

# RESTORE ACT Direct Component

## Draft Multiyear Implementation Plan

### St. John the Baptist Parish



July 2016

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## **Introduction**

On April 20, 2010, the largest accidental marine oil spill in petroleum history occurred when approximately 4.9 million barrels of oil were discharged into the Gulf of Mexico over the course of 87 days (the Spill). Despite local efforts to minimize damages, the Gulf States have and are still suffering severe adverse consequences from the Spill. During the Spill, over a third of Gulf waters were closed to commercial and recreational activities (Johnson, Calkins & Fisk 2012). This proved to be economically devastating for fisheries from the Gulf States, which provide approximately forty percent of commercial seafood caught in the continental United States. Tourism in affected areas decreased significantly, leading to severe economic losses for Gulf States, small businesses and individuals. Additionally, spilled oil has intruded within and adversely impacted thousands of acres of the already-fragile wetlands of Louisiana. These wetlands serve as a critical environment for commercial and recreational activities and are essential for the protection of community infrastructure and life during hurricane events.

To aid in mitigation of economic and environmental damages, the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economics of the Gulf States Act (RESTORE Act) was signed into law on July 6, 2012.

St. John the Baptist Parish (the Parish) is composed of approximately 350 square miles of developed land, open space and wetlands which are home to approximately 46,000 residents. The Parish is dedicated to a mission of enhancing the safety, economy and welfare of its residences and communities. As part of this mission, the Parish has been working closely with State and Federal agencies to ensure that Parish goals are consistent with the latest State of Louisiana Master Plan.

Unfortunately, no single “bullet-proof” solution currently exists for many coastal problems. Difficulties affecting Gulf States, including those induced by the Spill, require differing approaches and solutions from local, State and Federal agencies. To further ongoing efforts of coastal restoration and protection, the Parish is kindly seeking funding from its RESTORE Act Direct Components allocation. This Multiyear Plan outlines details of the proposed project.

## **Public Participation**

To meet the conditions necessary to qualify for Direct Component funds, this Multiyear Plan will be made available for public review and comment for a minimum of forty-five days. The Multiyear Plan will be available at the St. John the Baptist Parish President's Office and the Parish website ([www.sjbparish.com](http://www.sjbparish.com)). In accordance with 31 C.F.R. §§34.303(a) and 34.503(g), the manner of public outreach will be calculated to obtain broad-based participation from individuals, businesses, Indian tribes and non-profit organizations. Public comments may be submitted to the Parish through email or regular mail using the following contact information:

Email:            m.alexisv@sjbparish.com

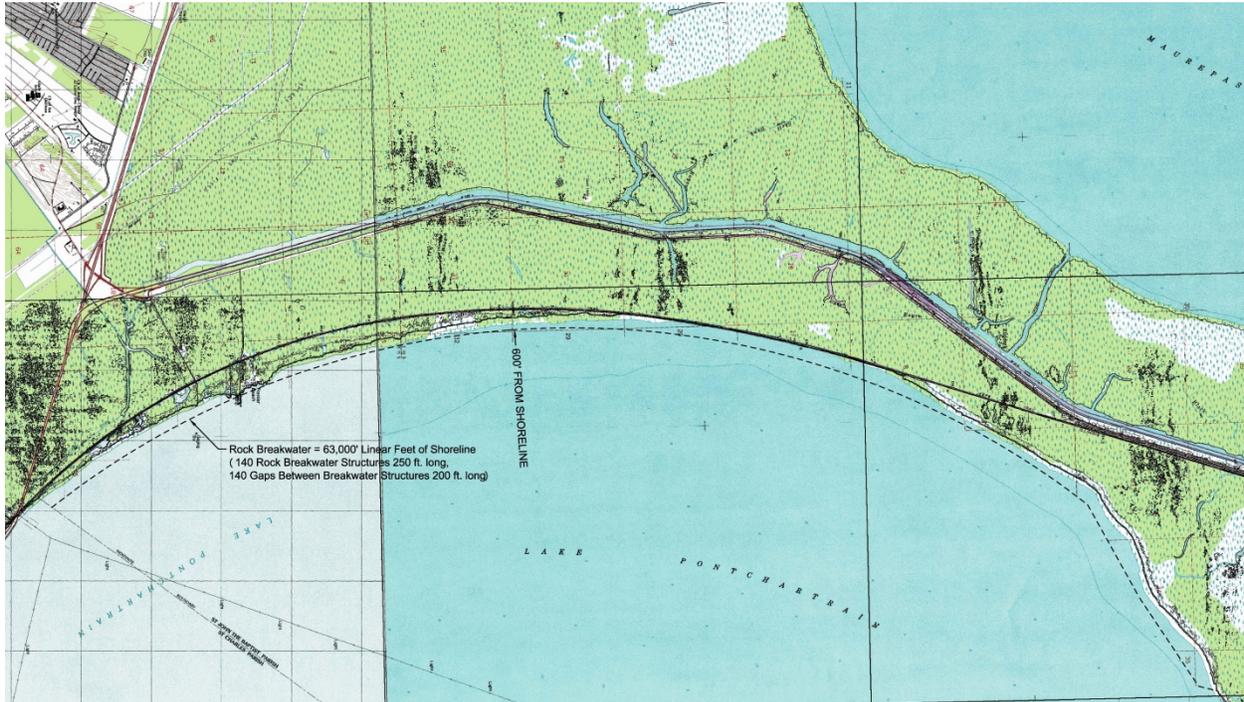
Address:         Myra Valentine  
                      1801 E. Airline Hwy.  
                      RE: Multiyear Implementation Plan Narrative  
                      LaPlace, LA 70068

