

Priority Project List Number 19

Candidate Projects



Public Meetings – November 2009

**Abbeville
November 17th**

**New Orleans
November 18th**

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APPENDIX A

PRIORITY LIST 19 SELECTION PROCESS

Coastal Wetlands Planning, Protection and Restoration Act Guidelines for Development of the 19th Priority Project List Final

I. Development of Supporting Information

A. COE staff prepares spreadsheets indicating status of all restoration projects (CWPPRA PL 1-18; Louisiana Coastal Area (LCA) Feasibility Study, Corps of Engineers Continuing Authorities 1135, 204, 206; and State only projects). Also, indicate net acres at the end of 20 years for each CWPPRA project.

B. DNR/USGS staff prepares basin maps indicating:

- 1) Boundaries of the following projects types (PL 1-18; LCA Feasibility Study, COE 1135, 204, 206; and State only).
- 2) Locations of completed projects,
- 3) Projected land loss by 2050 with freshwater diversions at Caernarvon and Davis Pond and including all CWPPRA projects approved for construction through January 2009.
- 4) Regional boundary maps with basin boundaries and parish boundaries included.

II. Areas of Need and Project Nominations

A. The four Regional Planning Teams (RPTs) meet, examine basin maps, discuss areas of need and Coast 2050 strategies, and accept nomination of projects by hydrologic basin. Nominations for demonstration projects will also be accepted at the four RPT meetings. The RPTs will not vote at their individual regional meetings, rather voting will be conducted during a separate coast-wide meeting. At these initial RPT meetings, parishes will be asked to identify their official parish representative who will vote at the coast-wide RPT meeting.

B. One coast-wide RPT voting meeting will be held after the individual RPT meetings to vote for nominees (including demonstration project nominees). The RPTs will select three projects in the Terrebonne, Barataria, and Pontchartrain Basins based on the high loss rates (1985-2006) in those basins. Two projects will be selected in the Breton Sound, Teche/Vermilion, Mermentau, Calcasieu/Sabine, and Mississippi River Delta Basins. Because of low land loss rates, only one project will be selected in the Atchafalaya Basin. If only one project is presented at the Regional Planning Team Meeting for the Mississippi River Delta Basin, then an additional nominee would be selected for the Breton Sound Basin. A total of up to 20 projects could be selected as nominees. Each officially designated parish representative in the basin will have one vote and each federal agency and the State will have one vote. The RPTs will also select up to six demonstration project nominees at this coast-wide meeting. Selection of demonstration project nominees will be by consensus, if possible. If voting is required,

officially designated representatives from all coastal parishes will have one vote and each federal agency and the State will have one vote.

C. Prior to the coast-wide RPT voting meeting, the Environmental and Engineering Work Groups will screen each demonstration project nominated at the RPT meetings. Demonstration projects will be screened to ensure that each meets the qualifications for demonstration projects as set forth in Appendix E.

D. A lead Federal agency will be designated for the nominees and demonstration project nominees to assist LDNR and local governments in preparing preliminary project support information (fact sheet, maps, and potential designs and benefits). The Regional Planning Team Leaders will then transmit this information to the P&E Subcommittee, Technical Committee and members of the Regional Planning Teams.

III. Preliminary Assessment of Nominated Projects

A. Agencies, parishes, landowners, and other individuals informally confer to further develop projects. Nominated projects should be developed to support one or more Coast 2050 strategies. The goals of each project should be consistent with those of Coast 2050.

B. Each sponsor of a nominated project will prepare a brief Project Description (no more than one page plus a map) that discusses possible features. Fact sheets will also be prepared for demonstration project nominees.

C. Engineering and Environmental Work Groups meet to review project features, discuss potential benefits, and estimate preliminary fully funded cost ranges for each project. The Work Groups will also review the nominated demonstration projects and verify that they meet the demonstration project criteria.

D. P&E Subcommittee prepares matrix of cost estimates and other pertinent information for nominees and demonstration project nominees and furnishes to Technical Committee and Coastal Protection and Restoration Authority (CPRA).

IV. Selection of Phase 0 Candidate Projects

A. Technical Committee meets to consider the project costs and potential wetland benefits of the nominees. Technical Committee will select ten candidate projects for detailed assessment by the Environmental, Engineering, and Economic Work Groups. At this time, the Technical Committee will also select up to three demonstration project candidates for detailed assessment by the Environmental, Engineering, and Economic Work Groups. Demonstration project candidates will be evaluated as outlined in Appendix E.

B. Technical Committee assigns a Federal sponsor for each project to develop preliminary Wetland Value Assessment data and engineering cost estimates for Phase 0 as described below.

V. Phase 0 Analysis of Candidate Projects

A. Sponsoring agency coordinates site visits for each project. A site visit is vital so each agency can see the conditions in the area and estimate the project area boundary. Field trip participation should be limited to two representatives from each agency. There will be no site visits conducted for demonstration projects.

B. Environmental and Engineering Work Groups and the Academic Advisory Group meet to refine project features and develop boundaries based on site visits.

C. Sponsoring agency develops Project Information Sheets on assigned projects, using formats developed by applicable work groups; prepares preliminary draft Wetland Value Assessment Project Information Sheet; and makes Phase 1 engineering and design cost estimates and Phase 2 construction cost estimates.

D. Environmental and Engineering Work Groups evaluate all projects (excluding demos) using the WVA and review design and cost estimates.

E. Engineering Work Group reviews and approves Phase 1 and 2 cost estimates.

F. Economics Work Group reviews cost estimates and develops annualized (fully funded) costs.

G. Environmental and Engineering Work Groups apply the Prioritization Criteria and develop prioritization scores for each candidate project.

H. Corps of Engineers staff prepares information package for Technical Committee and CPRA. Packages consist of:

- 1) updated Project Information Sheets;
- 2) a matrix for each region that lists projects, fully funded cost, average annual cost, Wetland Value Assessment results in net acres and Average Annual Habitat Units (AAHUs), cost effectiveness (average annual cost/AAHU), and the prioritization score.
- 3) qualitative discussion of supporting partnerships and public support; and

I. Technical Committee hosts two public hearings to present information from H above and allows public comment.

VI. Selection of 19th Priority Project List

A. The selection of the 19th PPL will occur at the Winter Technical Committee and Task Force meetings.

B. Technical Committee meets and considers matrix, Project Information Sheets, and public comments. The Technical Committee will recommend up to four projects for

selection to the 19th PPL. The Technical Committee may also recommend demonstration projects for the 19th PPL.

C. The CWPPRA Task Force will review the TC recommendations and determine which projects will receive Phase 1 funding for the 19th PPL.

