



28th PRIORITY PROJECT LIST REPORT

PREPARED BY:

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

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Executive Summary of PPL 28 and Status of CWPPRA Program

In 1990, Congress established the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA, PL 101-646, Title III) to provide for the long-term conservation of Louisiana's coastal wetlands (see Appendix A). Section 303(a) of the CWPPRA directed 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.

Section 303(a) also requires that the list of priority projects be updated and transmitted to Congress annually. According to Section 303 (a), the Task Force initiated an annual Priority Project List (PPL) process in 1991. This report transmits the 28th PPL (PPL 28) and fulfills the requirements of CWPPRA Section 303(a).

Under the development of PPL 28, the public, parish officials, along with state and federal agencies met at four regional coastal meetings to propose projects from the nine identified hydrologic basins. Of the 66 project proposals and 3 demonstration project proposals, 23 projects and 3 demonstration projects were nominated by CWPPRA agencies and qualifying parish representatives via electronic vote on February 27, 2018. Ten candidate projects and zero candidate demonstration projects were selected from the list of nominees at the Technical Committee meeting held on April 12, 2018. These PPL 28 candidate projects were evaluated to determine the long-term net wetlands benefits based on a 20-year project life. Benefits were measured in both net acres and net Average Annual Habitat Units (AAHUs). The candidate projects were also evaluated to determine conceptual project designs and cost estimates. Economic analyses were conducted to determine the total fully funded cost estimate for feasibility planning, construction, and 20 years of operations and maintenance. Cost-effectiveness was calculated for each project using the fully funded cost estimate and net wetland benefits over the 20 year project life.

At the end of the PPL 28 development process the Task Force authorized the following four new coastal restoration projects:

- Breton Landbridge Marsh Creation (West) (BS-38)
- East Delacroix Marsh Creation and Terracing (BS-37)
- Grand Bayou Ridge and Marsh Restoration (BA-217)
- Long Point Bayou Marsh Creation (CS-85)

These PPL 28 projects will be implemented in two phases. Phase I will include data collection, engineering and design, environmental impact assessment and regulatory compliance, pre-construction monitoring, and real estate planning. The total Phase I cost for the four new PPL 28 coastal restoration

projects is estimated to be \$13,239,163. Phase II would include real estate acquisition, construction, operation and maintenance, and post-construction monitoring. The total Phase II cost for these four projects is estimated to be \$118,933,587. The total net wetland benefit that would be derived by implementing the four PPL 28 projects is estimated to be 1254 acres or 584 AAHUs over a 20-year period. The Task Force will consider approving Phase II funding for individual PPL 28 projects after Phase I requirements have been met for each.

Since the last PPL report to Congress, the Task Force de-authorized the following project because it did not represent the best strategy for addressing the immediate and/or long term coastal restoration needs as compared to other priority projects, and/or the project scope was beyond the funding capability of the CWPPRA program:

- Shoreline, Protection, Preservation, and Restoration Panel Demonstration Project (LA-280)

With the addition of the four new PPL 28 projects and the removal of one de-authorized project, there are a total of 162 active Louisiana coastal restoration projects in the CWPPRA Program. The current estimate for the 222 CWPPRA projects combined is \$2.94B. The current funded estimate for approved phases for all projects is \$2.16B. At the time of the production of this PPL 28 report, \$1.44B has been obligated and \$1.26B had been expended on all CWPPRA coastal restoration projects in Louisiana since inception of the program in 1991. Of the 162 active projects, 112 projects have completed construction, 15 projects are under construction, 30 projects are in various stages of planning and design, and 5 projects are general support projects to the program. The Task Force has determined that these active projects represent the best strategy for addressing the immediate and/or long term needs of Louisiana's coastal wetlands within the available and projected future funding limits of the CWPPRA Program. Given the significant need for coastal wetlands restoration in Louisiana, the Task Force often generates more projects than the CWPPRA program has funding in hand to build. As such, Phase II funding of projects will be based on CWPPRA program funding availability at the time of funding request. Even though CWPPRA has received more than \$73 million each year over the last several years, there continues to be a backlog of construction-ready projects. To offset this back-log, the Task Force continues to de-authorize projects that are beyond the funding capability of the CWPPRA program or do not represent the best strategy for addressing the immediate and long term needs of Louisiana's coastal wetlands.

Coastal Wetlands Planning, Protection, and Restoration Act

28th Priority Project List Report

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Main Report – Volume 1

I. INTRODUCTION

Approximately 90 percent of the total coastal marsh loss within the lower 48 states occurs in the State of Louisiana. These losses are due to a combination of human and natural factors, including subsidence, shoreline erosion, freshwater and sediment deprivation, saltwater intrusion, oil and gas production and canals, navigation channels, and herbivory. Louisiana's coastal zone contains 45 percent of all intertidal coastal marshes in the lower forty-eight states; however, it is suffering 80 percent of the entire Nation's annual coastal wetland loss. Since the 1930s, coastal Louisiana has lost over 1,860 square miles, an area more than 25 times larger than Washington D.C. Concern over this loss exists because of the living resources and national economies dependent on Louisiana's coastal wetlands. These wetlands provide habitat for fisheries, waterfowl, neotropical birds, and furbearers; amenities for recreation and tourism; a buffer for coastal flooding; and a natural landscape for a culture unique to the world. Consequently, benefits go well beyond the local and state levels by providing positive economic impacts to the entire nation.

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

STUDY AUTHORITY

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

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

STUDY PURPOSE

The purpose of this study effort was to prepare the 28th Priority Project List (PPL) and transmit the list to Congress, as specified in Section 303(a)(3) of the CWPPRA. Section 303(b) of the Act calls for preparation of a comprehensive restoration plan for coastal Louisiana. In November 1993, the Louisiana Coastal Wetlands Restoration Plan was submitted. In December 1998, *Coast 2050: Toward a Sustainable Coastal Louisiana* was signed by all federal and state Task Force members. This plan consisted of several regional ecosystem strategies, which if all implemented could maintain a self-sustaining ecosystem along the Louisiana coast. A broad coalition of federal, state, and local entities, landowners, environmentalists, and wetland scientists developed the plan. In addition, all 20 coastal parishes approved the Coast 2050 plan.

PROJECT AREA

The entire coastal area, which comprises all or part of 20 Louisiana parishes, is considered to be the CWPPRA project area. To facilitate the study process, the coastal zone was divided into four regions with nine hydrologic basins (Plate 1). Plate 2 contains a listing of project names for each PPL, referenced by number and grouped by sponsoring agency. A map of the Louisiana coastal zone is presented in Plates 3-7, indicating project locations by number of Priority Project Lists 1 through 27. All Plates can be found at the end of this report.

STUDY PROCESS

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

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

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

In practice, the Task Force members named by the law have delegated their responsibilities to other members of their organizations. For instance, the Secretary of the Army authorized the Commander of the U.S. Army Corps of Engineers (USACE) New Orleans District to act in his place as chairman of the Task Force. The other federal agencies on the CWPPRA Task Force include: U.S. Fish and Wildlife Service (USFWS) of the U.S. Department of Interior, the Natural Resources Conservation Service (NRCS) of the U.S. Department of Commerce, and the U.S. Environmental Protection Agency (USEPA). The Governor's Office of the State of Louisiana represents the state as a Task Force member.

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

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

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

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

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

*Because of the devastation of hurricanes Katrina and Rita, in December 2005, the Louisiana Legislature restructured the State's Wetland Conservation and Restoration Authority to form the Coastal Protection and Restoration Authority (CPRA). Agencies in the CPRA membership include Louisiana Department of Natural Resources (LDNR).

II. PLAN FORMULATION PROCESS FOR THE 28th PRIORITY PROJECT LIST

IDENTIFICATION & SELECTION OF CANDIDATE & DEMONSTRATION PROJECTS

Regional Planning Team (RPT) meetings were held during the period of January 30 through February 1, 2018 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 strategies, and to propose projects and demonstration projects determined to be consistent with the 2017 State Master Plan*. All projects that were deemed consistent with the State Master Plan by the CPRA staff present at the RPT meetings, were granted eligibility for voting consideration. Electronic voting was held on February 27, 2018 for the 28th PPL to choose four projects in Terrebonne and Barataria based on the high loss rates (1985-2006) in those basins, three projects in Pontchartrain and Breton Sound, two projects in the Teche/Vermilion, Mermentau, and Calcasieu/Sabine, and one coastwide project. In addition, three demonstration projects were selected as nominees. A total of 23 projects and 3 demonstration projects were nominated. A schedule of meetings is shown in Table 1.

Table 1: RPT Meetings to Propose/Nominate Projects

Region 1: Lacombe, LA	February 1, 2018
Region 2: Lacombe, LA	February 1, 2018
Region 3: Morgan City, LA	January 31, 2018
Region 4: Grand Chenier, LA	January 31, 2018
Electronic Voting	February 27, 2018

The Engineering and Environmental Work Groups and the AAG met March 21, 2018 and March 22, 2018 to review and reach consensus on preliminary project features, benefits, and fully-funded cost estimates for the twenty three nominated projects as well as evaluate the three coastwide project nominees. At this meeting, after extensive evaluation, the Environmental and Engineering Work Groups and AAG decided to pursue only the Shoreflex II demonstration nominee. The Engineering and Environmental Work Groups also identified any potential issues associated with each nominee. The P&E Subcommittee prepared a matrix of nominated projects' cost estimates and benefits and furnished it to the Technical Committee and Coastal Protection and Restoration Authority (CPRA) on April 12, 2018. The matrix is included as Table 2.

*CWPPRA Task Force voted in June 2012 to approve the Technical Committee's recommendation that the PPL 23 Planning Process Standard Operating Procedures and future PPL's include selecting projects that would be consistent with the 2012 State Master Plan. All projects submitted for consideration adhered to these same requirements from previous PPL's to remain consistent with the guidelines of the most current State Master Plan, which was completed in 2017.

Table 2a: 28th Project Priority List - Candidate Nominee Project Matrix by Basin

Rg	Basin	Type	Project	Preliminary Fully-Funded Cost Range	Preliminary Benefits (Net Acres Range)	Considerations				
						Oysters	Land Rights	Pipelines /Utilities	O&M	Other Issues
1	PO	MC	Bayou Bay Jaune Marsh Creation	\$20M - \$25M	200-250		X	X		X
1	PO	MC	Miller Bayou Marsh Creation	\$20M - \$25M	250-300			X		X
1	PO	HR	Central Wetlands Hydrologic Restoration	\$0M - \$5M	100-150			X	X	
2	BS	MC/TR	East Delacroix Marsh Creation and Terracing	\$35M - \$40M	300-350			X		
2	BS	MC	Breton Landbridge Marsh Creation (West)	\$30M - \$35M	250-300		X	X		
2	BS	MC/RR	Bayou Terre aux Boeufs Ridge Restoration and Marsh Creation	\$35M - \$40M	200-250	X	X	X		
2	BA	MC	East Golden Meadow Marsh Creation	\$45M - \$50M	250-300	X		X		
2	BA	MC/RR	Grand Bayou Ridge and Marsh Restoration	\$40M - \$45M	300-350			X		
2	BA	MC	Three Bayou Bay Marsh Creation	\$30M - \$35M	300-350	X		X		X
2	BA	MC	East Bayou Lafourche Marsh Creation	\$35M - \$40M	300-350	X		X		
3	TE	MC/SP	East Catfish Lake Marsh Creation and Shoreline Protection	\$35M - \$40M	200-250	X		X	X	
3	TE	MC	West Louisiana Hwy 1 Marsh Creation	\$30M - \$35M	250-300	X		X		
3	TE	MC/RR /TR	North Bayou Decade Ridge and Marsh Creation	\$35M - \$40M	250-300	X		X		
3	TE	MC	Small Bayou LaPointe Marsh Creation	\$25M - \$30M	250-300			X		X
3	TV	MC	Southeast Marsh Island Marsh Creation and Nourishment	\$35M - \$40M	600-700	X		X		
3	TV	MC/TR	North Marsh Restoration (North Increment)	\$35M - \$40M	150-200			X	X	
4	ME	MC	Southeast White Lake Marsh Creation	\$20M - \$25M	500-600					
4	ME	MC/FD /TR	Southeast Pecan Island Marsh Creation and Freshwater Enhancement	\$20M - \$25M	150-200		X	X	X	
4	ME	SP	Gulf Shoreline Protection at Beach Prong	\$40M - \$45M	250-300			X		X
4	CS	MC/TR	East Prong Marsh Creation and Terracing	\$30M - \$35M	350-400	X				
4	CS	MC	Long Point Bayou Marsh Creation	\$15M - \$20M	250-300		X			
4	CS	MC	North Mud Lake Marsh Creation	\$30M - \$35M	250-300			X		X
	Coast wide	HR	Coastwide Hydrologic Improvements	\$15M - \$20M	150-200			X	X	

Basin codes are: PO=Pontchartrain; MR=Mississippi River Delta; BS=Breton Sound; 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; O&M= Operation and Maintenance; SP=Shoreline Protection; TR=Terracing; BI=Barrier Island; VP=Vegetative Plantings.

