

Region 3 - TERREBONNE BASIN

Project Number	Project Proposals	Presenter
R3-TE-01	Lost Lake Shoreline Protection and Hydrologic Restoration Project (COMBINED with R3-TE-06)	Kevin Roy, USFWS
R3-TE-02	East Island Dune and Marsh Restoration Project	Tim Landers, EPA
R3-TE-03	Bay Raccourci Marsh Creation and Terracing Project	Robert Dubois, USFWS
R3-TE-04	Lake Boudreaux-Lake Quitman Shoreline Protection and Marsh Creation Project	Robert Dubois, USFWS
R3-TE-05	Terrebonne Bay Shoreline Protection/Marsh Creation Comprehensive Plan Project	Robert Dubois, USFWS
R3-TE-06	Carenero Bayou Freshwater Introduction Project (COMBINED with R3-TE-01)	Leslie Suazo, Terrebonne Parish Representative
R3-TE-07	West Raccoon Island Shoal Enhancement and Protection Project	Loland Broussard, NRCS
R3-TE-08	Bayou Terrebonne Freshwater Diversion Project	Todd Baker, LDWF
R3-TE-09	Coastal Bay Sediment Trapping Project	Ron Boustany, NRCS
R3-TE-10	North Catfish Lake Shoreline Protection Project	Ron Boustany, NRCS
R3-TE-11	Northwest Lake Decade Marsh Creation Project WITHDRAWN BY AGENCY)	Ron Boustany, NRCS
R3-TE-12	Central Terrebonne Freshwater Enhancement Project	Ron Boustany, NRCS
R3-TE-13	Ashland Freshwater Introduction and Wetland Assimilation Project	Ron Boustany, NRCS
R3-TE-14	Lake Mechant Southwest Shoreline Protection and Bayou du Large Ridge Protection Project	Travis Creel, USACE
R3-TE-15	Lake Decade Marsh Creation and Nourishment Project	Patrick Williams, NOAA

Region 3 - ATCHAFALAYA BASIN

Project Number	Project Proposals	Presenter
R3-AT-01	Point Chevreuil Shoreline Protection Project	Charles Stemmans, NRCS

Region 3 - TECHE-VERMILION BASIN

Project Number	Project Proposals	Presenter
R3-TV-01	Northwest Vermilion Bay Vegetative Planting and Maintenance Project	John Foret, NOAA
R3-TV-02	State Wildlife Chenier and Marsh Creation Project	John Foret, NOAA
R3-TV-03	Vermilion River Dedicated Dredging Project	John Foret, NOAA
R3-TV-04	Southwest Point Bank Stabilization and Marsh Creation Project	Sherrill Sagrera, Vermilion Parish
R3-TV-05	Oyster Reef Development for Shoreline Protection at Cheniere Au Tigre Project	Sherrill Sagrera, Vermilion Parish
R3-TV-06	Marone Point Shoreline Protection Project	Loland Broussard, NRCS
R3-TV-07	North Marsh Island Shoreline Protection Project	Ron Boustany, NRCS

Region 3 - TERREBONNE BASIN

PPL18 PROJECT NOMINEE FACT SHEET
February 20, 2008

Project Name

Lost Lake Shoreline Protection 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

Coastwide Strategy – Maintenance of Bay and Lake Shoreline Integrity

Project Location

Region 3, Terrebonne Parish, southwestern Terrebonne Basin from Lake Pagie to the western side of Lost Lake

Problem

Shoreline erosion around Lost Lake threatens fragile interior marsh as the lake rim erodes and breaches form creating greater tidal connectivity. Northeast of Lost Lake, interior marsh breakup has resulted in large, interior ponds where wind/wave energy may result in more erosion. Significant marsh loss has occurred between Lake Pagie and Bayou DeCade to the point that little structural framework remains separating those two waterbodies. 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

- 1) Reduce shoreline erosion around Lost Lake and protect the lake rim integrity.
- 2) Address interior marsh loss with terraces to prevent future breakup from wave erosion.
- 3) Prevent the coalescence of Bayou DeCade and Lake Pagie and extend the landbridge function of the North Lake Mechant Landbridge Project.
- 4) Increase fresh water and sediment delivery to marshes west of Lost Lake.

Proposed Project Features

The proposed project consists of several features to protect marsh, create marsh and extend the landbridge function of the North Lake Mechant Landbridge Project to the west. Marshes north, east, and west of Lost Lake serve an important function as an intermediate zone buffering fresh marshes to the north from the higher salinities found to the south. Features include:

- 1) Marsh nourishment (160 acres) along the northern and western Lost Lake shoreline to protect the structural integrity of the lake rim. This feature will complement vegetative plantings (50,000 to 60,000 lf) funded by the USFWS through a congressional appropriation.
- 2) Terracing (approximately 56,000 linear feet or 30 acres) to reduce fetch in deteriorated marsh northeast of Lost Lake.
- 3) Marsh creation (300 acres) between Lake Pagie and Bayou DeCade to prevent the coalescence of those two waterbodies and restore/protect some key features of structural framework (i.e., lake rim and bayou bank) in the area. This feature will compliment features to be built under the North Lake Mechant Landbridge Project.

4) At certain times of the year, Carencro Bayou is an excellent source of fresh water and sediments from the Atchafalaya River/Four League Bay system. However, delivery of that water into the marshes west of Lost Lake is limited by a series of fixed-crest weirs which limit water exchange. An opportunity exists to increase freshwater and sediment delivery by removing some of the fixed-crest weirs and installing more open structures.

Preliminary Project Benefits

1) The total acreage benefited directly would be 490 acres (460 acres of marsh creation/nourishment and 30 acres of terraces). Indirect benefits would occur over approximately 5,000 additional acres of marsh as a result of reduced fetch and increased fresh water and sediment delivery.

2) The total net acres protected/created over the project life would be between 400-500 acres.

3) Background loss rates would be reduced by 50% in the marsh creation and marsh nourishment areas. Marsh loss in the area west of Lost Lake would be reduced with increased fresh water and nutrients. The assumed reduction in marsh loss in that area is approximately 20%. Overall, the reduction in marsh loss across the project area would be in the range of 25% to 50%.

4) The project would help maintain the Lost Lake shoreline which is a structural component of the coastal ecosystem.

5) The project would not protect any significant infrastructure.

6) The project would provide a synergistic effect with the North Lake Mechant Landbridge Restoration Project located to the east. The concept of protecting this important landbridge would be extended to the west with this project. Other CWPPRA projects which protect marsh in this important area include the Brady Canal Hydrologic Restoration Project and the Penchant Basin Natural Resources Plan. This project would work synergistically with those projects to protect marsh in this portion of the western Terrebonne Basin.

Identification of Potential Issues

At this time, no significant issues have been identified for this project. Lost Lake contains no oyster leases and maintenance costs for the project would be low.

Preliminary Construction Costs

The construction cost including 25% contingency is approximately \$21,850,000.

Preparer of Fact Sheet

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PPL18 PROJECT NOMINEE FACT SHEET

February 20, 2008

Project Name: East Island Dune and Marsh Restoration

Coast 2050 Strategy: Coastwide Common Strategies-Dedicated Dredging to Create, Restore, or Protect Wetlands; Vegetative Planting; Utilize Offshore Sand and Sediment Resources.

Regional Ecosystem Strategies- Restore and sustain marshes- #8. Dedicated delivery and/or beneficial use of sediment for marsh building by any feasible means; Restore barrier islands and Gulf shorelines-#14. Restore and maintain the barrier islands and gulf shoreline such as Isles Dernieres, Timbalier barrier island chains, Marsh Island, Point au Fer and Cheniere Au Tigre. Isles Dernieres Shorelines Mapping Unit Strategies- #33. Protect bay/gulf shorelines.

Project Location: Coast 2050 Region 3, Terrebonne Basin, Terrebonne Parish, Terrebonne mapping unit, located approximately 38 miles south of Houma, LA.

Problem: Barrier islands are the first line of defense against storm surge and protect the interior wetlands and infrastructure from open ocean wave effects. They ensure the estuaries behind them are low energy environments capable of supporting wetlands and emerging deltas. East/Trinity Island is part of the Isles Dernieres barrier island chain, one of the most rapidly deteriorating barrier shorelines in the U.S. Previous restorations did not provide for extensive beach and back barrier marsh platforms inhibiting a sustainable landward migration. This easternmost project area encounters considerable wave action and material movement not only on the Gulf shore, but also on the backside of the island.

Goals:

- 1) provide a backbarrier platform to enable sustainable and successful island migration
- 2) extend the life of this barrier island by increasing its width
- 3) create about 272 acres of intertidal marsh using new dredged material and vegetative plantings
- 4) fortify/protect the platform and marsh by creating 20 acres of dune, 10 acres of supratidal habitat
- 5) protect Terrebonne estuary and vegetated wetlands against direct exposure to the Gulf of Mexico
- 6) add sand to this sand-starved barrier island system

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

Preliminary Project Benefits: This project directly and indirectly benefits about 302 acres of barrier island habitat. Approximately 180 acres of barrier island habitat would be created/protected over the 20-year project life. The anticipated loss rate reduction throughout the area of direct benefits over the project life is estimated to be 25-49%. The project will maintain and restore structural components of the coastal ecosystem (barrier island). This project will provide a synergistic effect on previously constructed CWPPRA projects (TE-20, TE-24, and TE-37) and other restoration projects on the Isles Dernieres.

Identification of Potential Issues: Endangered species coordination.

Preliminary Construction Costs: (including + 25% contingency) \$ 19 million

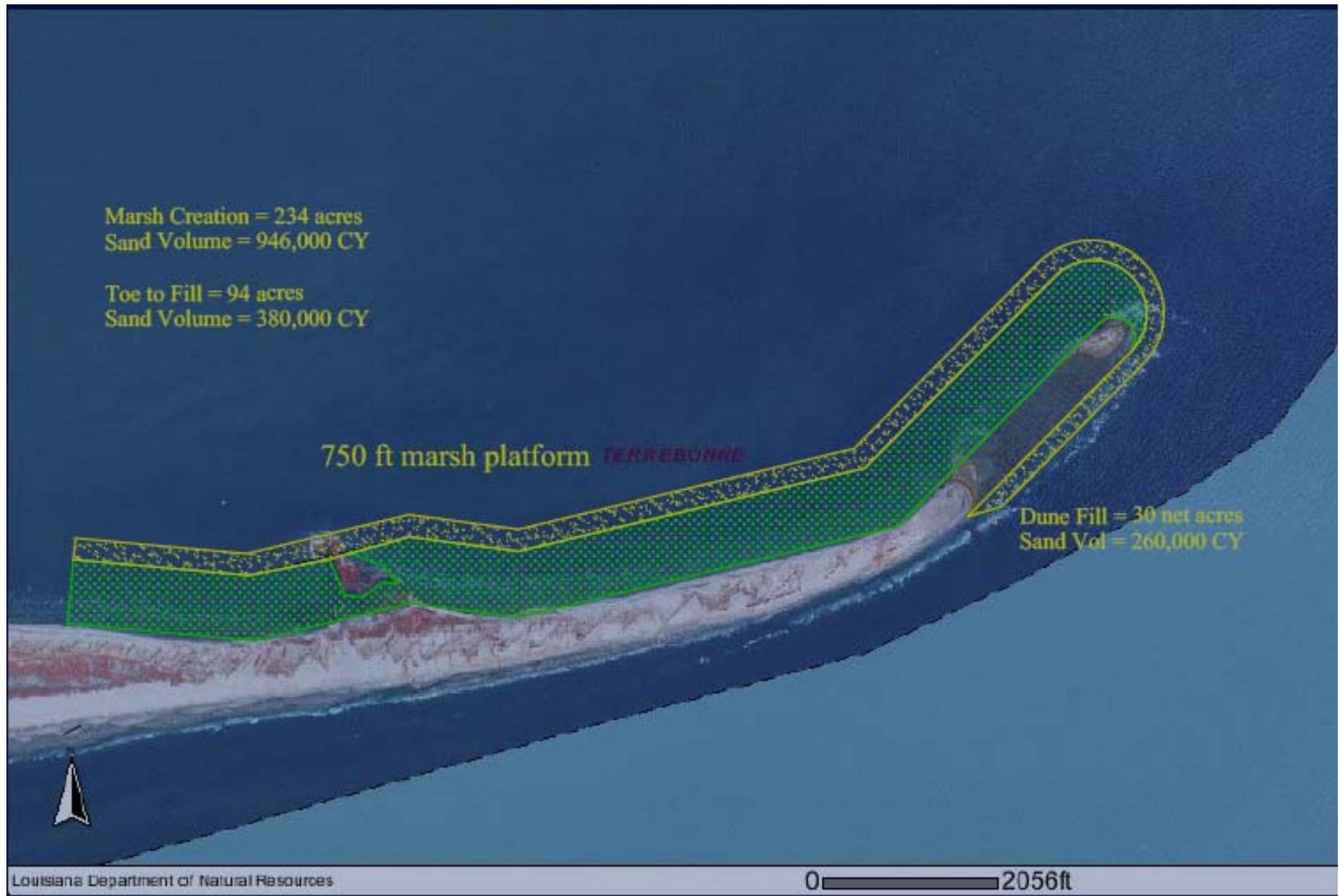
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East Island Dune and Marsh Restoration



PPL18 PROJECT NOMINEE FACT SHEET
February 20, 2008

Project Name:

Bay Raccourci Marsh Creation and Terracing Project

Coast 2050 Strategy:

Region III Strategy #8- Dedicated delivery of sediment for marsh building by an feasible means
Coastwide Strategy: Maintain bay and shoreline integrity; Vegetative plantings; Terracing
Strategic Goal #2: Maintain estuarine gradient to achieve diversity

Project Location:

Region III, Mechant/de Cade Basin, Terrebonne Parish. This project is located south of Lake Decade, east of Bayou de Cade, and northeast of Bay Raccourci.