19th Priority List Project Development Schedule (dates subject to change)

December 2008	Distribute public announcement of PPL19 process and schedule
December 3, 2008	Winter Technical Committee Meeting, approve Phase II (Baton Rouge)
January 21, 2009	Winter Task Force Meeting (New Orleans)
January 27, 2009	Region IV Planning Team Meeting (Rockefeller Refuge)
January 28, 2009	Region III Planning Team Meeting (Morgan City)
January 29, 2009	Regions I and II Planning Team Meetings (New Orleans)
February 18, 2009	Coast-wide RPT Voting Meeting (Baton Rouge)
February 19- March 13, 2009	Agencies prepare fact sheets for RPT-nominated projects
March 24-25, 2009	Engineering/ Environmental work groups review project features, benefits & prepare preliminary cost estimates for nominated projects (Baton Rouge)
March 26, 2009	P&E Subcommittee prepares matrix of nominated projects showing initial cost estimates and benefits
April 15, 2009	Spring Technical Committee Meeting, select PPL19 candidate projects (New Orleans)
May/June/July	Candidate project site visits
June 3, 2009	Spring Task Force Meeting (Lafayette)
July/August/ September	Env/Eng/Econ work group project evaluations
September 9, 2009	Fall Technical Committee Meeting, O&M and Monitoring funding recommendations (Baton Rouge)
October 14, 2009	Fall Task Force meeting, O&M and Monitoring approvals, announce PPL 19 public meetings (New Orleans)
October 14, 2009	Economic, Engineering, and Environmental analyses completed for PPL19 candidates
November 17, 2009	PPL 19 Public Meeting (Abbeville)
November 18, 2009	PPL 19 Public Meeting (New Orleans)
December 2, 2009	Winter Technical Committee Meeting, recommend PPL19 and Phase II approvals (Baton Rouge)
January 20, 2010	Winter Task Force Meeting, select PPL19 and approve Phase II requests (New Orleans)

PPL19 Fritchie Marsh Terracing and Marsh Creation

Coast 2050 Strategy:

Coastwide Strategy – Dedicated Dredging, to Create, Restore, or Protect Wetlands

Project Location:

Region 1, Pontchartrain Basin, St. Tammany Parish, within the Fritchie Marsh watershed bordered by Hwy 90.

Problem:

Although the CWPPRA PO-06 project was completed in 2001 and resulted in improved hydrology and marsh restoration throughout the area, a significant portion of the Fritchie Marsh was lost due to Hurricane Katrina. This once stable land mass was severely damaged by the passing storm that in some locations marsh was stacked over nine feet high along the tree line. Now shallow open water areas dominate the landscape which reduces the effectiveness of the PO-06 project. Wetlands in the project vicinity are being lost at the rate of -1.31% /year based on USGS data from 1985 to 2006. These marshes cannot recover without replacement of lost sediment, which is critical if the northshore marshes are to be sustained.

Goals:

Project goals include 1) creating 400 acres of intermediate marsh, 2) creating 130,000 linear feet of vegetated, earthen terraces, 3) reducing wave fetch and erosion of adjacent interior marshes, and 4) improving tidal connection and ingress/egress of marine organisms within the marsh creation area.

Proposed Solution:

The project will construct approximately 400 acres of marsh platform, with 270 acres being created south of Salt Bayou in the southeastern corner of the Fritchie watershed, and 130 acres being created just north of Salt Bayou adjacent to the terrace field. Additionally, 130,000 linear feet of earthen terraces occupying 1,200 acres of open water will be constructed just north of Salt Bayou. Approximately 2 million cubic yards of material will be dredged from Lake Pontchartrain to build the marsh. The containment dikes will be degraded within three years of construction to allow for tidal exchange. The terraces are proposed with ten foot crowns and +3 ft elevation. The terraces will be planted immediately following compaction of the soil.

Project Benefits:

The project would benefit 1726 acres of brackish fresh marsh and open water. Approximately 449 net acres of intermediate marsh would be created/protected over the 20-year project life.

Project Costs:

The total fully funded cost for the project is \$ 24,273,654.

Preparer(s) of Fact Sheet:

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Fritchie Marsh Terracing and Marsh Creation Project (PPL19 Candidate)



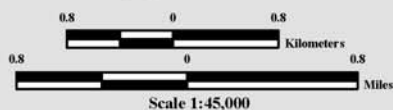
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U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Image Source:
2008 Digital Orthophoto Quarter Quadrangles



-  Marsh Creation *
-  Culverts *
-  Terraces *
-  Extended Boundary

* denotes proposed features



Map ID: USGS-NWRC 2009-11-0287
Map Date: July 27, 2009

PPL19 LaBranche East Marsh Creation

Coast 2050 Strategy:

Coastwide Common Strategies: Dedicated Dredging for Wetlands Creation, Vegetative Planting, and Maintain or Restore Ridge Functions

Region 1 Regional Ecosystem Strategies: Dedicated delivery of sediment for marsh creation;

Region 1 Mapping Unit Strategies: Dedicated Dredging

Project Location:

Region 1, Pontchartrain Basin, St. Charles Parish, between Lake Pontchartrain and I-10, bounded to the west by the Fall Canal and the initial Bayou LaBranche Wetland Creation Project (PO-17) and to the east by a pipeline canal.

Problem:

Dredging of access/flotation canals for construction of I-10 resulted in increased salinity & altered hydrology that exacerbated conversion of wetland vegetation into shallow open water bodies.

Goals:

Primary goal is to restore marsh that converted to shallow open water. Project implementation would result in an increase of fisheries and wildlife habitat, acreage, and diversity along with improving water quality. The proposed project would provide a storm buffer to I-10, the region's primary westward hurricane evacuation route, and complement hurricane protection measures in the area.

Proposed Solution:

Proposed solution consists of the creation of ± 729 acres of marsh and the nourishment of ± 202 acres of existing marsh using dedicated dredging from Lake Pontchartrain. In addition, 10,000 linear ft of tidal creeks would be created by pre-dredging water bottom before dredge material is placed. The marsh creation area would have a target elevation the same as average healthy marsh. It is proposed to place the dredge material in the target area with the use of low level retention dikes along the edge of the project area allowing overtopping of material to nourish the marsh fringe. Vegetative plantings would be utilized in the areas designated to be emergent marsh. Either $\frac{1}{4}$ of the area would be planted at full density or $\frac{1}{4}$ the density would be planted over the entire acreage.

Project Benefits:

This project would benefit 931 acres of intermediate marsh and open water. The project will result in 715 net acres of marsh over the 20-year project life.

Project Cost:

The total fully funded cost for the project is \$ 32,323,291.

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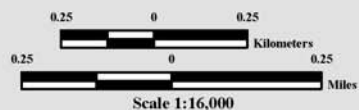


LaBranche East Marsh Creation (PPL19 Candidate)



-  Tidal Creek *
-  Marsh Creation *
-  Marsh Fill *

* denotes proposed features



Map ID: USGS-NWRC 2009-11-0349
Map Date: September 18, 2009



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

Image Source:
2008 Digital Orthophoto Quarter Quadrangles

PPL19 Monsecour Siphon

Coast 2050 Strategy:

Coastwide Common Strategies: Diversions and river discharge; Management of diversion outfall for wetland benefits.

Region 2 Regional Ecosystem Strategies: Restore and Sustain Marshes; Construct most effective small diversions.

Project Location:

Region 2, Breton Sound Basin, Plaquemines Parish, north of Phoenix, LA.

Problem:

This area has been disconnected from the Mississippi River since levees were constructed during the early 20th century. The lack of overbank flooding/crevasses ensures that wetlands here do not have sufficient sediment input to maintain elevation against subsidence. In addition, drainage canals and oil and gas canals and associated spoil banks probably create some undesirable impoundment and tidal scour/saltwater intrusion in the area. In addition to impoundment caused by canals and spoil banks, the area is probably somewhat naturally impounded due to natural ridges. Aerial photography clearly demonstrates the significant loss of marsh in this area.

Goals:

The project goal is to reduce wetland loss rates by reintroducing an average of 1,145 cfs, and a maximum of 2,000 cfs, of Mississippi River water into the project area to increase sediment and nutrient loading.

Proposed Solution:

Construct a siphon from the Mississippi River, with 2000 cfs maximum capacity (estimated average flow=1145 cfs). The project may require additional features for delivery and outfall management.

