RESTORE Council FPL 3 Proposal Document

General Information

Proposal Sponsor:
U.S. Department of Agriculture – Natural Resources Conservation Service

Title:
Cote Blanche Freshwater and Sediment Introduction and Shoreline Protection

Project Abstract:
The U.S. Department of Agriculture, on behalf of the federally-recognized Chitimacha Tribe of Louisiana, is requesting $2.65M in Council-Selected Restoration Component funding for the proposed Cote Blanche Freshwater and Sediment Introduction and Shoreline Protection project. This request includes planning funds as FPL Category 1. The project was a 2012 Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) nominee for Priority Project List 22. Through CWPPRA, the Natural Resources Conservation Service developed information for the nominee project. Project activities will support the primary RESTORE Comprehensive Plan goal to restore and conserve habitat through planning and technical assistance activities for the Cote Blanche Freshwater and Sediment Introduction, and Shoreline Protection Project. The proposed project, located in the Teche/Vermilion Basin in St. Mary Parish, Louisiana, consists of two components: freshwater and sediment introduction and shoreline protection. The freshwater and sediment introduction component includes channel improvement or enlargement and a structural feature to increase freshwater and sediment input from the Atchafalaya River into interior Cote Blanche Wetlands.

Project activities will optimize distribution of water and sediment to reduce emergent marsh loss and accelerate sediment accretion to promote land building in isolated marsh areas. When implemented, the project features will also provide a synergistic effect with two existing CWPPRA projects: Cote Blanche Hydrologic Restoration Project and Sediment Trapping at the Jaws. Project duration is 3 years.

FPL Category: Cat1: Planning Only

Activity Type: Project

Program: N/A

Co-sponsoring Agency(ies):
DOI/BIA

Is this a construction project?:
No

RESTORE Act Priority Criteria:
(I) Projects that are projected to make the greatest contribution to restoring and protecting the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast region, without regard to geographic location within the Gulf Coast region.
(II) Large-scale projects and programs that are projected to substantially contribute to restoring and protecting the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast ecosystem.

(IV) Projects that restore long-term resiliency of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands most impacted by the Deepwater Horizon oil spill.

Priority Criteria Justification:
The proposed project directly supports three of the four RESTORE Council-identified priorities and supports the intent of the fourth priority criteria. The project: (1) will make significant contributions to the Teche/Vermilion Basin and the Gulf Coast ecosystems; (2) supports a large-scale CWPPRA ecosystem restoration program; and (3) restores long-term resiliency of the natural resources impacted by the Deepwater Horizon oil spill. Hydrologic restoration and shoreline protection projects in the Teche/Vermilion Basin are included in the Louisiana Coastal Master Plan and this project is supported by the Chitimacha Tribe of Louisiana and the St. Mary Parish Government.

Project Duration (in years): 3

Goals

Primary Comprehensive Plan Goal:
Restore and Conserve Habitat

Primary Comprehensive Plan Objective:
Restore , Enhance, and Protect Habitats

Secondary Comprehensive Plan Objectives:
Restore and Enhance Natural Processes and Shorelines

Secondary Comprehensive Plan Goals:
N/A

PF Restoration Technique(s):
Create, restore, and enhance coastal wetlands, islands, shorelines and headlands: Protect natural shorelines
Restore hydrology and natural processes: Restore hydrologic connectivity
Restore hydrology and natural processes: Restore natural salinity regimes

Location

Location:

The project is in the Teche/Vermilion Basin of St. Mary Parish, south of Franklin, Louisiana, in the interior marshes southwest of the GIWW and along portions of the northern shoreline of East Cote Blanche Bay and southeastern shoreline of West Cote Blanche Bay

HUC8 Watershed(s):

Lower Mississippi Region(Louisiana Coastal) - Atchafalaya-Vermillion(Atchafalaya)
Lower Mississippi Region(Louisiana Coastal) - Atchafalaya-Vermillion(Bayou Teche)
Lower Mississippi Region(Louisiana Coastal) - Atchafalaya-Vermillion(Vermilion)

State(s):

Louisiana

County/Parish(es):

LA - St. Mary

Congressional District(s):

LA - 3

Narratives

Introduction and Overview:

