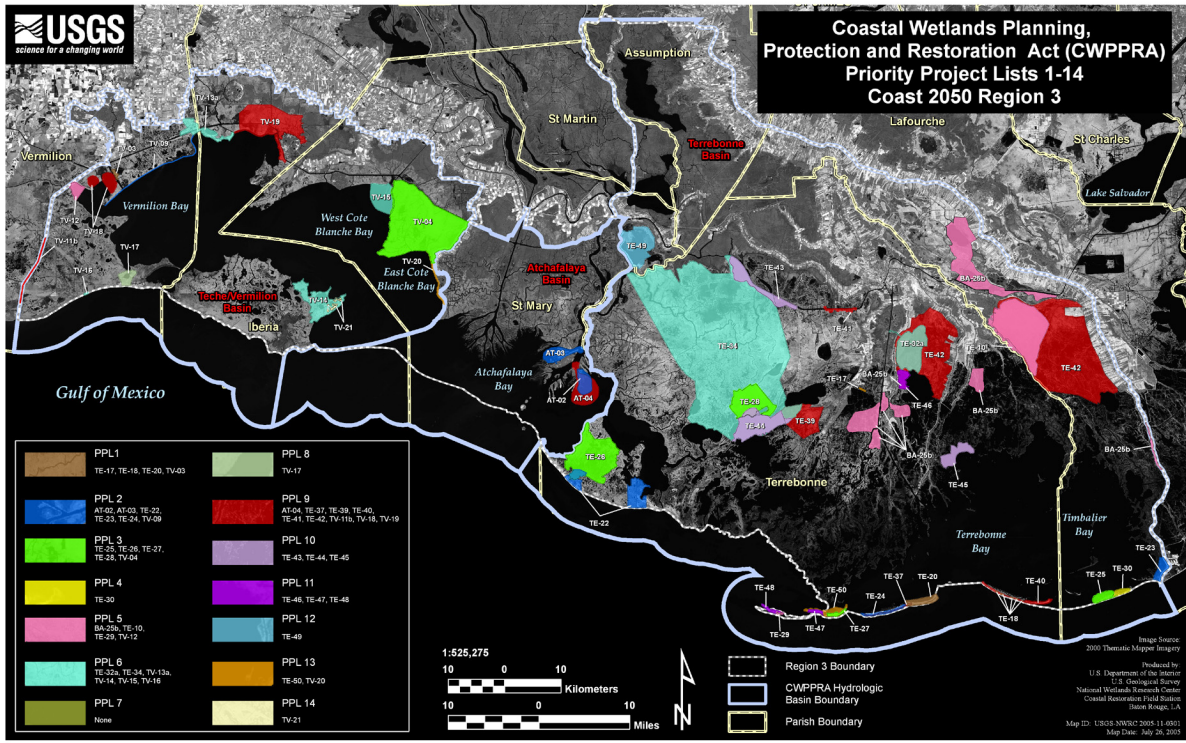


Image Source:
2000 Thematic Mapper Imagery
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Map ID: USGS NWRC 2005-11-0301
Map Date: July 26, 2005

Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Priority Project Lists 1-14 Coast 2050 Region 4