Project Benefits:

The project would benefit 12,255 acres of intermediate marsh and open water. Approximately 990 net acres of intermediate and/or fresh marsh would be created/protected over the 20-year project life.

Project Costs:

The total fully funded cost for the project is \$ 10,607,905.

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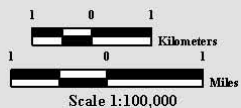
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Monsecour Siphon (PPL19 Candidate)



-  Siphon *
-  Project Boundary
- * denotes proposed features



Map ID: USGS-NWRC 2009-11-0351
Map Date: August 07, 2009



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

Image Source:
2008 Digital Orthophoto Quarter Quadrangles

PPL19 Dedicated Sediment Delivery and Water Conveyance for Marsh Creation Near Big Mar

Coast 2050 Strategy:

Coastwide Strategy – Dedicated Dredging, to Create, Restore, or Protect Wetlands

Project Location:

Region 2, Breton Sound Basin, Plaquemines Parish, the marsh creation is located along the western shoreline of Lake Lery and the conveyance channel is located within Big Mar.

Problem:

The upper Breton Sound marshes have long been subjected to subsidence, salt water intrusion, altered hydrology, and storm damage. After the passing of Hurricane Katrina in 2005, the Breton Sound marshes were devastated and land loss rates increased in the upper sound from 0.69%/yr to 1.74%/yr (USGS). The Caernarvon Freshwater Diversion Project is helping to reverse land loss in this area; however, as Big Mar fills in, flow that used to go down Delacroix Canal and into the marshes southwest of Big Mar is now mostly taking the path of least resistance into Lake Lery. Furthermore, the shoreline of Lake Lery is almost indistinguishable where the lake is coalescing with hundreds of acres of open water. Reestablishment of the Breton Sound marshes is dependent upon the direct reconstruction of lost marsh, reestablishing the lake rim, and optimizing the flow and outfall of the Caernarvon structure.

Goals:

Project goals include, 1) creating approximately 434 acres of fresh to intermediate marsh via dredging the center of Lake Lery, 2) excavating a channel 7,850 ft long, 75 ft bottom width, and 7 ft deep through the Big Mar to facilitate Caernarvon outfall to 6,300 acres of marshes west and southwest of Big Mar, and 3) reducing the loss rate of adjacent interior marshes.

Proposed Solution:

Project features include approximately 434 acres of marsh creation via dredging from Lake Lery. In addition, a 7,850 ft long conveyance channel will be dredged from the northeast confluence of Caernarvon Canal and Big Mar to near the southwest corner of Big Mar where it joins with Delacroix Canal. The excavated material will be beneficially used to build marsh in the Big Mar. Construction of this channel will help redirect flow from the Caernarvon diversion to the southwest wetlands of upper Breton Sound.

Project Benefits:

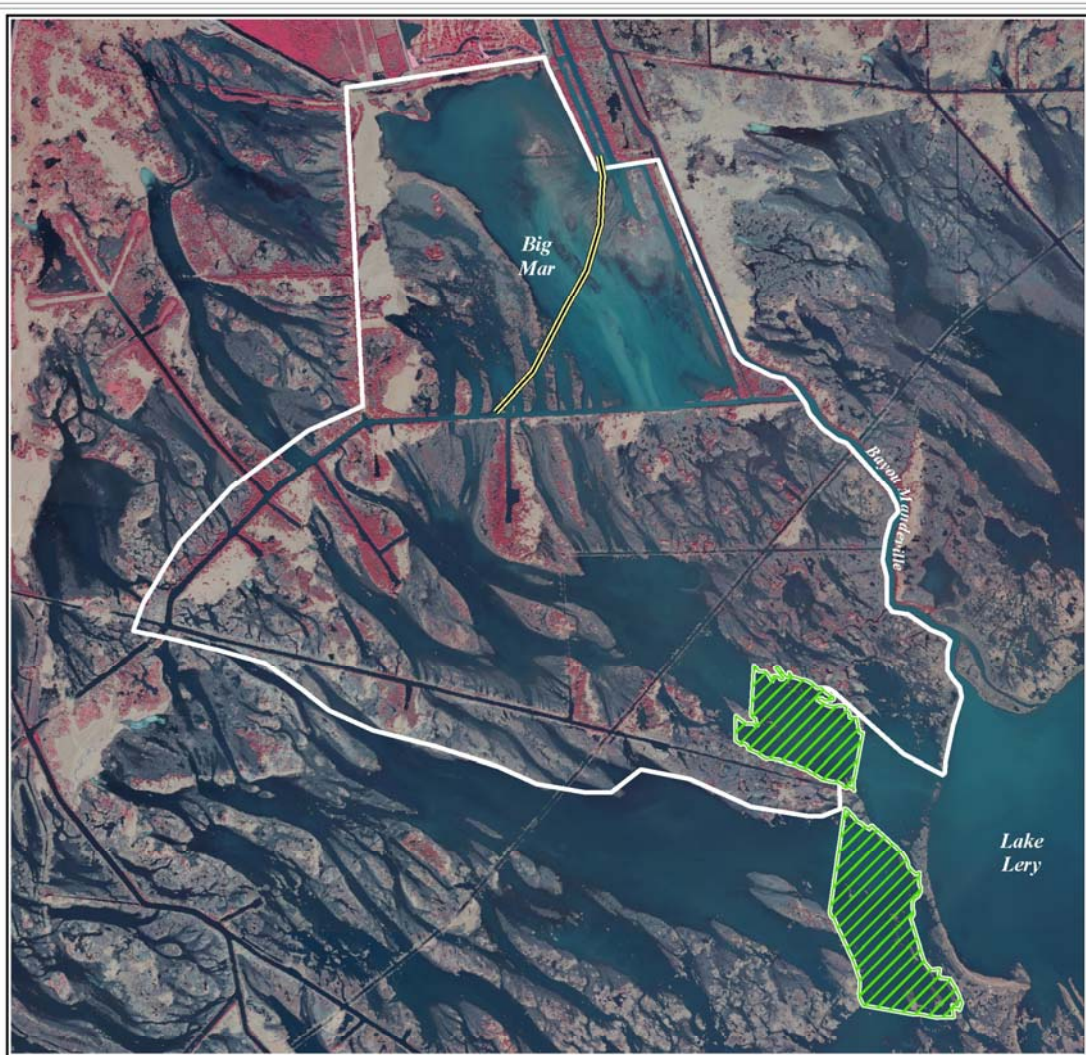
The project would benefit 6,311 acres of fresh marsh and open water. Approximately 853 net acres of marsh would be created/protected over the 20-year project life.

Project Costs:

The total fully funded cost for the project is \$ 20,443,392.

Preparer(s) of Fact Sheet:

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Dedicated Sediment Delivery and Water Conveyance for Marsh Creation Near Big Mar (PPL19 Candidate)

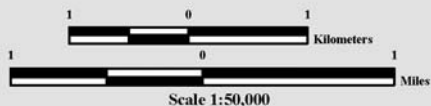


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National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Image Source:
2008 Digital Orthophoto Quarter Quadrangles



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



Map ID: USGS-NWRC 2009-11-0375
Map Date: July 10, 2009

PPL19 Breton Marsh Restoration

Coast 2050 Strategy:

Coastwide Strategy – Dedicated Dredging, to Create, Restore, or Protect Wetlands

Project Location:

The project area is located in Region 2, Breton Basin, Plaquemines Parish, southeast of Delacroix, LA.