Louisiana wetlands, which account for 40 percent of the continental US coastal wetlands (Dahl 2000), are unique and vital ecological assets worth saving. The Louisiana coastal area has lost 1,900 square miles of land since 1932 due to multiple causes, including oil and gas development, navigation canals, land subsidence, river management, and sea level rise (Britsch and Kemp 1990; Couvillion et al. 2017; Turner and Cahoon 1987; Turner 1990). The study area, which includes portions of the Cote Blanche wetlands, has experienced significant wetland loss, both on its fringe (shoreline) and in interior portions. Shoreline erosion along East and West Cote Blanche Bays has been measured between 15 and 20 feet per year in some areas (Coast 2050), with loss rates as high as 28 feet per year (Hawkins and Aucoin 2014). Erosion appears to be the most severe along the northern shoreline of East Cote Blanche Bay near Marone Point. Shoreline protection will prevent interior areas of open water from being encroached upon by the advancing shoreline and becoming part of the bay.

The activities proposed herein includes only the Phase 1 planning, engineering, environmental compliance, and design of the project at a cost of $2.65 million. The fully constructed project has the potential to restore/protect 763 acres of wetlands in the Teche/Vermilion Basin by increasing freshwater and sediment input from the Atchafalaya River via the Gulf Intracoastal Waterway (GIWW) into interior marshes and constructing shoreline protection (Cote Blanche Freshwater and Sediment Introduction and Shoreline Protection Wetland Value Assessment 2012). This project, proposed on behalf of the Chitimacha Tribe of Louisiana, was originally a Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) nominee for Priority Project List (PPL) 22 in 2012. Through CWPPRA, the Natural Resources Conservation Service (NRCS) developed project information for the nominee project proposal. When implemented, the project will provide a synergistic effect with two existing CWPPRA projects: Cote Blanche Hydrologic Restoration Project (TV-04) and Sediment Trapping at the Jaws (TV-15). This proposal is seeking funding for planning and technical assistance (the planning, engineering, environmental compliance, and design) activities for the Cote Blanche Freshwater and Sediment Introduction and Shoreline Protection project.

The project is in the Teche/Vermilion Basin in St. Mary Parish, Louisiana and consists of two components: freshwater and sediment introduction, and shoreline protection. The freshwater and sediment introduction component will include channel improvement or enlargement and a structural feature, to increase freshwater and sediment input from the GIWW into interior Cote Blanche wetlands. By increasing the net flow delivered to the project area's interior marshes, the project has the potential to optimize the distribution of water and sediment to further reduce emergent marsh loss and accelerate sediment accretion to promote land building in isolated marsh areas. The shoreline protection component includes construction of approximately 27,150 linear feet of shoreline protection of East Cote Blanche Bay. When implemented, the project would benefit a total of 11,217 acres of wetlands, including directly restoring/protecting 763 acres at a total cost of $30.6 million, or an average of $40,150 per acre restored/protected.

General description of the activity being proposed:

This request is for only Phase I of the project, which consists of planning, engineering, environmental compliance, and design, at an estimated to cost $2.65 million. The Phase II (construction) of the project is estimated to cost $28 million for a total of $30.6 million. In this phase of the work, all data collection in support of engineering and design will be carried out to provide the information necessary to ensure that the project is constructible and feasible in terms of cost and environmental benefits. Data collection will include all survey (topographic/bathymetric), geotechnical and magnetometry data (location of possible oil/gas infrastructure), oyster assessments and preliminary land rights and cultural resources as it relates to project construction. This information will be

compiled, and a final design report will be produced as the final product of the project. The objective is to have a fully constructible (shovel-ready) project plan available to move to Phase II (construction).

The freshwater and sediment introduction component of the proposed project includes channel improvement or enlargement and a structural measure (a steel sheetpile plug with a boat passage bay to be constructed on one of the interior channels) to increase freshwater and sediment input from the GIWW into interior Cote Blanche Wetlands. This component will optimize the distribution through multiple avenues (water conveyances) to further reduce emergent wetland loss and accelerate sediment accretion to promote land building in isolated areas in the interior of the Cote Blanche Wetlands. By increasing the net flow of water into the project area's interior wetlands by 930 cubic feet per second (cfs), 10,722 acres of marsh would directly and indirectly benefit from this component, including 643 acres of wetlands to be directly benefited (449 acres created and 194 acres protected) by component features over the project life.