Table 2b: 28th Priority Project List Demonstration Nominee Project Matrix

Demonstration Project Name	Estimated Cost plus 25% contingency **	Technique Demonstrated
Shoreflex 2	\$1,425,711	The Shoreflex 2 project will demonstrate the effectiveness and efficiency of a cable tied concrete block erosion controlled matrix designed with approximately 30 percent opening to facilitate vegetation growth over standard open cell Articulated Concrete Block (ACB) mats with 15 to 20 percent open area. Vegetation can be planted in the gaps between the Shoreflex 2 concrete blocks, or natural vegetation can grow through the openings. Shoreflex 2 will combine a living shoreline with erosion protection to protect shorelines of banks, terraces, and earthen berms from wave fetch, boat wakes, and currents Shoreflex 2 can be installed in areas with weak soils and without the need for access dredging.
Biogenic Oyster Shoreline Stabilization	\$3,250,000	The Biogenic Oyster Shoreline Stabilization project is to demonstrate the effectiveness and efficiency of replacing rock or concrete structures with a living oyster reef. Upon placement the oysters will enhance and promote shoreline protection and reef establishment on interior shorelines with low to moderate wave energy. The accumulation of oysters will provide for long-term shoreline protection.
Marine Gardens/Marsh Armor	\$1,213,765	This demo would evaluate the effectiveness of using a different kind of erosion control structure composed of geopolymer materials in a trapezoid shape (future uses not limited to this shape) to restore and protect coastal marsh areas by closing shoreline breaches or gaps to deter further erosion of the existing shorelines and vicinity marshes.

The CWPPRA Technical Committee met publicly on April 12, 2018 to consider the preliminary costs, wetland benefits, and potential issues of the twenty three nominees. Ten candidate projects were selected for detailed assessment by the Environmental, Engineering, and Economic Work Groups, and the AAG (Table 3).

Phase 0 analysis of the ten candidate projects took place May 2018 through October 2018. The Environmental and Engineering Work Groups and AAG met to refine the projects and develop boundaries on May 23, 2018. Interagency field visits were conducted during May and June 2018 at each project site/area with members of the Engineering and Environmental Work Groups and the AAG. Detailed project information packages were developed by the Environmental, Engineering, and Economics Work Groups. These packages included fact sheets, Project Information Sheets containing the benefits analyses, Preliminary Engineering and Design Reports containing the preliminary design and cost estimates, and Economic Analyses containing fully-funded twenty-year project costs. On August 14 through August 16, 2018, the Engineering Work Group met to review and approve the Phase I and II cost estimates developed by the agencies for the eleven PPL 28 candidates. In September 2018, the Environmental Work Group finalized WVAs for each project. The Engineering Work Group reviewed and finalized

the final project cost estimates for each project on September 6, 2018. The Economics Work Group reviewed the final project cost estimates and developed annualized costs in the month of October 2018.

The Environmental and Engineering Work Groups and AAG also met in Fall 2018 to evaluate and rank the one demonstration project. The demonstration project was evaluated using defined parameters. Within each of these parameters a project was graded 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 AG is shown in Table 3

The Environmental and Engineering Work Groups then prepared a candidate project information package for the CWPPRA Technical Committee, consisting of updated Project Information Sheets and matrix. The matrix included average annual habitat units (AAHUs), acres created, restored, and/or protected, and costs. The matrix is included as 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: 28th Priority Project List Demonstration Nominee Project Matrix

		Parameter (Pn)						
Demonstration Project Name	Total Fully Funded Cost	P1	P2	P3	P4	P5	P6	Total Score
ShoreFLEX II - Demo	\$3,854,572	1	2	2	2	2	2	11

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

Table 4: 28th Priority Project List Candidate Project Evaluation Matrix

Project Name	AAHUs	WVA Net Acres	Total Fully-Funded Cost	Average Annual Cost (AAC)	Cost Effectiveness (AAC/AAHU)	Cost Effectiveness (Cost/Net Acre)
East Delacroix Marsh Creation and Terracing	140	314	\$39,838,424	\$2,462,343	\$17,588	\$126,874
Breton Landbridge Marsh Creation (West)	107	272	\$37,538,544	\$2,340,859	\$21,877	\$138,009
Bayou Terre aux Boeufs Ridge Restoration and Marsh Creation	154	283	\$38,432,042	\$2,406,549	\$15,627	\$135,802
Grand Bayou Ridge and Marsh Restoration	171	336	\$41,795,419	\$2,562,817	\$14,987	\$124,391
East Catfish Lake Marsh Creation and Shoreline Protection	130	244	\$40,448,993	\$2,396,570	\$18,435	\$165,775
Small Bayou LaPointe Marsh Creation	88	249	\$34,575,172	\$2,145,311	\$24,379	\$138,856
North Marsh Restoration (North Increment)	104	217	\$41,142,554	\$2,400,893	\$23,086	\$189,597
Southeast White Lake Marsh Creation	173	444	\$25,887,192	\$1,584,615	\$9,160	\$58,304
Long Point Bayou Marsh Creation	166	332	\$13,000,363	\$785,202	\$4,730	\$39,158
Coastwide Hydrologic Improvements	162	220	\$25,505,424	\$1,007,720	\$6,220	\$115,934

The CWPPRA Technical Committee met on December 6, 2018 to select projects for recommendation to the CWPPRA Task Force for Phase I funding. Each agency cast a total of six weighted votes, used to rank the ten candidate projects. Projects were ranked by number of agency votes first and total weighted score second. The top four projects were selected for recommendation to the CWPPRA Task Force for Phase I funding approval. The Technical Committee did not rank or recommend any demonstration projects for the CWPPRA Task Force to approve funding. The results of the CWPPRA Technical Committee vote are outlined in Table 5. On February 12, 2019, the CWPPRA Task Force reviewed the Technical Committee recommendations and moved to adopt the recommendation without change.

Table 5: 28th Priority Project List Candidate Selection Process – Agency Voting Record

*Project No.	Nominee Project Name	Region	USACE	STATE	EPA	FWS	NMFS	NRCS	No. of Votes	Sum of Point Score
BS-38	Breton Landbridge Marsh Creation (Wes)	R2	4	6	4	4	6	1	6	25
BS-37	East Delacroix Marsh Creation and Terracing	R2	6	5	1	3	5	4	6	24
BA-217	Grand Bayou Ridge and Marsh Restoration	R2		4	6	6	1		4	17
CS-85	Long Point Bayou Marsh Creation	R4	5	3	5			3	4	16
+	East Catfish Lake Marsh Creation and Terracing	R3		1		5	4	5	4	15
+	Small Bayou LaPointe Marsh Creation	R3	2	2	2	2			4	8
+	North Marsh Restoration (North Increment)	R3	3			1	3		3	7
+	Coastwide Hydrologic Improvements	CW	1				2	2	3	5
+	Bayou Terre aux Boeufs Ridge Restoration and Marsh Creation	R2			3			6	2	9
+	Southeast White Lake Marsh Creation	R4							0	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.

+ These projects were not selected for funding.

EVALUATION OF CANDIDATE PROJECTS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Financial costs chiefly consist of the resources needed to plan, design, construct, operate, monitor, and maintain the project. These are the costs, when adjusted for inflation, which the

Task Force uses in budgeting decisions.

The 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. Fully-funded cost estimates are developed for each project to determine how many projects could be supported through the Authorized program lifetime.

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.

Candidate Projects Located in Region 2

PPL28 Breton Landbridge Marsh Creation (West), River aux Chenes to Grand Lake

Project Location:

Region 2, Breton Basin, Plaquemines Parish

Problem:

Historically, this area was nourished by the freshwater delivered by the Mississippi River until the creation of the levees along the lower river. In 1991, the Caernarvon Freshwater Diversion began delivering freshwater to the marshes in the area. The major cause of wetland loss has been to storm activity (i.e. Hurricanes Betsy and Katrina), causing both storm-induced scouring and salt water intrusion. Altered hydrology and oil/gas development have exacerbated this loss. High subsidence rates range from 2.1-3.5 ft/century. Natural lakes and bays increase in size due to coalescence with marsh lost to water and increased wave fetch. The 1984 to 2016 USGS loss rate is -1.76%/yr for the extended boundary area.

Goals:

The project goals are to restore 423 acres of marshes and bank lines along the south side of Grand Lake. The proposed first phase would address the critical reach of the landbridge by restoring the Grand Lake shoreline. This project is part of an overall, long-range, restoration goal which would create/nourish 1,000 to 2,000 acres of intermediate marsh across 7 miles of the Breton Basin from River aux Chenes to Bayou Terre aux Bouefs.

Proposed Solution:

There will be 326 of marsh creation and 97 acres and marsh nourishment, respectively, via confined disposal in four disposal areas of sediment dredged from Grand Lake. Three disposal areas will be fronted by constructing a lakeside berm. The berm would be constructed with a combination of bucket dredge and marsh buggies. The lakeside slope of the berm would be planted with appropriate vegetation. The marsh creation acres would not be planted. The non-lakeside portions of the dikes will be gapped no later than three years post construction (i.e., the lakeshore berm would not be gapped). Data will be acquired from 224 additional acres to allow flexibility for an analysis of alternate features.

The overall landbridge concept incorporates marsh and shoreline restoration in a west-to-east configuration across the basin to be completed in two to three phases. Once restored, the land-bridge would reduce the potential for coalescence of Lake Lery with Grand Lake and Lake Petit.

Project Benefits:

The project would result in approximately 272 net acres over the 20-year project life.

Project Costs:

The total fully-funded cost is \$37,538,544.

Preparer of Fact Sheet:

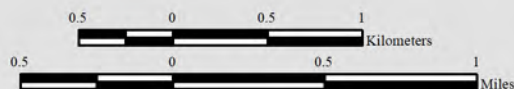
Brandon Howard, NOAA-Fisheries, Brandon.Howard@noaa.gov, 225-389-0508



Breton Landbridge Marsh Creation (West), River aux Chenes to Grand Lake (PPL28 Candidate)



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



Scale: 1:40,000

Map ID: 2018-11-0018
Map Date: May 31, 2018

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

Image Source:
2017 NAIP

PPL28 East Delacroix Marsh Creation and Terracing

Project Location:

Region 2, Breton Basin, St Bernard Parish

Problem:

Hurricanes Katrina and Rita caused the majority of wetland loss in the project area. Wind erosion and saltwater intrusion have resulted in loss of marsh vegetation and wetland soils. Marsh loss has increased exposure of Delacroix to flooding from the east/southeast. The 1984 to 2018 USGS loss rate is -1.58%/yr for the extended project boundary area.

Goals:

The project goal is to create and nourish approximately 406 acres of marsh (353 acres creation, 53 acres nourishment) and construct approximately 12,950 linear feet of terraces (approximately 8 acres) utilizing a layout to help protect the community of Delacroix.

Proposed Solution:

Sediment would be hydraulically dredged from Lake Lery and placed in two confined disposal areas creating 353 acres of marsh and nourishing 53 acres of existing marsh. Two creation cells allow a channel for the existing pump station. Approximately 12,950 ft of earthen terraces would be constructed. Terraces would be planted with appropriate bare root plants 2.5 ft apart in one row per side and crown. Created marsh will not be planted. Containment dikes will be gapped no later than three years after construction. The cost includes maintenance dredging of the pump station channel at year 10. Material would be stacked on remnant dikes along the channel so as not to fill marsh. Two additional areas of deteriorating marsh south and east of the proposed project will be investigated should the project be considered for further evaluation. Therefore, data acquisition for Engineering & Design will include an additional 114 ac to allow flexibility for analysis of these alternate features.

Project Benefits:

The project would result in approximately 314 net acres over the 20-year project life.

Project Costs:

The total fully-funded cost is \$39,838,424.

