Coastal Wetlands Planning, Protection and Restoration Act Guidelines for Development of the 14th Priority Project List FINAL – 12 Dec 2003

I. Development of Supporting Information

A. COE staff prepares spreadsheets indicating status of all restoration projects (CWPPRA PL 1-13; 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 1-13; 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 plus PL 1-6) (Suhayda).

II. Areas of Need and Project Nominations

A. The four Regional Planning Teams meet, examine basin maps, discuss areas of need and Coast 2050 strategies, and choose no more than one project per basin, except that two projects may be selected from Terrebonne and Barataria basins because of the high loss rates in those basins. A total of up to 11 projects could be nominated. Selection of the projects nominated per basin will be by consensus, if possible. If voting is required, each officially designated parish representative in the basin will have one vote and each federal agency and DNR will have one vote.

B. The nominated projects will be indicated on a map and paired with Coast 2050 strategies. A lead Federal agency will be designated 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 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 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 project proposed for nomination will prepare a brief Project description (no more than one page plus a map) that discusses possible features.

C. Engineering and Environmental Work Groups meet to review project features, discuss potential benefits, and estimate preliminary fully funded cost ranges for each project.

D. P&E Subcommittee prepares matrix of cost estimates and other pertinent information and furnishes to Technical Committee and State Wetlands Authority (SWA).

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 six candidate projects for detailed assessment by the Environmental, Engineering, and Economic work groups.

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. 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.

B. Environmental and Engineering Work Groups and academic advisors 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 using the WVA and reviews 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 State Wetlands Authority. 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 (AAHU²s), cost effectiveness (average annual cost/AAHU), and the prioritization score.

- 3) qualitative discussion of supporting partnerships and public support; and
- 4) oyster lease impact areas delineated for the State's Restricted Area Map (this map should also be provided to DNR).

I. Technical Committee hosts two public hearings to present information from G above and allow public comment.

VI. <u>Selection of 14th Priority Project List</u>

A. Technical Committee meets and considers matrix, Project Information Sheets, and pubic comments. The Technical Committee will recommend up to four projects for selection to the 14th PPL.

B. The CWPPRA Task Force will review the TC recommendations and determine which projects will receive Phase 1 funding for the 14th PPL.

C. State Wetlands Authority reviews projects on the 14th Priority List and consider for Phase I approval and inclusion in the upcoming Coastal Wetlands Conservation and Restoration Plan.

14th Priority List Project Development Schedule

December 2003	Distribute public announcement of PPL14 process and schedule					
January 28, 2004	Task Force Meeting					
February 10, 2004 February 11, 2004 February 12, 2004	Region IV Planning Team Meeting (Rockefeller Refuge) Region III Planning Team Meeting (Morgan City) Regions II and I Planning Team Meetings (New Orleans)					
February 16, 2004	President's Day Holiday					
February 13 – March	3 Agencies prepare fact sheets for RPT nominated projects					
February 24, 2004	Mardi Gras					
March 9 & 10, 2004	Engineering/ Environmental work groups review project features, benefits & prepare preliminary cost estimates for nominated projects (DNR)					
March 11, 2004	P&E Subcommittee prepares matrix of nominated projects showing initial cost estimates (DNR)					
March 19, 2004	Tech Comm meets to select PPL14 candidate projects (NOD) (previously scheduled March 17)					
April 14, 2004	Spring Task Force meeting (Lafayette)					
May/June	Candidate project site visits					
June/July/August/Sep	tember Env/Eng work group project evaluations					
July 14, 2004	Technical Committee meeting (Baton Rouge)					
August 18, 2004	Task Force meeting (New Orleans)					
September 9, 2004	Technical Committee meeting (Baton Rouge) (previously scheduled September 15)					
October 13, 2004	Task Force meeting (Baton Rouge) – announce public meetings					
November 17, 2004	PPL14 Public Meeting (Abbeville)					
November 18, 2004	PPL14 Public Meeting (New Orleans)					
December 16, 2004	Technical Committee meeting (New Orleans) (previously scheduled December 8)					
January 26, 2005	Task Force meeting to select PPL 14 (New Orleans)					

10 February 2004

INTERESTED PARTIES

Breaux Act

Coastal Wetlands Planning, Protection and Restoration Act

Technical Committee Meeting

The CWPPRA Technical Committee will meet at 9:30 a.m. on Friday, March 19, 2004 at the following location (see included map).

NOTE: THIS IS A DATE CHANGE FROM THE ORIGINAL SCHEDULED DATE.

U.S. Army Corps of Engineers Office 7400 Leake Ave. New Orleans, Louisiana District Assembly Room

At the Technical Committee meeting normal business items will be conducted including the selection of candidate projects for evaluation for Project Priority List (PPL) 14.

ttee

Chair Mr. John Saia	U.S. Army Corps of Engineers
Mr. Darryl Clark	U.S. Fish and Wildlife Service
Dr. Bill Good	La. Dept. of Natural Resources
Mr. Rick Hartman	National Marine Fisheries Service
Mr. Troy Hill	Environmental Protection Agency
Mr. Britt Paul	Natural Resources Conservation Service

More information regarding CWPPRA activities may be found at the following sites:

www.lacoast.gov/cwppra/ or www.mvn.usace.army.mil/pd/cwppra mission.htm

If you have any questions or if you need special assistance, please call Ms. Julie LeBlanc, at (504) 862-1597.