Problem:

A major cause of loss in the Region 2, Caernarvon Mapping Unit has been storm related. Prior to Katrina the greatest land loss (6,560 acres) occurred from 1956-1974 and coincided with Hurricane Betsy and extensive canal building. It is estimated that 40.9 square miles of marsh were converted to open water in the Breton Sound Basin as a result of Hurricane Katrina in 2005. Land loss rates for this area are currently estimated at -2.5%/year based on USGS data from 1985 to 2006.

Goals:

The goal of this project is to restore marsh that was damaged by Hurricane Katrina in 2005. Reestablishing this marsh will help to restore the western shoreline of Bayou Gentilly and moderate the effects of the brackish waters from the Black Bay system moving north into the more intermediate marshes. Initial project construction includes the creation of 337 acres and nourishment of 99 acres of brackish marsh.

Proposed Solution:

Approximately 337 acres of marsh will be restored and 99 acres of marsh will be nourished through hydraulic dredging. It is estimated that 1.6 million cubic yards of material would be dredged hydraulically from Lake Lery and pumped via pipeline to create marsh. Dredged material would be pumped into containment dikes to achieve an average height of 1.4 ft NAVD 88. Tidal creeks will be constructed prior to placement of dredge material and retention levees would be gapped for estuarine fisheries access and to achieve a functional marsh.

Project Benefits:

The project would benefit 436 acres of brackish marsh and open water. Approximately 275 acres of brackish marsh would be created/protected over the 20-year project life.

Preliminary Construction Costs:

The total fully-funded cost for the project is \$ 14,599,655.

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Breton Marsh Restoration Project (PPL19 Candidate)



 **Marsh Creation ***
* denotes proposed features



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

Map ID: USGS-NWRC 2010-04-0001
Map Date: October 09, 2009

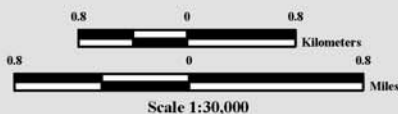


Image Source:
2008 Digital Orthophoto Quarter Quadrangles

PPL19 Bayou Dupont to Bayou Barataria Marsh Creation

Coast 2050 Strategy:

Region 2 Regional Strategy#26. Dedicated dredging to create marsh on the land bridge.

Project Location:

Region 2, Barataria Basin, Jefferson Parish, extending southward from the PPL17 Bayou Dupont Project (BA-48) to the Bayou Barataria ridge.

Problem:

The marshes located between Bayou Dupont and Bayou Barataria are very deteriorated. The deteriorated marsh, along with numerous canals, allows a level of tidal exchange that is considerably greater than historic conditions.

Goals:

The proposed project will re-establish a landmass between Bayou Dupont and Bayou Barataria, aid in storm surge reduction, provide bottomland hardwood habitat, and partially restore the area's hydrology.

Proposed Solution:

Approximately 311 acres of marsh creation, 200 acres of marsh nourishment, and 19 acres of bottomland hardwood ridge restoration would be performed using dredged material. Target marsh creation and nourishment height is 1.4 NAVD88. Marsh creation containment dikes will be breached as needed to re-establish tidal exchange at about year 3 post construction.

The ridge perimeter containment dike will be constructed to height of 8.0 NAVD88, have a crest width of 5 feet, and outside slope of 6:1, and inside side slope of 4:1. Inside the containment dike, the ridge restoration target elevation is 6.0 NAVD88. Above 3.0 NAVD88, the ridge will be planted to bottomland hardwood tree species. The outside containment dike toe (below 3.0 NAVD88) will be planted with marsh species.

Along the east bank of the Barataria Bay Waterway, approximately 1,740 feet of rock dike bankline protection will be constructed. The rock dike will be constructed to a height of 4.0 NAVD88, with a crest width of 4 feet and side slopes of 2:1.

Project Benefits:

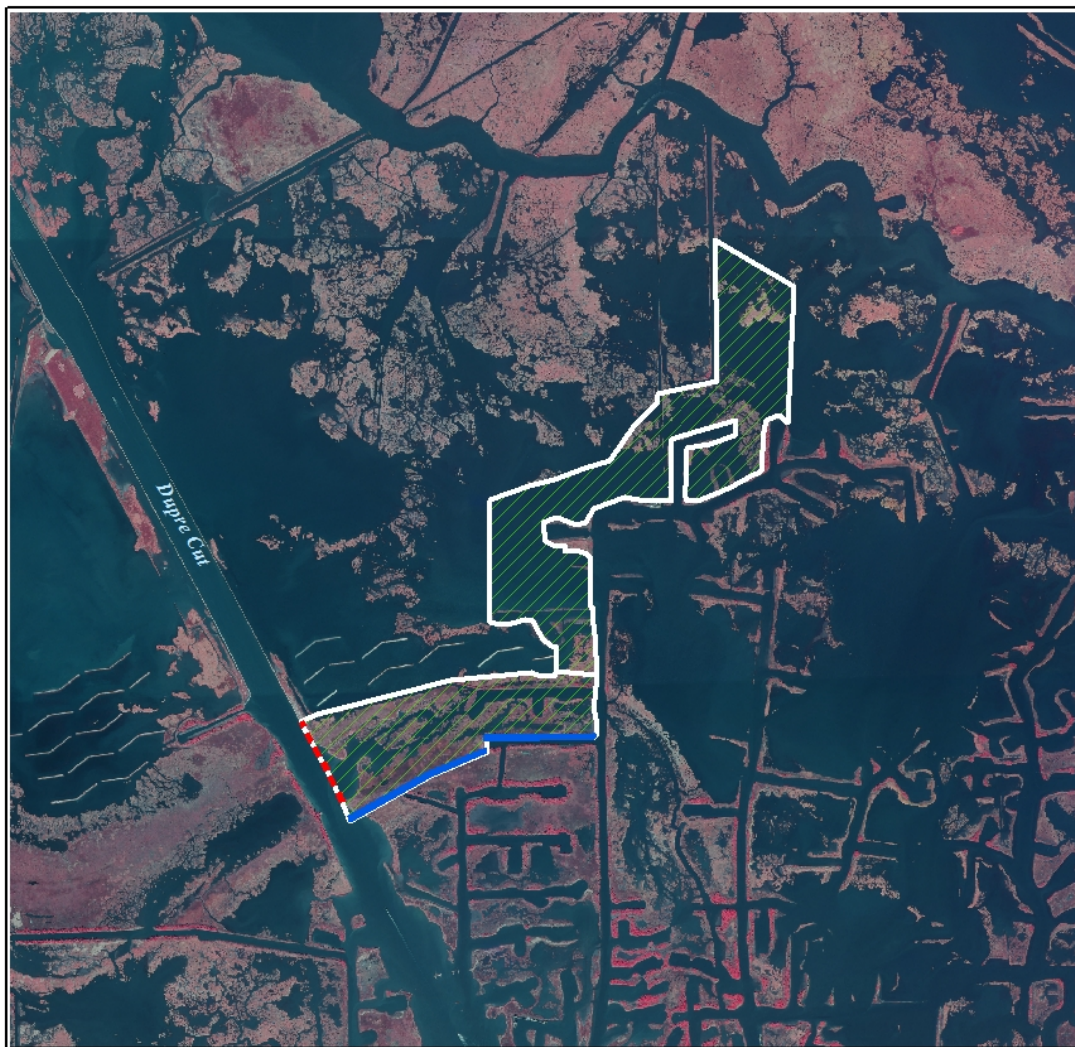
The project will result in 513 acres of created/nourished marsh and 17 acres of bottomland hardwood ridge restoration, resulting in 292 net acres over the project life.