The Public will be available to comment on the Multiyear Plan starting July 2, 2016 and ending August 16, 2016. In addition, a public meeting will be hosted on August 16, 2016 at the St. John the Baptist Parish Library located at 2920 Hwy. 51, LaPlace, LA 70068 at 6:00 PM where this Multiyear Plan will be presented and the public allowed to provide comment for consideration.

## **Project Overview – Lake Pontchartrain Shoreline Protection**

Funding received from the RESTORE Act will be used towards geotechnical and surveying services for Phase I of a two phase shoreline protection project.

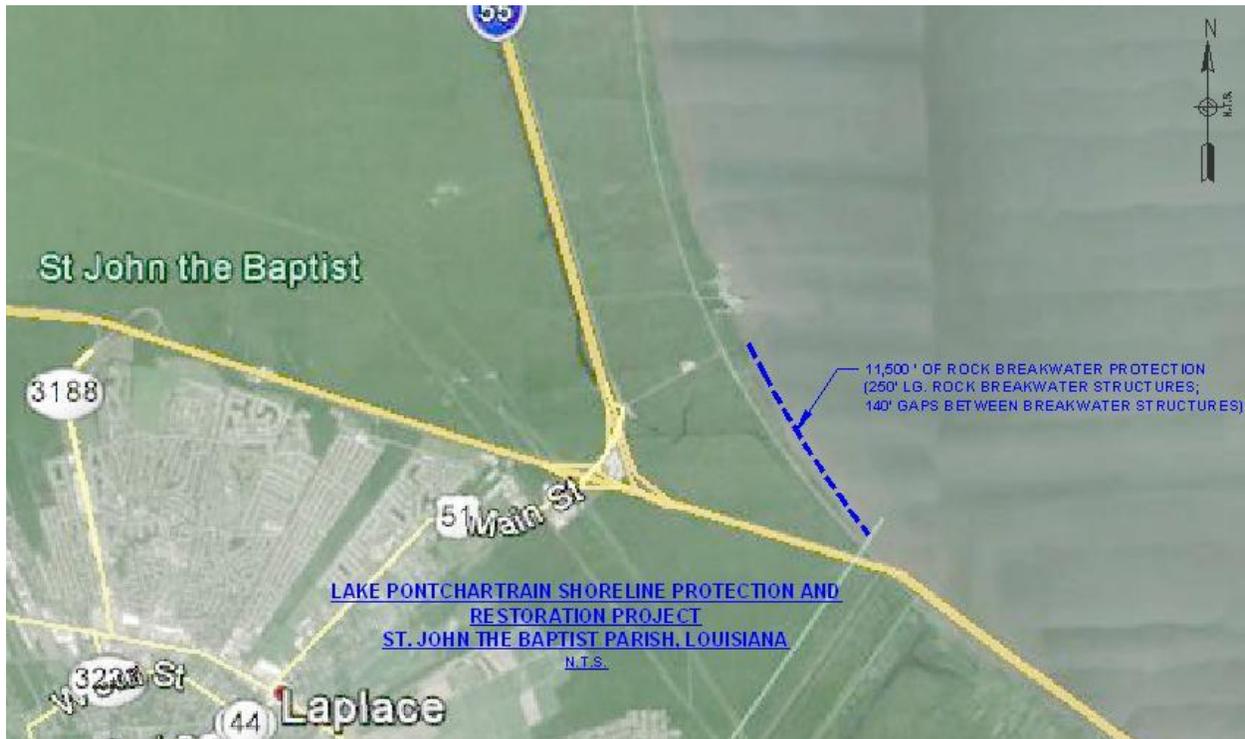
A site plan presenting Phase I and II of the project is presented in Figure 1.