Julie LeBlanc - Chairman Planning and Evaluation Subcommittee





US Army Corps of Engineers 7400 Leake Ave., Office Building is on the river side of the Mississippi River levee If lost, call (504) 952-9515.

Those arriving by Interstate 10: Exit Carrollton south toward the river and make a left on Leake Ave., Office will be .3 miles from Carrollton on the right across the levee. Look for the driveway entrance with a guard house.

CWPPRA PPL14 Nominees

						Potential Issues					
Region	Basin	Туре	Project	Preliminary Fully Funded Cost Range	Preliminary Benefits (Net Acres Range)	Oysters	Land Rights	Pipelines/ Utilities	O&M	Other Issues	Comments on Other Issues
1	Pontchartrain	SP/MC	Irish Bayou to Bayou Chevee Shoreline Protection and Marsh Creation	\$30M - \$40M	350-400				х	х	Gulf Sturgeon
2	Breton	FD/HR	White's Ditch Resurrection and Outfall Management	\$15M - \$20M	250-300		Х		Х		
2	Barataria	BI	Riverine Sand Mining/Scofield Island Restoration	\$30M - \$40M	200-250	х		х			
2	Barataria	SP/MC	South Shore of the Pen Shoreline Protection and Marsh Restoration	\$15M - \$20M	200-250			х	х		
2	MR Delta	MC	Venice Ponds Marsh Creation	\$40M - \$50M	250-300		х	Х			
3	Terrebonne	MC	Penchant Basin Marsh Creation	\$5M - \$10M	50-100		Х	Х		Х	Flotant Marsh
3	Terrebonne	SP/MC	North Lost Lake Marsh Restoration	\$20M - \$30M	200-250			Х	Х		
3	Atchafalaya	TE/HR	Plumb Island Point Terracing/Hydrologic Restoration	\$5M - \$10M	100-150			Х	Х		
3	Teche/Vermilion	MC	East Marsh Island Marsh Creation	\$10M - \$15M	200-250						
4	Mermentau	SP	Gulf of Mexico Shoreline Stabilization - Joseph's Harbor East to Little Constance Bayou	over \$50M	300-350			х	х		
4	Calcasieu/Sabine	SP	Holly Beach Breakwaters west extension (Long Beach)	\$15M - \$20M	0-50			х	х		

10-Mar-04

PPL14 PROJECT NOMINEE FACT SHEET Revised 11 March 2004

Project Name: Irish Bayou to Bayou Chevee Shoreline Protection and Marsh Creation

Coast 2050 Strategy

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

Project Location

Region 1, Pontchartrain Basin, Orleans Parish, East Orleans land bridge mapping unit, Point aux Herbes south along Lake Pontchartrain to Bayou Chevee.

Problem

The project area consists of a relatively narrow segment of marsh and shallow open water areas between an existing Federal hurricane protection levee, Interstate-10, and Lake Pontchartrain. As the shoreline deteriorates and retreats, the threat to interior marsh and local infrastructure becomes elevated as they are exposed to the high-energy conditions of Lake Pontchartrain. The erosion rate along the shoreline of Lake Pontchartrain between Point aux Herbes and Bayou Chevee, based on the difference of shoreline change between 1965 and 1998 aerial imagery, revealed an average annual loss rate of approximately 18 feet per year.

Proposed Project Features

Approximately 17,350 linear feet of rock dike would be placed along the -2' to -3' contour (equivalent to the existing Bayou Chevee project - PO-22) to protect existing marsh. Sediment will be mined from Lake Pontchartrain in proximity of the project to nourish and/or create 875 acres of brackish marsh.

Goals

The goals of the project are to reduce shoreline erosion and create/nourish marsh behind the rock dike in order to prevent the lake shore from breaking into the interior marsh ponds.

Preliminary Project Benefits

- 1. Approximately 1,890 acres would be benefited both directly and indirectly.
- 2. Prevent the loss of 143 acres of marsh by reducing the shoreline erosion by 100% (17,350 lf x 18 ft/year x 20 years).
- 3. Approximately 665 acres would be nourished and approximately 210 acres would be created over the project life. The project will have a net acre benefit range of 350 400 acres.
- 4. The interior marsh loss rate is expected to be reduced by 50%.
- 5. Shoreline stabilization would maintain this segment of the lake rim.
- 6. The net impact of the proposed project on critical and non-critical infrastructure is high. State Highway 11, Interstate-10, Federal hurricane protection levees, the community of Irish Bayou and several non-critical waterways would be negatively impacted by the loss of existing wetlands.
- 7. The project would tie into the existing Bayou Chevee Shoreline Protection (PO-22) project and shoreline protection funded under the Gulf of Mexico Program, providing a high degree of synergy with existing constructed projects.

Identification of Potential Issues

This project has the support of the major landowner (Refuge) and the Parish. There are no known problems or issues at this time.