Project Costs:

The total fully funded cost for the project is \$ 37,631,550.

Preparer(s) of Fact Sheet:

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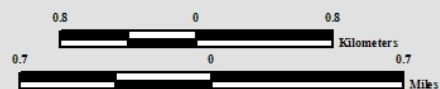


Bayou Dupont to Bayou Barataria Marsh Creation (PPL19 Candidate)



- Shoreline Protection *
- Ridge Restoration *
- ▨ Marsh Creation *
- Project Boundary

* denotes proposed features



Map ID: USGS-NWRC 2010-11-0013
Map Date: November 05, 2009



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

Image Source:
2008 Digital Orthophoto Quarter Quadrangles

PPL19 Cheniere Ronquille Barrier Island Restoration

Coast 2050 Strategy:

Regional Strategy 21 – extend and maintain barrier headlands, islands, and shorelines

Project Location:

Region 2, Barataria Basin, Plaquemines Parish, between Pass Ronquille and Pass Chaland

Problem:

The area is undergoing shoreline erosion, interior wetland loss, overwash, and breakup. The Gulf shoreline erosion rate has increased from -14.6 ft/yr in 1988 to 2000 to -38 ft/yr in 1988 to 2006. Project area marshes also are being eroded at -11.8 ft/yr during 2003 to 2006 as well as being converted to open water from internal breakup at an estimated rate of 3.16%/yr.

Goals:

The general project goal is to maintain shoreline integrity including preventing breaching/formation of tidal inlets for 20 years by repairing and reinforcing the existing shoreline with sand and marsh restoration. A minimum dune elevation of +4.0 ft NAVD 88 at the end of the 20-yr project life was selected as a design performance goal.

Proposed Solution:

Cheniere Ronquille restoration would expand the Gulf shoreline structural integrity and associated protection by tying into two recently constructed projects to the east and address one of the remaining reaches of the Barataria/Plaquemines shoreline. The design includes fill for a beach and dune plus 20-years of advanced maintenance fill, as well as fill for marsh creation/nourishment. The location of the type and amount of sediment needed to construct this project already has been identified under the East Grand Terre Project that is presently under construction. Approximately 127 acres of beach/dune fill would be constructed with a dune crest at +6 feet, NAVD 88. Approximately 259 acres of marsh creation/nourishment would be constructed. Intensive dune plantings would be conducted by seeding and installing approved nursery stock. About half of the marsh platform would be planted with cordgrass and portions of the dune, swale, and marsh would be planted with appropriate woody species. Containment dikes would be breached no later than year three to allow tidal exchange with the created marsh.

Project Benefits:

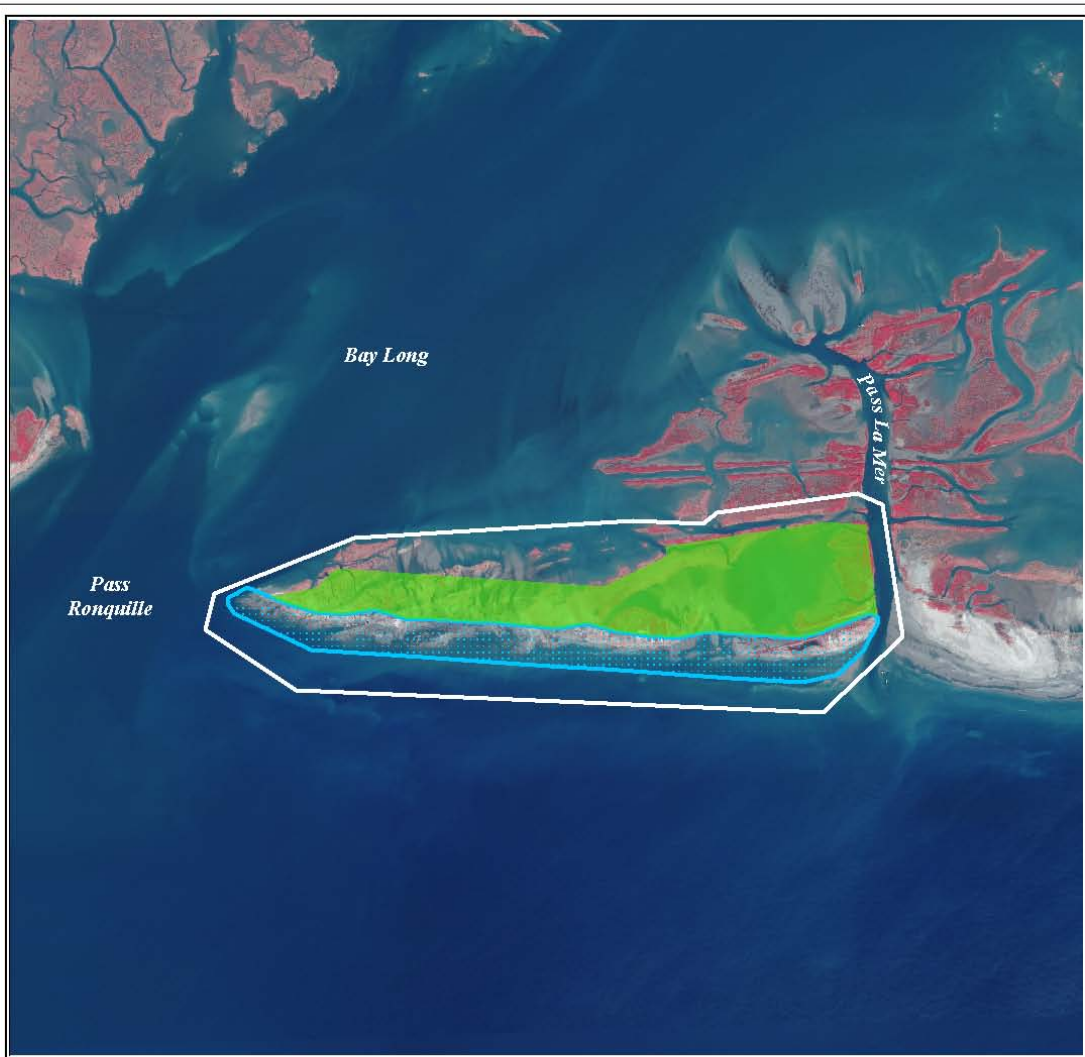
The project would benefit 408 acres of island beach/dune and back barrier marsh and adjacent open water. Approximately 234 acres of beach/dune and back barrier marsh would be created/protected over the 20-year project life.

Project Costs:

The total fully funded cost for the project is \$ 43,828,285.

Preparer(s) of Fact Sheet:

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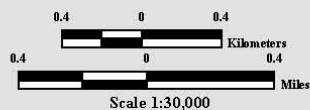


Cheniere Ronquille Barrier Island Restoration (PPL19 Candidate)



-  Dune/Beach *
-  Marsh Creation *
-  Project Boundary

* denotes proposed features



Map ID: USGS-NWRC 2009-11-0380
Map Date: August 20, 2009



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

Image Source:
2008 Digital Orthophoto Quarter Quadrangles

PPL19 Lost Lake Marsh Creation and Hydrologic Restoration

Coast 2050 Strategy:

Regional Strategy – Dedicated delivery of sediment for marsh building

Regional Strategy – Increase transfer of Atchafalaya River water to lower Penchant tidal marshes

Project Location:

Region 3, Terrebonne Basin, Terrebonne Parish, near the vicinity of Lost Lake

Problem:

Significant marsh loss has occurred between Lake Pagie and Bayou DeCade to the point that little structural framework remains separating those two waterbodies. Northeast of Lost Lake, interior marsh breakup has resulted in large, interior ponds where wind/wave energy continues to result in marsh loss. West of Lost Lake, interior breakup has occurred as a result of ponding and the periodic entrapment of higher salinity waters during storm events.