**Figure 1: Lake Pontchartrain Shoreline Protection and Restoration Project  
(Phase I and II)**

Phase I includes the construction of rock breakwaters along approximately 11,500 feet (2.2 miles) of shoreline from the St. Charles Parish line to Peavine Road. Phase II will extend breakwater protection from Peavine Road to Rudderock.

A site plan presenting Phase I of the project is presented in Figure 2.

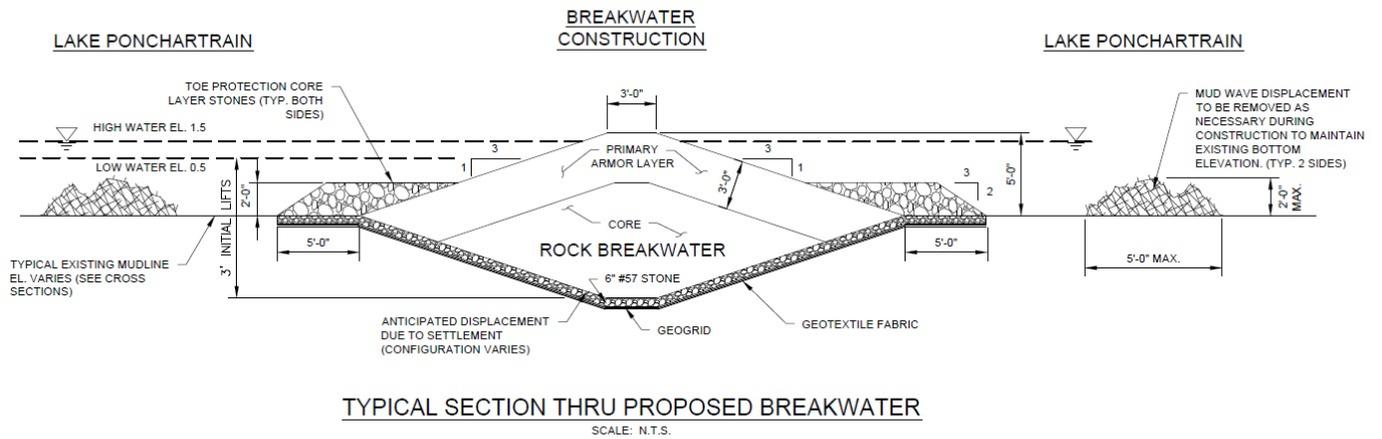


**Figure 2: Lake Pontchartrain Shoreline Protection and Restoration Project (Phase I)**

Providing rock breakwaters will strengthen the existing shoreline and prevent shoreline retreat, in turn maintaining the existing land between Lake Pontchartrain and LaPlace as a storm surge buffer.

To establish the dimensions of the breakwater, numerous empirical breakwater models were referenced to determine optimum placement of the breakwaters from the shoreline, length of the breakwaters and gap lengths between breakwaters. Using these models as a guide, the dimensional components of the conceptual breakwaters were determined to be approximately 26 total structures 250 feet in length with gaps between the structures 200 feet in length, and an offshore distance of 600 feet.

The preliminary typical section is presented in Figure 3.



**Figure 3: Typical Section**

The proposed layout and cross section is preliminary in nature and should be refined through detailed design using surveyed bathymetric data, geotechnical boring information and coastal engineering methods.