Preliminary Construction Costs

The estimated fully funded cost range is \$30 - \$40 million. The estimated construction cost with 25% contingency is approximately \$22.9 million.

Preparers of Fact Sheet

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PPL14 PROJECT NOMINEE FACT SHEET March 11, 2004

Project Name and Number

BS-5-1 White's Ditch Resurrection and Outfall Management

Coast 2050 Strategy

Regional 5. Manage outfall of existing diversions. Regional 8. Construct most effective small diversions.

Project Location

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

Problem

Operation of the siphon has been limited/discontinued due to issues with canal maintenance.

Proposed Project Features

- Weir opening cut into south levee to allow water to enter southern pond; place weir with boatbay in outfall channel (approx. two miles below siphon) to enable water to enter into interior marshes; and armor banks along White's Ditch to protect against erosion that is already occurring.
- 2) Install additional diversion (existing two 50 inch diameter steel pipes currently allow approximately 250 cfs).

Goals

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

Preliminary Project Benefits

Previous evaluations (SCS 1993, NMFS 1995, NRCS 1995) gave the anticipated loss rate reduction of 50% throughout the area. With additional discharge pipes protection would extend to an area over 8000 acres.

Identification of Potential Issues

The proposed project has the following implementation issues:

- 1) Land Rights
- 2) Operation and Maintenance

Preliminary Construction Costs

The estimated fully funded cost range is \$15 - \$20 Million. The estimated construction cost including 25% contingency is approximately \$9.1 million.

Preparer of Fact Sheet

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PPL14 PROJECT NOMINEE FACT SHEET March 9, 2004

Project Name and Number :

Riverine Sand Mining/Scofield Island Restoration (BA-21-1)

Coast 2050 Strategy

<u>Coastwide Common Strategies</u> Dedicated Dredging, to Create, Restore, or Protect Wetlands Maintenance of Gulf, Bay and Lake Shoreline Integrity Vegetative Planting Off-shore and Riverine Sand and Sediment Resources

<u>Regional Ecosystem Strategies</u> 21. Extend and maintain barrier headlands, islands and shorelines

Mapping Unit

21. Beneficial Use of Dredged Sediment

23. Restore Barrier Islands

Project Location

Region Two, southeastern edge of Barataria Basin, Barataria Barrier Shorelines mapping unit, in Plaquemines Parish, Louisiana - approximately 10 miles southwest of Venice.

Problem

The project would fill breaches, restore and create beach, dune and marsh to increase island longevity and maintain integrity of the sub-reach. Wetlands, dune, and swale habitats within the project area have undergone substantial loss due to oil and gas activities (e.g., pipeline construction), subsidence, sea-level rise, and marine and wind induced erosion. Coastal processes acting on the abandoned headland include rapid landward transgression and more recently breakup. At least one breach exists in the shoreline that developed early in 2003, after Hurricane Lili. Based on 1988 to 2000 imagery, the gulfside erosion rate is -15.9 ft/year (Barataria Barrier Island Restoration: Shoreline Change Analysis - UNO, 2000). With the passage of Hurricane Lili in 2002 and the relative high frequency of tropical storms in 2003, it is expected that the shoreline erosion rates and percent loss per year have increased.

Proposed Project Features

Because of the limited sand resources in the Gulf of Mexico offshore the Plaquemines shoreline and the need to identify alternative and renewable sand resources, the project consists of Mississippi River sand mining to fill breaches, restore and create beach and dune habitat. Sandy silt (<~60% sand) would be mined from either the river or the Gulf of Mexico to create marsh and nourish existing marsh. Based on 2000 imagery, over 380 acres within the project boundary are expected to be directly benefited. Over 200 acres of marsh, dune, and beach would be created in existing open water. A conceptual design includes a dune at +6.0 ft NAVD88 and approximately 280 ft wide. Portions of both Scofield Bayou and Bayou Trouve would be restored. Also, over 180 acres of existing shallow open water, beach, sand flats, supratidal elevations, and marsh would be filled for marsh nourishment and creation of dunes and beach. All nourished and created acreage would be planted with native vegetation at an optimal planting density. Planting would be accomplished during the first three years after construction to allow for site equilibration. Two, shore parallel rows of sand fencing with no to minimal gaps would be constructed along the dune crest concurrent with project construction and prior to final acceptance of the dune. Sand fences would be maintained. Creation of yet to be determined amount of tidal creeks and ponds would be included.

Goals

The goals of this project are to repair newly formed breaches in the shoreline, reinforce the existing shoreline with sand and plug/repair the growing tidal outlets through the shoreline. Created and nourished areas would be planted with native vegetation.