The shoreline protection component of the proposed project includes construction of approximately 27,150 linear feet of armored protection parallel to the northern shoreline of East Cote Blanche Bay. This component includes approximately 21,950 linear feet of shoreline protection, starting 3,300 feet west of Humble Canal and extending around Marone Point, and approximately 5,200 feet of protection east of the Humble Canal between existing shoreline protection segments. The total acreage directly and indirectly benefitting from the shoreline protection component of the project would be 495 acres, this includes 120 acres of wetlands that would directly benefit by eliminating shoreline erosion, and approximately 375 acres of wetlands that would indirectly benefit by the prevention of breaching of, and tidal exchange through, several natural bayous and open water ponds adjacent to the East Cote Blanche Bay shoreline.

Proposed Methods :

The primary goal of this project is to restore and protect habitat through the introduction of freshwater and sediment from the GIWW and the placement of shoreline protection in Cote Blanche Bay. When implemented, the proposed project has the potential to stabilize critical shoreline areas of the Cote Blanche Bay, prevent expansion of West Cote Blanche Bay, prevent wave erosion impacts to surrounding marsh, provide a barrier to the progression of saltwater intrusion into freshwater marsh, restore/protect habitat for fish, wildlife and waterfowl species, and support the multiple lines of defense strategy (Multiple Lines of Defense Strategy 2008) through the introduction of freshwater and sediment from the GIWW and the placement of shoreline protection in Cote Blanche Bay. In addition to supporting the Plan's primary goal, the project will also support several other Comprehensive Plan goals, including: Restore Water Quality; Replenish and Protect Living Coastal and Marine Resources; Enhance Community Resilience; and Restore and Revitalize the Gulf Economy.

<u>Comprehensive Plan Objectives</u>

The primary Comprehensive Plan Objective supported by the proposed project is to "Restore, Enhance, and Protect Habitats". When implemented, the project has the potential to achieve this objective by restoring/protecting coastal wetland habitat through the introduction of freshwater and sediment from the GIWW and the placement of shoreline protection features to reduce and/or eliminate further loss of wetland habitat due to erosion and other stressors.

In addition to supporting the primary objective, the project has the potential to support many of the remaining Comprehensive Plan objectives, including but not limited to the restoration of water resources by retarding saltwater intrusion into the interior wetlands and restoration of wetlands that filter chemicals and sediment from water. When implemented, the project would restrict such

constituents from entering the Cote Blanche Bay. In addition, it would replenish and protect healthy, diverse, and sustainable living coastal habitat beneficial to fish, terrestrial, semi-aquatic, and avian wildlife species. It would also maintain the existing shoreline of Cote Blanche Bay, preventing wave erosion impacts to surrounding marsh, and re-nourish wetlands in the area. Finally, the project would promote community resilience by supporting the multiple lines of defense strategy and the ongoing battle against coastal retreat, dampening storm surge, and providing vital protection to vulnerable inland areas of St. Mary Parish from storm surges associated with hurricanes. These anticipated results are based on well-established science and practices to improve the science-based decision-making processes used by the Council.

Wetland loss in the Cote Blanche Wetlands has been caused by several factors, of which unnatural water exchange, subsidence, storms, and wave energy are the most important factors. Historically, water slowly exited the Cote Blanche Wetlands through the meandering bayous and tidal channels which flow into the surrounding bays. During the 1950's and 1960's, oilfield activity intensified, resulting in the dredging of an extensive network of canals. These wide, deep channels penetrated the interior marsh and captured much of the flows historically carried by natural waterways. As a result, water now exits the marsh at a much faster rate, often causing erosion in interior areas where highly organic soils are found. Most of these canals have several branches which finger into the marsh and, through large spoil bank breaches, provide an unnatural, deep-water connection to the surrounding bays. This link exposes the organic substrate to a highly fluctuating, unnatural water regime resulting in export of organic material. This frequently occurs during winter frontal passages when unvegetated areas are rapidly dewatered as a result of strong north winds.