Problem:

High saline waters enter the marshes north of Bay Raccourci during the summer and fall months of the year. These salinity spikes have converted the historic intermediate marshes in the project area to low salinity brackish marshes. These salinity spikes have stressed the intermediate marshes and which have accelerated interior marsh loss. As the marsh has converted to open water increased fetch is now also accelerating interior marsh loss.

Goals :

- 1) Create and nourish approximately 150 acres of intermediate/low brackish marsh.
- 2) Restore approximately 10,000 linear feet of Bay Raccourci shoreline.
- 3) Create approximately 150,000 linear feet of terraces which would create approximately 100 acres of marsh. These terraces would reduce wind fetch and interior marsh erosion and would also convert low productive open turbid waters into highly productive SAV habitat for fisheries and wildlife.

Proposed Solutions:

This project would restore approximately 10,000 linear feet of the eastern shoreline of Bay Raccourci and create/restore approximately 150 acres of marsh along that bank. This would help reduce spikes of high saline water from Lake Mechant entering into the interior marshes north and east of Bay Raccourci and help restore the historical intermediate marshes. The project would also create a 600 acre terrace field to reduce fetch and create a habitat suitable for SAV growth.

Preliminary Project Benefits:

Approximately 1,500 acres of marsh and open water would benefit both directly and indirectly. Approximately 200 acres of marsh would be protected and/or created. The anticipated loss rate reduction throughout the area of direct benefits is estimated to be 50-74%. The Bay Raccourci shoreline would be considered a structural component of the coastal ecosystem, thus restoration of that shoreline fulfill that criteria. This project would work synergistically with the shoreline protection component of the Phase II approved Lake Decade project along with the Phase II approved North Lake Mechant project to reduce salinities within the project area.

Identification of Potential Issues:

There are no known issues associated with this project.

Preliminary Construction Costs:

Construction costs for this project are estimated to be approximately \$13,000,000.

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U.S. Fish & Wildlife Service - Louisiana Ecological Services Field Office

Bay Raccourci Marsh Creation and Terracing Project



PPL18 PROJECT NOMINEE FACT SHEET
February 20, 2008

Project Name:

Lake Boudreaux-Lake Quitman Shoreline Protection and Marsh Creation

Coast 2050 Strategy:

Regional Strategy #8; Dedicated Dredging for Wetland Creation; # 10 Maintenance of Bay and Lake Shoreline Integrity; Strategic Goal #2; Maintain estuarine gradient to achieve diversity

Project Location:

Region III, Boudreaux Basin, Terrebonne Parish, South shore of Lake Boudreaux and the northern shore of Lake Quitman

Problem:

The shorelines of Lake Boudreaux and Lake Quitman have experienced high marsh erosion rates due to wind driven waves, subsidence, and stresses to the plant community due to increased salinity from Boudreaux and Robinson Canals. This loss of emergent marsh that separates Lake Boudreaux and Lake Quitman has contributed to an increase in the amount of high saline waters entering Lake Boudreaux from Robinson Canal. This saline water has caused the marshes along the northern banks of Lake Boudreaux to convert from fresh/intermediate marshes to intermediate/brackish marshes and the cypress swamps in the upper reaches to the basin to convert to fresh and intermediate marshes.

Goals:

Stop the coalescence of Lake Boudreaux and Lake Quitman into one large lake which would significantly increase the lakes north-south fetch.

- 1) Halt shoreline erosion along 19,600 ft of the southern shoreline of Lake Boudreaux.
- 2) Create 205 acres of marsh and nourish 95 acres of marsh along the southern shoreline of Lake Boudreaux and north shore of Lake Quitman.
- 3) Restore the hydrologic function of the historical landbridge between Lake Boudreaux and Lake Quitman.

Proposed Solutions:

Construct 19,600 LF of hard shoreline protection along the southern shoreline of Lake Boudreaux and northern shoreline of Lake Quitman. Concrete matting or Gabion Mats could be used to further promote oyster growth near the shoreline. There would be some minimal maintenance needed on the concrete matting material. Behind the shoreline protection marsh would be created through the deposition of hydraulically dredged material from Lake Boudreaux.

Preliminary Project Benefits:

The restoration of the Lake Quitman and Lake Boudreaux shorelines should help in the lowering and/or stabilizing of salinities within Lake Boudreaux. Low salinity marshes north of Lake Boudreaux should benefit from a reduction in water exchange between Lake Boudreaux and high saline water via Robinson Canal. Total direct benefits from this project include shoreline protection of over 300 acres of existing and/or newly created marsh. This project would also indirectly protect portions of Hwy 56 and oil and gas infrastructure. Also, this project should work synergistically with the West Lake Boudreaux (TE-46), North Lake Boudreaux (TE-32),

and several shoreline protection project by DNR on the northeast shore of Lake Boudreaux. Loss rates in the area of direct benefits would be reduced by 75% throughout the project life.

Identification of Potential Issues:

There are no potential issues associated with this project.

Preliminary Construction Costs:

Lump sum construction costs are estimated at \$12,600,000

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LAKE BOUDREAUX-LAKE QUITMAN SHORELINE PROTECTION AND MARSH CREATION



PPL17 PROJECT NOMINEE FACT SHEET
February 20, 2008

Project Name:

Terrebonne Bay Shoreline Protection/Marsh Creation Comprehensive Plan

Coast 2050 Strategy:

Coastwide Strategy: Maintenance of Bay and Lake Shoreline Integrity

Region 3 Strategy #11- Maintain shoreline integrity of marshes adjacent to Caillou, Terrebonne, and Timbalier Bays, #8- Dedicated delivery of sediment for marsh building by any feasible means.

Project Location:

Region 3, Terrebonne Basin, Terrebonne Parish. Beginning on the southern most contiguous point along the east bank of Bayou Terrebonne, continuing east along the northern shoreline of Terrebonne Bay and ending at Bayou Chitique.

Problem:

Shoreline erosion on the northern banks of Terrebonne Bay has been calculated to be between 1 and 85 ft/yr. This rapid loss of land has dramatically increased the tidal prism north of the bay and directly contributes to the ongoing flooding problems of many communities along Bayou Terrebonne including the town of Montegut.

Goals:

- 1) Halt shoreline erosion
- 2) Create marsh that would help reduce water exchange between Terrebonne Bay and interior lakes during normal tidal events and small storm events.

Proposed Solutions:

A floatation channel would be dredged parallel to northern most reaches of Terrebonne Bay and material dredged from that floatation channel would be used to create an earthen dike. In areas that will have marsh creation behind the earthen dike it would be built to height suitable for a containment dike, at other areas the dike would be built to a height of 3.5 foot. Because of the anticipated poor quality of the soils in the Terrebonne Bay area which may not support large quantities of weight such as rock, that dike would be protected by a series of concrete mats. The concrete mats would be anchored on both back (marsh side) and front sides (bay side). The dike would have a crown width of 5 feet and a 1 on 3 side slope. This could be one part of a phased in comprehensive plan to protect the northern shoreline of Terrebonne Bay from further erosion. This would also work synergistically with the Terrebonne Bay Demonstration Project and any future freshwater introductions that have been suggested north of Terrebonne Bay.

Preliminary Project Benefits:

- 1) Using 1978 and 2005 DOQQ maps, erosion rates within the project area range from 1 to 85 ft/yr, with an average erosion rate being at least 25 ft/yr. This project would directly benefit approximately 277 acres of emergent brackish marsh within the 20 year project life through a reduction in shoreline erosion. Creation of 135 acres of marsh would also be a direct benefit to this project. An additional 300 acres of marsh would be of indirect benefits could be realized through a reduction in wind induced waves in the interior marsh ponds.

2) If the proposed project were to be constructed the loss rate would be expected to be reduced over 75% throughout the area of direct benefits over the project life.

3) This project would help maintain the Terrebonne Bay shoreline as well as many other small lakes and marsh ponds. If this becomes part of a comprehensive plan it could help reduce some of the flooding problems in the Montegut area associated with prolonged southern winds and small storms.

Identification of Potential Issues:

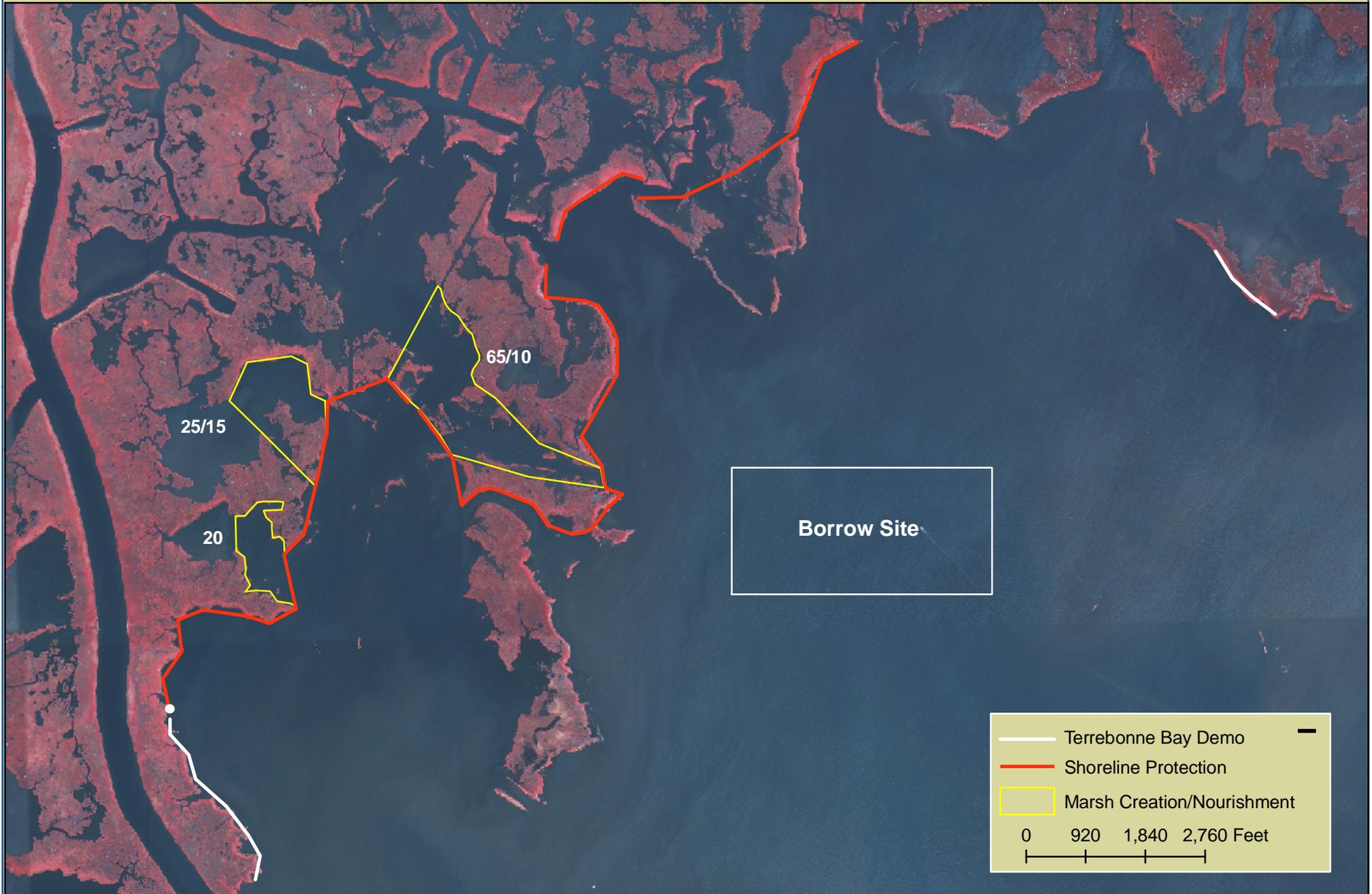
Pipeline and oyster leases are potential issues with this project.

Preliminary Construction Costs:

The construction cost is approximately \$16,000,000.

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Carencro Bayou Freshwater Introduction Project

Coast 2050 Strategies

- Increase transfer of Atchafalaya Water to lower Penchant Basin tidal marshes
- Lower water levels in upper Penchant Basin marshes

Project Location:

Region 3, Terrebonne Basin, Terrebonne Parish, Penchant Basin

Problem:

The continued subsidence and loss of tidal marshes and ridges which form the southern boundary of the upper Penchant Basin freshwater floating marshes will result in a substantial risk to survival of those floating marshes due to increased tidal action, saltwater intrusion and storm damage. Increasing the seasonal supply of freshwater to invigorate those marshes is part of the strategy for maintaining that critically important ecosystem feature (in combination with the North Lake Mechant Landbridge Project, Brady Canal Project, and the Penchant Basin Project).