Preliminary Project Benefits

- Over 380 acres within the project boundary are expected to be directly benefited (over 200 acres of marsh, dune, and beach creation and over 180 acres of marsh nourishment and conversion to supratidal or dune elevations). Up to 50 acres of natural levee and fringing marsh along Scofield Bayou and Bayou Trouve would be indirectly benefited.
- 2) Based on the project design and scale similarities to the Pelican Island Restoration project, approximately 200 to 250 net acres would be protected/created (TY20 FWP-FWOP) over the 20 year project life.
- 3) The anticipated loss rate reduction throughout the area of direct benefits over the project life is 25-49%.
- 4) Most project features assist in maintaining or restoring structural components of the coastal ecosystem such as barrier islands, beach and lake rims, and cheniers.
- 5) The project would have a net positive impact on non-critical infrastructure. Specifically, there are at least four pipelines within the project area.
- 6) The project would provide substantial net benefits to the Pelican Island Project by increasing the sediment in the longshore drift during the equilibration and long term erosion of Scofield Island once restored, as well as preventing flanking erosion of Pelican Island that would occur if Scofield Island is not restored.

Identification of Potential Issues

There are potential issues with oyster leases and pipelines. While not insurmountable, sufficient planning would need to be undertaken to ensure cooperation with the involved stakeholders. Recent developments with the BA-38 project suggest that individuals and corporations are willing to accommodate for the purposes of coastal restoration. Minor O&M is planned only for phased planting and sand fence maintenance.

Preliminary Construction Costs

The preliminary fully funded cost is in the \$30 to \$40 million range. The lump sum construction cost including 25% contingency is approximately \$26.3 million.

Preparer of Fact Sheet

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PPL14 PROJECT NOMINEE FACT SHEET

March 11, 2004

Project Name and Number

South Shore of the Pen Shoreline Protection and Marsh Restoration (BA-24/25-5)

Coast 2050 Strategy

Regional Strategies #24: Preserve bay and lake shoreline integrity on the landbridge. #25: Dedicated or beneficial use of dredge material on the landbridge.

Project Location

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

Problem

What problem will the project solve? a) Shoreline erosion along the south shore of the Pen, and b) marsh deterioration within the triangular area bounded by the south shore of The Pen, the Barataria Bay Waterway (Dupre Cut) and the Creole Gas Pipeline canal.

What evidence is there for the nature and scope of the problem in the project area? Preliminary estimate of average erosion rate is 14 feet per year. 1956-1990 USGS land loss analysis, as well as Britsch and Dunbar (1996) map for 1930's -1990 illustrate shoreline and interior loss. The 2003 USGS map of "100+ Years of land Change for Coastal Louisiana" illustrates a prediction for continued land loss in the vicinity of the proposed project.

Proposed Project Features

Approximately 11,900 linear feet of shoreline protection would be constructed.

Dedicated dredging to create approximately 140 acres of marsh, and nourish an additional 140 acres of marsh, within the triangular area bounded by the south shore of The Pen, the Barataria Bay Waterway (Dupre Cut) and the Creole Gas Pipeline canal.

Goals

Eliminate or reduce shoreline erosion, create marsh, nourish marsh.

Preliminary Project Benefits

1) What is the total acreage benefited both directly and indirectly? 714 acres

2) How many acres of wetlands will be protected/created over the project life? Prevent shoreline erosion: 76 acres. Marsh Creation: 140 acres. Marsh enhancement: 140 acres.

3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74% and >75%). >75%

4) Do any project features maintain or restore structural components of the coastal ecosystem such as barrier islands, natural or artificial levee ridges, beach and lake rims, cheniers, etc. Yes. The project would work in concert with a number of projects on the Barataria Landbridge to protect that important structural component of the ecosystem.

5) What is the net impact of the project on critical and non-critical infrastructure? The project would help protect the Creole Gas pipeline and the community of Lafitte.

6) To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects? The project would have a high degree of synergy with the State's Bayou Dupont Marsh Creation Project, the Barataria Bay Waterway East Project (BA-26), the Naomi Outfall Management Project (BA-03c). The project would work in concert with additional projects on the Barataria Landbridge including Barataria Bay Waterway West Project (BA-23), Jonathan Davis Wetland (BA-20) and Barataria Landbridge Shorelien Protection Phases 1,2,3, and 4 (BA-27, BA-27c, BA27d).

Identification of Potential Issues

The proposed project has the following implementation issues:

- 1) Pipelines/Utilities
- 2) Operation and Maintenance

Preliminary Construction Costs

The estimated fully funded cost range is \$15-20 Million. The estimated construction cost including 25% contingency is approximately \$11 million.

Preparer of Fact Sheet

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PPL14 PROJECT NOMINEE FACT SHEET Revised 11 March 2004

Project Name: Venice Ponds Marsh Creation

Coast 2050 Strategy

- Coastwide: Dedicated dredging to create, restore, or protect wetlands.
- Coastwide: Off-shore and Riverine Sand and Sediment Resources.
- Mapping Unit Strategies: Region 2, West Bay, #35, beneficial use of dredged material.

Project Location

Region 2, Mississippi River Delta Basin, Plaquemines Parish, West Bay mapping unit, south of Venice, Louisiana adjacent to the Red, Tiger, and Grand Passes.

Problem

Existing spoil banks and infrastructure have isolated interior marsh. Nearly all of the interior emergent marsh in the proposed project sites has been converted to shallow open water. This is a result of a lack of sediment input and a high subsidence rate.