Goals:

Project goals include 1) restore an important feature of structural framework between Lake Pagie and Bayou Decade to prevent the coalescence of those two water bodies, 2) increase the delivery of fresh water, sediments, and nutrients into marshes north and west of Lost Lake, 3) reduce fetch in open water areas via construction of a terrace field. Specific Phase 0 goals include creating approximately 465 acres of marsh, increasing the delivery of fresh water into project area marshes by replacing 6 fixed-crest weirs and two plugs with variable-crest structures, and creating approximately 26 acres of marsh via the construction of 30,000 feet of terraces.

Proposed Solution:

Approximately 465 acres of marsh will be created between Lake Pagie and Bayou DeCade, north of Bayou DeCade, and along the northwestern Lost Lake shoreline. In addition, 30,000 linear feet (26 acres) of terraces will be constructed to reduce fetch in an area of deteriorated marsh.

Approximately 20,000 linear feet of tidal creeks will be constructed within the marsh creation cells. Four fixed-crest weirs and two plugs will be replaced with variable-crest structures to increase freshwater flow into surrounding marshes.

Project Benefits:

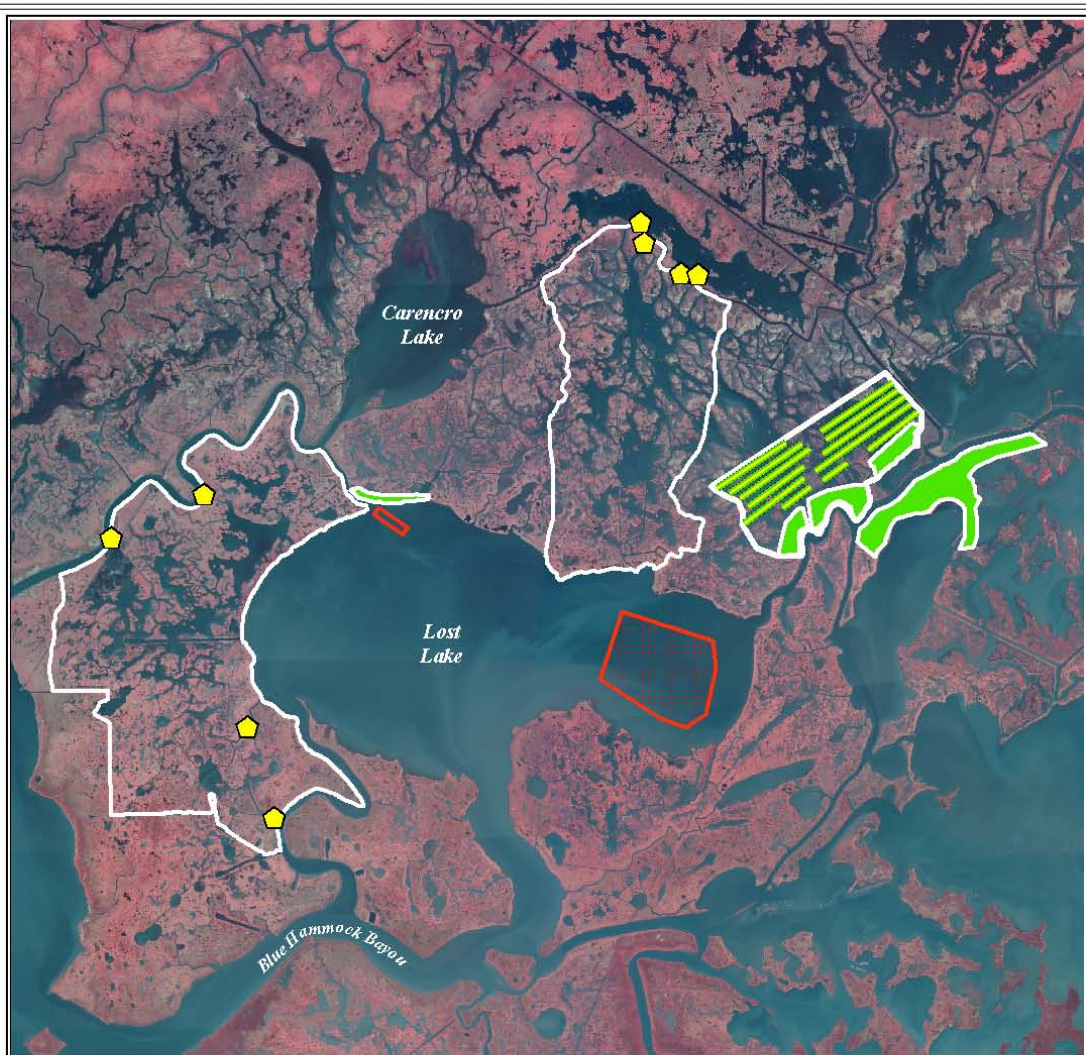
The project would benefit 7,312 acres of marsh and open water habitats. A total of 749 net acres of marsh would be protected/created over the 20-year project life.

Project Costs:

The total fully-funded cost for the project is \$ 22,943,866.

Preparer(s) of Fact Sheet:

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Lost Lake Marsh Creation and Hydrologic Restoration (PPL19 Candidate)



Water Control Structure *

Marsh Creation *

Project Boundary



Borrow Site *



Terrace *

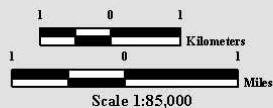
* denotes proposed features



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

Image Source:
2008 Digital Orthophoto Quarter Quadrangles

Map ID: USGS-NWRC 2009-11-0366
Map Date: August 10, 2009



PPL19 Freshwater Bayou Marsh Creation

Coast 2050 Strategy:

Coastwide Strategy – Dedicated Dredging, to Create, Restore, and Protect Wetlands

Project Location:

Region 4, Mermentau Basin, Vermilion Parish, Big Marsh Mapping Unit, area west of Freshwater Bayou and north of the Freshwater Bayou lock.

Problem:

This area was damaged by Hurricanes Rita, Gustav, and Ike. Currently, Freshwater Bayou threatens to breach into the large interior open water and establish a hydrologic connection that previously did not exist. This would exacerbate the environmental problems affecting marshes in this area. Additionally, interior marsh loss has increased and organic soils are being exported into Freshwater Bayou. Interior marsh loss will increase without construction of the proposed project.

Goals:

The project goals include: 1) creating/nourishing marsh and associated edge habitat for aquatic species through pipeline sediment delivery via dedicated dredging from the Gulf of Mexico or beneficial use of maintenance dredging from the Freshwater Bayou Canal; 2) restoring a wetland buffer between the large open water areas in the Mermentau Basin and Freshwater Bayou.

Proposed Solution:

The project would beneficially use dredge material and/or dedicated dredge material to rebuild/nourish approximately 401 acres of marsh that was damaged or converted to shallow open water by Hurricanes Rita, Gustav, and Ike. Approximately 2 million cubic yards of dredged material from the Gulf of Mexico would be dedicated to two hurricane damaged areas in the Big Marsh unit (Figure 1). If possible, material and/or equipment would be used from the maintenance dredging of Freshwater Bayou to the maximum extent practical to reduce cost during construction. However, since that material is not available every year the proposed project costs and benefits are conservatively based on dedicated dredging offshore. Approximately 162 acres of marsh would be created and 24 acres would be nourished in the North Area, and approximately 149 acres of marsh would be created and 66 acres would be nourished in the South Area. Average water depths are approximately 1.7 ft.