Goals:

1. Reduce loss of rapidly deteriorating tidal marshes in area between Lost Lake and Lake Mechant.

Proposed Solution:

Discharge additional freshwater into Little Carencro Bayou from oil-field canal system extending southward from Bayou Penchant. This could be achieved by construction of the following features.

1. Bucket dredge dead-end canal 1,450 feet southward to connect to dead-end section of Little Carencro Bayou.
2. Install a gated water control at the north end of the Little Carencro Bayou dead end to preclude saltwater intrusion into oil-field canal system to the north.
3. Clean-out mud and debris in dead-end section of Little Carencro Bayou .
4. Repair spoil bank breaches along oil-field canals and Little Carencro Bayou to improve delivery of freshwater to intended tidal marshes and to prevent floating marsh "blow-outs."

This project is a conceptual project, and further field work is needed to assess the number and nature of project features, and to more fully coordinate among all involved landowners.

Preliminary Project Benefits:

- 1) *What is the total acreage benefited both directly and indirectly?* - Undetermined
- 2) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life (<25%, 25-49%, 50-74%, and >75%)?* Undetermined
- 3) *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, chenieres, etc?* This project would conserve rapidly deteriorating marsh

which has replaced the hydrologic barrier function once provided by the subsided Mauvois Bois Ridge (which once separated the floating freshwater marshes from the tidal marshes to the south).

- 4) *What is the net impact of the project on critical and non-critical infrastructure?*
The project would help to protect mineral exploration facilities in the area.
- 5) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* The proposed project would have a synergistic benefit with the authorized North Lake Mechant Landbridge Project, the Penchant Basin Plan Project, and the constructed Brady Canal Project.

Identification of Potential Issues

- Maintenance of canal spoil banks.
- Feasibility of water control structure installation due to soil conditions.
- Addressing all landowner issues

Preliminary Construction Costs

Undetermined

Preparer of Fact Sheet

Ronny Paille USFWS

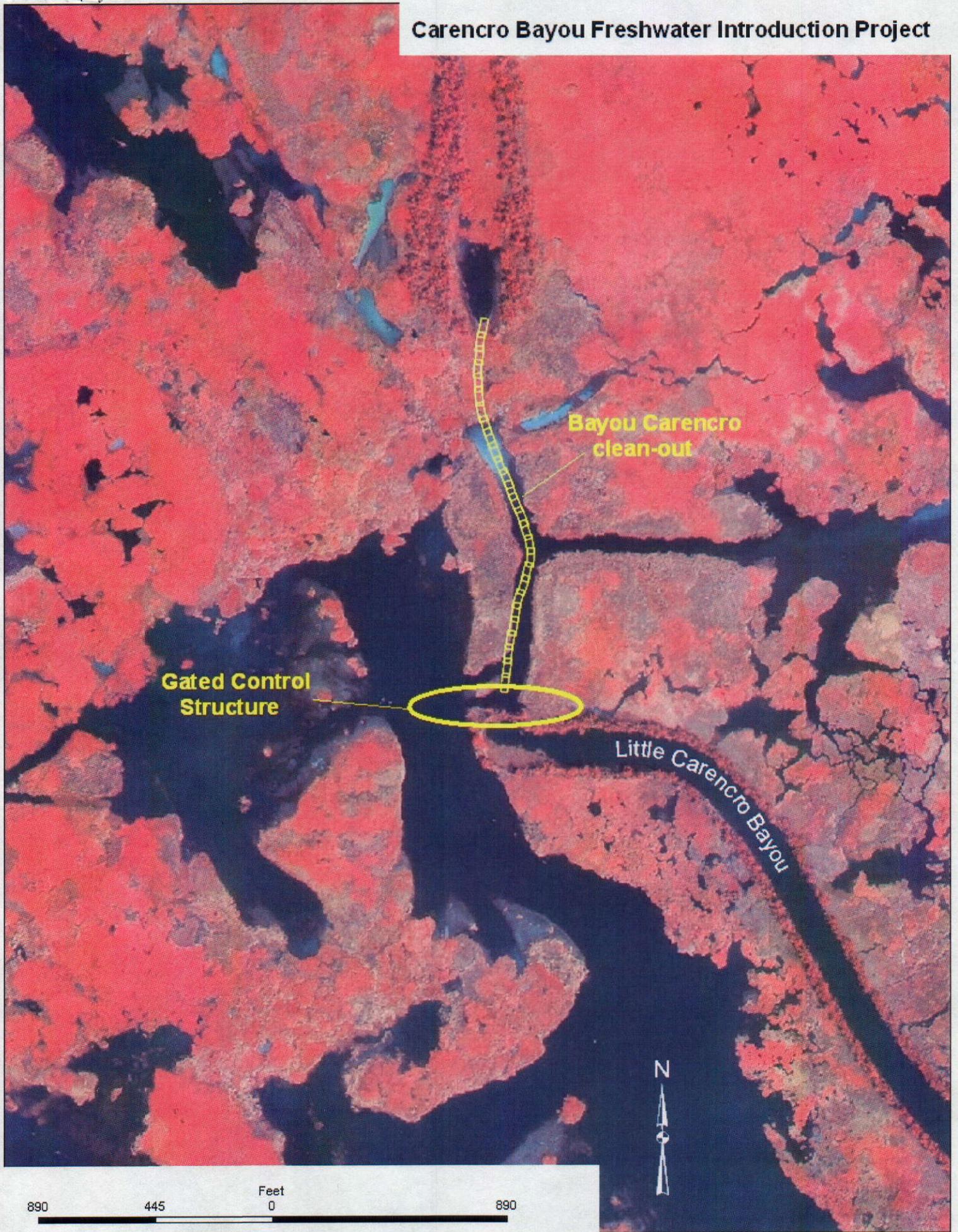
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Carencro Bayou Freshwater Introduction Project



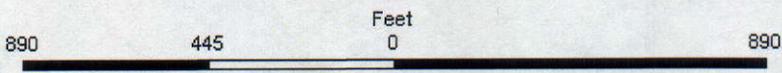
Carencro Bayou Freshwater Introduction Project



Gated Control Structure

Bayou Carencro clean-out

Little Carencro Bayou



PPL18 PROJECT NOMINEE FACT SHEET

February 20, 2008

R3-TE-07

Project Name:

West Raccoon Island Shoal Enhancement & Protection

Coast 2050 Strategy:

Regional: [14.] Restore and maintain barrier islands and gulf shorelines

Mapping Unit: [33.] Isles Dernieres - Protect Bay/Gulf Shorelines

Project Location:

Region III, Terrebonne Basin, Terrebonne Parish, Isle Dernieres Barrier Islands

Problem:

The Isles Dernieres barrier island chain is experiencing some of the highest rates of erosion of any coastal region in the world. The western half of Raccoon Island is currently an emergent sand shoal which, for the last several years, has become ephemeral in nature. The shoal is either completely denuded of sand (completely submerged) or severely reduced in size each time a tropical event impacts the island. This lack of sustainability prevents the establishment of woody and herbaceous vegetation from colonizing and providing protection for that part of the island. Lack of vegetation also severely limits the habitat usage of critical avian and waterfowl species which have successfully adapted to the eastern half of the island.

Goals:

The goals of the project are to provide protection, encourage the growth, and stabilize conditions on the sand shoal area of Raccoon Island.

Proposed Solutions:

Project features will include the construction of offshore, segmented rock breakwaters extending from existing breakwater #15 westward to the end of the sand shoal and the building of a terminal groin at the end of the last proposed breakwater. Vegetative plantings, both herbaceous and woody, will follow the construction of the breakwaters.

Preliminary Project Benefits:

It is anticipated that approximately 98 acres of the sand shoal will be protected and directly benefit from this project. Of that acreage, approximately 75 % (74 ac) will revert to supratidal vegetative habitat over the life of the project. An additional 31 acres of tidal and supratidal shoal area are expected to accrue between the proposed breakwaters and existing shoreline as a direct result of the segmented breakwaters. Thereby the rate of shoreline loss on the gulf side of the shoal is expected to cease along 50% of its length and reverse on the remaining 50%. The proposed project will have a significant synergistic effect on the existing Raccoon Island Shore Protection/Marsh Creation (TE-48) and Raccoon Island Demonstration (TE-29) Projects.

Identification of Potential Issues:

There are no potential issues anticipated with this proposed project.

Preliminary Construction Costs:

The anticipated construction cost, with contingency, is \$9,700,000.

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West Raccoon Island
Shoal Enhancement & Protection

Terrebonne Parish, Louisiana

CAILLOU BAY

PROPOSED BREAKWATERS

EXISTING BREAKWATERS

GULF OF MEXICO



Bayou Terrebonne Freshwater Diversion Project

Project Location:

Region 3, Terrebonne Basin, Terrebonne Parish, Pointe aux Chenes Wildlife Management Area (WMA)

Problem:

The marshes of Terrebonne Parish are rapidly deteriorating due to subsidence, lack of sediment supply, lack of freshwater supply, and saltwater intrusion. This has led to deterioration and loss of quality of fish and wildlife habitat. This loss has also made oil and gas infrastructure and the cities of Montegut, Pointe aux Chenes, and Houma more susceptible to storm events.

Goals:

1. Convert 9,050 acres of brackish and intermediate marsh to fresh marsh communities.
2. Increase diversity and abundance of submerged aquatic vegetation
3. Increase diversity and abundance of emergent vegetation
4. Create up to 450 acres of new marsh via terracing
5. Enhance wildlife and fisheries habitat
6. Enhance recreational opportunity

Proposed Solution:

There is currently a large drainage system ditch that originates at Bayou Terrebonne and runs south to pump stations located at Montegut and Pointe aux Chenes. There are pumping stations on this system located at Bayou Terrebonne and the two cities that remove rainwater from Montegut and Pointe aux Chenes.

This same drainage ditch with three minor alterations could be used to divert freshwaters from Bayou Terrebonne and place them into the Pointe aux Chenes and Montegut management units on Pointe aux Chenes WMA. This plan would need to provide the following elements to achieve the above mentioned goals.

1. Provide Terrebonne Parish with funding to operate and maintain 3 small pumping stations.
2. Remove an earthen plug between the Montegut and Pointe aux Chenes drainage systems.
3. Install a screw-gate water control device near the location of the removed plug
4. Install a water bypass structure around the pumping station located at Bayou Terrebonne.

Once constructed, the pumps located at Pointe aux Chenes and Montegut would pump water out of the drainage ditches into the impoundments. This would create a gravity feed of water off Bayou Terrebonne through the bypass structure down to each of the running pumping stations. Once the desired salinity levels were reached in the impoundments the bypass station at Bayou Terrebonne would be shut, the water levels in

the ditches would be pumped down to manageable levels, and the entire system would revert to pre-project management.

The marsh creation aspect of this project will be terraces that will be created on the South-east side of the Montegut Impoundment, and the West side of the Pointe aux Chenes Impoundment.

Preliminary Project Benefits:

- 1) *What is the total acreage benefited both directly and indirectly?* 9,050 acres of marsh and shallow water bottoms would be converted to fresh marsh communities. Within this 9,050 acres up to 450 acres of new marsh will be created by terracing.
- 2) *How many acres of wetland will be protected/created over the project life?* 9,050 acres
- 3) *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, chenieres, etc?* This project has 3 natural ridges in the project area. This project would restore historic salinities to the ridge edges and make it possible for historic stands of cypress to re-emerge.
- 4) *What is the net impact of the project on critical and non-critical infrastructure?* Several oil and gas companies have wells and lines in the project area. By reducing marsh loss rates and gaining new marsh those interests will better protected and much less likely to be exposed due to marsh loss.
- 5) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* This project would provide a synergistic effect with the goals of the Pointe aux Chenes WMA. More specifically this project would improve the goals and management efforts of the Pointe aux Chenes and Montegut water management units. These units are designed to protect the marsh within their boundaries, reduce salinities, and provide excellent wildlife habitat.

Identification of Potential Issues

There are a few pipelines that lie near the footprint of the locations dedicated for terracing. These lines will have to be identified and worked around.

An agreement will have to be worked out with Terrebonne Parish and the Louisiana Department of Wildlife and Fisheries (LDWF) concerning operation and monitoring of the project.