Proposed Project Features

Material obtained locally by dedicated dredging and local channel maintenance events would be used to re-establish marsh and nourish existing marsh in three separate sites.

Goals

The goals of the project are to create, maintain, nourish, and replenish existing deteriorating wetlands. This would be accomplished by depositing dredged material from Tiger and Grand Passes, and the Mississippi River into the targeted disposal areas. Existing marsh boundaries would aid in the retention of dredged material and re-establishment of marsh habitat.

Preliminary Project Benefits

- 1. Approximately 410 acres (166 hectares) of existing wetlands would benefit directly and indirectly.
- 2. Approximately 960 acres would be created and 410 acres of exiting wetlands nourished. The project results in a benefit range of 250 300 acres created and protected over the project life.
- 3. The loss rate would be reduced by more than 50% throughout the area of direct benefits over the project life.
- 4. This project would protect remaining natural and artificial ridges.
- 5. The net impact of the project on critical and non-critical infrastructure would be positive.
- 6. This project would provide a use of a readily available and accessible sediment resources in the Mississippi River delta region.

Identification of Potential Issues

The proposed project has the following potential issues: utilities/pipelines, land rights, safety of waterborne traffic during dredging and disposal operations.

Preliminary Construction Costs

The estimated fully funded cost range is \$40 - \$50 million. The estimated construction cost with 25% contingency is \$33.8 million.

Preparers of Fact Sheet

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PPL14 PROJECT NOMINEE FACT SHEET Penchant Basin Marsh Creation 11 March 2004 previously "Penchant Basin Restoration by Atchafalaya Diversion" As modified by Environmental/Engineering Work Groups 9-10 March 2004

Project Name: Penchant Basin Marsh Creation, previously "Penchant Basin Restoration by Atchafalaya Diversion"

EPA presented original RPT3 meeting concept consisting using Atchafalaya River water and sediments to enhance and restore the hydrology within the Penchant Basin by dredging 75 miles of channels and canals. An additional proposed feature used the dredged material to create marsh. On 9 March 2004, the consensus of the Environmental/Engineering Workgroups resulted in modifying the nominee features by deleting the Atchafalaya Diversion aspects and focusing upon marsh creation. As requested, EPA represented the revised nominee, Penchant Basin Marsh Creation, to the Environmental/Engineering Work Groups on 10 March 2004.

Coast 2050 Strategy: This project will utilize one coastwide common strategy (dedicated dredging for wetland creation) and one regional ecosystem strategy (dedicated delivery of sediment for marsh building by any feasible means.

Project Location: Coast 2050 Region 3, Terrebonne Basin, Terrebonne Parish. It is in both Penchant and Atchafalaya Marshes mapping units and includes most of the Penchant Basin. The center of the project area is approximately 15 miles south of Amelia, LA.

Problem: The Coast 2050 Report indicates 27.1% of the wetland area in the Penchant Mapping Unit was lost between 1932 and 1990. This report lists increased flooding due to reduced hydrologic efficiency of the Atchafalaya River, altered hydrology, subsidence, herbivory, and oil and gas canals, as causes of wetland losses in the Penchant Mapping Unit. Visser et. al. (1999) documented a change in dominant vegetation in the area, from *Panicum hemitomon*, to *Eleocharis baldwinii*, and evaluated possible causes, including increased flooding and herbivory, but were unable to draw a firm conclusion.

Proposed Project Features: Project features include almost 36 miles of dredging to deepen existing canals and waterways within the eastern part of the Bayou Penchant basin by 2-4 ft. The dredged material will be used to create marsh. Modeling will be used to ensure no negative hydrologic effects will occur due to dredging and predict potential effects on other CWPPRA projects currently under design within the project footprint. Precise location of the marsh creation area or areas to be determined later.

Goals: The project goal is to create approximately 96 acres of fresh marsh using dredged material from channel enlargement work.

Preliminary Project Benefits:

1) The total acreage benefited directly is 96 acres.

2) Assuming 96 acres of marsh creation, 94 acres of wetlands will be protected/created over the project life. This assumes a 50% reduction in land loss rate due to effects of marsh creation.
3) The anticipated loss rate reduction throughout the area of direct benefits over the project life is proposed to be <50%.

4) This project does not maintain or restore structural components of the coastal ecosystem.

5) The project is expected to have no impact on critical or non-critical infrastructure.

6) The project will not provide any synergistic effects with other approved (Phase II approval) or constructed restoration projects. However, two projects (TE-34 and TE-43) are currently under engineering and design (Phase I).

Identification of Potential Issues: The proposed project has the following potential issues: land rights and pipeline utilities. The project land is private property. EPA contacted the owner/property managers who expressed concerns regarding the flotant marsh in the area and suggested that the TE-34 project be constructed and its operation observed prior to additional projects proposed or planned.

Preliminary Construction Costs:

The estimated fully funded cost range is \$5 - \$10 million. The estimated construction cost including 25% contingency is approximately \$5.9 million.