Preparer of Fact Sheet:

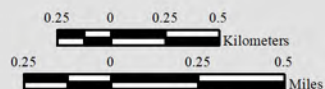
Brandon Howard, NOAA-Fisheries, Brandon.Howard@noaa.gov, 225-389-0508



East Delacroix Marsh Creation and Terracing (PPL28 Candidate)



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



Scale: 1:35,000



Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

Image Source:
2017 NAIP

Map ID: 2018-11-0019
Map Date: May 31, 2018

PPL28 Bayou Terre aux Boeufs Ridge Restoration and Marsh Creation

Project Location

Region 2, Breton Sound Basin, Plaquemines Parish, west of bayou Terre Aux Boeufs

Problem

Historic ridge habitat loss occurs in the form of subsidence and shoreline erosion along Bayou Terre aux Boeufs (BTAB). The shoreline erosion is caused by boat traffic from recreational and commercial vessels. The ridge is subsiding due to anthropogenic and natural processes. The habitat associated with ridges in Louisiana is Live Oak Hackberry forest. This ecosystem is utilized by trans-gulf migratory bird species as a first and last stop when crossing the Gulf of Mexico. This critical habitat is rated as S1 and S2 priority by the state of Louisiana. Interior marsh loss in the project site is caused by subsidence, increased tidal prism and salinities due to construction of access and or transmission canals. The BTAB ridge is the barrier that separates brackish from intermediate marsh in the Breton Basin. Loss of this hydrological barrier could pose greater threats to already diminishing intermediate marshes. Based on the hyper-temporal analysis (1985-2018) conducted by USGS loss rates are estimated to be -0.65% per year.

Goals

The primary goals of this project are: 1) create forested, coastal ridge habitat along the western bank of Bayou Terre aux Boeufs, and 2) restore marsh habitat in the open water areas via marsh creation and marsh nourishment. Specific goals of the project are: 1) Create approximately 28,218 linear feet (22 acres) of forested ridge; and 2) create approximately 286 acres and nourish approximately 249 acres of marsh with dredged material from Cochon Bay.

Related goals include restoration/protection of habitat for threatened and endangered species and other at-risk species. This project would restore habitat potentially utilized by the black rail, saltmarsh topminnow, and Louisiana eyed silkmoth, which are petitioned for listing as threatened/endangered species. The project could also benefit other species of concern including the seaside sparrow and neotropical migrants.

Proposed Solution

Lake sediments will be hydraulically dredged and pumped via pipeline to create 286 acres of marsh and nourish 249 acres of marsh. The bayou will be mechanically dredge to create 28,214 linear feet (22 acres) of ridge habitat. Containment dikes will be gapped and the ridge will be planted.

Project Benefits

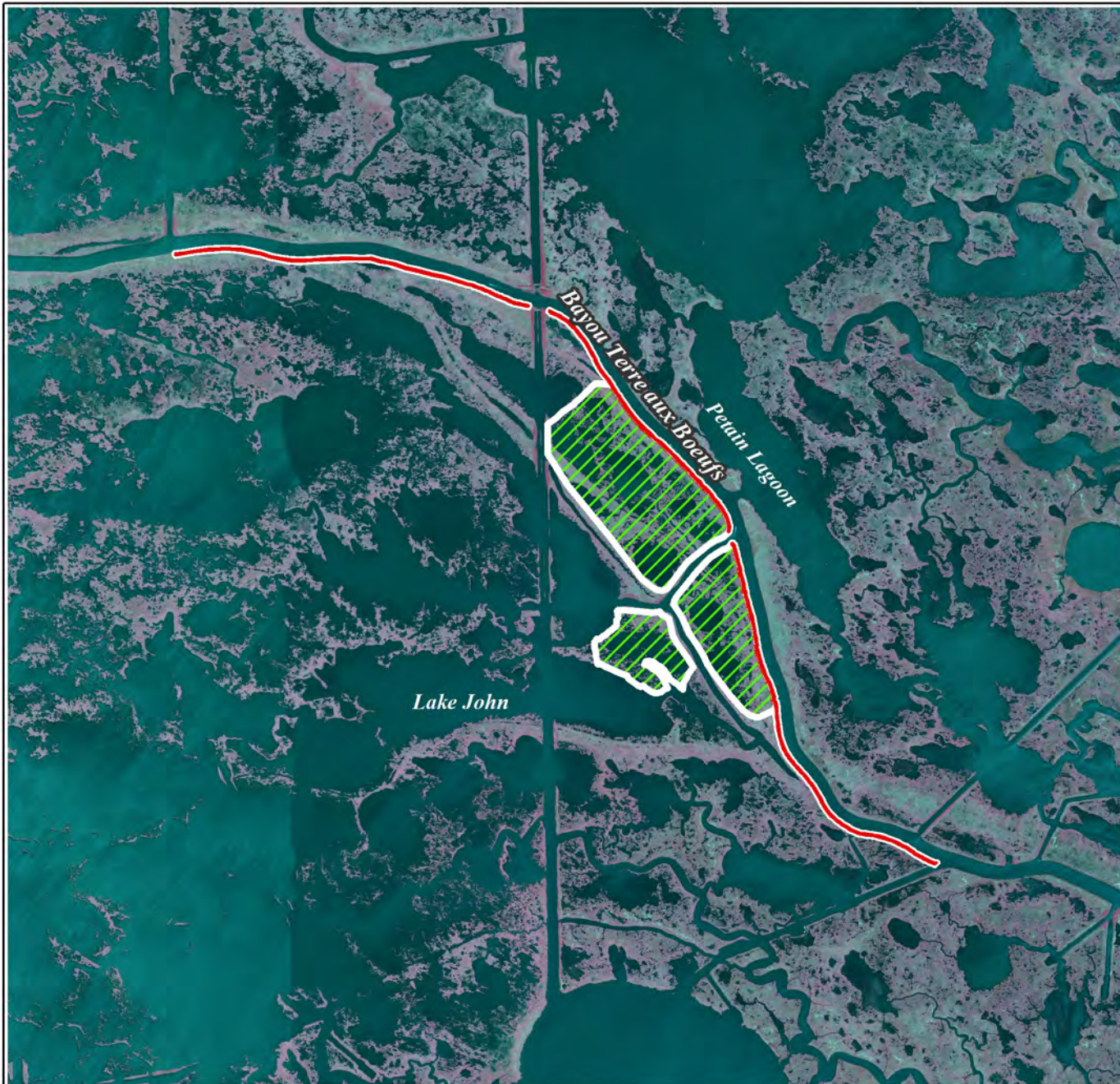
The project would result in approximately 283 net acres of marsh and ridge habitat over the 20-year project life.

Preliminary Cost

The total fully-funded cost is \$38,432,042

Preparer of Fact Sheet

Ron Boustany, USDA/NRCS, ron.boustany@la.usda.gov



Bayou Terre aux Boeufs Ridge Restoration and Marsh Creation (PPL28 Candidate)



Marsh Creation *

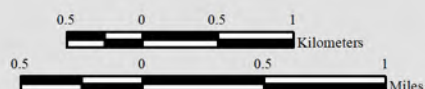


Ridge Restoration *



Project Boundary

* denotes proposed features



Scale: 1:50,000

Map ID: 2018-11-0021
Map Date: May 31, 2018

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

Image Source:
2017 NAIP

PPL28 Grand Bayou Ridge and Marsh Restoration

Project Location:

Region 2, Barataria Basin, Plaquemines Parish

Problem:

Within the Lake Hermitage basin, between Bayou Grande Cheniere and the Mississippi River, significant marsh loss has occurred with the construction of oil/gas canals, subsidence, and sediment deprivation. From examination of aerial photography, the majority of this loss occurred during the 1960s and 1970s when numerous oil/gas canals were dredged in the area. Based on the hyper-temporal analysis conducted by USGS for the extended project boundary, the land loss rate in the project area is -1.12% per year for the period 1984 to 2018.

Goals:

The primary goals of this project are; 1) restore marsh habitat in the open water areas via marsh creation and terracing and 2) restore forested ridge habitat along Grand Bayou.

Specific goals of the project are: 1) Create approximately 356 acres (344 acres of creation; 12 acres of nourishment) of marsh with dredged material from the Mississippi River; 2) create 25,000 linear feet (19 acres) of terraces; 3) Create 10,657 linear feet (13 acres) of forested ridge habitat.

Proposed Solution:

Sediments from the Mississippi River will be hydraulically dredged and pumped via pipeline to create/nourish approximately 356 acres of marsh. The proposed design is to place the dredged material to a fill height of +1.1 ft NAVD88 (per the BA-42 Lake Hermitage Marsh Creation Project). Containment dikes will be gapped at the end of construction.

Approximately 25,000 linear feet of terraces (19 acres) will be constructed in open water areas west of Grand Bayou (Figure 1). Terraces will have a 15-ft crown width, a height of +2.5 ft NAVD88, and side slopes of 1(V):4(H). The terraces will be planted with seashore paspalum on the crown and smooth cordgrass on the side slopes.

Approximately 10,657 linear feet (13 acres) of forested ridge will be created along the western bank of Grand Bayou using material from the bayou. The ridge will be constructed to a crown elevation of +4.0 feet NAVD88, 25 feet wide, and will be planted on the crown and slopes.

Project Benefits:

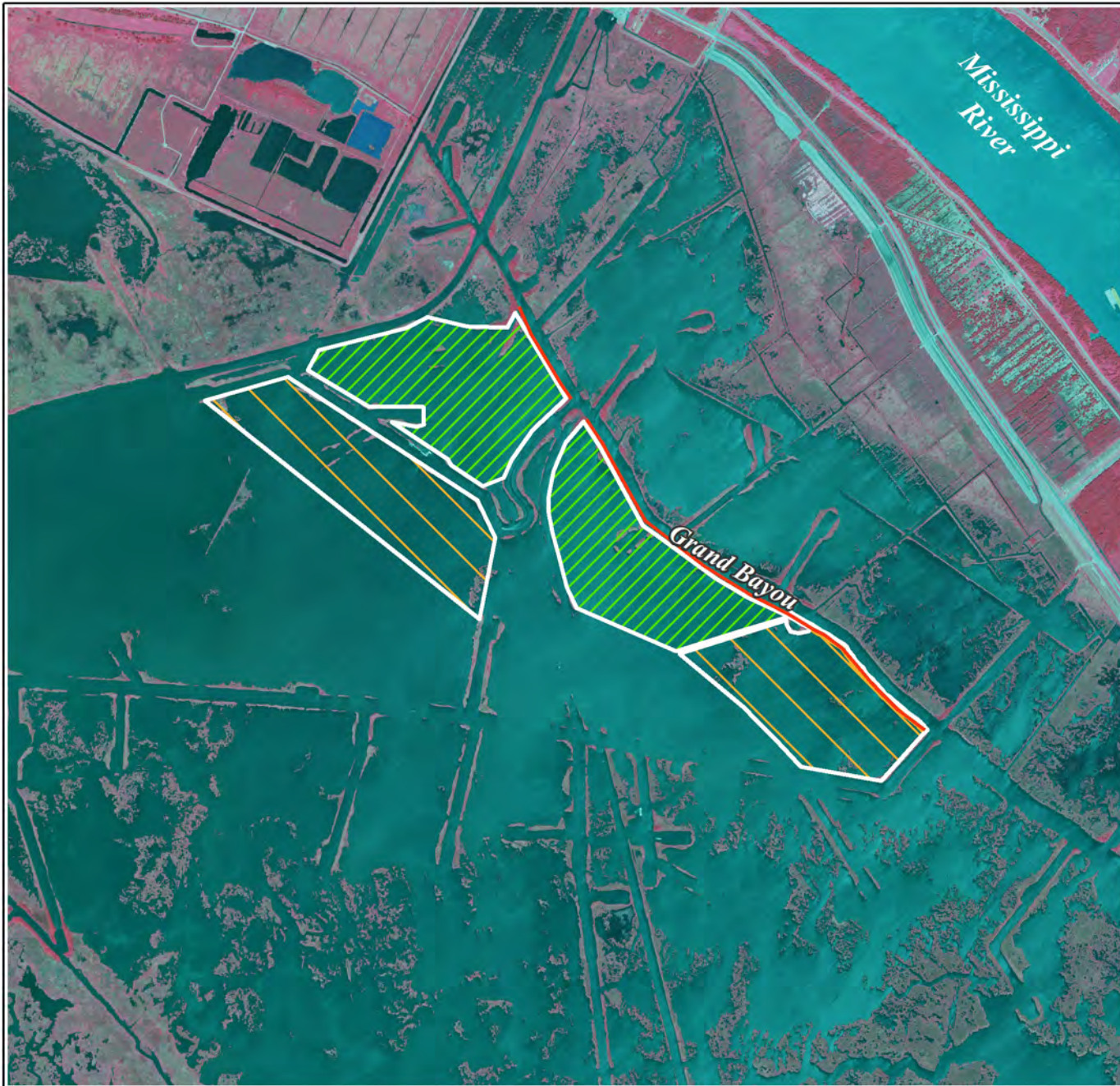
The project would result in approximately 336 net acres over the 20-year project life.