Increasing amounts of freshwater and sediment have been entering the project area from the Atchafalaya River via the GIWW and East Cote Blanche Bay. The GIWW carries huge volumes of freshwater to the west, "freshening" the project area and resulting in the conversion of what was brackish marsh in 1949 to fresh marsh by 1988 (Chabreck and Linscombe 1988). The enormous amount of sediment carried to the project area is evidenced by the delta formation and shallow water at The Jaws (Little Bay) near Bayou Mascot in the northeast corner of West Cote Blanche Bay. While the GIWW has freshened the project area, it also supplies significant quantities of freshwater and sediment available to be tapped to nourish the area. For several reasons, only a small portion is currently reaching the interior marshes where storm damage has occurred. Continuous stretches of spoil banks bordering some canals prevent the nourishing flows to the wetlands. Additionally, storms have blocked avenues that had previously allowed some low-level freshwater and sediment flows to interior marsh areas. In other areas, some flows that should be circulating through interior areas have been short-circuited back into the canal systems. The TV-4 project structures continue to function as intended; however, increasing sediment inputs through additional, more efficient paths would accelerate accretion and facilitate restoration of damaged interior marsh within the project's 10,722-acre interior wetlands.

Forming the northern boundary of East Cote Blanche Bay, the position and orientation of the proposed project shoreline places it squarely in the path of direct impact from wave energies generated in the Gulf of Mexico. Although the bay is very shallow, the miles of fetch length from the south and southwest allow uninterrupted impact from wave and tidal amplitudes commensurate with those striking the outer barrier island systems in the deltaic plain. This condition, combined with the lack of a somewhat hardened, naturally reworked shoreline configuration as typically found in more mineral soils, has contributed to serious loss of these marshes from years of erosion into the vulnerable organic habitat. The shorelines of East and West Cote Blanche Bays protect the marsh interior from wave energy. Without a protective rim, the adjacent marsh would quickly erode into shallow-water habitat unable to support emergent or submergent vegetation because of exposure to excessive wave energy. This project will provide shoreline protection along critical areas of East

Cote Blanche Bay.

The proposed project area experienced extensive damage from the major drought of 1999-2000, Hurricane Lili in 2002, and additional loss from Hurricane Rita in 2005. When implemented, the proposed project will provide a synergistic effect with two existing CWPPRA projects: Cote Blanche Hydrologic Restoration Project (TV-04); and Sediment Trapping at the Jaws (TV-15) by extending shoreline protection around the entire northern shore of East Cote Blanche Bay and promoting sustainable restoration to thousands of acres of deteriorating marsh in St. Mary Parish. The proposed project will be completed upon receipt of funding and will incorporate consultations with the State of Louisiana Coastal Protection and Restoration Authority and other State and Federal agencies. Final design could result in the revision of project elements, which could impact the quantity of wetlands created/protected by the project as well as other potential environmental benefits.

Environmental Benefits:

General description of anticipated environmental benefits: By restoring/conserving coastal wetlands, the proposed project addresses a significant ecosystem issue, the loss of coastal wetlands in the Teche/Vermilion Basin. The importance of restoring this area is illustrated by the investment CWPPRA has made in the area. The Cote Blanche Hydrologic Restoration Project (TV-04), which is co-located with the proposed project, was constructed by CWPPRA in 1999, to reduce erosion of the Cost Blanche Wetlands. While TV-04 has helped reduce the rate of erosion experienced in the study area, the weighted average annual loss rate was still 9.3 feet per year across the entire proposed project shoreline as illustrated in by USGS analysis from 1998 to 2008. In addition, the interior Cote Blanche Wetlands have experienced erosion, as illustrated by the loss of 1,750 acres of emergent wetlands within the interior of the project area due to Hurricane Lili in 2002, and additional loss of wetlands from Hurricane Rita in 2005 (Barras et al. 2003). If left unchecked, the rapidly eroding shoreline along East Cote Blanche Bay will allow continued rapid conversion of interior wetlands to open bay, and increase tidal exchange with other small, heretofore protected, interior pond and stream systems. If this planning project is funded and restoration is achieved under a future FPL, it will restore, enhance and protect habitats, water resources, living coastal resources and shorelines. Finally, restoration of these wetlands will promote the Multiple Lines of Defense Strategy (2008) by serving as storm buffers against hurricanes and as flood risk management by storing excess floodwaters during high rainfall. It will replenish aquifers, purify waters, and provide a habitat for various wildlife and fish species. Louisiana's wetlands will continue to benefit humans by way of fisheries industries, fur harvesting, oyster production, recreation resources/ecotourism thus providing billions of dollars in revenues for our nation.