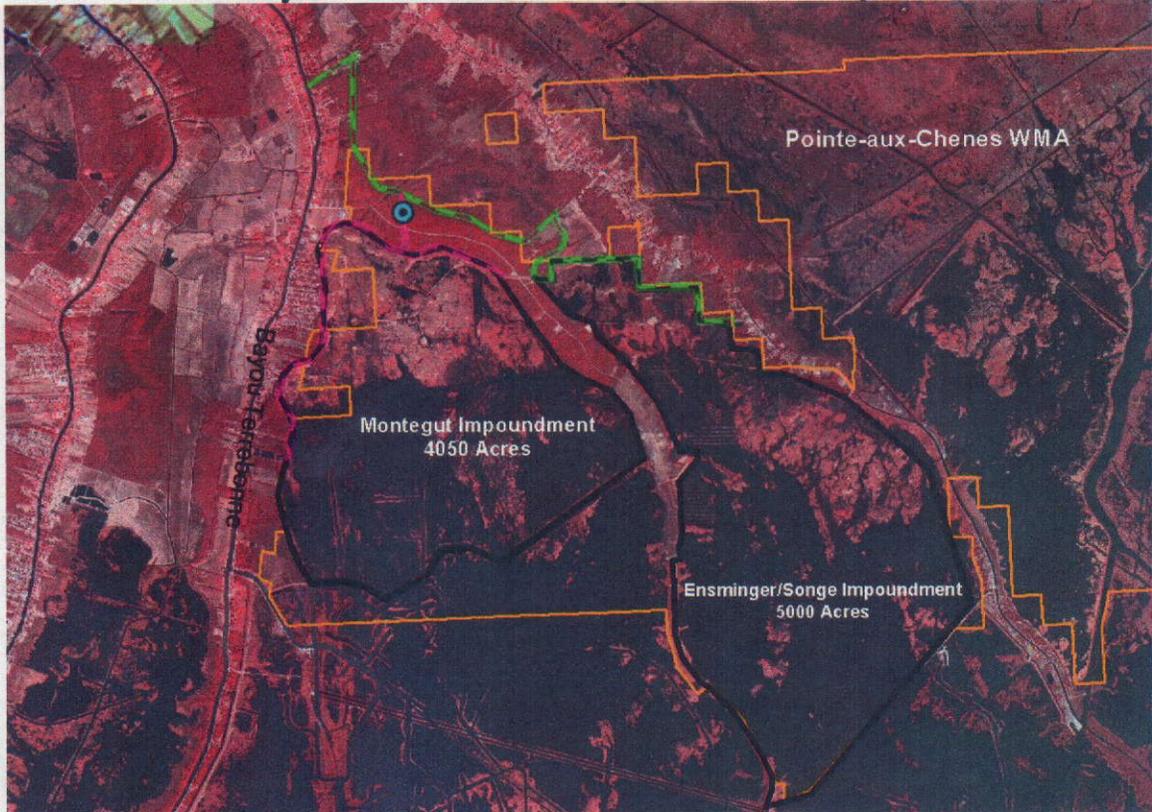
Preliminary Construction Costs

Unknown at this time

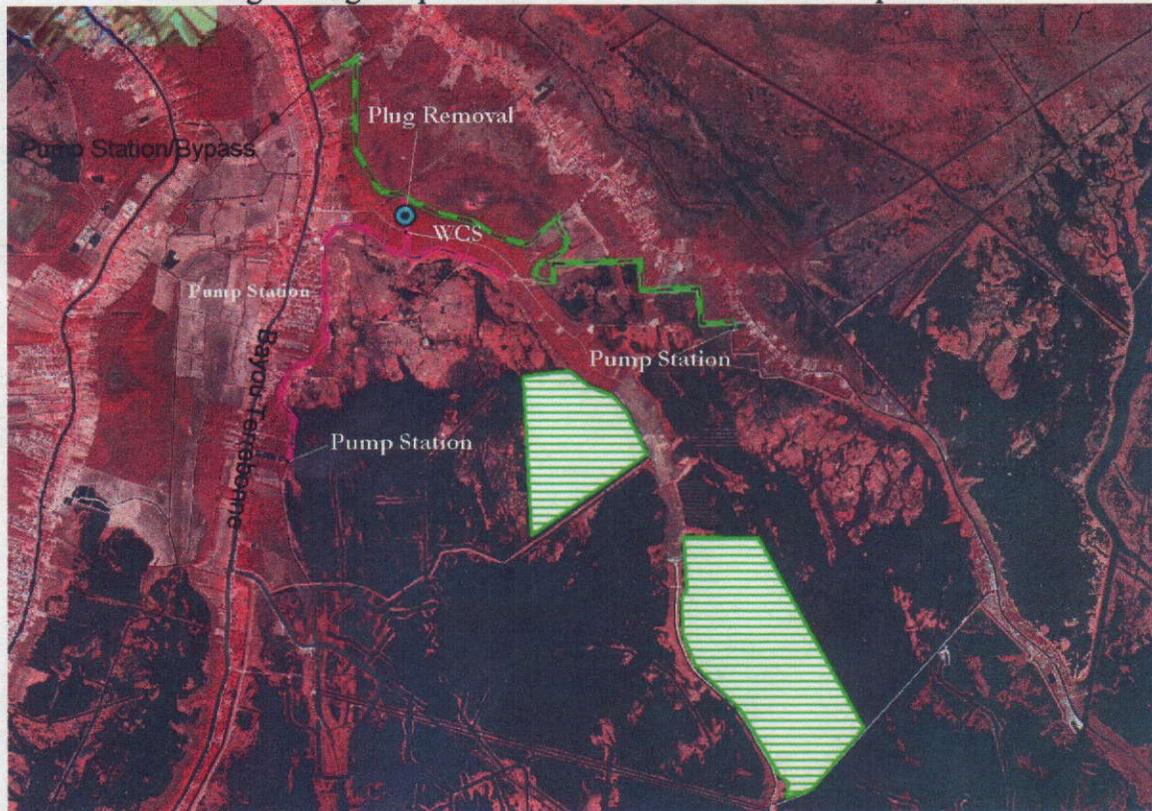
Preparer of Fact Sheet

Todd Baker, LDWF, (337) 373-0032, tbaker@wlf.louisiana.gov

Bayou Terrebonne Freshwater Diversion Project



Enslinger/Songe Impoundment = Pointe aux Chenes Impoundment



Green Polygons = Terrace Locations
Green Line = Pointe aux Chenes Drainage Ditch

Yellow Line = WMA Boundary
Pink Line = Montegut Drainage Ditch

PPL 18 PROJECT NOMINEE FACT SHEET

2/20/2008

Project Name

Coastal Bay Sediment Trapping

Coast 2050 Strategy

Region 3. Strategy 12. Restore and maintain the Isle Dernieres and Timbalier barrier island chains

Project Location

Region 3, Terrebonne Basin, Lafourche Parish

Problem

The Isles Dernieres and Timbalier barrier island chains have severely eroded. While efforts have been underway to restore what remains of the islands, the gaps between the islands continue to enlarge whereby reducing the effectiveness of the islands to provide storm protection. For example, the gaps between the Isles Dernieres and Bayou Lafourche total 14.5 miles wide, with individual island gaps as much as 6 miles wide.

Proposed Project Features

The project will construct an array of rock segments designed to trap loose sands at the gulf/bay interface.

Goals

The purpose of the project is to promote sediment trapping and retention of material in the coastal bays along the gaps of the existing barrier islands, to increase the gulf-front barrier storm protection, reduce the cross-section of the barrier island gaps, reduce the tidal prism within coastal bays, and create additional barrier island habitat.

Preliminary Project Benefits

The project will increase the cross-section of coastal barrier protection and eventually create up to 155 acres of new barrier island habitat.

Identification of Potential Issues

None identified

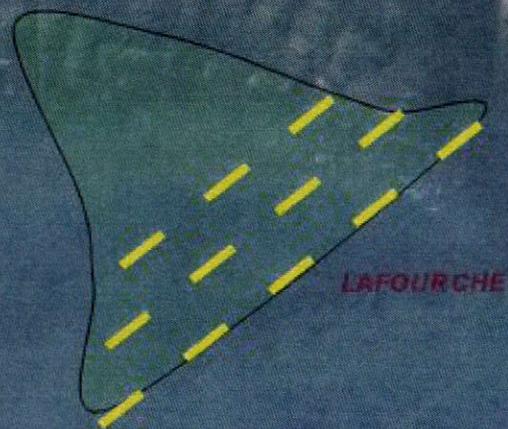
Preliminary Construction Costs

\$3 million

Preparer of Fact Sheet

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

Coastal Bay Sediment Trapping System



R3-TE-10

PPL 18 PROJECT NOMINEE FACT SHEET

2/20/2008

Project Name

North Catfish Lake Shoreline Protection

Coast 2050 Strategy

Strategy 13. Construct interior reefs to protect lake shoreline and/or for restoring hydrology.

Project Location

Region 3, Terrebonne Basin, Lafourche Parish, north shore of Catfish Lake

Problem

The north shore of Catfish Lake has experienced average shoreline erosion of 28 ft per year with some areas losing as much as 55 ft per year. Interior marsh loss has also created a large pond on the east side of the lake shoreline that threaten to breach and greatly accelerate wetland loss in the area.

Proposed Project Features

The project will construct 20,000 linear feet low reef shoreline protection along the north shore of Catfish Lake and the shoreline will be planted with smoothcord grass. Approximately 125 acres of marsh will be created through hydraulic dredge of imported material.

Goals

The project will reduce stop shoreline erosion on the northern half of the Catfish Lake and create 125 acres of marsh.

Preliminary Project Benefits

The shoreline protection will stop 27.7 ft of average annual erosion across 20,000 linear feet, which is equivalent to 12.8 acres per year or 257 acres over 20 years. 125 acres of marsh will be created for a total potential benefit of 382 acres.

Identification of Potential Issues

The proposed project has the following potential issues: oysters, land rights, O&M, utilities/pipelines.

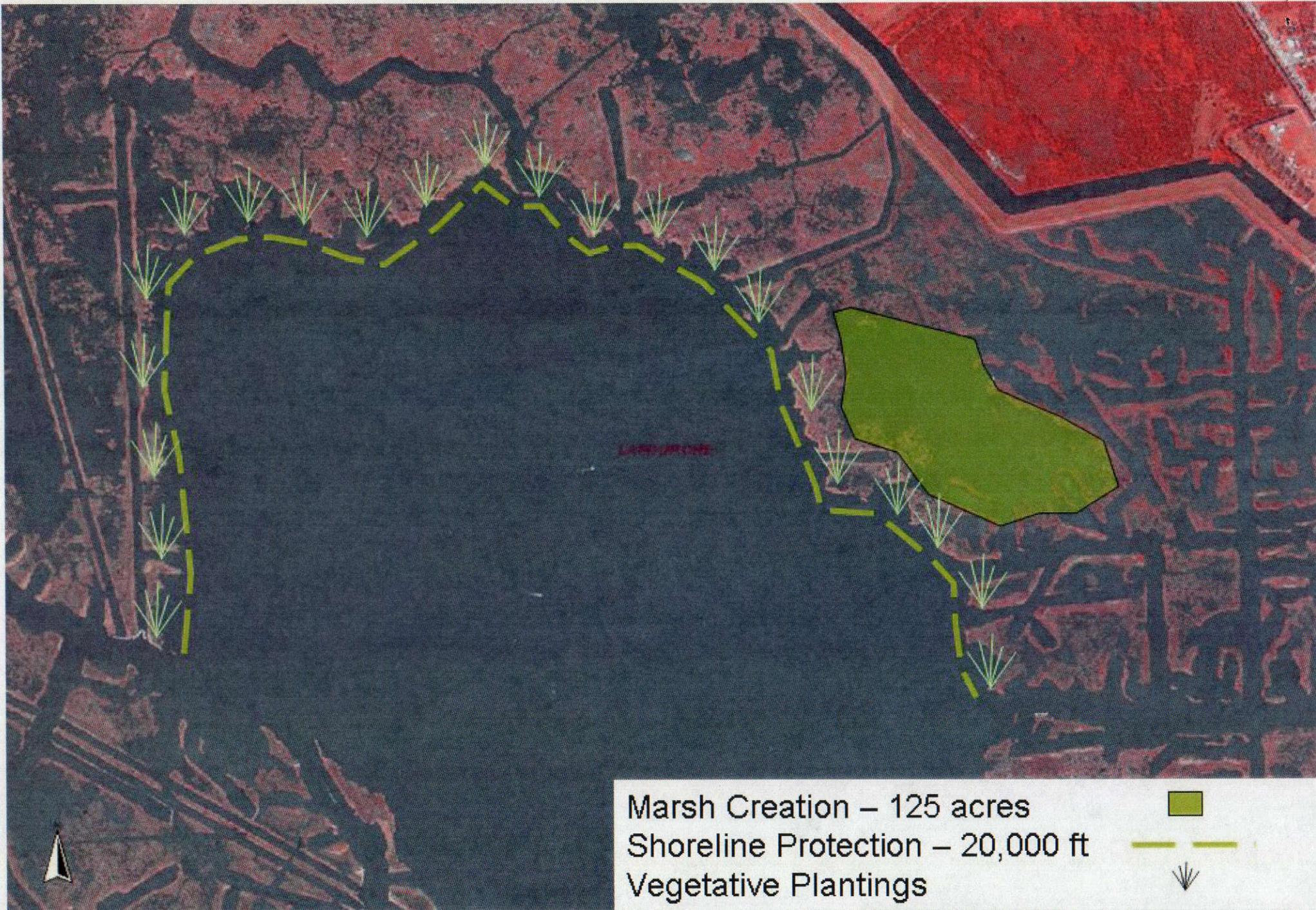
Preliminary Construction Costs

\$14 million

Preparer of Fact Sheet

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Cattfish Lake Shoreline Protection and Marsh Creation



PPL18 PROJECT NOMINEE FACT SHEET
2/20/2008

Project Name

~~Northwest Lake Decade Marsh Creation~~

Coast 2050 Strategy

Region 3, Strategy 8: Dedicated delivery of sediment for marsh building by any feasible means.

Project Location

Region 3, Terrebonne Basin, Terrebonne Parish, Lake Decade

Problem

The marshes on the periphery of Lake Decade have been deteriorating particularly on the western side of the lake. Recent hurricane activity has resulted in accelerated breakup and threatens the integrity of an already highly degraded lake shoreline.