Project Costs:

The total fully-funded cost is \$41,795,419.

Preparer of Fact Sheet:

Kevin Roy, FWS, Kevin_Roy@fws.gov, 337-291-3120

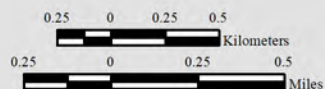


Grand Bayou Ridge and Marsh Restoration (PPL28 Candidate)



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

* denotes proposed features



Scale: 1:35,000

Map ID: 2018-11-0020
Map Date: May 31, 2018

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

Image Source:
2017 NAIP

Candidate Projects Located in Region 3

PPL28 East Catfish Lake Marsh Creation and Shoreline Protection

Project Location:

Region 3, Terrebonne Basin, Lafourche Parish

Problem:

Significant marsh loss has occurred east and south of Catfish Lake. Causes of marsh loss include the construction of numerous oil/gas canals, subsidence, and sediment deprivation. Between Catfish Lake and the Golden Meadow Hurricane Protection Levee, very little marsh remains after the construction of an extensive network of oil/gas canals. Much of the remaining land in this area consists of spoil banks and isolated patches of marsh. From examination of aerial photography, the majority of this loss occurred during the 1960s and 1970s. Based on the hyper-temporal analysis conducted by USGS for the extended project boundary, the land loss rate in the project area is -1.08% per year for the period 1984 to 2018. Shoreline erosion rates (1998-2017) range from 10 ft/yr along the eastern lake shoreline to 22 ft/yr along the southern lake shoreline.

Goals:

The primary goals of this project are; 1) restore marsh habitat in the open water areas east and south of Catfish Lake, and 2) restore and protect the eastern and southern Catfish Lake shoreline.

The specific goals of this project are; 1) create 235 acres of marsh, 2) nourish 71 acres of marsh, 3) protect the marsh creation cells from shoreline erosion.

Proposed Solution:

Sediments from Catfish Lake will be hydraulically dredged and pumped via pipeline to create/nourish 306 acres of marsh. Dewatering and compaction of dredged sediments should produce elevations conducive to the establishment of emergent marsh and within the intertidal range. Containment dikes will be constructed around each marsh creation cell. Where practicable, material will be borrowed from perimeter oil/gas canals. Containment dikes will be gapped at the end of construction or by TY3. Approximately 2,566 linear feet of sheet pile wall will also be installed as a containment feature.

Approximately 12,479 linear feet of shoreline protection (gabion mattresses) will be installed along the lakeside boundary of the marsh creation cells on the constructed containment dikes.

Project Benefits:

The project would result in approximately 244 net acres over the 20-year project life.

Project Costs:

The total fully-funded cost is \$40,448,993.




Preparer of Fact Sheet:

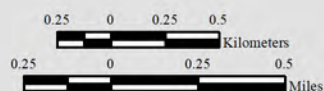
Kevin Roy, FWS, Kevin_Roy@fws.gov, 337-291-3120



East Catfish Lake Marsh Creation and Shoreline Protection (PPL28 Candidate)



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



Scale: 1:35,000



Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

Image Source:
2017 NAIPQ

Map ID: 2018-11-0017
Map Date: May 31, 2018

PPL28 Small Bayou LaPointe Marsh Creation

Project Location:

Region 3, Terrebonne Basin, Terrebonne Parish

Problem:

Examination of historical aerial photography clearly indicates significant marsh loss in the vicinity of the project area, particularly in the area between Small Bayou LaPointe and Bayou DeCade. Subsidence, canal dredging, saltwater intrusion, storms, and altered hydrology are all important factors contributing to marsh loss in the area. USGS calculated a 1984-2018 land change rate of -0.41% per year for the extended boundary north of Small Bayou LaPointe and -0.39% per year south of the bayou.

Goals:

The primary goals of this project are; 1) restore marsh habitat in areas of open water and deteriorated marsh along Small Bayou LaPointe and 2) continue with the concept of the North Lake Mechant Landbridge with an eastward extension of the TE-44 project.

The specific goals of this project are; 1) create 257 acres of marsh and 2) nourish 54 acres of marsh. Service goals include restoration/protection of habitat for threatened and endangered species and other at-risk species. This project would restore habitat potentially utilized by the black rail which is petitioned for listing as a threatened/endangered species. The project could also benefit other at-risk species including the seaside sparrow and mottled duck, both priority species for the Gulf Coast Joint Venture.

Proposed Solution:

Two marsh creation areas (MCA) are proposed totaling 311 acres (Figure 1). MCA1 is located north of Small Bayou LaPointe and MCA2 is located east of the bayou. Both MCAs are adjacent to the marsh platform which now exists along the historical Small Bayou LaPointe ridge. Sediments from Lake DeCade will be hydraulically dredged and pumped via pipeline to create marsh in open water and nourish existing marsh. Dewatering and compaction of dredged sediments should produce elevations conducive to the establishment of emergent marsh and within the intertidal range. Containment dikes will be constructed around each marsh creation cell. Where practicable, material for containment dikes will be borrowed from outside the marsh creation cells. Containment dikes will be gapped at the end of construction or by TY3.

Project Benefits:

The project would result in approximately 249 net acres over the 20-year project life.

Project Costs:

The total fully-funded cost is \$34,575,172.



Preparer of Fact Sheet:

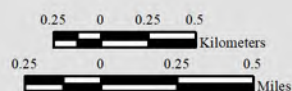
Kevin Roy, FWS, Kevin_Roy@fws.gov, 337-291-3120



Small Bayou LaPointe Marsh Creation (PPL28 Candidate)



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



Scale: 1:40,000

Map ID: 2018-11-0030
Map Date: August 13, 2018

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

Image Source:
2017 NAIP

PPL28 North Marsh Restoration (North Increment)

Project Location:

Region 3, Teche-Vermilion, Vermilion Parish

Problem:

Project area wetlands are undergoing losses at -0.86%/year based on 1985 to 2018 USGS hypertemporal data. Marshes in this area are subject to losses from subsidence/sediment deficit, seasonal saltwater intrusion, shoreline erosion, and altered hydrology from levees and increased connectivity with Freshwater Bayou Canal. Interior marshes are fragmenting with erosion and submergence. The result is plant stress reducing marsh productivity. Disturbances to the landscape from hurricanes and herbivory have resulted in the breakup and export of interior marsh. Erosion is leading to higher water turbidity within the interior ponds, increased pond width and depth, and decreasing coverage of submerged aquatic vegetation. It is unlikely these areas will recover unaided. If left to deteriorate, the project vicinity could eventually open into Freshwater Bayou risking conversion of larger interior marsh areas to open water.

Goals:

The project goal is to create and nourish approximately 239 acres of marsh, protect 5,952 feet of shoreline, and construct approximately 16,100 linear feet of terraces (~16 emergent acres).

Proposed Solution:

There will be 189 and 50 acres of marsh creation and nourishment, respectively, using dedicated dredging of sediment mined from the Gulf of Mexico and confined disposal. The borrow area would be designed to avoid adverse impacts to the Gulf shoreline and sited to not mine the same area as ME-31. In addition to marsh creation, approximately 5,952 linear feet of foreshore rock dike would be constructed in three segments along Freshwater Bayou Canal to protect the channel bank lines from erosion. The dike segments tie into existing spoil banks to maintain access to existing oil and gas canals and slips. Additionally, three gaps in the rock are included to maintain tidal exchange and fish access. The gaps are protected by an offset section of rock. The rock dike would be constructed similarly to the recent CIAP project on the west side of the channel. Also, 16,100 linear feet of terraces would be constructed. The terrace slopes and crown would be planted with appropriate marsh vegetation. Containment dikes would be gapped.

The project is the first increment of three within a conceptual comprehensive plan to address critical wetland loss on the east side of Freshwater Bayou Canal. The plan uses three restoration techniques that are scaled to be cost competitive given practicalities of options for borrow areas.

Project Benefits:

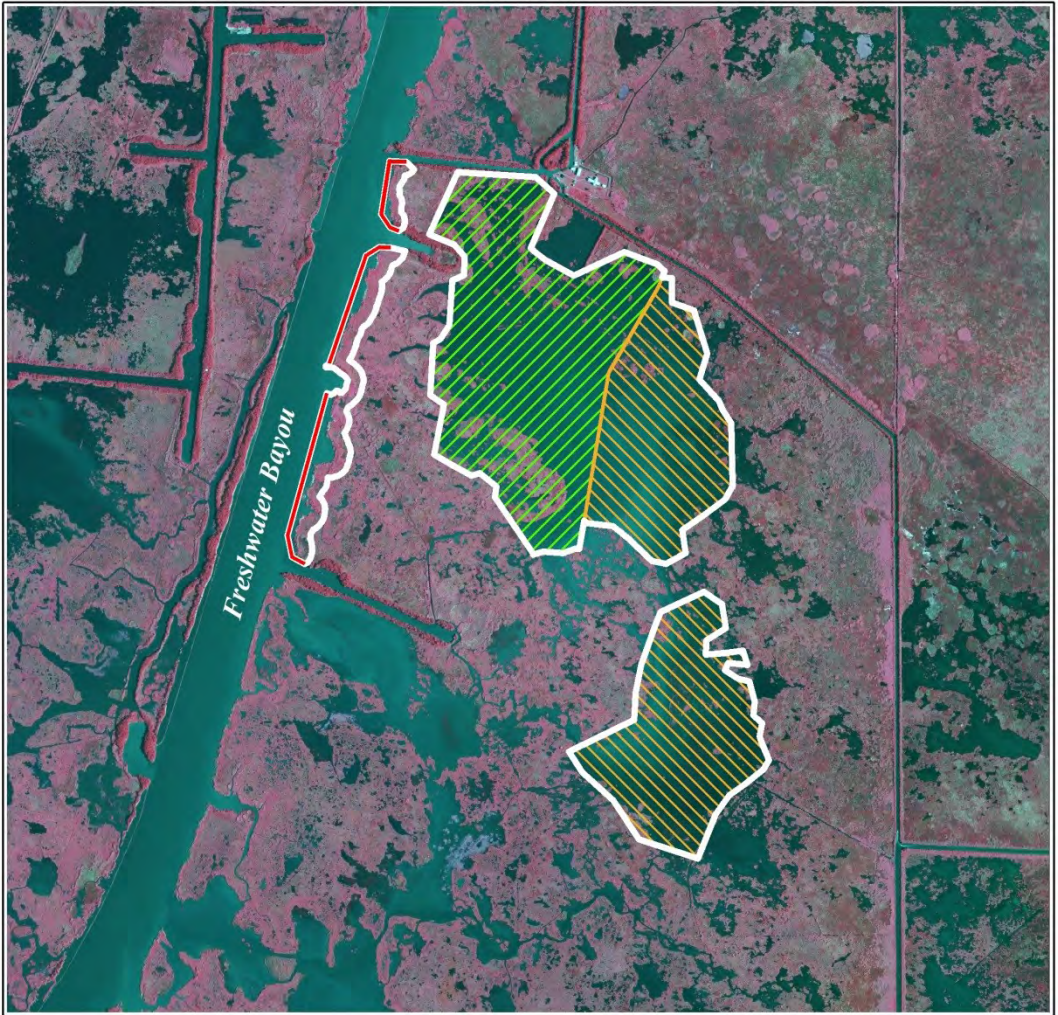
The project would result in approximately 217 net acres over the 20-year project life.

Project Costs:

The total fully-funded cost is \$ 41,142,554.