<u>Environmental stressor(s) being addressed:</u>

The ongoing Cote Blanche Bay shoreline retreat threatens St. Mary Parish by making community infrastructure (including roads, utilities, and commercial and industrial establishments) more susceptible to wave damage. The proposed project restores/protects a key feature (wetlands) in the multiple lines of defense strategy and enhances community resilience by reducing the vulnerability of St. Mary Parish communities, including the Chitimacha Tribe of Louisiana, and fishing industries, to shoreline retreat and storm surge. The project would protect the GIWW transportation corridor from exposure to open bay conditions and from increased wave energy generated by marsh fragmentation, and expansion of interior open water areas. In addition, the wetlands in the project area buffers the vulnerable Franklin and Baldwin municipal areas and the tribal lands of the Chitimacha Nation from storm impacts. Three archaeological sites have been identified within the Cote Blanche Wetlands and the proposed project has the potential to protect other cultural and natural resources of religious and cultural significance to the Chitimacha Tribe. The archaeological sites are each prehistoric shell middens, the significance of which will be determined prior to project

implementation.

By protecting and restoring the freshwater Cote Blanche wetlands, coastal erosion will be abated, and storm surges will be reduced in the Teche/Vermilion Basin. The project will also generate significant benefits to natural resources and natural resource dependent activities and industries, specifically those critical to the fishing and tourism industries.

Metrics:

Metric Title: PRM011 : Restoration planning/design/permitting - # E&D plans developed
Target: 1
Narrative: # of E&D Plans Developed – 1 (Preliminary Design Report). The primary goal of the preliminary engineering design task is to develop design parameters and permit parameters using existing data, numerical modeling, and preliminary data acquisition, for the design of each proposed project component. NRCS will contract portions of this work as determined during scope development, including but not necessarily limited to subtasks of alternatives analyses, modeling or other analytical tools to analyze coastal processes acting at the site to inform preliminary design development. A preliminary design report will be prepared at the end of the preliminary design phase. NRCS will review all contracted materials to ensure quality of findings and provide this report and all associated raw data to the council per the Data Management Plan. NRCS will then make any necessary adjustments to the final design of this project.

Metric Title: PRM013 : Restoration planning/design/permitting - # environmental compliance documents completed
Target: 5
Narrative: # Environmental Compliance documents completed – 5 (Environmental Assessment, Geotechnical Report, Magnetometer Survey Report, Cultural Resources Assessment and Oyster Impact Assessment). The Contracting Party shall collect the necessary data to facilitate a constructible and permittable project design. This may include, but is not limited to water level, water quality, salinity, waves, wind, tides; bathymetric, and magnetometer surveying services, geotechnical subsurface investigation; and cultural resources. The Contracting Party shall prepare the Data Collection Summary Report. Supporting information and data shall include, but not be limited to ownership, oyster lease, oil/gas activity, and existing contour maps; preliminary survey report; preliminary geotechnical report; existing adjacent marsh types/habitat maps; and, preliminary feasibility and risk assessment.

Risk and Uncertainties:

This is a planning, engineering, environmental compliance and design project. There are no anticipated risks associated with this planning project. If the project is constructed, the risk and uncertainty would be minimized by the fact that the science and practice of coastal ecosystem restoration in the area has similarly proven to be successful by two existing CWPPRA projects: Cote Blanche Hydrologic Restoration Project (TV-04) and Sediment Trapping at the Jaws (TV-15). Additionally, NRCS has completed construction of several other projects of its kind in other parts of the state, including TE-28 Brady Canal Hydrologic Restoration (Terrebonne Parish), TE-29 Penchant Basin Natural Resources Plan, Increment 1 (Terrebonne Parish) and South Lake Decade Freshwater Introduction (Terrebonne Parish) all of which have similar project features and goals. (See www.lacoast.gov for complete list of NRCS projects).

As such, risk and uncertainty associated with the proposed project is anticipated to be minimal and

should be limited to uncertainty associated with costs, obstacles in obtaining right-of-entry, and unforeseen events and circumstances that may impact operations. Although the project will be designed to restore/protect wetlands, it will not eliminate the threat of wetland loss in the project area; hurricanes, storms, frontal passages, subsidence, and other natural events will continue to cause erosion and loss of emergent wetlands.