Preparers of Fact Sheet:

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PPL14 PROJECT NOMINEE FACT SHEET

March 12, 2004

North Lost Lake Marsh Restoration Project

Coast 2050 Strategy: Regional Strategy 4 - Enhance Atchafalaya River influence to Terrebonne Basin marshes Regional Strategy 11 - Protect and maintain ridge function

Project Location: Region 3, Terrebonne Basin, Terrebonne Parish, located north of Lost Lake in the Mechant/Decade Mapping Unit

Problem: West of Voss Canal, the Mauvois Bois ridge has subsided below the marsh surface and provides no protection to Penchant Basin marshes from saline storm surges or daily tidal action. Here the fresh floating Penchant Basin marshes are protected only by the deteriorated marshes north of Lost Lake (including the north rim of Lost Lake and the banks of Bayou Decade and Carencro Bayou). Continued deterioration and loss of those marshes places at risk the fragile Penchant Basin floating marshes to the north. The greatest threat may be the narrowing north and northeast rim of Lake Pagie. A shoreline rim blowout there would establish a direct hydrologic connection between Lake Pagie and Bayou Decade. Such a blowout might impact marshes north of Bayou Decade and also the Penchant Basin via Voss Canal.

Proposed Project Features:

a) plant smooth cordgrass along 21,800' of the north Lost Lake shore (Crochet Canal to Bayou Decade)

b) install rip-rap armoring along 3,000' of north Lost Lake shore at blowouts and weak spots

- c) replace 2 lakeshore weirs with gated water control structures
- d) replace 2 weirs on Bayou Carencro with gated water control structures
- e) install 2 freshwater inflow gated water control structures along Carencro Bayou
- f) create 212 acres of marsh at 4 locations

Project Goals: Maintain and restore critically important marshes along Bayou Decade and north of Lost Lake

Preliminary Project Benefits:

- 1a) Total acreage benefitted directly (through marsh creation) is 212.
- 1b) Total wetland acreage benefitted indirectly (through reduced marsh loss) is 6,138.
- 2) Approximately 244 acres of marsh would be protected/created over the project life.
- 3) The anticipated loss rate reduction throughout the project area is 0 25 %.
- 4) The project would address structural landscape features as follows: Vegetative plantings along the north Lost Lake shoreline would protect the north Lost Lake rim. Marsh creation south of Bayou Decade would restore and maintain the deteriorated north and northeast Lake Pagie shoreline and a small portion of the Bayou Decade natural levee. The marsh creation north of Bayou Decade would restore the western end of the Mauvois Bois ridge which has subsided below the marsh surface.
- 5) The project provides no benefit to critical infrastructure and some protection to non-critical infrastructure (camps along Carencro Bayou and Bayou Decade). Project features to discharge Penchant Basin water southward would complement efforts of the Penchant Basin Project. Additionally, the proposed project would provide saltwater intrusion/storm surge protection to

the fresh Penchant Basin where it is most vulnerable - on the western sides of the Brady Canal CWPPRA Project and the west side of the North Lake Mechant CWPPRA Project.

Identification of Potential Issues: The foremost implementation issue would be developing structure operation plans suitable to landowners and natural resources agencies, and, determining who will operate project water control structures.

Preliminary Construction Costs:

The estimated fully funded cost range is \$20 - \$30 million. The estimated construction cost including 25% contingency is approximately \$14.9 million.

Preparer of Fact Sheet:

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PPL14 PROJECT NOMINEE FACT SHEET

Revised: March 11, 2004

Project Name and Number

Plumb Island Point Terracing/Hydrologic Restoration, AT-2-1

Coast 2050 Strategy

Coastwide: Dedicated dredging to create, restore or protect wetlands Maintenance of gulf, bay and lake shoreline integrity Vegetative planting Terracing Regional: 2. Increase deltaic land building where feasible 7. Dedicated delivery and/or beneficial use of sediment for marsh building 9. Restore historic hydrologic and salinity conditions to protect wetlands.

Mapping Unit: Atchafalaya Marshes: 52. Protect bay/lake shorelines

53. Beneficial use of dredge material

Atchafalaya Subdelta: 56. Protect bay/lake/gulf shorelines

57. Beneficial use of dredge material

Project Location

Region 3, Atchafalaya Basin, St. Mary/Terrebonne Parish, NE portion of Atchafalaya Bay shoreline and adjacent marsh from Plumb Isl. Point to Creole Bayou.

Problem

The shoreline extending from just south of Plumb Isl. Point to Creole Bayou provides a significant barrier to floating and emergent marsh habitat from high-energy wave action from Atchafalaya Bay. The shoreline in the project area is eroding at approximately 11 feet per year (USGS 2004). Recent tropical storms, especially Hurricane Lili, have created several breaches along the existing shoreline which have led to increased marsh deterioration and extended marsh recovery periods. Habitat located behind the existing shoreline is increasingly prone to amplified tidal influences that are normally not so prevalent with an intact and stable shoreline. Delta development in this area has been slow due to the high energy environment and finer sediment.

Proposed Solution

Construct approximately 83,000 linear feet of earthen terraces, create approximately 10 acres of marsh on the most critical area of shoreline and construct approximately 250 linear feet of earthen plugs. All created areas will be planted with appropriate species.