Proposed Project Features

Project will create approximately 250 acres of marsh through dedicated dredging of materials from Lake Decade.

Goals

The goals of the project are to reestablish marsh along the north western periphery of Lake Decade and to maintain the geographic integrity of the Lake Decade shoreline.

Preliminary Project Benefits

Approximately 250 acres of marsh will be created from the project and approximately 100 acres of existing marsh will benefit from marsh nourishment.

Identification of Potential Issues

The proposed project has the following potential issues: none identified

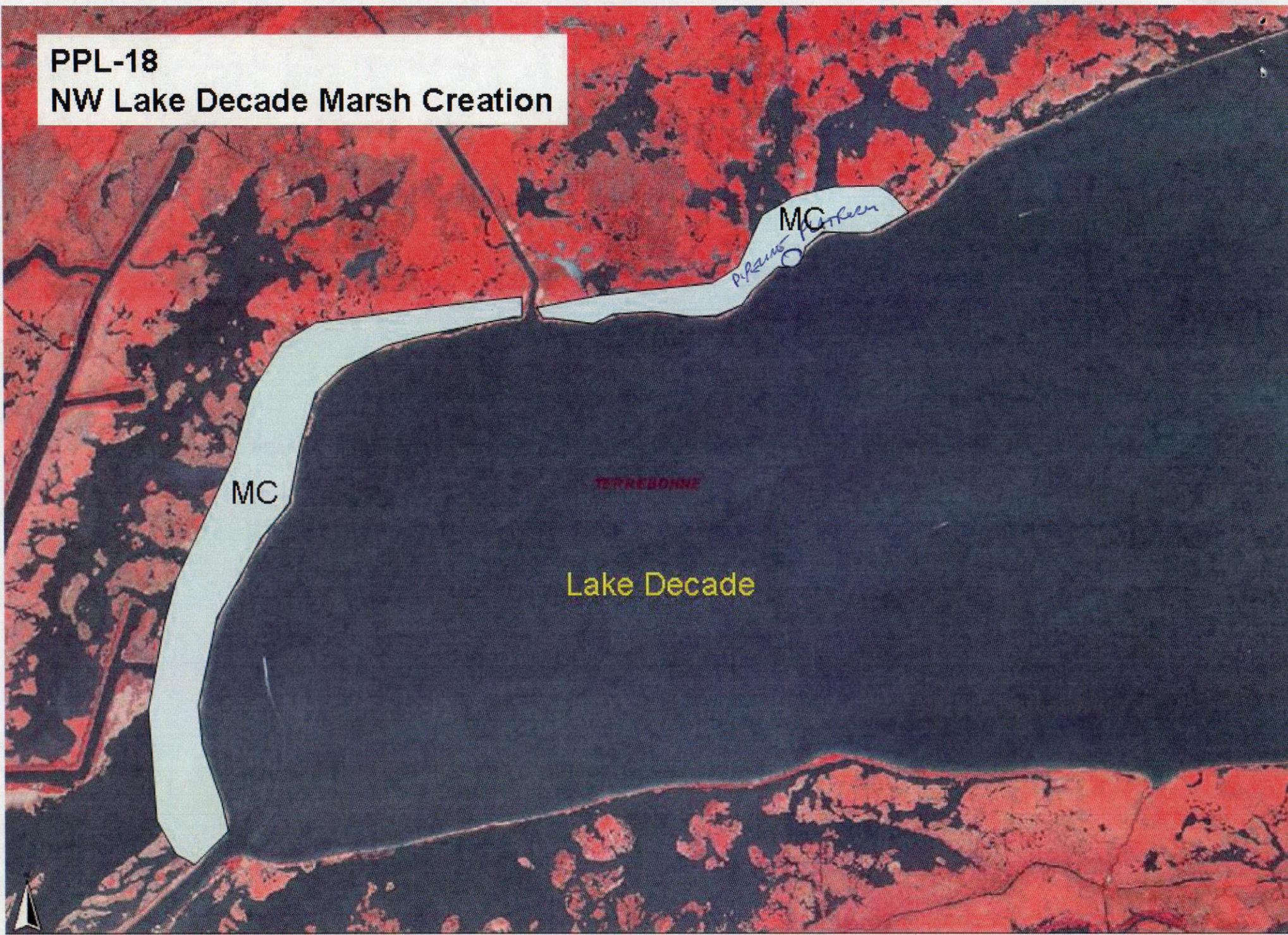
Preliminary Construction Costs

\$10.5 million

Preparer of Fact Sheet

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

PPL-18
NW Lake Decade Marsh Creation



PPL18 PROJECT NOMINEE FACT SHEET

2/20/2008

Project Name

Central Terrebonne Freshwater Enhancement Project

Coast 2050 Strategy

Region 3, Strategy 4: Enhance Atchafalaya River influence to Terrebonne marshes, excluding upper Penchant marshes.

Project Location

Region 3, Terrebonne Basin, Terrebonne Parish, Central Terrebonne marshes extending from South of Lake Decade through Lake Mechant south to Bayou Dularge Ridge.

Problem

The Bayou Delarge Ridge historically restricted the Gulf marine influence into Central Terrebonne marshes forming a diagonal restriction extending from northeast to southwest, where the Atchafalaya influence is prominent. The Grand Pass is currently a 900 ft wide artificial cut through the Bayou Delarge Ridge south of Lake Mechant. The pass is mainly used by commercial and recreational fisherman as a shortcut to the gulf and has greatly eroded to a point of approximately 36 feet deep that well exceeds optimal utility. The expansion of the pass to its current size has allowed for a substantial alteration of historic salinity and hydrology and consequently a broad area of the Central Terrebonne marshes are currently suffering some of the highest loss rates in the state.

Proposed Project Features

Structure consisting of rock barge bay would be constructed to reduce the size of the opening to 150' wide and 15' deep. The project would reestablish the historic ridge function of Bayou Dularge that separated Lake Mechant from the gulf and moderate salinities that have greatly impacted the marshes to the north of Lake Mechant. The project will also increase the Atchafalaya influence in the area by modifying the current structure located in Liners Canal north of Lake Decade and provide maintenance dredging at Minors Canal.

Goals

The project will reestablish historic hydrologic and salinity conditions by reducing the artificial intrusion of Gulf marine waters via the Grand Pass into the Central Terrebonne marshes while enhancing the influence of the Atchafalaya River waters into the area.

Preliminary Project Benefits

Preliminary analysis indicates that the project could reduce the cross-section of the pass by approximately 90%, which would have a significant effect on marine tidal transfer through Lake Mechant. The salinity reduction is expected to impact as much as 52,000 acres of wetland area. The hydrologic modifications to Liners and Minors canal are expected to increase freshwater conveyance to the region by 500-1000 cfs. The combined effect of reducing tidal flux and increasing freshwater in the area will reduce wetland loss.

Identification of Potential Issues

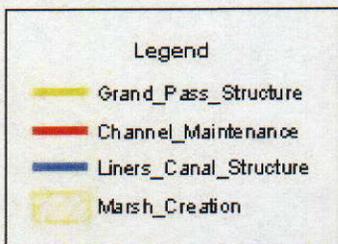
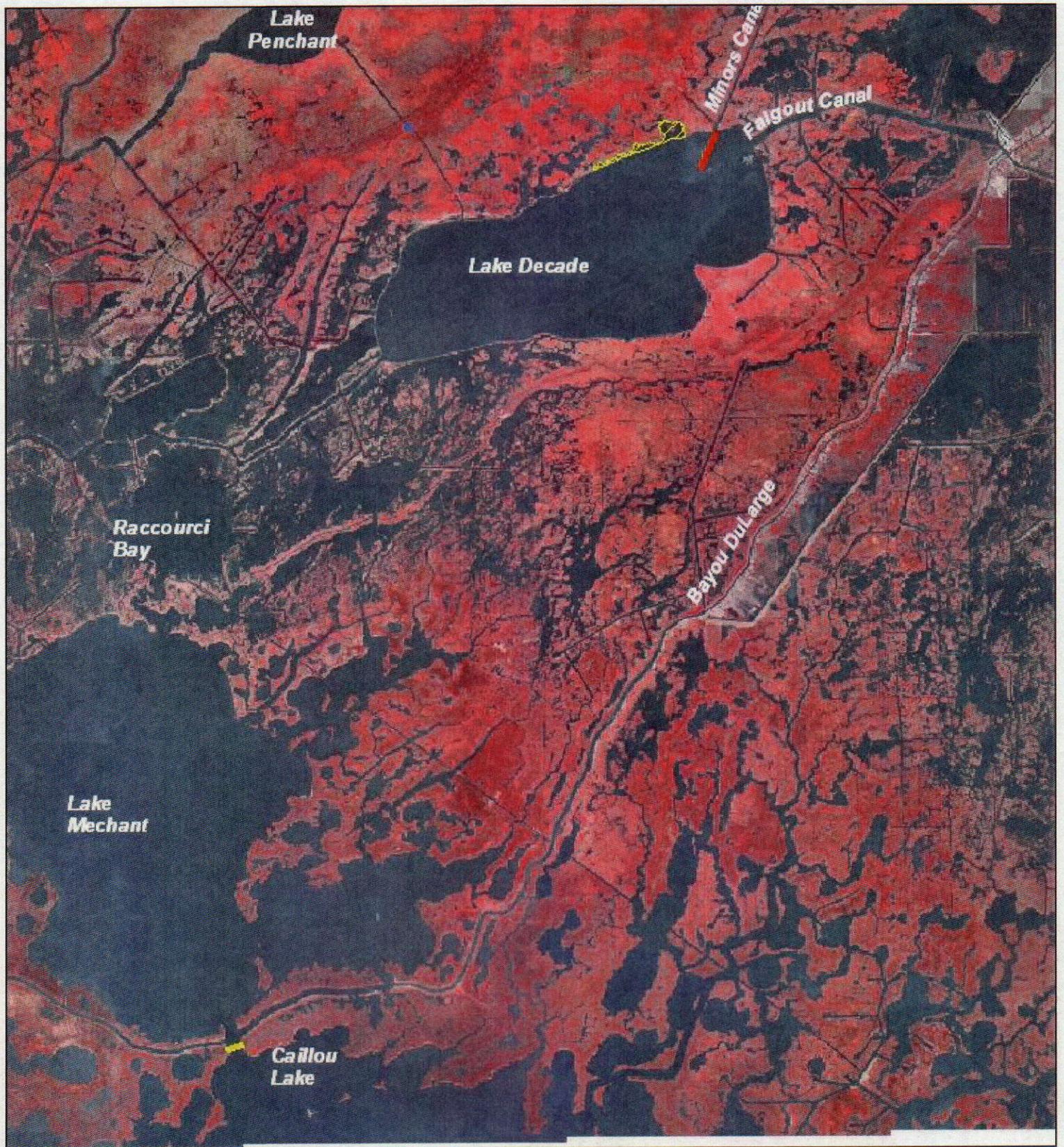
The proposed project has the following potential issues: Landrights and O&M.

Preliminary Construction Costs

\$8.5 million

Preparer of Fact Sheet

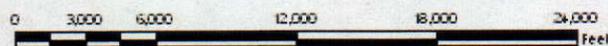
Ron Boustany, NRCS, (337) 291-3067, ron.boustany@la.usda.gov



Central Terrebonne Enhancement

Terrebonne Parish, Louisiana

PPL-18



Grand Pass Structure



Liners Canal Structure



Minors Canal Outfall Maintenance/Marsh Creation



PPL18 PROJECT NOMINEE FACT SHEET
2/20/2008

Project Name

Ashland Freshwater Introduction and Wetland Assimilation Project

Coast 2050 Strategy

Region 3, Strategy 4: Enhance Atchafalaya River influence to Terrebonne marshes, excluding upper Penchant marshes.

Project Location

Region 3, Terrebonne Basin, Terrebonne Parish, East of the Houma Navigation Canal to North Lake Boudreaux.

Problem

The marshes north of Lake Boudreaux are experiencing very high rates of loss due to subsidence and saltwater intrusion. The area is isolated from riverine influence and therefore lacks import of nutrients and sediment to maintain elevation. As the marshes to the south deteriorate, saltwater intrusion is impacting the intermediate and freshwater marshes of the upper basin. The loss of marsh in this area is not only of consequence to fish and wildlife resources but to Central Terrebonne Parish communities.

Proposed Project Features

The project will divert freshwater from the Houma Navigation Canal via the St. Louis Canal to marshes north of Lake Boudreaux and incorporate the wastewater treatment system effluent into the stream flow as a wetland assimilation component employing tertiary treatment and nutrient enhancement to marsh vegetation. The project takes advantage of preexisting canals linked to the HNC by dredging them out to improve the efficiency of freshwater flow to the marshes. Other considerations on the project are to modify force drainage pumps to increase flow from the north into the project area.

Goals

The project will reestablish riverine hydrologic connection to the North Lake Boudreaux marsh complex. The introduction of freshwater, nutrients and sediment will offset land loss in the area by stimulating plant growth and increasing mineral and organic accretion.

Preliminary Project Benefits

The project will reduce land loss in the area by reducing salinity, adding nutrients to stimulate emergent vegetation and submersed vegetation growth, and provide sediments to promote accretions/elevation maintenance. With an increase in freshwater flow to the area, it is expected the reduction in land loss will net at least 200 acres over 20 years.