Relative to implementation, there is a risk of not being able to secure funds to implement the project. There are various funding sources available; however, there are no commitments at this time for constructions. Throughout Gulf restoration, the approach of funding E&D only has been a common practice. This allows for better estimates for seeking funds for construction.

Monitoring and Adaptive Management:

Phase I (planning, engineering, environmental compliance, and design activities) as proposed under this submittal is projected to be completed within 3 years from receipt of funding from the RESTORE Council. Monitoring will consist of USDA's project oversight throughout the entire planning project. If eventually constructed, the project would be monitored through 1) post-construction surveys to document conditions; 2) the use of pre-construction, post-construction, and periodic infrared aerial photography to identify changes in land area; and 3) monitoring through the CWPPRA Coastwide Reference Monitoring System (CRMS) data. The success of the project will be measured by the acres of wetland restored/protected (763 acres), the cost of restoring/protecting the wetlands ($30.6 million), the average cost per acre restored/protected ($40,150), and the length of time required to build the project (three years for planning/design/construction from receipt of funding).

Data Management:

The data is currently free to use and available online. Adaptive management efforts should not be warranted and are not planned under this proposal.

Collaboration:

The proposed project will build upon several existing and proposed CWPPRA Projects. CWPRRA was passed in 1990 to address Louisiana's need for a restoration program. CWPPRA is authorized to plan, design, construct, maintain, and monitor coastal wetland restoration projects that provide for the long-term conservation of wetlands and their dependent fish and wildlife populations in coastal Louisiana. The five federal agencies have partnered with the State of Louisiana to cost share in the design and construction of coastal restoration projects. The CWPPRA Program receives approximately $80 million in Federal funds annually, constructing several ecosystem restoration projects that built upon by the proposed project (i.e., Cote Blanche Hydrologic Restoration Project (TV-04) and Sediment Trapping at the Jaws (TV-15)).

Public Engagement, Outreach, and Education:

USDA has an established record of public outreach and of working with various stakeholders on restoration activities. To that end, USDA is committed to having meaningful stakeholder engagement as part of this project as well as future restoration activities. To accomplish this, a three-tiered approach to stakeholder engagement and collaboration will be used. This three-tiered approach will include working with: 1) public stakeholders; 2) government stakeholders, such as other federal and state agencies, and local governments; and 3) other Council Members.

Leveraging:

N/A

Environmental Compliance:

During this planning project, environmental assessment of potential actions taken during the Phase 2 (i.e., Implementation Phase) will be fully evaluated to ensure compliance with all relevant environmental laws/regulations/standards. Documentation of this evaluation will be produced as part of this proposed planning project.

Bibliography:

Barras, J., Beville, S., Britsch, D., Hartley, S., Hawes, S., Johnston, J., Kemp, P., Kinler, Q., Martucci, A., Porthouse, J., Reed, D., Roy, K., Sapkota, S., and J. Suhayda. 2003. Historical and projected coastal Louisiana land changes: 1978-2050: USGS Open File Report 03-334, 39 pp.

Britsch, L.D., and Kemp, E.B. 1990. Land loss rates: Mississippi River Deltaic Plain. Technical Report GL-90–2. US Army Engineer Waterways Experiment Station, Vicksburg, MS.

Chabreck, R.H. and G. Linscombe. 1988. Louisiana Coastal Marsh Vegetative Type Map. La. Department of Wildlife and Fisheries

Coastal Protection and Restoration Authority of Louisiana. 2012. Louisiana's Comprehensive Master Plan for a Sustainable Coast. Coastal Protection and Restoration Authority of Louisiana. Baton Rouge, LA. http://coastal.la.gov/our-plan/2017-coastal-master-plan/

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Couvillion, B.R., Beck, Holly, Schoolmaster, Donald, and Fischer, Michelle, 2017. Land area change in coastal Louisiana 1932 to 2016: U.S. Geological Survey Scientific Investigations Map 3381, 16 p. pamphlet.

Dahl, T.E. 2000. Status and trends of wetlands in the conterminous United States 1986 to 1997. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. 82 pp.

Hawkins, M. and S. Aucoin 2014. 2014 Operations, Maintenance, and Monitoring Report for Cote Blanche Hydrologic Restoration (TV-04), Coastal Protection and Restoration Authority of Louisiana, Lafayette, Louisiana. 59 pp and Appendices.