Preparer of Fact Sheet:

Dawn Davis, NOAA-Fisheries, Dawn.Davis@noaa.gov, 225-389-0508







North Marsh Restoration (North Increment) (PPL28 Candidate)

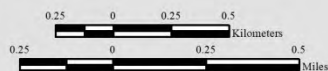


Map Produced By:
 U.S. Department of the Interior
 U.S. Geological Survey
 National Wetlands Research Center
 Coastal and Oceanic Restoration Branch
 Baton Rouge, LA

Image Source:
 2017 NAIP



-  Shoreline Protection *
 -  Marsh Creation/Nourishment *
 -  Terrace Field *
 -  Project Boundary
- * denotes proposed features



Scale: 1:25,000

Map ID: 2018-11-0029
 Map Date: July 11, 2018

Candidate Projects Located in Region 4

PPL28 Southeast White Lake Marsh Creation

Project Location:

Region 4, Mermentau Basin, Vermilion Parish

Problem:

Examination of aerial photography clearly indicates significant marsh loss has recently occurred in the project area. Historically, the project area has been very stable with very little wetland loss. However, it is believed that several high-water events during 2015 to 2017 led to marsh detachment and extensive wetland loss throughout the area. USGS calculated a 1984-2018 loss rate of -0.77% per year for the extended project boundary.

Goals:

The primary goal of this project is to restore marsh habitat in areas of open water and deteriorated marsh. Specific goals are to; 1) create 450 acres of marsh and 2) nourish 368 acres of marsh.

Service goals include restoration/protection of habitat for threatened and endangered species and other at-risk species. This project would restore habitat potentially utilized by the black rail which is petitioned for listing as a threatened/endangered species.

Proposed Solution:

Two marsh creation areas (MCA) are proposed totaling 818 acres (Figure 1). MCA1 (608 acres) is located between White Lake and an access canal which runs southwest-northeast across the project area. MCA2 (210 acres) is located to the east of the access canal. Sediments from White Lake will be hydraulically dredged and pumped via pipeline to create marsh in open water and nourish existing marsh. Dewatering and compaction of dredged sediments should produce elevations conducive to the establishment of emergent marsh and within the intertidal range. Containment dikes will be constructed around each marsh creation cell. Where practicable, material will be borrowed from outside the marsh creation cells. Containment dikes will be gapped at the end of construction or by TY3.

Project Benefits:

The project would result in approximately 444 net acres over the 20-year project life.

Project Costs:

The total fully-funded cost is \$25,887,192.



Preparer of Fact Sheet:

Kevin Roy, FWS, Kevin_Roy@fws.gov, 337-291-3120



Southeast White Lake Marsh Creation (PPL28 Candidate)



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



Scale: 1:35,000

Map ID: 2018-11-0023
Map Date: August 13, 2018

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

Image Source:
2017 NAIP

PPL28 Long Point Bayou Marsh Creation

Project Location:

Region 4, Calcasieu/Sabine Basin, Cameron Parish, approximately 4 miles south of Hackberry between LA Highway 27 and Calcasieu Ship Channel.

Problem:

The project area is in an area that has been influenced by saltwater intrusion, increased water fluctuations and erosion. Human alterations have disrupted the hydrologic processes which contributed to wetland building and maintenance, while subsidence and sea level rise continues. Almost all fresh marsh was converted to intermediate and brackish by the late 1970s as a result of saltwater intrusion and increased tidal influence. Land loss rates within the project area now show a positive trend; the experimental land change analysis conducted by USGS for the extended project boundary shows a land gain of +0.21% per year (1985 to 2017) in the project area. Historical topographic maps show that the area was nearly all land in 1955.

Goals:

The project goal is to create and/or nourish approximately 392 acres (create 340 acres and nourish 52 acres) of emergent brackish marsh through beneficial use dredged material from the Calcasieu Ship Channel. Eight acres of tidal creeks will also be included. The Environmental Protection Agency's strategic plan goals include "Work with partners to protect and restore wetlands and coastal and ocean water resources."

In addition, this project would restore habitat potentially used by the saltmarsh topminnow and black rail, which are petitioned/proposed for Federal listing as threatened/endangered species. The project may also benefit neotropical migratory birds.

Proposed Solution:

This project will create/nourish 392 acres of marsh near Long Point Bayou and just north of the Sabine National Wildlife Refuge. This project will beneficially use dredged material from the Calcasieu Ship Channel or other locations and placed into shallow open water sites within the project area. Constructed containment dikes would be breached/gapped as needed to provide tidal exchange after fill materials settle and consolidate. The project would create 340 acres of marsh and nourish at least 52 acres of existing fragmented marsh. A target fill elevation of +1.14 feet (NAVD88) is envisioned to enhance longevity of this land form. Additionally, 196 acres of vegetative plantings and 8 acres of tidal creeks will be included.

Project Benefits:

The project would result in approximately 332 net acres over the 20-year project life.

Project Costs:

The total fully-funded cost is \$13,000,363



Preparer of Fact Sheet:

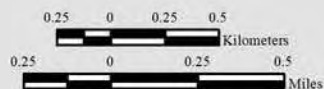
Sharon L. Osowski-Morgan, Ph.D., EPA; (214) 665-7506; osowski.sharon@epa.gov
Brad Crawford, EPA; (214) 665-7255; crawford.brad@epa.gov



Long Point Bayou Marsh Creation (PPL28 Candidate)



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



Scale: 1:35,000



Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

Image Source:
2017 NAIP

Map ID: 2018-11-0022
Map Date: May 31, 2018

Candidate Coastwide Projects

PPL28 Coastwide Hydrologic Improvements Project

Project Location:

Coastwide

Problem:

For decades, the natural hydrology and tidal flows of the Louisiana coast have been altered by development, oil and gas exploration, wetland management techniques, as well as storms, erosion, and other manmade and natural processes. These alterations can take various forms such as installation of dikes, roadways, levees, and other barriers, inadequate or failing culverts and water-control structures, etc. These modifications reduce or restrict tidal or freshwater exchanges and change the structure and function of coastal habitats, which can eliminate nursery grounds for important marine and coastal species. Coastal marshes have been altered, degraded, and lost. By focusing restoration efforts in relatively small footprints, such as removing barriers to tidal flow or freshwater exchange, hundreds or even thousands of acres of coastal marshes can be positively impacted. The wetland loss rate for the project area is -0.77% per year based on averages of existing hydrologic projects.

Goals:

Restore and/or improve hydrology to coastal marshes through increasing freshwater, nutrient and sediment inputs, and tidal exchange. The project will also strive to increase fisheries access to unused or underutilized nursery habitat, increase the functionality of coastal marsh habitats, and improve water quality.

Proposed Solution:

Installation, improvement, replacement, repair, removal of water control structures (for example culverts, weirs, plugs, dikes, spoil banks, etc.). Freshwater conveyance by dredging (using material beneficially). This project will provide a funding mechanism to implement hydrologic restoration projects within the scale of the CWPPRA program. Implementation of this project is cyclical (five implementation cycles; one every three years). The project is not intended to provide for construction or maintenance of other funded projects with existing O&M funding mechanisms. The project will not provide funds for design or construction of water control features which would place new areas under management and further restrict flows and/or fisheries access. The project is not intended to rebuild deteriorated marsh management units and further restrict flows and/or fisheries access.

Project Benefits:

The project would result in approximately 220 net acres over the 20-year project life.

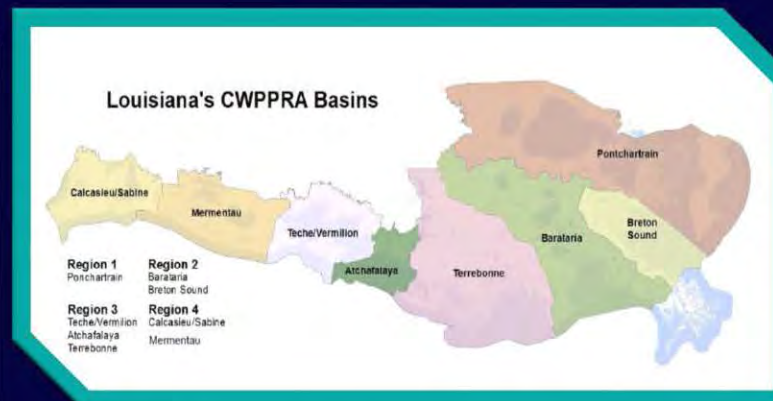
Project Costs:

The total fully funded cost is \$ 25,505,424.

Preparer of Fact Sheet:

Donna Rogers, Ph.D.; NOAA Fisheries, 225-636-2095, Donna.Rogers@noaa.gov
Jason Kroll; NOAA Fisheries, 225-757-5411, Jason.Kroll@noaa.gov

PPL28 Coastwide Hydrologic Improvements Candidate Project



Candidate Demonstration Projects

PPL28 Demonstration Project ShoreFlex II

Project Location:

Coastwide: Shorelines of banks, terraces, and earthen berms

Problem:

Many Louisiana coastal restoration projects contain shorelines susceptible to erosion due to wave fetch, boat wakes, and currents. Installing heavy protective materials such as articulated concrete mats or rock can require access dredging and weak soils may not support these heavy materials. Newly constructed restoration projects may lose valuable acreage to erosion.

Goals:

The proposed demonstration project would stabilize existing shoreline features and effectively stop erosion, but preserve vegetated edge habitat. The goal of the proposed demonstration project is to provide a low-cost method to create vegetated shorelines that are resistant to erosion.

Proposed Solution:

ShoreFlex II is a cable tied concrete block erosion control mat; mat dimensions and block density can be adjusted to site conditions and to increase the amount of openings. The matrix consists of concrete blocks strung in a staggered brick pattern to control erosion. ShoreFlex II mats weigh 11 lbs/SF, compared to 45 lbs/SF for standard open cell Articulated Concrete Block (ACB) open cell mats. ShoreFlex II is designed with approximately 30 percent open area to facilitate vegetation growth; ACB open cell mats have 15 to 20 percent open area and a geotextile backing (necessary due to the weight). Vegetation can be planted in the gaps between the ShoreFlex II blocks, or natural vegetation can grow through the openings.

The demonstration would include the selection of three replicate eroding shoreline sites for each of the three shoreline treatments: ShoreFlex II, standard open cell ACB mats, and unprotected eroding shoreline. Each shoreline treatment would include three replicate 504-foot sections for a total installation of 1,512 linear feet. Project effectiveness would be monitored and evaluated after construction according to the CWPPRA workgroup recommendation for this product in Phase 0. The conceptual treatments are shown in Figure 1.

Project Costs:

The total fully funded cost is \$3,854,572.

Preparer(s) of Fact Sheet:

Donna Rogers, Ph.D.; NOAA Fisheries, 225-636-2095, Donna.Rogers@noaa.gov

Jason Kroll; NOAA Fisheries, 225-757-5411, Jason.Kroll@noaa.gov

Cody Colvin; Industrial Fabrics, Inc., 225-328-0545, ccolvin@ind-fab.com

Figure: 1. Shoreline Treatments: ShoreFlex II, Traditional ACB Mats, and Eroding Marsh Shoreline



IV. Project Selection

On February 12, 2019 the CWPPRA Task Force made its selection for the 28th PPL. The CWPPRA Task Force selection for the 28th PPL is shown in Table 6.

Table 6: The 28th Priority Project List

Project Number	Project Name	Physical Type	Sponsoring Agency	Total Fully Funded Cost	Fully-Funded Phase I Cost	Fully-Funded Phase II Cost	Average Annual Habitat Units (AAHU)
BS-38	Breton Landbridge Marsh Creation (West)	MC	NOAA	\$37,538,544	\$3,837,364	\$33,701,180	107
BS-37	East Delacroix Marsh Creation and Terracing	MC/ TR	NOAA	\$39,838,424	\$3,642,501	\$36,195,923	140
BA-217	Grand Bayou Ridge and Marsh Restoration	MC/ RR	FWS	\$41,795,419	\$3,463,474	\$38,331,945	171
CS-85	Long Point Bayou Marsh Creation	MC	EPA	\$13,000,363	\$2,295,824	\$10,704,539	166
TOTALS				\$132,172,750	\$13,239,163	\$118,933,587	584

Project Physical Type:

MC = Marsh Creation
RR = Ridge Restoration
TR = Terracing

Sponsoring Agencies:

EPA = U.S. Environmental Protection Agency
FWS = U.S. Fish and Wildlife Service
NOAA = National Oceanic and Atmospheric Administration

V. 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 project location, problem, goals, solution, benefits, costs, sponsoring agency and contact persons and a map identifying the project area and features if applicable.