Identification of Potential Issues

The proposed project has the following potential issues: Landrights

Preliminary Construction Costs

\$5 million

Preparer of Fact Sheet

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

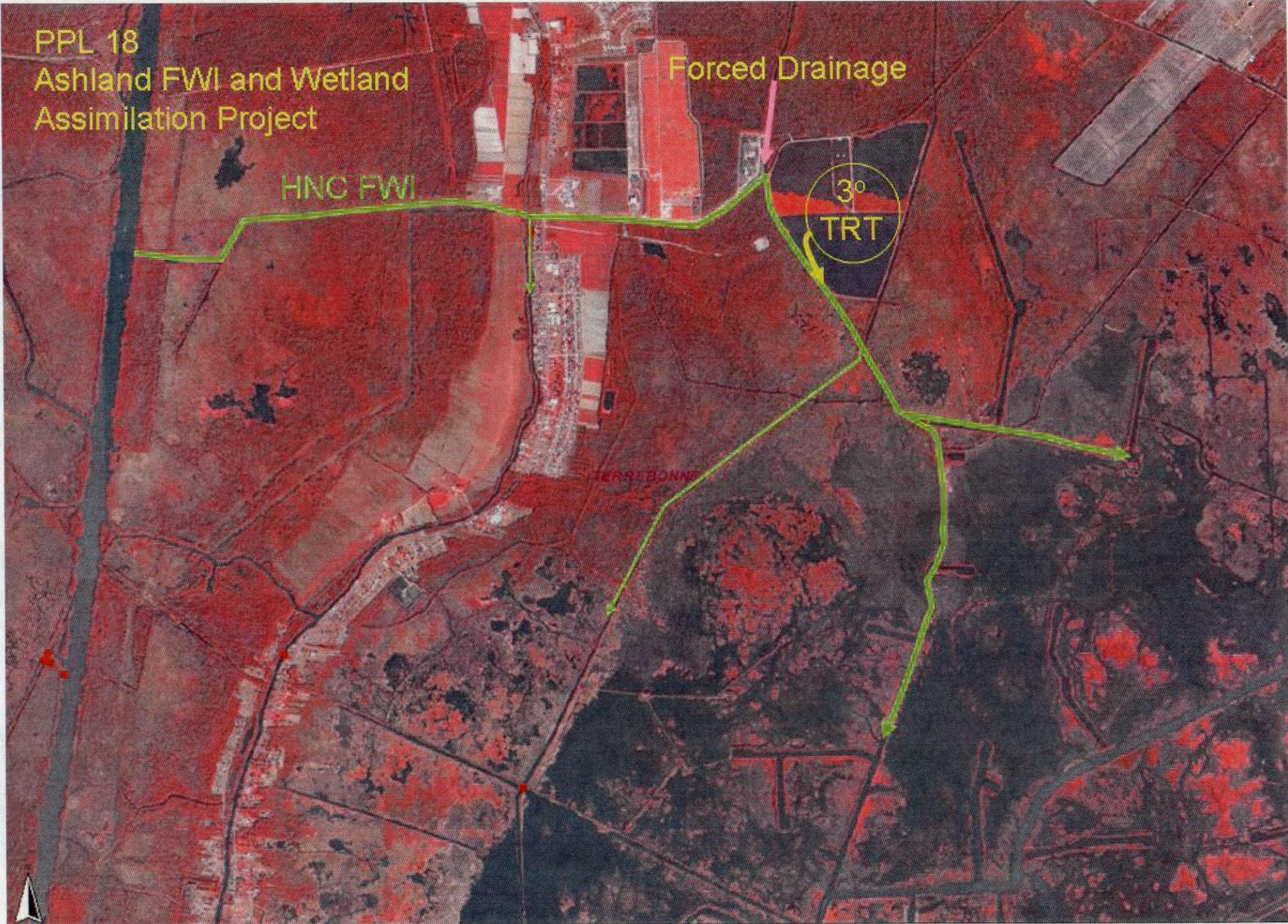
PPL 18
Ashland FWI and Wetland
Assimilation Project

Forced Drainage

HNC FWI

3°
TRT

TERREBONNE



PPL18 PROJECT NOMINEE FACT SHEET
February 15, 2008

Project Name:

Lake Mechant Southwest Shoreline Protection and Bayou du Large Ridge Protection

Coast 2050 Strategy:

Coast wide Strategy:

Maintenance of Gulf, Bay and Lake Shoreline Integrity

Maintain, Protect, or Restore Ridge Functions

Region 3 Strategy:

11. Protect, Restore and Maintain Ridge Functions

Project Location:

Region 3, Terrebonne Basin, Terrebonne Parish, Southwest Shoreline Lake Mechant

Problem:

High wave action in Lake Mechant has caused the existing shoreline to erode into the remain Bayou du Large Ridge.

Goals:

Maintain the southwest shoreline Lake Mechant

Restore and Maintain the Bayou du Large Ridge.

Proposed Solutions:

Construction of a 16,500 LF foreshore rock dike for shoreline protection that would reduce area loss rates over 75%. This project would also create 87 acres of marsh in shallow open water sites behind the rock shoreline protection. The rock dike and marsh creation would protect and restore a portion of the Bayou du Large Ridge.

Preliminary Project Benefits:

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

~ 100 acres benefited directly due to the marsh creation

~ 400 acres benefited indirectly by protecting the Bayou du Large Ridge

2) How many acres of wetlands will be protected/created over the project life?

~ 87 acres created

3) What is the anticipated loss rate reduction throughout the area of direct benefits over the project life?

>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.?

The project protects the Bayou du Large Ridge and maintains the Lake Mechant lake rim.

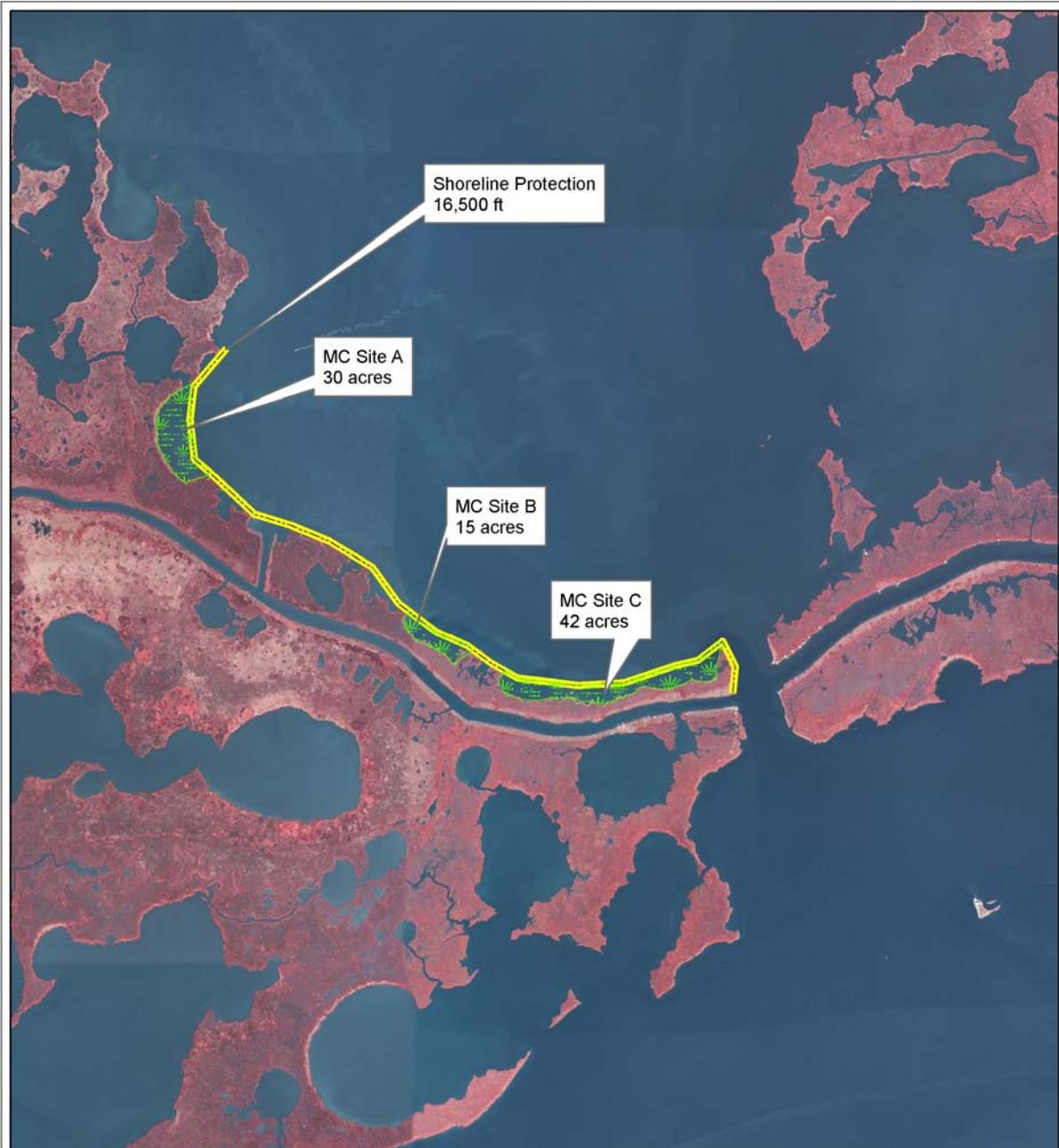
Preliminary Construction Costs:

~ \$8 million.

Preparer(s) of Fact Sheet:

Travis Creel, USACE, 504 862 1071; Travis.J.Creel@usace.army.mil

Project Map:



Legend

-  Marsh Creation
-  Shoreline Protection



0 1,550 3,100 6,200 Feet

PPL 18
Region 3
Lake Mechant
Southwest Shoreline Protection and
Bayou Dularge Ridge Protection

Background Map: 2005 DOQQ

PPL18 PROJECT NOMINEE FACT SHEET
February 21, 2008

Project Name:

Lake Decade Marsh Creation and Nourishment

Coast 2050 Strategy:

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

Regional Strategy – Dedicated delivery and/or beneficial use for marsh building by any means feasible means

Mapping Unit Strategy - Beneficial use of dredged material

Project Location:

Region 3, Terrebonne Basin, Mechant/Decade Mapping Unit, Terrebonne Parish, located along the shorelines of Lake Decade southwest of Theriot.

Problem:

The project would restore lake edge and interior wetlands that have been lost and fragmented. The marsh creation and nourishment areas would maintain delineation of the lake rim if the lake shoreline levees are no longer possible to be maintained. What problem will the project solve? Wetland loss rates are evidence for the nature and scope of the problem in the project area. The wetland loss rate for the mapping unit is -0.7%/year during 1956 to 1974 and -0.4%/year during 1983 to 1990. For polygon B, the land loss rate was 2.29%/year from 1956 to 1974 and 0.26% after the landowner initiated maintaining the lake shoreline in the 1980s. Section A of the shoreline breached this past summer only eight months after the previous "lift". Generally, a breach or two develop in between the annual maintenance efforts to re-establish the integrity of the shoreline, but wouldn't last more than two years without breaching. The last maintenance by the landowner was December '07 - January '08.

Goals:

The conceptual project goals are to accomplish approximately 350 acres of marsh creation and 150 acres of marsh nourishment in strategic locations to enhance and maintain the structure integrity of the lake shorelines.

Proposed Solutions:

Sediment would be dredged from Lake Decade and placed in a semi- to confined manner in strategic locations along the lake shoreline to create and nourish intertidal intermediate and fresh marsh. Approximately half of the created marsh acres would be planted with appropriate wetland vegetation. The borrow area in Lake Decade would be located and designed in a manner to avoid and minimize environmental impacts (e.g., to submerged aquatic vegetation and water quality) to the maximum extent practicable.

Preliminary Project Benefits:

The following questions should be addressed: 1) The total acreage benefited both directly and indirectly is 500 acres. 2) Approximately 389 net acres are expected at TY 20. *Note that this is a draft number subject to pro-rating revisions due to overlapping with the South Lake Decade TE-39 Project authorized by the Task Force last week.* 3) The anticipated loss rate reduction throughout the area of direct impacts is 50-74%. 4) The marsh creation would help maintain the structural limits of Lake Decade, especially if the existing levees can not be maintained. 5) The

project would have not significant impact on critical or non-critical infrastructure. 6) The project would have direct synergy with the TE-39, South Lake Decade Freshwater Introduction Project.

Identification of Potential Issues:

The proposed project has the following potential issues: utilities/pipelines, etc. The fill areas are located on Apache Corporation property and the conceptual features have been coordinated with them.

Preliminary Construction Costs:

The lump sum construction cost including 25% contingency is \$21,373,000.

Preparer(s) of Fact Sheet:

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DRAFT

Lake Decade Marsh Creation and Nourishment



Lake Decade

A

B

To remain open

3000 0 3000 6000 Feet

Creation/Nourishment Site

Region 3 - ATCHAFALAYA BASIN

Project Name

Point Chevreuil Shoreline Protection

Project Location

The project is located in Region 3, Atchafalaya River Basin, St. Mary Parish, along the southeastern shoreline of East Cote Blanche Bay, around Point Chevreuil, and the northwestern shoreline of Atchafalaya Bay.