Goals

The goals of the project are to 1) reduce shoreline erosion, 2) establish submerged aquatic vegetation and emergent marsh within the terraced area, 3) encourage expanded delta development, and 4) repair breaches to the shoreline to restore lower energy hydrologic conditions within adjacent interior marshes.

Preliminary Project Benefits

Approximately 72 acres of marsh will be created with the construction of terraces and the marsh creation area. These created areas will also be planted. Approximately 2,000 acres will be protected over the project life. The loss rates of interior ponds and shoreline is expected to be reduced by greater than 75%. All project features are expected to maintain the beach rim and will

restore the beach rim in the marsh creation area. The project may have a slight synergistic effect with the approved AT-04 CWPPRA project.

Identification of Potential Issues

The proposed project has the following potential issues: pipelines/utilities and O&M.

Preliminary Construction Costs

The estimated fully funded cost range is \$5M-\$10M. The estimated construction cost including 25% contingency is approximately \$3.3 million.

Preparer of Fact Sheet:

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PPL14 PROJECT NOMINEE FACT SHEET

Revised: March 11, 2004

Project Name and Number

East Marsh Island Marsh Creation, TV-7-3

Coast 2050 Strategy

Coastwide: Dedicated dredging to create, restore or protect wetlands Maintenance of gulf, bay and lake shoreline integrity Vegetative planting Regional: #7. Dedicated delivery and/or beneficial use of sediment for marsh building Mapping Unit: East Cote Blanche Bay: #74. Beneficial use of dredge material

Project Location

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

Problem

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

Proposed Project Features

Create approximately 210 acres of interior emergent marsh with hydraulically dredged material from East Cote Blanche Bay. The created areas will be planted with plugs of smooth cordgrass on approximately 5-ft centers.

Goals

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

Preliminary Project Benefits

Approximately 210 acres of marsh will be created by completely filling in open ponds and planting the created areas. It is anticipated that an additional 200 acres of marsh will be benefited through marsh nourishment as a result of hydraulic dredging for marsh creation without containment dikes. This will allow additional finer material to flow throughout the adjacent marshes of the creation area and provide nourishment. This process will yield a total of 410 acres benefited over the project life. The loss rates for the interior ponded areas are estimated to be reduced by greater than 75%. This project provides a synergistic effect with the constructed TV-14 project.

Identification of Potential Issues

The proposed project has no potential issues.

Preliminary Construction Costs

The estimated fully funded cost range is 10 - 15 Million. The estimated construction cost including 25% contingency is approximately \$9.2 Million.

Preparer of Fact Sheet

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PPL14 PROJECT NOMINEE FACT SHEET March 10, 2004

Project Name and Number

Rockefeller Gulf of Mexico Shoreline Stabilization, Joseph's Harbor East, ME-16-1.

Coast 2050 Strategy

Regional: Dedicated dredging or beneficial use of sediment for wetland creation or protection (6) and Stabilize Gulf of Mexico Shoreline from Old Mermentau River to Dewitt Canal (16). Coast-wide Common: Maintenance of Gulf, Bay and Lake shoreline Integrity, and Maintain, Protect or Restore Ridge Functions.

Project Location

Region 4, Mermentau Basin, Cameron/Vermilion Parish, LA. Along the Gulf shoreline from eastern bank of Joseph's Harbor (Rockefeller Refuge) east to Little Constance Bayou.

Problem

The project will be deigned to address Gulf shoreline retreat averaging 35' per year (Byrnes, McBride et al., 1995) with subsequent direct loss of saline emergent marsh.

Proposed Project Features

The project would entail construction of a near-shore break-waters along the Gulf of Mexico shoreline. The break-water would extend from the eastern bank of Joseph's Harbor canal eastward for 25,000 feet. The proposed structure would be tied into the present shoreline at the point of beginning and ending. It would be designed to attenuate shoreline retreat along this stretch of Gulf shoreline, as well as promote shallowing, settling out, and natural vegetative colonization of over-wash material landward of the proposed structure would be 6 feet above the Gulf floor (i.e., +1 ft above average water level), with a 20 foot crown and 1:3 slope on both sides. The proposed structure would consist of 2,200 lb. class stone. The proposed design would include openings every 1000' to facilitate material and organism linkages. Excavation material for construction access would be placed on the landward side of the structures.

Goals

1) Reduce Gulf shoreline retreat and direct marsh loss at areas of need identified from Rockefeller Refuge east to Region 4 boundary, 2) protect saline marsh habitat, 3) Enhance fish and wildlife habitat.

Preliminary Project Benefits

 Both Direct and indirect acres benefited need reported. The project is expected to influence approximately 310 acres directly (300 protected, 10 created), and a portion of 4,900 acres indirectly (Rockefeller Refuge Unit 5). This project is anticipated to benefit 300 acres (25K ln ft X 35 ft/yr X 20 yrs) X 0.75. The reduction efficiency was estimated by using 90% of the average wave transmission rates listed in the Rockefeller Refuge gulf Shoreline Stabilization Feasibility Study produced by Shiner Mosely and Associates (Table 6, page 4-19, methodology of Seabrook and Hall, 1998). Estimates for excavation are as follows; at the -5' contour, an additional 4' of material will be moved at a width of 80', for the 25,000 linear feet of the project or 8,000,000 cubic yards will be placed behind the rock structure.