Multiple Lines of Defense Strategy. 2008. Comprehensive Recommendations Supporting the Use of Multiple Lines of Defense Strategy to Sustain Coastal Louisiana. 2008 Report. (Version I) https://www.researchgate.net/publication/317350653_Comprehensive_Recommendations_Supporting_the_Use_of_the_Multiple_Lines_of_Defense_Strategy_to_Sustain_Coastal_Louisiana_2008_Report_Version_I_Multiple_Lines_of_Defense_Assessment_Team

Brady Canal Hydrologic Restoration (TE-28)
https://www.lacoast.gov/new/Projects/Info.aspx?num=TE-28#gsc.tab=0

Cote Blanche Hydrologic Restoration (TV-04).
https://www.lacoast.gov/new/Projects/Info.aspx?num=TV-04#gsc.tab=0

Penchant Basin Natural Resources Plan, Increment 1 (TE-29)
https://www.lacoast.gov/new/Projects/Info.aspx?num=TE-34#gsc.tab=0

Sediment Trapping at the Jaws (TV-15).
https://www.lacoast.gov/new/Projects/Info.aspx?num=TV-15#gsc.tab=0

South Lake Decade Freshwater Introduction (TE-39)
https://www.lacoast.gov/new/Projects/Info.aspx?num=TE-39#gsc.tab=0

20th Priority Project List Report
Louisiana Coastal Wetlands Conservation and Restoration Task Force
https://www.mvn.usace.army.mil/Portals/56/docs/environmental/cwppra/PPL/20/PPL20mainreport.pdf

Cote Blanche Freshwater and Sediment Introduction and Shoreline Protection Wetland Value Assessment. 2012. USDA Natural Resources Conservation Service. CWPPRA Wetland Value Assessment.

Turner, R.E., and D.R. Cahoon, eds. 1987. Causes of wetland loss in the coastal central Gulf of Mexico. Volume II: Technical Narrative. Final report submitted to Mineral Management Service, New Orleans, Louisiana. Contract No. 14-12-0001-30252. OCS Study/MMS 87-0120. 400 pp.

Turner, R.E. 1990. Landscape development and coastal wetland losses in the northern Gulf of Mexico. Amer. Zool. 30:89-105. U.S. Army Corps of Engineers. 2004. Louisiana Coastal Area (LCA), Louisiana: Ecosystem Restoration Study.
https://www.mvn.usace.army.mil/Portals/56/docs/LCA/Main%20Report.pdf?ver=2016-07-01-

Budget

Project Budget Narrative:
The budget request for this program is $2,650,000. 100% of the funds will be used for planning.

Total FPL 3 Project/Program Budget Request:
$ 2,650,000.00

Estimated Percent Monitoring and Adaptive Management: N/A
Estimated Percent Planning: 100 %
Estimated Percent Implementation: N/A
Estimated Percent Project Management: N/A
Estimated Percent Data Management: N/A
Estimated Percent Contingency: 0 %

Is the Project Scalable?:
No

If yes, provide a short description regarding scalability.:
N/A

Environmental Compliance[1]

Environmental Requirement	Has the Requirement Been Addressed?	Compliance Notes (e.g.,title and date of document, permit number, weblink etc.)
National Environmental Policy Act	N/A	Will make use of the Council Categorical Exclusion for Planning.
Endangered Species Act	N/A	Note not provided.
National Historic Preservation Act	N/A	Note not provided.
Magnuson-Stevens Act	N/A	Note not provided.
Fish and Wildlife Conservation Act	N/A	Note not provided.
Coastal Zone Management Act	N/A	Note not provided.
Coastal Barrier Resources Act	N/A	Note not provided.
Farmland Protection Policy Act	N/A	Note not provided.
Clean Water Act (Section 404)	N/A	Note not provided.
River and Harbors Act (Section 10)	N/A	Note not provided.
Marine Protection, Research and Sanctuaries Act	N/A	Note not provided.
Marine Mammal Protection Act	N/A	Note not provided.
National Marine Sanctuaries Act	N/A	Note not provided.
Migratory Bird Treaty Act	N/A	Note not provided.
Bald and Golden Eagle Protection Act	N/A	Note not provided.
Clean Air Act	N/A	Note not provided.
Other Applicable Environmental Compliance Laws or Regulations	N/A	Note not provided.