Project Benefits:

The project would benefit approximately 401 acres of fresh/intermediate marsh. Approximately 279 net acres would be created/protected over the 20-year project life.

Project Costs:

The total fully funded cost for the project is \$ 25,523,755.

Preparer(s) of Fact Sheet

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Freshwater Bayou Marsh Creation (PPL19 Candidate)

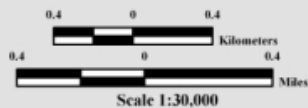


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National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La

Image Source:
2008 Digital Orthophoto Quarter Quadrangles



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



Map ID: USGS-NWRC 2009-11-0276
Map Date: July 24, 2009

PPL19 Cameron-Creole Watershed Grand Bayou Marsh Creation

Coast 2050 Strategy:

Coastwide Strategy – Dedicated Dredging, to Create, Restore, or Protect Wetlands

Project Location:

Region 4, Calcasieu-Sabine Basin, Cameron Parish, 6 miles northeast from Cameron, LA, on the Cameron Prairie NWR and Miami Corporation north of Grand Bayou.

Problem:

Approximately 14,390 acres (32%) of the Cameron-Creole Watershed Project (CCWP) marshes were lost from 1932 to 1990 at an average loss rate of 248 ac/year (0.55%/year) due to subsidence and saltwater intrusion from the Calcasieu Ship Channel. The CCWP was implemented by the NRCS in 1989 to reduce saltwater intrusion and stimulate restoration through revegetation. Hurricanes Rita and Ike in 2005 and 2008 breached the watershed levee scouring the marsh and allowing higher Calcasieu Lake salinities to enter the watershed causing more land loss. The Calcasieu-Sabine Basin lost 28 mi² (17,920 acres) (4.4%) as a result of Hurricane Rita (Barras et al. 2006). Land loss is estimated to be -0.87%/year based on USGS data from 1985 to 2006.

Goals:

Project goals include restoring and nourishing marsh with dedicated dredged material from Calcasieu Lake to benefit fish and wildlife resources within the Cameron Prairie NWR and adjacent brackish marshes. Specific phase 0 goals include creating 604 acres brackish marsh and nourishing 13 acres of brackish marsh.

Proposed Solution:

Place approximately 3 million cubic yards of material dredged from a Calcasieu Lake borrow site located approximately 2,000 feet west of Grand Bayou, away from existing oyster reefs, into two marsh creation areas north of Grand Bayou to restore 604 acres and nourish 13 acres of brackish marsh. The hurricane-scoured marsh, within the project area, is very shallow (averaging 1.2 feet deep) making it ideal for marsh restoration with sediment because more marsh per volume of dredged material could be restored. Tidal creeks will be constructed prior to placement of dredge material and retention levees would be gapped for estuarine fisheries access and to achieve a functional marsh.

Preliminary Project Benefits:

The project would restore 604 acres and nourish 13 acres of brackish marsh in the 617-acre project area. Approximately 550 acres of brackish marsh would be created and protected over the 20-year project life.

Project Costs:

The total fully funded cost for the project is \$ 23,380,486.

Preparer(s) of Fact Sheet:

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Cameron-Creole Watershed Grand Bayou Marsh Creation Project (PPL19 Candidate)



Marsh Creation *

* denotes proposed features



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

Map ID: USGS-NWRC 2009-11-0350
Map Date: August 05, 2009

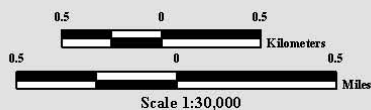


Image Source:
2008 Digital Orthophoto Quarter Quadrangles

DEMONSTRATION PROJECTS

Section 303(a) of the CWPPRA states that in the development of Priority Project List, “. . . [should include] due allowance for small-scale projects necessary to demonstrate the use of new techniques or materials for coastal wetlands restoration.”

The CWPPRA Task Force, on April 6, 1993, stated that: “The Task Force directs the Technical Committee to limit spending on demonstration projects to \$2,000,000 annually. The Task Force will entertain exceptions to this guidance for projects that the Technical Committee determines merit special consideration. The Task Force waives the cap on monitoring cost for demonstration projects.”

The CWPPRA Task Force, on April 12, 2006, passed a motion concerning the selection of demonstration projects. The Task Force agreed to consider funding, upon review, at least one credible demonstration project annually with estimates not to exceed \$2 million.

What constitutes a demonstration project:

1. Demonstration projects contain technology that has not been fully developed for routine application in coastal Louisiana or in certain regions of the coastal zone.
2. Demonstration projects contain new technology, which can be transferred to other areas of the coastal zone.
3. Demonstration projects are unique and are not duplicative in nature.

PPL 19 Demonstration Project Candidates

Demonstration projects were nominated at the 4 Regional Planning Team (RPT) meetings. Regional Planning Teams selected six (6) demonstration project nominees at the February 18, 2009 Coastwide RPT voting meeting. Demonstration project nominees were reviewed by the Environmental and Engineering Workgroups to verify that they met demonstration project criteria. On April 15, 2009 the Technical Committee selected three (3) demonstration project candidates for detailed assessments by the workgroups.

The following proposed demonstration projects were evaluated as candidates for the 19th Priority Project List:

- ViperWall Demo
- EcoSystems Wave Attenuator Demo
- Bayou Backer

PPL19 ViperWall Demonstration Project

Coast 2050 Strategy:

Coastwide: Maintenance of Gulf, Bay and Lake Shoreline Integrity

Project Location:

Applicable Statewide

Problem:

Several shoreline/bankline areas within coastal Louisiana consist of unstable soil conditions, subsurface obstructions, accessibility problems, etc., which severely limit the alternatives of shoreline protection. The adopted standard across the state, where conditions allow, is the use of rock aggregate in either a revetment or foreshore installation. The major advantages of using rock are durability, longevity, and effectiveness. However, in areas where rock is not conducive for use and site limitations exist, current “proven” alternatives that provide equivalent advantages are limited.

Goals:

The goal of this demonstration project is to fund Research and Development (R&D) through a local university or ERDC to test various configurations of ViperWall technology in a scientific lab under controlled conditions. This research would result in determining the most effective and efficient manner in which to dissipate wave action, reduce shoreline erosion, and encourage the entrapment of alluvial material. If R&D results in a viable, effective product, a field trial will be conducted testing various materials under various wave climate conditions.

Proposed Solution:

In Year 1 a wave tank analysis will be conducted to test effectiveness of current design. If proven effective, a field installation will take place in a low energy environment at Location 1 (TBD) and monitored for 1 year. Contingent on the results and performance at Location 1, a second installation will take place in a high energy environment at Location 2 (GOM). Each location will be inspected and surveyed bi-annually to monitor shoreline and bathymetry changes for a minimum of 2 years. A close-out report will be provided in Year 5.

Project Benefits:

The primary benefit expected from this project is the finding of a product that effectively reduces or eliminates wave action in areas where current standards are either non-acceptable or not economically justified.

Project Costs:

The total fully funded cost for the project is \$ 1,427,154.