- 2. Approximately 300 to 350 net acres would be protected/created (TY20 FWP-FWOP) over the 20 year project life. The project would protect approximately 300 acres of marsh and barrier shoreline from erosion and create up to 10 acres from beneficial placement of dredged material (10 acres x 75% shoreline erosion reduction efficiency).
- Loss rate reduction anticipated in area of direct benefit? >75%, The reduction efficiency was estimated by using 90% of the average wave transmission rates listed in the Rockefeller Refuge gulf Shoreline Stabilization Feasibility Study produced by Shiner Mosely and Associates (Table 6, page 4-19, methodology of Seabrook and Hall, 1998).
- 4. The project would protect and maintain chenier and beach function.
- 5. The project would have a net positive impact on non-critical infrastructure. This project would protect five existing pipelines that come ashore within the project area from continued erosion of the cover, which when uncovered, become a public and environmental hazard. This project would also protect properly plugged, land-based wellheads from erosion of the cover, thus becoming a public and environmental hazard.
- 6. This project provides a high degree of synergy with PPL 10 Rockefeller Shoreline Project in protecting critical habitat and ridge (chenier) function.

Identification of Potential Issues

There are potential issues with pipelines and maintenance. Planned maintenance would consist of adding armor stone for a final elevation crest height of 6 feet above the Gulf floor after settlement is expected to lower the crest elevation by 1.75 feet within several months of initial construction (Shiner Mosely and Associates, March 2003).

Preliminary Construction Costs

The preliminary fully funded cost is over \$50 million. The lump sum construction (including advanced maintenance for initial settlement) is approximately \$28.4 million including 25% contingency.

Preparer of Fact Sheet

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PPL14 PROJECT NOMINEE FACT SHEET March 1, 2004

CS-16-1 Holly Beach Breakwaters West Extension

Coast 2050 Strategy

<u>Coastwide</u>: Maintain, Protect, or Restore Ridge Functions; Maintenance of Gulf, Bay, and Lake Shoreline Integrity.

Regional: 18. Stabilize Gulf of Mexico shoreline from Calcasieu Pass to Johnson's Bayou.

Project Location

Region 4, Calcasieu-Sabine Basin, Cameron Parish, Martin Beach Ship Canal Shore Mapping Unit, Extension of Holly Beach Breakwater Project (CS-1)west to Long Beach (Parish Road 530).

Problem

The project will be designed to reduce erosion of the Gulf Shoreline west of the Holly Beach Breakwater project, and incidentally protecting State Hwy 82 and the marsh system behind it. While total marsh loss from 1932 to 1990, was only 1,200 acres out of 6,720 acres (17.9%); construction of the segmented breakwater system between 1991 and 1994 may have accelerated this rate. Coast 2050 Land loss data from 1983 – 1990 gives an approximate land loss rate of 0.65% per year, or 12.9% over 20 years. However, longshore sediment transport to this area has all but completely diminished, with the Holly Beach Breakwater project unintentionally starving this area, allowing wave energies to exact a far greater erosive toll on this area. Landowners claim approximately 40 ft of loss per year over the past two years. The work group concluded that a 25 ft/year land loss rate would be used. This rate was derived by taking into account the difference in the present and historical conditions, and the fact that studies have shown areas in the shadow of breakwaters seem to equilibrate, relative to land loss and sediment transport, after a couple of years (i.e. 40ft/year should decrease).

Proposed Project Features

The project proposes approximately 6600 linear feet (1.25 miles) of breakwaters continuing on from the Holly Beach Breakwater Project (CS- 01). Breakwaters will be designed on the CS-01 template, using all the lessons learned from the Holly Beach Breakwater Enhancement and Sand Management Project (CS-31). Approximately 16 round rubble breakwaters (ranging from 150 - 170 ft with 250 - 300 ft gaps), placed 300 - 700 feet offshore and built to 3.8 ft NGVD. The breakwaters will be designed with a 10 ft crest and 3:1 side slopes. In addition, 70cy/ft of beach nourishment will be included in the project.

Goals

1.) Reduce Gulf shoreline retreat and restore Chenier barrier shoreline 2.) Protect State Hwy 82 (Hurricane Evacuation Route) 3.)Protect Marsh habitat threatened by encroaching gulf.

Preliminary Project Benefits

The project is designed to reduce wave energies on the gulf shoreline west of the Holly Beach Breakwater field, and trap any sediment from the Holly Beach Breakwater Enhancement and Sand Management Project (CS-31). The proposed project features, breakwaters and beach nourishment, intend to reduce the coastline erosion rate by 50% over the projects life

Identification of Potential Issues

The proposed project has the following potential issues: All of the land owners are behind the project; there are no oyster issues; and no real pipeline or utilities issues.

Preliminary Construction Costs

The estimated fully funded cost range is \$15 million to \$20 million. The estimated construction cost is \$11,846,000, which includes a 25% contingency.

Preparers of Fact Sheet

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