PPL28 Breton Landbridge Marsh Creation (West), River aux Chenes to Grand Lake

Project Location:

Region 2, Breton Basin, Plaquemines Parish

Problem:

Historically, this area was nourished by the freshwater delivered by the Mississippi River until the creation of the levees along the lower river. In 1991, the Caernarvon Freshwater Diversion began delivering freshwater to the marshes in the area. The major cause of wetland loss has been to storm activity (i.e. Hurricanes Betsy and Katrina), causing both storm-induced scouring and salt water intrusion. Altered hydrology and oil/gas development have exacerbated this loss. High subsidence rates range from 2.1-3.5 ft/century. Natural lakes and bays increase in size due to coalescence with marsh lost to water and increased wave fetch. The 1984 to 2016 USGS loss rate is -1.76%/yr for the extended boundary area.

Goals:

The project goals are to restore 423 acres of marshes and bank lines along the south side of Grand Lake. The proposed first phase would address the critical reach of the landbridge by restoring the Grand Lake shoreline. This project is part of an overall, long-range, restoration goal which would create/nourish 1,000 to 2,000 acres of intermediate marsh across 7 miles of the Breton Basin from River aux Chenes to Bayou Terre aux Bouefs.

Proposed Solution:

There will be 326 of marsh creation and 97 acres and marsh nourishment, respectively, via confined disposal in four disposal areas of sediment dredged from Grand Lake. Three disposal areas will be fronted by constructing a lakeside berm. The berm would be constructed with a combination of bucket dredge and marsh buggies. The lakeside slope of the berm would be planted with appropriate vegetation. The marsh creation acres would not be planted. The non-lakeside portions of the dikes will be gapped no later than three years post construction (i.e., the lakeshore berm would not be gapped). Data will be acquired from 224 additional acres to allow flexibility for an analysis of alternate features.

The overall landbridge concept incorporates marsh and shoreline restoration in a west-to-east configuration across the basin to be completed in two to three phases. Once restored, the land-bridge would reduce the potential for coalescence of Lake Lery with Grand Lake and Lake Petit.

Project Benefits:

The project would result in approximately 272 net acres over the 20-year project life.

Project Costs:

The total fully-funded cost is \$37,538,544.

Preparer of Fact Sheet:

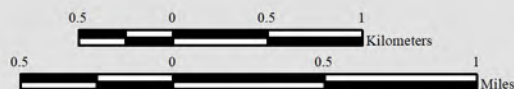
Brandon Howard, NOAA-Fisheries, Brandon.Howard@noaa.gov, 225-389-0508



Breton Landbridge Marsh Creation (West), River aux Chenes to Grand Lake (PPL28 Candidate)



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



Scale: 1:40,000

Map ID: 2018-11-0018
Map Date: May 31, 2018

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

Image Source:
2017 NAIP

PPL28 East Delacroix Marsh Creation and Terracing

Project Location:

Region 2, Breton Basin, St Bernard Parish

Problem:

Hurricanes Katrina and Rita caused the majority of wetland loss in the project area. Wind erosion and saltwater intrusion have resulted in loss of marsh vegetation and wetland soils. Marsh loss has increased exposure of Delacroix to flooding from the east/southeast. The 1984 to 2018 USGS loss rate is -1.58%/yr for the extended project boundary area.

Goals:

The project goal is to create and nourish approximately 406 acres of marsh (353 acres creation, 53 acres nourishment) and construct approximately 12,950 linear feet of terraces (approximately 8 acres) utilizing a layout to help protect the community of Delacroix.

Proposed Solution:

Sediment would be hydraulically dredged from Lake Lery and placed in two confined disposal areas creating 353 acres of marsh and nourishing 53 acres of existing marsh. Two creation cells allow a channel for the existing pump station. Approximately 12,950 ft of earthen terraces would be constructed. Terraces would be planted with appropriate bare root plants 2.5 ft apart in one row per side and crown. Created marsh will not be planted. Containment dikes will be gapped no later than three years after construction. The cost includes maintenance dredging of the pump station channel at year 10. Material would be stacked on remnant dikes along the channel so as not to fill marsh. Two additional areas of deteriorating marsh south and east of the proposed project will be investigated should the project be considered for further evaluation. Therefore, data acquisition for Engineering & Design will include an additional 114 ac to allow flexibility for analysis of these alternate features.

Project Benefits:

The project would result in approximately 314 net acres over the 20-year project life.

Project Costs:

The total fully-funded cost is \$39,838,424.

Preparer of Fact Sheet:

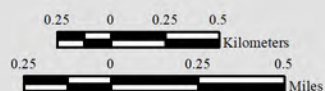
Brandon Howard, NOAA-Fisheries, Brandon.Howard@noaa.gov, 225-389-0508



East Delacroix Marsh Creation and Terracing (PPL28 Candidate)



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



Scale: 1:35,000



Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

Image Source:
2017 NAIP

Map ID: 2018-11-0019
Map Date: May 31, 2018

PPL28 Grand Bayou Ridge and Marsh Restoration

Project Location:

Region 2, Barataria Basin, Plaquemines Parish

Problem:

Within the Lake Hermitage basin, between Bayou Grande Cheniere and the Mississippi River, significant marsh loss has occurred with the construction of oil/gas canals, subsidence, and sediment deprivation. From examination of aerial photography, the majority of this loss occurred during the 1960s and 1970s when numerous oil/gas canals were dredged in the area. Based on the hyper-temporal analysis conducted by USGS for the extended project boundary, the land loss rate in the project area is -1.12% per year for the period 1984 to 2018.

Goals:

The primary goals of this project are; 1) restore marsh habitat in the open water areas via marsh creation and terracing and 2) restore forested ridge habitat along Grand Bayou.

Specific goals of the project are: 1) Create approximately 356 acres (344 acres of creation; 12 acres of nourishment) of marsh with dredged material from the Mississippi River; 2) create 25,000 linear feet (19 acres) of terraces; 3) Create 10,657 linear feet (13 acres) of forested ridge habitat.

Proposed Solution:

Sediments from the Mississippi River will be hydraulically dredged and pumped via pipeline to create/nourish approximately 356 acres of marsh. The proposed design is to place the dredged material to a fill height of +1.1 ft NAVD88 (per the BA-42 Lake Hermitage Marsh Creation Project). Containment dikes will be gapped at the end of construction.

Approximately 25,000 linear feet of terraces (19 acres) will be constructed in open water areas west of Grand Bayou (Figure 1). Terraces will have a 15-ft crown width, a height of +2.5 ft NAVD88, and side slopes of 1(V):4(H). The terraces will be planted with seashore paspalum on the crown and smooth cordgrass on the side slopes.

Approximately 10,657 linear feet (13 acres) of forested ridge will be created along the western bank of Grand Bayou using material from the bayou. The ridge will be constructed to a crown elevation of +4.0 feet NAVD88, 25 feet wide, and will be planted on the crown and slopes.

Project Benefits:

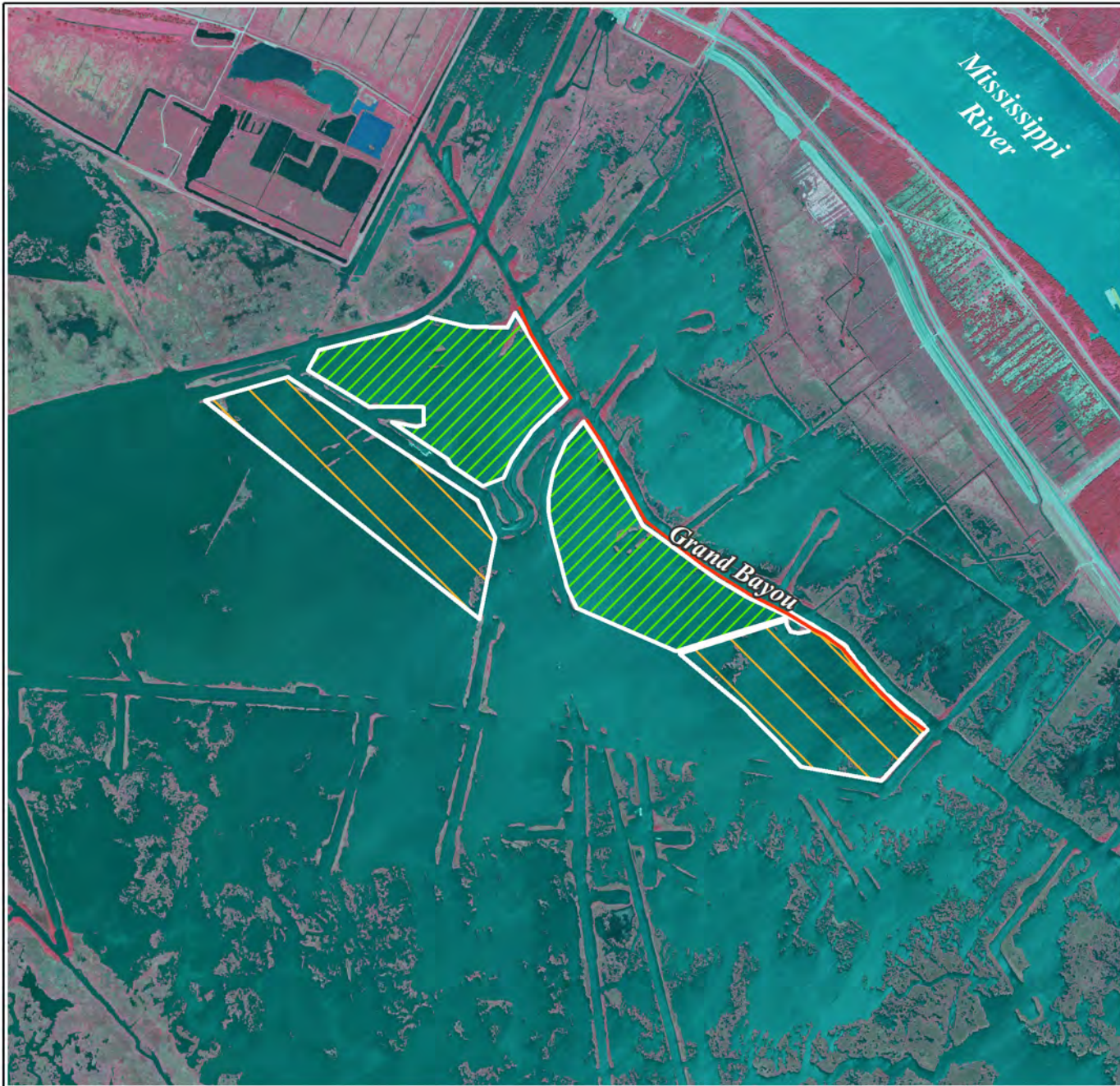
The project would result in approximately 336 net acres over the 20-year project life.

Project Costs:

The total fully-funded cost is \$41,795,419.

Preparer of Fact Sheet:

Kevin Roy, FWS, Kevin_Roy@fws.gov, 337-291-3120

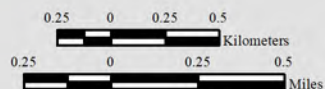


Grand Bayou Ridge and Marsh Restoration (PPL28 Candidate)



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

* denotes proposed features



Scale: 1:35,000

Map ID: 2018-11-0020
Map Date: May 31, 2018

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

Image Source:
2017 NAIP

PPL28 Long Point Bayou Marsh Creation

Project Location:

Region 4, Calcasieu/Sabine Basin, Cameron Parish, approximately 4 miles south of Hackberry between LA Highway 27 and Calcasieu Ship Channel.

Problem:

The project area is in an area that has been influenced by saltwater intrusion, increased water fluctuations and erosion. Human alterations have disrupted the hydrologic processes which contributed to wetland building and maintenance, while subsidence and sea level rise continues. Almost all fresh marsh was converted to intermediate and brackish by the late 1970s as a result of saltwater intrusion and increased tidal influence. Land loss rates within the project area now show a positive trend; the experimental land change analysis conducted by USGS for the extended project boundary shows a land gain of +0.21% per year (1985 to 2017) in the project area. Historical topographic maps show that the area was nearly all land in 1955.

Goals:

The project goal is to create and/or nourish approximately 392 acres (create 340 acres and nourish 52 acres) of emergent brackish marsh through beneficial use dredged material from the Calcasieu Ship Channel. Eight acres of tidal creeks will also be included. The Environmental Protection Agency's strategic plan goals include "Work with partners to protect and restore wetlands and coastal and ocean water resources."

In addition, this project would restore habitat potentially used by the saltmarsh topminnow and black rail, which are petitioned/proposed for Federal listing as threatened/endangered species. The project may also benefit neotropical migratory birds.