[1] Environmental Compliance document uploads available by request (restorecouncil@restorethegulf.gov).

Maps, Charts, Figures

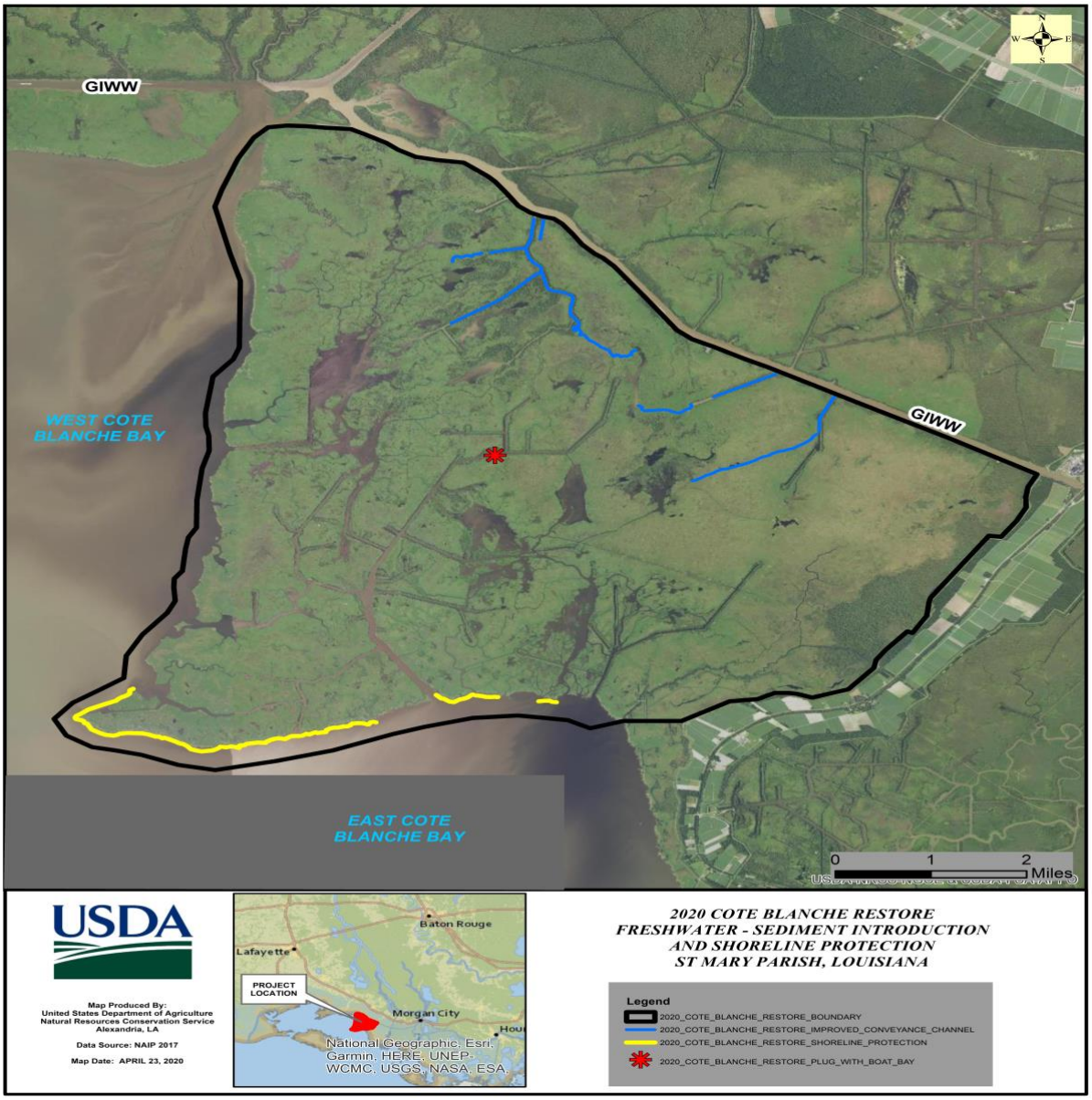

Figure 1 : Map showing project Location.