Coast 2050 Strategy

Regional: #10. Protect, restore and maintain ridge functions; #11. Maintain shoreline integrity and stabilize critical shoreline areas.
Coastwide: Maintenance of gulf, bay and lake shoreline integrity; maintain, protect or restore ridge functions.
Mapping Unit: East Cote Blanche Bay (73) - Protect Bay/Lake Shorelines
Wax Lake Wetlands (60) - Protect Bay/Lake Shorelines

Problem

Eroding shoreline caused by the open water fetch and resulting wave energy from East Cote Blanche and Atchafalaya Bays. The retreating shoreline has resulted in a substantial loss of emergent wetlands and critical habitat used by a multitude of wildlife and fish species. Project features will protect the natural ridge functions of the Bayou Sale Ridge and protect the adjacent marshes. Shoreline erosion rates have been estimated at 13.5 LF/year (USGS 2003).

Proposed Project Features

Construction of a foreshore rock dike or rock revetment parallel to the existing eastern shoreline of East Cote Blanche Bay, from Bayou Sale southward to Point Chevreuil and the northern shoreline of Atchafalaya Bay from Point Chevreuil eastward to an underground pipeline crossing. The linear footage of shoreline is approximately 20,000 linear feet (~3.8 miles). It is possible that marsh can be created with the fill material from dredging of an access channel to accommodate construction equipment, where needed. This created area will be from the existing shoreline out to the rock dike.

Goals

Reduce and/or reverse shoreline erosion rates and protect natural ridge and marsh habitat at well as maintaining the existing hydrology of the area by preventing the Atchafalaya Bay shoreline from intercepting an oilfield and pipeline canal. The ridge and marsh area provides important habitat for black bears, neo-tropical migrants, wintering migratory waterfowl, etc.

Preliminary Project Benefits

The project is anticipated to directly protect approximately 124 acres of forested wetlands and intermediate marshes by reducing the current erosion rate of 13.5 ft/yr by 75-100%. Project features will provide protection to and maintain the small remnant of natural ridge/chenier function that currently exists along the eastern bank of the once-defined Bayou Sale channel. The project will also have an important synergistic effect with the TV-20 Bayou Sale CWPPRA-approved Project by extending similar benefits to the southern most extent of the East Cote Blanche Bay shoreline.

Identification of Potential Issues

No significant potential issues are expected from project implementation. Adjacent landowners are in full support of the project.

Preliminary Construction Costs

The construction cost plus contingencies for this project is approximately \$10,000,000.

Preparer of Fact Sheet

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Charles Stemmans/NRCS/ (337) 369-6623 / charles.stemmans@la.usda.gov



Shoreline Protection
TV 20 Bayou Sale Shoreline Protection

A legend for the map. It shows a cyan line for "Shoreline Protection" and a yellow dashed line for "TV 20 Bayou Sale Shoreline Protection".

Region 3 - TECHE-VERMILION BASIN

REGION 3 – RPT
PPL18 PROJECT NOMINEE FACT SHEET
February 20, 2008

Project Name:

Northwest Vermilion Bay Vegetative Planting and Maintenance

Coast 2050 Strategy:

Region 3. #12. Maintain shoreline integrity and stabilize critical areas

Project Location:

Region 3, Teche/Vermilion, Vermilion Parish, Northeastern shore of Vermilion Bay extending from Mud Point, around Little Vermilion Bay to State Wildlife Refuge.

Problem:

The TV-13a Oak/Avery Hydrologic Restoration project included 5.1 miles of vegetative plants along the north Vermilion Bay shoreline between Oaks and Avery Canals. In addition, Avery Island Inc. in conjunction with the Natural Resource Conservation Service (NRCS) has been planting the north shore of Vermilion Bay with smooth cordgrass (*Spartina alterniflora*) since 1990. The plantings have been highly successful in reducing the rate of shoreline erosion by capturing and accreting sediments from the Atchafalaya River and proving quite resilient in the wake of two major hurricanes – Lili and Rita. Other reaches of the Vermilion Bay shoreline have site specific areas of the vegetative planting areas become denuded annually due to hurricane and other wave generated conditions.

Goals:

This project would stabilize much of the North Vermilion Bay shoreline through a series of intensive low-cost vegetative plants.

Proposed Solutions:

The project calls for annual vegetative planting of impacted areas along the north shore of Vermilion Bay through an intensive maintenance planting program. A reconnaissance of northwestern Vermilion Bay would be conducted to determine the most suitable locations for the vegetative planting of smooth cordgrass. Five rows of smooth cordgrass plugs would be installed on two-foot centers. During FY08, vegetative planting would be installed along 30,000 linear feet within the 6-mile length of Vermilion Bay shoreline (120,000 plugs). During the next four years, maintenance plantings (assume replacement of 15%, or 18,000 plugs) would be conducted throughout the site to ensure project success.

Preliminary Project Benefits:

Vegetative planting and maintenance along the North Vermilion Bay shoreline have been extremely successful at halting shoreline erosion and retreat between Avery Canal and Weeks Island. In many areas, established plantings have captured the westerly sediments moving down the GIWW from the Atchafalaya River and Wax Lake Outlet causing accretion and advancement of the plantings seaward into the Bay. This project would create emergent marsh and protect the existing shoreline.

Identification of Potential Issues:

None identified

Preliminary Construction Costs + 25% contingency:

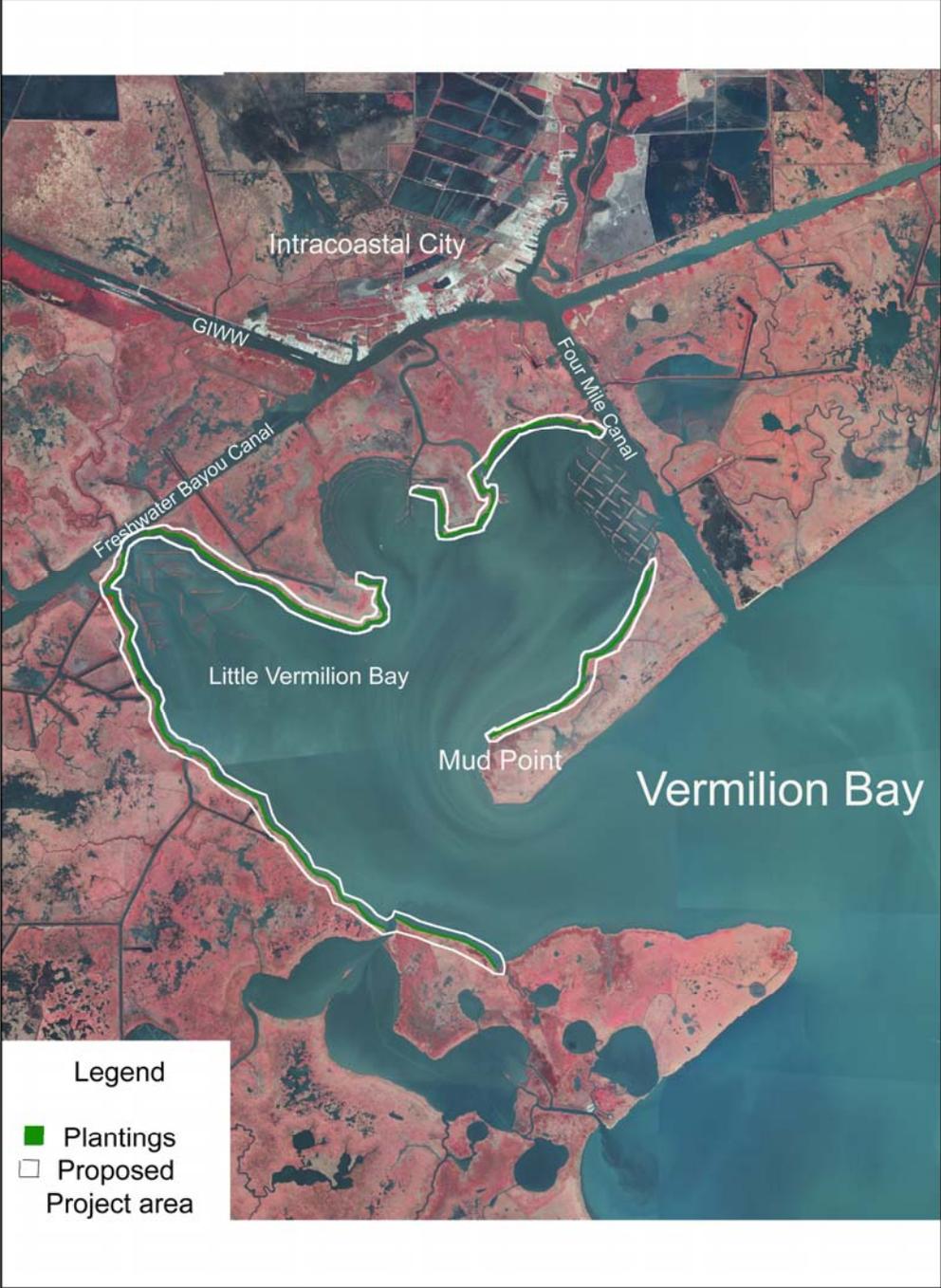
\$1.5 million

Preparer(s) of Fact Sheet:

John D. Foret, Ph.D., NOAA Fisheries Service, (337) 291-2107, john.foret@noaa.gov

Northwest Vermilion Bay Vegetative Planting and Maintenance

PPL 18



REGION 3-PRT
PPL18 PROJECT NOMINEE FACT SHEET
February 20, 2008

Project Name:

State Wildlife Chenier and Marsh Creation

Coast 2050 Strategy:

Coastwide Strategies for: Vegetative plantings; Dedicated dredging for wetland creation; Maintenance of Bay and lake Shoreline Integrity; and Terracing. Region 3 strategies #10, Protect Bay and Lake Shorelines, and #8, Dedicated delivery of sediment for marsh building by any feasible means.

Project Location:

The project is located in Region 3, Tech/Vermilion Basin, Vermilion Parish at State Wildlife Refuge

Problem:

The lakes have been eroding approximately 3 to 7 feet/year, as estimated by LDWF staff. Erosion of the peninsula has increased fetch around Lake Fearman, increasing shoreline erosion, turbidity and decreasing emergent and submerged vegetation. Shoreline erosion at North Lake is opening the lake to Vermilion Bay and will create bay erosion rates, rather than interior lake erosion.

Goals:

Re-establish the peninsula, maintain the shoreline division between North Lake and Vermilion Bay, reduce shoreline erosion, and create marsh habitat.

Proposed Solutions:

Re-establish approximately 209 acres of the Fearman Lake peninsula with borrowed from sediments from Vermilion Bay to act as a natural terrace and break the fetch across the lake. Approximately 4,000 linear feet of terrace would be constructed to contain pumped sediment, with approximately 87,000 linear feet of additional vegetated terraces created in the lake. Create an 8-10 acre chenier at North Lake planted with woody vegetation. Construct approximately 3,000 linear feet of vegetated terraces within North Lake.

Containment terraced would be 5 foot crown 1:6 side slope of approximately +2.0' NAVD88. Non-containment terraces would be constructed with a 15 ft crown 1:3 slopes in 2 ft of water. Appropriate species of vegetation would be planted at each created area. Potentially one maintenance lift of the terraces would be needed during the project life.

Preliminary Project Benefits:

Approximately 250 acres of wetlands would be created from construction of the terraces and marsh creation. Approximately 43 acres of marsh would be protected by reducing shoreline erosion by 50-74%. The project would increase the colonization of submerged aquatic vegetation by reducing water turbidity.

Identification of Potential Issues: None

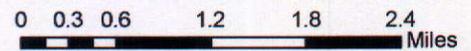
Preliminary Construction Costs: \$8-12 Million

Preparer(s) of Fact Sheet:

John D. Foret, Ph.D., NOAA Fisheries Service, (337) 291-2107, john.foret@noaa.gov

State Wildlife Chenier and Marsh Creation

PPL 18



Region 3- RPT
PPL18 PROJECT NOMINEE FACT SHEET
February 20, 2008

Project Name:

Vermilion River Dedicated Dredging

Coast 2050 Strategy:

Regional: #2 Increase deltaic land building where feasible #6-Stabilize banks and/or cross-sections of any navigation canal for water conveyance and/or for restoring hydrology of adjacent marshes #7- Maintain or direct Atchafalaya River water or other freshwater sources and sediment through the Gulf Intracoastal Waterway or other water sources #8-Dedicated delivery and /or beneficial use of sediment for marsh building by any feasible means #10 -Restore historic hydrologic conditions of major tidal exchange points or prevent adverse tidal exchange points between Gulf/lake, lake/marsh, bay/marsh, Gulf/bay, and marsh/navigation channel locations #13-Construct interior islands and/or reefs to protect bay/lake shorelines and/or restore hydrology #15 – Optimize Gulf Intracoastal Waterway flows into marshes and minimize direct flow into bays #17 Reduce sedimentation in bays

Mapping Unit Vermilion Bay Marsh: #81 Stabilize Banks of Navigation channels and canals, #82 Protect Bay/ Lake Shorelines, and #83 Stabilize banks of navigation channels and canals.

Project Location:

The project is located in Region 3, Teche/Vermilion Basin, Vermilion Parish, along the navigation channel referred to as the Four Mile Canal, south of Intracoastal City.