Proposed Solution:

This project will create/nourish 392 acres of marsh near Long Point Bayou and just north of the Sabine National Wildlife Refuge. This project will beneficially use dredged material from the Calcasieu Ship Channel or other locations and placed into shallow open water sites within the project area. Constructed containment dikes would be breached/gapped as needed to provide tidal exchange after fill materials settle and consolidate. The project would create 340 acres of marsh and nourish at least 52 acres of existing fragmented marsh. A target fill elevation of +1.14 feet (NAVD88) is envisioned to enhance longevity of this land form. Additionally, 196 acres of vegetative plantings and 8 acres of tidal creeks will be included.

Project Benefits:

The project would result in approximately 332 net acres over the 20-year project life.

Project Costs:

The total fully-funded cost is \$13,000,363



Preparer of Fact Sheet:

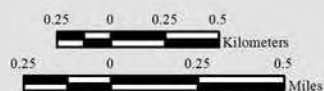
Sharon L. Osowski-Morgan, Ph.D., EPA; (214) 665-7506; osowski.sharon@epa.gov
Brad Crawford, EPA; (214) 665-7255; crawford.brad@epa.gov



Long Point Bayou Marsh Creation (PPL28 Candidate)



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



Scale: 1:35,000

Map ID: 2018-11-0022
Map Date: May 31, 2018

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal and Oceanic Restoration Branch
Baton Rouge, LA

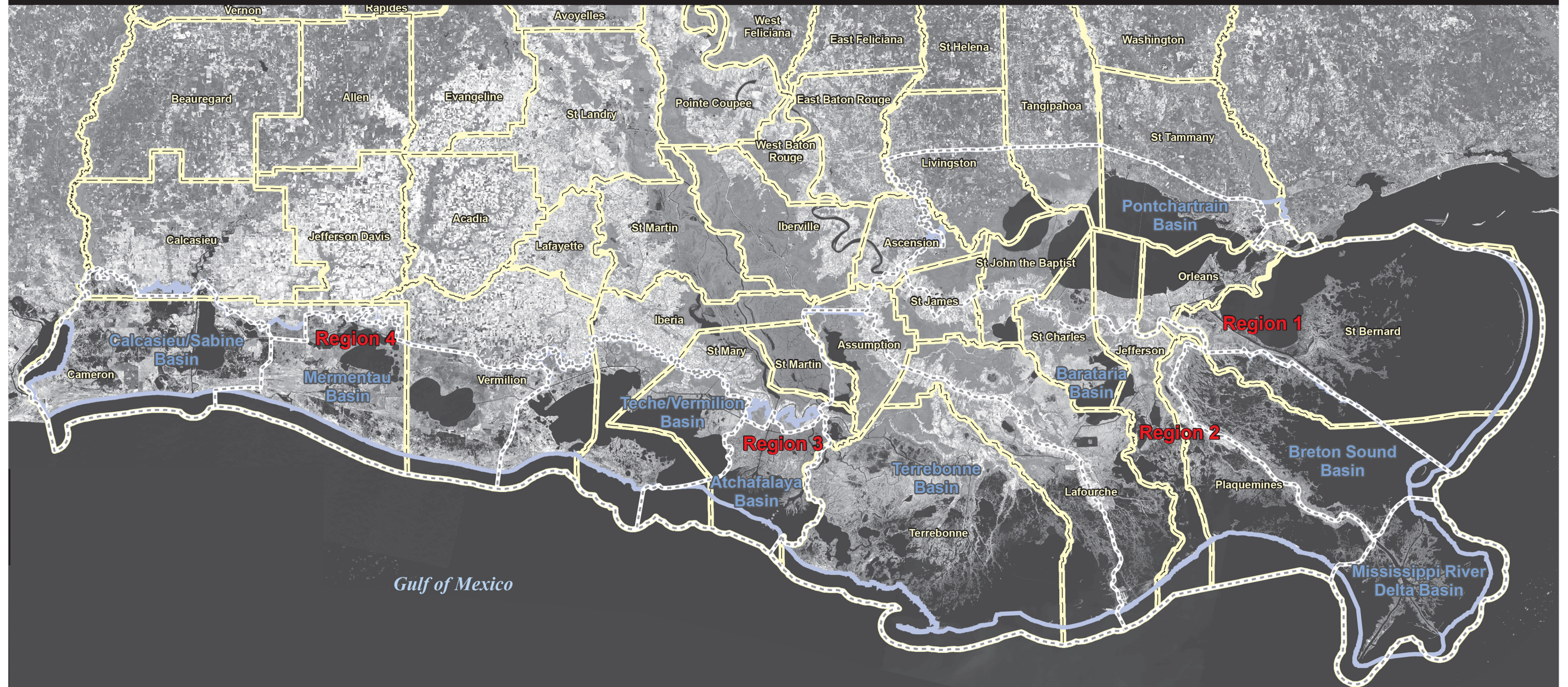
Image Source:
2017 NAIP

VI. SUMMARY AND CONCLUSIONS

The 28th PPL consists of 4 projects, for a Phase I cost of \$13,239,163 and a Phase II cost of \$118,933,587 which will be funded as these projects mature. The total net wetland benefits of the implementing the four PPL 28 projects is estimate to be 1,254 acres or 584 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.

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



1:1,275,000

10 0 10 20

Kilometers

10 0 10 20

Miles



Hydrologic Basin

Region Boundary

Parish Boundary

Image Source:
2014 Landsat 8 OLI Imagery
Band 5 Mosaic

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

Map ID: USGS-NWRC 2015-11-0019
Map Date: June 05, 2015

PLATE 2. SUMMARY OF PROJECTS 1-28 PRIORITY PROJECT LISTS

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

1st Priority Project List

U.S. Environmental Protection Agency

TE-20 Isles Dernieres Restoration East Island

U.S. Department of the Army

MR-03 West Bay Sediment Diversion

PO-17 Bayou LaBranche Wetland Creation

BA-19 Barataria Bay Waterway Wetland Creation

TV-03 Vermilion River Cutoff Bank Protection

U.S. Department of Commerce

BA-18 Fourchon Hydrologic Restoration

TE-19 Lower Bayou laCache Hydrologic Restoration

U.S. Department of Agriculture

BA-02 GIWW to Clovelly Hydrologic Restoration

TE-18 Vegetative Plantings - Timbalier Island Planting Demonstration

TE-17 Vegetative Plantings - Falgout Canal Planting Demonstration

CS-19 Vegetative Plantings - West Hackberry Planting Demonstration

ME-08 Vegetative Plantings - Dewitt-Rollover Planting Demonstration

U.S. Department of the Interior

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

ME-09 Cameron Prairie Refuge National Wildlife Refuge Shoreline Protection

CS-18 Sabine National Wildlife Refuge Erosion Protection

CS-17 Cameron Creole Plugs

2nd Priority Project List

U.S. Environmental Protection Agency

TE-24 Isles Dernieres Restoration Trinity Island

U.S. Department of the Army

TE-23 West Belle Pass Headland Restoration

CS-22 Clear Marais Bank Protection

U.S. Department of Commerce

AT-02 Atchafalaya Sediment Delivery

TE-22 Point Au Fer Canal Plugs

AT-03 Big Island Mining

U.S. Department of Agriculture

ME-04 Freshwater Bayou Wetland Protection

CS-09 Brown Lake Hydrologic Restoration

BA-20 Jonathan Davis Wetland Restoration

CS-20 East Mud Lake Marsh Management

CS-21 Hwy. 384 Hydrologic Restoration

PO-06 Fritchie Marsh Creation

TV-09 Vermilion Bay/Boston Canal Shoreline Stabilization

BS-03a Caernarvon Diversion Outfall Management

U.S. Department of the Interior

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

3rd Priority Project List

U.S. Environmental Protection Agency

TE-27 Whiskey Island Restoration

PO-20 Red Mud Demonstration

U.S. Department of the Army

PO-19 MRGO Disposal Area Marsh Protection

MR-06 Channel Armor Gap Crevasse

MR-07 Pass-a-Loutre Crevasse

U.S. Department of Commerce

BA-21 Bayou Perot/Bayou Rigolettes Marsh Restoration

TE-26 Lake Chapeau Sediment Input and Hydrologic Restoration

TE-25 East Timbalier Island Sediment Restoration, Phase 1

BA-15 Lake Salvador Shore Protection Demonstration

U.S. Department of Agriculture

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

TV-04 Cote Blanche Hydrologic Restoration

CS-04a Cameron - Creole Maintenance

BS-04a White's Ditch Outfall Management

TE-28 Brady Canal Hydrologic Restoration

PO-09a Violet Freshwater Distribution

ME-12 Southwest Shore White Lake Demonstration

U.S. Department of the Interior

CS-23 Sabine Refuge Structure Replacement (Hog Island)

4th Priority Project List

U.S. Environmental Protection Agency

CS-26 Compost Demonstration

U.S. Department of the Army

BS-07 Grand Bay Crevasse

MR-08 Beneficial Use of Hopper Dredge Material Demonstration

U.S. Department of Commerce

PO-21 Eden Isles East Marsh Restoration

TE-30 East Timbalier Island Sediment Restoration, Phase 2

U.S. Department of Agriculture

CS-24 Perry Ridge Shore Protection

BA-22 Bayou L'Ours Ridge Hydrologic Restoration

BA-23 Barataria Bay Waterway West Side Shoreline Protection

CS-25 Plowed Terraces Demonstration

TE-31 Flotant Marsh Fencing Demonstration

5th Priority Project List

U.S. Environmental Protection Agency

BA-25a Bayou Lafourche Siphon

BA-25b Mississippi River Reintroduction into Bayou Lafourche

U.S. Department of the Army

PO-22 Bayou Chevee Shoreline Protection

U.S. Department of Commerce

TV-12 Little Vermilion Bay Sediment Trapping

BA-24 Myrtle Grove Siphon

U.S. Department of Agriculture

BA-03c Naomi Outfall Management

CS-11b Sweet Lake/Willow Lake Hydrologic Restoration

TE-29 Raccoon Island Breakwaters Demonstration

ME-13 Freshwater Bayou Bank Stabilization

U.S. Department of the Interior

TE-10 Grand Bayou Hydrologic Restoration

6th Priority Project List

U.S. Environmental Protection Agency

TE-33 Bayou Boeuf Pump Station

U.S. Department of the Army

TV-14 Marsh Island Hydrologic Restoration

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

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

U.S. Department of Commerce

CS-27 Black Bayou Hydrologic Restoration

MR-09 Delta-Wide Crevasses

TV-15 Sediment Trapping at "The Jaws"

U.S. Department of Agriculture

TE-34 Penchant Basin Natural Resources Plan, Increment 1

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

BA-26 Barataria Bay Waterway East Side Shoreline Protection

TV-16 Cheniere au Tigre Sediment Trapping Demonstration

U.S. Department of the Interior

TE-32a Lake Boudreaux Freshwater Introduction

LA-03a Nutria Harvest for Wetland Restoration Demonstration

7th Priority Project List

U.S. Department of Commerce

BA-28 Grand Terre Vegetative Plantings

ME-14 Pecan Island Terracing

U.S. Department of Agriculture

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

TE-36 Thin Mat Floating Marsh Enhancement Demonstration

8th Priority Project List

U.S. Environmental Protection Agency

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

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

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

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

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

U.S. Department of Commerce

PO-25 Bayou Bienvenue Pump Station Diversion and Terracing

PO-24 Hopedale Hydrologic Restoration

U.S. Department of Agriculture

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

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

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

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

ME-11 Humble Canal Hydrologic Restoration

BS-09 Upper Oak River Freshwater Siphon

TV-17 Lake Portage Landbridge

9th Priority Project List

U.S. Environmental Protection Agency

BA-29 LA Highway 1 Marsh Creation
 TE-40 Timbalier Island Dune and Marsh Restoration
 TE-37 New Cut Dune and Marsh Restoration

U.S. Department of the Army

PO-26 Opportunistic Use of the Bonnet Carre Spillway
 TV-11b *Freshwater Bayou Bank Stabilization - Belle Isle Canal to Lock*
 MR-11 Periodic Introduction of Sediment and Nutrients at Selected Diversion Sites Demonstration
 TV-19 Weeks Bay MC and SP/Commercial Canal/Freshwater Redirection

U.S. Department of Commerce

PO-27 Chandeleur Islands Marsh Restoration
 AT-04 Castille Pass Channel Sediment Delivery
 TV-18 Four Mile Canal Terracing and Sediment Trapping
 PO-28 LaBranche Wetlands Terracing, Planting, and Shoreline Protection
 BA-30 *East Grand Terre Islands Restoration*