Preparer(s) of Fact Sheet:

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PPL19 EcoSystems Wave Attenuator Demonstration Project

Coast 2050 Strategy:

Maintenance of Bay and lake Shoreline Integrity

Demonstration Project Location:

Region 4, Gulf shoreline at Rockefeller Refuge

Problem:

Coastal Louisiana consists of areas with unstable soil conditions, subsurface obstructions, accessibility limitations, etc. which limit the types of shoreline protection suitable to provide adequate relief of shoreline erosion. Traditional methods that have shown the most success are though the use of rock riprap. The major advantages of rock are the effectiveness and durability of protection that is provided. The disadvantages are the cost, supply, and site-specific problems with placement and handling of material. However, the same problems are also associated with other “non-rock” alternatives that have been tried as substitutes to provide equivalent protection against shoreline erosion.

Goals:

The primary goal of this demonstration is to manufacture, deploy and test an alternative method of shoreline protection equivalent to traditional methods in areas where site conditions limit or preclude traditional methods.

Proposed Solution:

Walter Marine has developed a method of protection against shoreline erosion using the EcoSystems Wave Attenuator. This product is a unit of EcoSystems discs mounted on piling with an innovative anchoring system, which dissipates wave action. The EcoSystems Wave Attenuator could be applicable for use as a shoreline protection or in place of a channel plug. The intent of this demonstration project is to place the EcoSystems Wave Attenuator in an area where traditional restoration strategies would have used a rock plug or sheetpile for a channel closure. As a shoreline protection feature, a double row of pilings (5' OC) would be driven and 4 foot diameter disks mounted on each piling along approximately 600 LF of shoreline. A second treatment will have a double row of pilings (7' OC) driven and disks mounted on each piling along an adjacent 730 LF of shoreline. The project will evaluate the effectiveness of reducing wave energy and shoreline erosion at the two prescribed spacing between disks.

Project Benefits:

If successful the project benefits include: 1) reduction in shoreline erosion associated with wave energy; 2) information obtained would allow a comparison with riprap structures; 3) identification of other applications of EcoSystems Wave Attenuators.

Project Costs:

The total fully funded cost for the project is \$ 2,214,945.

Preparer of Fact Sheet:

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PPL19 Bayou Backer Demonstration Project

Coast 2050 Strategy:

Maintenance of Bay and lake Shoreline Integrity

Project Location:

Region 3, Vermilion Bay or Weeks Bay shoreline

Problem:

Bayou Backer is a long lasting wave energy reducer that is suited for wetlands protection and re-vegetation. Plugs are dispensed from rolls of 3" to 6" wide plastic strip. In very loose ground plugs **up to** 12' long are pushed 3' deep. This leaves two 3' long blades above the surface. Below the surface, a 6' long loop forms the anchor. In a recent test of the product, the plastic strips were 8' long with a 4' long loop in the mud and 2' long blades within the water column. Thus, the application is adaptable to site conditions. It is expected to last several years in our waters, and assist in abating shoreline erosion to allow plants recovery and establishment time. Wave pool testing was recently performed at Louisiana State University and can be seen in photos and videos at <http://www.grastic.com/backer>

Goals:

- (1) Test the effectiveness of the bio-grass to reduce shoreline erosion
- (2) Determine the applicability of the bio-grass in coastal Louisiana shores.
- (3) Test two spacing design for evaluation of shoreline protection versus cost effectiveness.
- (4) Allow existing plants recovery and establishment time.

Proposed Solution:

Install triplicate plots of the following two spacing plans at two different types of shorelines; 8 rows of plugs, 1 foot spacing, or 3,000 plugs, along approximately 375 linear feet of shoreline (8 rows at 1' OC = 8 plugs/ LF of shoreline * 375 LF of shoreline = 3,000 plugs). Each plug will be inserted up to a 16 ft depth. A second, equivalent, section of shoreline, 5 rows of plugs will be spaced 3' OC (5 rows at 3' OC = 8 plugs/3 LF of shoreline * 375 LF of shoreline = 1,000 plugs). Total shoreline impacted is 4,500 linear feet with 24,000 plugs installed.

Project Benefits:

If successful the product could be a low cost option in shoreline protection until vegetation establishes, direct creation of habitat in shallow waters where turbidity could be decreased, and used as an addition to both interior lake and exposed coastal bay shorelines and open bay waters.

Project Costs:

The total fully funded cost for the project is \$ 910,893.

Preparer(s) of Fact Sheet:

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PPL19 Candidate Project Evaluation Matrix

Project Name	Region	Parish	Project Area (acres)	Average Annual Habitat Units (AAHU)	Net Acres	Total Fully Funded Cost	Fully-Funded Phase I Cost	Fully-Funded Phase II Cost	Average Annual Cost (AAC)	Cost Effectiveness (AAC/AAHU)	Cost Effectiveness (Cost/Net Acre)
Fritchie Marsh Terracing and Marsh Creation	1	St. Tammany	1,726	178	449	\$24,273,654	\$2,430,448	\$21,843,206	\$1,820,587	\$10,228	\$54,062
LaBranche East Marsh Creation	1	St. Charles	931	339	715	\$32,323,291	\$2,571,273	\$29,752,018	\$2,436,410	\$7,187	\$45,207
Monsecour Siphon	2	Plaquemines	12,255	882	990	\$10,607,905	\$1,873,637	\$8,734,268	\$756,765	\$858	\$10,715
Dedicated Sediment Delivery and Water Conveyance for Marsh Creation Near Big Mar	2	Plaquemines	6,311	408	853	\$20,443,392	\$2,143,994	\$18,299,398	\$1,491,237	\$3,655	\$23,966
Breton Marsh Restoration	2	Plaquemines	436	140	275	\$14,599,655	\$1,507,397	\$13,092,258	\$1,106,407	\$7,903	\$53,090
Bayou Dupont to Bayou Barataria Marsh Creation	2	Jefferson	530	173	292	\$37,631,550	\$2,536,927	\$35,094,623	\$2,885,713	\$16,680	\$128,875
Cheniere Ronquille Barrier Island Restoration	2	Plaquemines	408	190	234	\$43,828,285	\$3,419,263	\$40,409,022	\$3,305,651	\$17,398	\$187,300
Lost Lake Marsh Creation and Hydrologic Restoration	3	Terrebonne	7,312	281	749	\$22,943,866	\$2,320,214	\$20,623,652	\$1,683,509	\$5,991	\$30,633
Freshwater Bayou Marsh Creation	4	Vermilion	401	108	279	\$25,523,755	\$2,425,997	\$23,097,758	\$1,949,749	\$18,053	\$91,483
Cameron-Creole Watershed Grand Bayou Marsh Creation	4	Cameron	617	210	550	\$23,380,486	\$2,101,653	\$21,278,833	\$1,770,844	\$8,433	\$42,510

PPL 19 Demonstration Project Evaluation Matrix

(Parameter grading as to effect: 1 = low; 2 = medium; 3 = high)

Demonstration Project Name	Lead Agency	Total Fully Funded Cost	Parameter (P _n)						Total Score
			P ₁ Innovativeness	P ₂ Applicability or Transferability	P ₃ Potential Cost Effectiveness	P ₄ Potential Env Benefits	P ₅ Recognize d Need for Info	P ₆ Potential for Technological Advancement	
ViperWall	NRCS	\$1,427,154	3	3	2	3	3	2	16
EcoSystems Wave Attenuator	NMFS	\$2,214,945	3	3	2	2	3	2	15
Bayou Backer	NMFS	\$910,893	3	2	3	1	2	1	12

Demonstration Project Parameters

(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.