Problem:

A majority of the freshwater and sediments available from the Vermilion River are diverted southward into Vermilion Bay via the Four Mile Canal and bypass adjoining wetlands and open water areas. The Four Mile Canal has enlarged from a 300 ft. constructed width to currently a 950 ft. wide channel due to wake action from commercial and recreational marine traffic.

Wave energy has eroded the west bank of the Four Mile Canal navigation channel. The southern portion of Vermilion River, between the Four Mile Canal Terracing Project terrace fields, has silted in.

Goals:

Use dredge spoil to create channel shoreline that has eroded. Establish and armor Four Mile Canal West Bank.

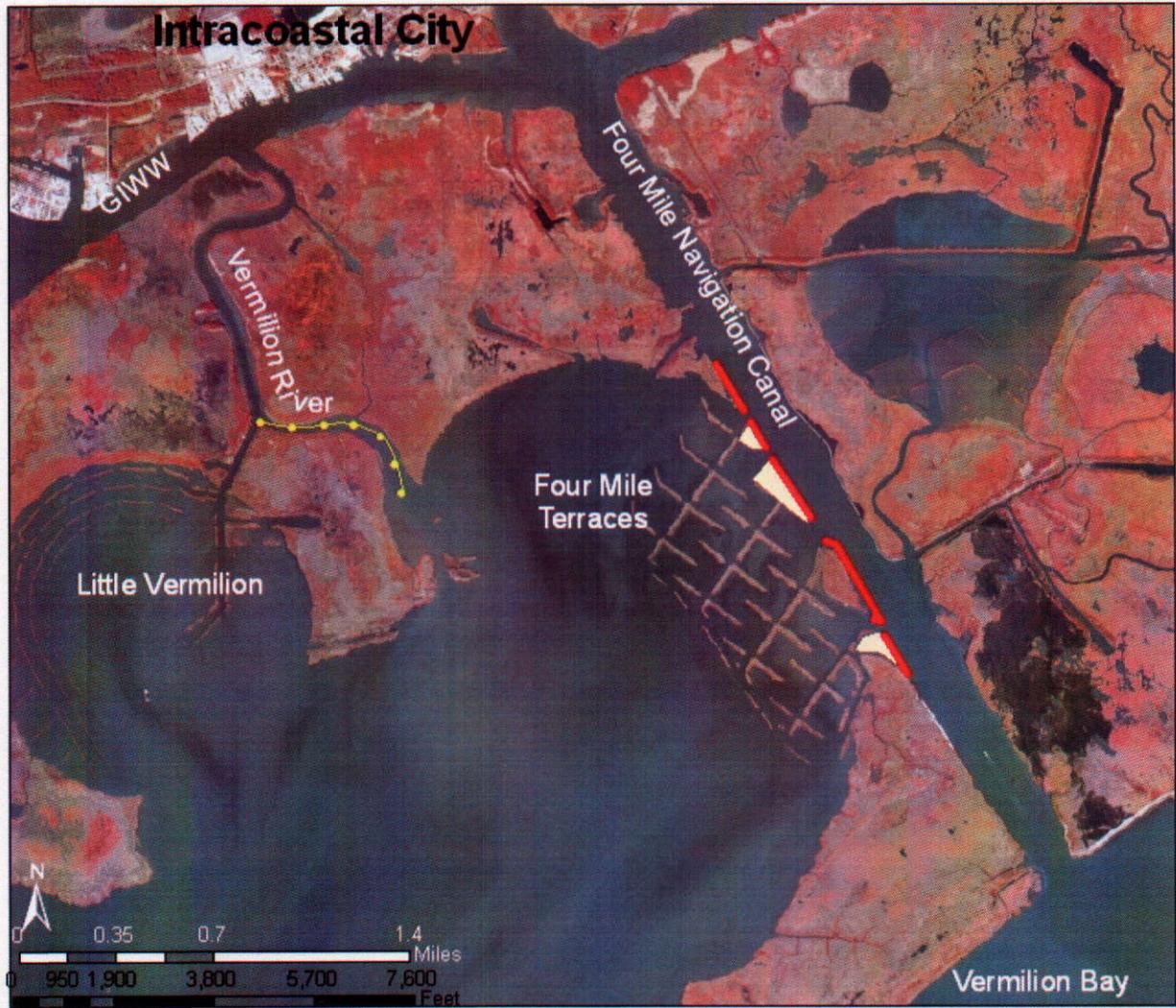
Proposed Solution:

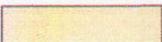
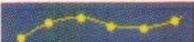
Dredge spoil would be placed in marsh lobes along Four Mile canal to recreate the canal bank. Openings would be left to allow for small boat traffic and water flow into the terrace fields of the TV-18 terraces for sediment trapping. Both the dredge spoil and what remains of the west bank would be armored with rock using light weight aggregate (to minimize the load). Maintenance would include maintaining the rock armor only. No plantings are necessary in this area, as the seed bank is established.

Preliminary Project Benefits:

Restore to some degree the historic distributary patterns of the Vermilion River system thereby stabilizing water salinity levels and increasing sediment input in adjoining wetlands. The project will significantly enhance the availability of sediments for the adjoining TV-12 Little Vermilion Bay

Vermilion River Dedicated Dredging TV-00



-  Rock Armor
-  Dredge spoil
-  Dredging area

**SOUTHWEST POINT BANK STABILIZATION
AND
MARSH CREATION**

PPL 18

This project is located at the eastern tip of South West Point. Shoreline retreat caused by everyday wave erosion and seasonal storms have reduced this peninsula both in length and width. This fragile strip of land serves to buffer tidal movement and salty Gulf of Mexico water into Vermilion Bay and the surrounding marshes. If future erosion trends continue, and this area is totally lost or breached, there could be dramatic and damaging changes to the Vermilion bay estuary system.

This proposed project serves to strengthen this critical land mass by constructing hard structure shoreline protection devices with emergent marsh creation immediately behind them.

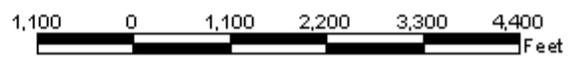
Shoreline Protection at SW Pass PPL 18

State and County: LA, VERMILION



Legend

▲▲ Shore Line Protection



R3-TV-05

**OYSTER REEF DEVELOPMENT
FOR SHORELINE PROTECTION
AT
CHENIERE AU TIGRE**

PPL 18

This proposed project is located just off of the beach at Cheniere Au Tigre. The project proposes to lay down a substrate of limestone that will rest on the bottom and serve as points of attachment for oyster spawn. As time goes by, these oysters will grow and will extend the "reef" vertical becoming quite thick and massive. This newly formed reef will serve to intercept the wave energy of the Gulf of Mexico and cause sediments and coarse sands to settle on the beach which will slow down or reverse current beach erosion. A reach of up to 5,000 linear feet is proposed. This area may also benefit public oyster grounds by serving as a source of oyster spat.

Cheniere Au Tigre
Breakwaters

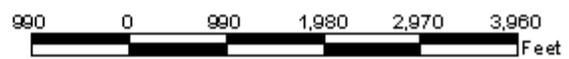
Existing Breakwaters (TV-16)

Project Location

Gulf of Mexico



Legend



PPL 18 Project Nominee Fact Sheet
February 20, 2008

Project Name:

Marone Point Shoreline Protection

Coast 2050 Strategy:

Coast wide: Maintenance of Bay and Lake Shoreline Integrity

Regional: 11. Maintain shoreline integrity and stabilize critical shoreline areas of the Teche-Vermilion system including the gulf shoreline

Mapping Unit: (East Cote Blanche Bay) 73. Protect Bay/Lake Shorelines

Project Location:

The project is located in Region 3, Teche/Vermilion Basin, St. Mary Parish, along the northern shoreline of East Cote Blanche Bay and eastern shoreline of West Cote Blanche Bay.

Problem:

This area of shoreline has historic and predicted shoreline erosion rates of 15-20 ft./year. If left unchecked, the rapidly eroding shoreline along East Cote Blanche Bay will lead to a conversion of interior wetlands to open bay. Installing shoreline protection would preserve the hydrologic integrity of water control structures installed under the TV-04 Cote Blanche Hydrologic Restoration CWPPRA Project that the O&M program will not provide.

Proposed Solution:

Project features include construction of approximately 26,000 linear feet of armored protection parallel to the existing northern shoreline of East Cote Blanche Bay. The proposed location of the shoreline protection feature is approximately 23,000 linear feet, starting from 3300 feet west of Humble Canal and extending around Marone Point, and approximately 3000 feet to the East of the Humble Canal between shoreline protection planned and installed through the TV-04 Cote Blanche Hydrologic Restoration Project.

Goals:

Reduce and/or reverse shoreline erosion rates, protect critical marsh habitat and maintain existing hydrology of the East Cote Blanche Bay wetlands established through the TV-04 Cote Blanch Hydrologic Restoration Project. The marsh habitat provides important habitat for wintering migratory waterfowl, black bears, and other furbearers. These wetlands also provide vital protection to inland areas of St. Mary Parish from storm surges associated with hurricanes.

Preliminary Project Benefits:

1) *What is the total acreage benefited both directly and indirectly?* The proposed project would directly benefit approximately 209 acres by eliminating the annual shoreline loss of 17.5 ft/yr. Approximately 375 acres of intermediate marshes would benefit indirectly by preventing the breaching of, and tidal exchange through, several natural bayous and open water ponds lying adjacent to the E Cote Blanche Bay shoreline. Therefore the total acreage potentially impacted would be 584 acres.

2) *How many acres of wetlands will be protected/created over the project life?* Approximately 209 acres would be protected at the end of the project life due to the shoreline protection component.

3) *What is the anticipated loss rate reduction throughout the area of direct benefits over the project life?* Shoreline protection will be provided by some form of armored structure which, when properly designed and installed, has proven to reduce erosion rates by 100%. Therefore, the anticipated loss rate reduction throughout the area of direct benefits over the project life should exceed 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?* Project features will provide protection and serve to maintain a significant critical section of lake rim on the East Cote Blanche Bay shoreline.

5) *What is the net impact of the project on critical and non-critical infrastructure?* The project would serve to protect inland oilfield well locations from exposure to open bay conditions.

6) *To what extent does the project provide a synergistic effect with other approved and/or constructed restoration projects?* The project features will provide a synergistic effect with the TV-04 Cote Blanche Hydrologic Restoration Project, and TV-20 Bayou Sale Ridge Protection Project by extending shoreline protection around the entire northern shore of East Cote Blanche Bay, ultimately providing contiguous protection to thousands of acres of deteriorating marsh in St. Mary parish.

Identification of Potential Issues:

No significant potential issues are expected from the project implementation. Major landowners are in full support of the project.

As a result of the CWPPRA Joint Workgroup Meeting held on March 1, 2007, the following potential issues were flagged:

O&M: Due to rock riprap being used as the primary shoreline protection component.

Preliminary Construction Cost:

The construction cost plus contingencies for this project is approximately \$12.2 million. The estimated fully funded cost range is \$15 - \$20 million.

Preparer of Fact Sheet

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Marone Point Shoreline Protection St. Mary Parish Louisiana



Legend

- TV-20 Planned Bayou Sale Shoreline Protection
- TV-04 Cote Blanche Shoreline Protection- Approx. 4,140 lf.
- Approved TV-04 O&M -Rock Dike
- Approved TV-04 O&M - Rock Revetment
- PPL- 16 Proposed Shoreline Protection -Approx. 26,000 lf.



0 1,950 3,900 7,800 11,700 15,600 Feet

R3-TV-07

PPL 18 PROJECT NOMINEE FACT SHEET
2/20/2008

Project Name

North Marsh Island Shoreline Protection

Coast 2050 Strategy

Strategy 13. Construct interior reefs to protect lake shoreline and/or for restoring hydrology.

Project Location

Region 3, Teche/Vermilion Basin, Iberia Parish, north shore of Marsh Island

Problem

Vermilion Bay historically contained numerous shell reefs that have largely been mined over the past several decades. These hard shallow reefs have been attributed in part to providing stability and protection to marsh shorelines along the periphery of the bay. Consequently, much of the bay's shorelines have experienced moderate to severe erosion. The north shore of Marsh Island has experienced average shoreline erosion of 12 ft per year from 1998 to 2005. Reestablishing the physical structure of historic reefs in areas of chronic erosion along with vegetative plantings will greatly reduce the vulnerability of the shoreline while allowing substrate for redevelopment of oyster populations.

Proposed Project Features

The project will construct 29,000 linear feet of a low reef shoreline protection with a design based the configuration of natural shell reefs found nearby in Southwest Pass. The structure will consist of a low rock structure set at a height +1.5 ft (or marsh height) and crown width of 10-12 ft along the north shore of Marsh Island. The shoreline will be planted with smoothcord grass.

Goals

The goals of the project are to mimic shell reef shoreline protection of 29,000 linear feet of shoreline from bank erosion and provide substrate to promote oyster development.

Preliminary Project Benefits

The shoreline protection will stop 12 ft of average annual erosion across 29,000 linear feet, which is equivalent to 8 acres per year or 160 acres over 20 years.

Identification of Potential Issues

The proposed project has the following potential issues: none identified

Preliminary Construction Costs

\$14.5 million

Preparer of Fact Sheet

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North Marsh Island Shoreline Protection Project
PPL - 18