U.S. Department of Agriculture

TE-39 South Lake Decade Freshwater Introduction
 CS-29 Black Bayou Bypass Culverts Hydrologic Restoration
 CS-30 Perry Ridge West Bank Stabilization
 ME-17 Little Pecan Bayou Hydrologic Restoration
 BA-27c Barataria Basin Landbridge Shoreline Protection, Phase 3

U.S. Department of the Interior

ME-16 Freshwater Introduction South of Hwy. 82
 TE-41 Mandalay Bank Protection Demonstration

10th Priority Project List

U.S. Environmental Protection Agency

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

U.S. Department of the Army

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

U.S. Department of Commerce

ME-18 *Rockefeller Refuge Gulf Shoreline Stabilization*

U.S. Department of Agriculture

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

U.S. Department of the Interior

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

11th Priority Project List

U.S. Environmental Protection Agency

PO-29 River Reintroduction into Maurepas Swamp

PO-31 Lake Borgne Shoreline Protection at Bayou Dupre

(This project merged with PO-30 after PPL 11 approval and is subsequently numbered as PO-30)

TE-47 Ship Shoal: Whiskey West Flank Restoration

U.S. Department of the Army

ME-21a *Grand Lake Shoreline Protection, Tebo Point*

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

U.S. Department of Commerce

BA-35 Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration

BA-37 Little Lake Shoreline Protection/Dedicated Dredging near Round Lake

BA-38 Barataria Barrier Island: Pelican Island and Pass La Mer to Chaland Pass

U.S. Department of Agriculture

BA-27d Barataria Basin Landbridge Shoreline Protection, Phase 4

LA-03b Coastwide Nutria Control Program

CS-31 Holly Beach Sand Management

TE-48 Raccoon Island Shoreline Protection/Marsh Creation, Phase 2

U.S. Department of the Interior

BA-36 *Dedicated Dredging on the Barataria Basin Landbridge*

ME-20 South Grand Chenier Hydrologic Restoration

TE-46 West Lake Boudreaux Shoreline Protection and Marsh Creation

12th Priority Project List

U.S. Environmental Protection Agency

BA-39 Bayou Dupont Sediment Delivery System

U.S. Department of the Army

TE-49 Avoca Island Diversion and Land Building

PO-32 Lake Borgne and MRGO Shoreline Protection

ME-22 South White Lake Shoreline Protection

MR-12 Mississippi River Sediment Trap

U.S. Department of Agriculture

LA-05 Freshwater Floating Marsh Creation Demonstration

13th Priority Project List

U.S. Environmental Protection Agency

TE-50 Whiskey Island Back Barrier Marsh Creation

U.S. Department of the Army

MR-14 Spanish Pass Diversion

LA-06 Shoreline Protection Foundation Improvements Demonstration

U.S. Department of Agriculture

TV-20 Bayou Sale Ridge Protection

U.S. Department of the Interior

PO-33 Goose Point/Point Platte Marsh Creation

14th Priority Project List

U.S. Department of Commerce

BA-40 Riverine Sand Mining/Scofield Island Restoration

U.S. Department of Agriculture

BS-12 White Ditch Resurrection

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

TV-21 East Marsh Island Marsh Creation

15th Priority Project List

U.S. Environmental Protection Agency

MR-15 Venice Ponds Marsh Creation and Crevasses

U.S. Department of the Army

BS-13 Bayou Lamoque Freshwater Diversion

U.S. Department of Commerce

ME-23 South Pecan Island Freshwater Introduction

U.S. Department of Interior

BA-42 Lake Hermitage Marsh Creation

16th Priority Project List

U.S. Environmental Protection Agency

TE-53 Enhancement of Barrier Island Vegetation Demonstration

U.S. Department of the Army

ME-24 Southwest Louisiana Gulf Shoreline Nourishment and Protection

U.S. Department of Commerce

TE-51 Madison Bay Marsh Creation and Terracing

TE-52 West Belle Pass Barrier Headland Restoration Project

U.S. Department of Agriculture

PO-34 Alligator Bend Marsh Restoration and Shoreline Protection

17th Priority Project List

U.S. Environmental Protection Agency

BS-15 Bohemia Mississippi River Reintroduction

U.S. Department of Commerce

BA-48 Bayou Dupont Ridge Creation and Marsh Restoration

LA-08 Bioengineered Oyster Reef Demonstration

U.S. Department of Agriculture

LA-09 Sediment Containment System for Marsh Creation Demonstration

BA-47 West Pointe-a-la Hache Marsh Creation

U.S. Department of the Interior

BS-16 Caernarvon Outfall Management/Lake Lery Shoreline Restoration

18th Priority Project List

U.S. Environmental Protection Agency

BS-18 Bertrandville Siphon

U.S. Department of Commerce

BA-68 Grand Liard Marsh and Ridge Restoration

U.S. Department of Agriculture

TE-66 Central Terrebonne Freshwater Enhancement

CS-49 Cameron-Creole Freshwater Introduction

LA-16 Non-Rock Alternatives to Shoreline Protection Demonstration

19th Priority Project List

U.S. Department of Commerce

BA-76 Cheniere Ronquille Barrier Island Restoration

U.S. Department of Agriculture

ME-31 Freshwater Bayou Marsh Creation

PO-75 LaBranche East Marsh Creation

U.S. Department of the Interior

TE-72 Lost Lake Marsh Creation and Hydrologic Restoration

20th Priority Project List

U.S. Department of Agriculture

LA-39 Coastwide Planting
CS-53 Kelso Bayou Marsh Creation

U.S. Department of the Interior

PO-104 Bayou Bonfouca Marsh Creation
CS-54 Cameron-Creole Watershed Grand Bayou Marsh Creation
TE-83 Terrebonne Bay Marsh Creation - Nourishment

21st Priority Project List

U.S. Department of Commerce

CS-59 Oyster Bayou Marsh Restoration
TV-63 Cole's Bayou Marsh Restoration

U.S. Department of Agriculture

PO-133 LaBranche Central Marsh Creation

U.S. Department of the Interior

BA-125 Northwest Turtle Bay Marsh Creation

22nd Priority Project List

U.S. Environmental Protection Agency

BA-164 Bayou Dupont Sediment Delivery- Marsh Creation #3

U.S. Department of Commerce

CS-66 Cameron Meadows Marsh Creation and Terracing

U.S. Department of Agriculture

TE-112 North Catfish Lake Marsh Creation

U.S. Department of the Interior

BS-24 Terracing and Marsh Creation South of Big Mar

23rd Priority Project List

U.S. Department of Commerce

TE-117 Island Road Marsh Creation and Nourishment

U.S. Environmental Protection Agency

BA-171 Caminada Headlands Back Barrier Marsh Creation

U.S. Department of the Interior

BA-173 Bayou Grande Cheniere Marsh & Ridge Restoration

U.S. Department of Agriculture

ME-32 South Grand Chenier Marsh Creation - Baker Tract

24th Priority Project List

U.S. Department of Commerce

CS-78 No Name Bayou Marsh Creation and Nourishment
TE-134 West Fourchon Marsh Creation and Marsh Nourishment

U.S. Environmental Protection Agency

PO-168 Shell Beach South Marsh Creation

U.S. Department of the Interior

PO-169 New Orleans Landbridge Shoreline Stabilization and Marsh Creation

25th Priority Project List

U.S. Department of Commerce

PO-173 Fritchie Marsh Creation and Terracing
CS-79 Oyster Lake Marsh Creation and Nourishment
BA-194 East Leeville Marsh Creation and Nourishment

U.S. Environmental Protection Agency

BA-193 Caminada Headlands Back Barrier Marsh Creation Increment #2

U.S. Department of Agriculture

BA-195 Barataria Bay Rim Marsh Creation

26th Priority Project List

U.S. Department of Commerce

TE-138 Bayou DeCade Ridge and Marsh Creation
PO-179 St. Catherine Island Marsh Creation and Shoreline Protection
PO-178 Bayou La Loutre Ridge and Marsh Restoration
LA-284 Salvinia Weevil Propagation Facility

27th Priority Project List

U.S. Department of the Interior

BS-32 Mid Breton Land Bridge Marsh Creation and Terracing
PO-181 Bayou Cane Marsh Creation
CS-81 Sabine Marsh Creation Cycles 6 and 7

U.S. Department of Agriculture

BA-206 Northeast Turtle Bay Marsh Creation and Critical Area Shoreline Protection

28th Priority Project List

U.S. Department of Commerce

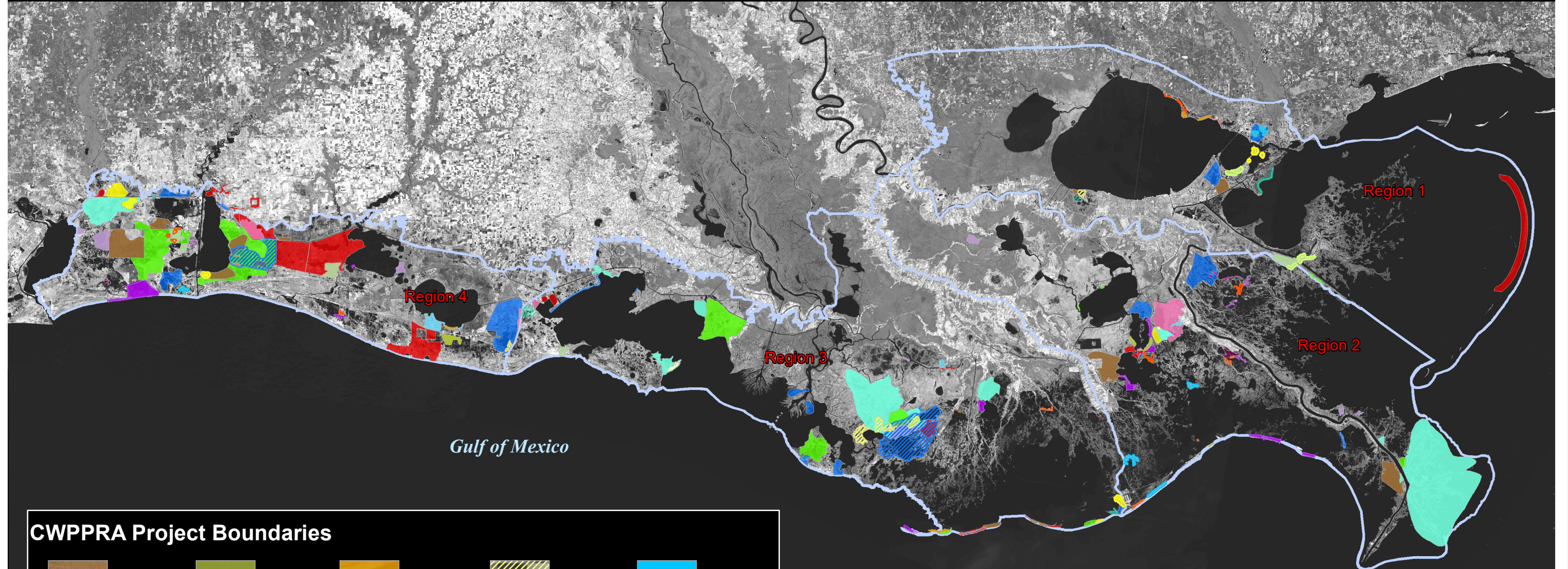
BS-38 Breton Landbridge Marsh Creation (West)
BS-37 East Delacroix Marsh Creation and Terracing

U.S. Environmental Protection Agency

CS-85 Long Point Bayou Marsh Creation

U.S. Department of the Interior

BA-21 Grand Bayou Ridge and Marsh Restoration



CWPPRA Project Boundaries

	PPL 1		PPL 7		PPL 13		PPL 19		PPL 25
	PPL 2		PPL 8		PPL 14		PPL 20		PPL 26
	PPL 3		PPL 9		PPL 15		PPL 21		PPL 27
	PPL 4		PPL 10		PPL 16		PPL 22		PPL 28
	PPL 5		PPL 11		PPL 17		PPL 23		
	PPL 6		PPL 12		PPL 18		PPL 24		



Region Boundary

1:1,275,000

10 0 10 20

Kilometers

10 0 10 20

Miles



Image Source:
2014 Landsat 8 OLI Imagery
Band 5 Mosaic

Produced by:
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U.S. Geological Survey
Wetland and Aquatic Research Center
Coastal and Ocean Restoration Branch
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Data accurate as of February 11, 2019

Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Priority Project Lists 1-28 Coast 2050 Region 1