## **Project Need**

Wetlands located in Louisiana provide essential protection of wildlife habitats along with the infrastructure, economies and residences of local communities during tropical storm and hurricane events. Unfortunately, the State has lost over 1,880 square miles of land over the past eighty years. St. John the Baptist Parish has not been spared from these losses. Storm surges from Lake Pontchartrain during these events has deteriorated numerous acres of Parish wetlands and without action, wetlands are expected to continue to diminish.

Wetlands and communities expected to benefit from this phase (Phase I) of the Project are presented in Figure 4.



**Figure 4: Benefitted Wetland and Communities Areas (Phase I)**

Wetlands and communities expected to benefit upon completion of Phase I and II of the Project are presented in Figure 5.



**Figure 5: Benefitted Wetland and Communities Areas (Phase I and II)**

## **Prioritization of Activity**

The natural land bridge between Lake Maurepas and Lake Pontchartrain, the Maurepas Land Bridge, is a primary barrier for storm surges from Lake Pontchartrain into the eastern portion of St. John the Baptist Parish. The land bridge is also home to the potable water source for LaPlace, LA in St. John the Baptist Parish which serves 30,732 people. Since 1915 the western shore of Lake Pontchartrain has eroded at a rate of approximately 10 feet per year near the St. John the Baptist/St. Charles Parish line. Increased flooding risks resulting from the continued erosion of the Maurepas Land Bridge threatens residents and businesses of St. John the Baptist Parish in addition to major public infrastructure. As storm protection has been lost and local populations have grown, damages from storm events have significantly increased as seen from the widespread flooding, shut down of the water system and emergency evacuation of more than 3,500 residents of LaPlace, LA during Hurricane Isaac on August 30, 2012. Without action, wetlands, which protect local life and property, and which serve as a critical wildlife habitat, will continue to be lost to open water.

This project provides shoreline protection in the form of breakwaters to create a more resilient shoreline. Constructing breakwaters along the western shore of Lake Pontchartrain will protect the Maurepas Land Bridge from wave action, which will stabilize the shoreline and reduce erosion. As an additional benefit, the breakwaters can be optimally designed to capture sediment released into Lake Pontchartrain by the periodic opening of the Bonne Carre Spillway, which could rebuild the shoreline behind the breakwater structures. Strengthening the shoreline using these methods ensures that the Maurepas Land Bridge is maintained as a critical surge barrier for the Parish. This project was selected as the best project for St. John Parish as it best fits the listed criteria below. 3,600 acres of existing wetlands, which serve to protect LaPlace, LA, are expected to be protected from erosion and shoreline retreat if the proposed Lake Pontchartrain Shoreline Protection and Restoration project is constructed.

The criteria used to select this Lake Pontchartrain Shoreline Protection and Restoration project are as follows:

1. Number of benefitted residents
2. Acreage of benefitted wetlands
3. Cost-Benefit

Another project alternative considered included a marsh creation project along the western shoreline of Lake Pontchartrain which would create 430 acres of new marsh that would extend 300 feet outward beyond the existing shoreline from the St. Charles/St. John Parish line to Ruddock, LA. However, the cost per acre for a marsh creation project this size is significantly more than the proposed project. For instance, a marsh creation project recently completed in 2015 in Plaquemines Parish called the Grand Liard Marsh and Ridge Restoration Project construction cost was \$42.5M for 484 acres of created marsh. Based on these recently bid numbers on a similar marsh creation project the expected cost of the alternative project

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considered is \$37.8M. Additionally, these new marshes created will continue to be subject to erosion if measures are not taken for shoreline protection on Lake Pontchartrain and expenditures for these projects will be lost to erosion.

Therefore, the proposed Lake Pontchartrain Shoreline Protection and Restoration project is the best expenditure of funds for protecting existing wetlands and local communities.

### **Project Purpose**

The purpose of this Direct Component funded project is for planning assistance (geotechnical and surveying services) for the Lake Pontchartrain Shoreline Protection Project. These services are necessary before engineering, design, permitting and ultimately construction of the Project can begin.

### **Project Objectives**

1. Obtain a bathymetric survey from the shoreline to the proposed breakwater.
2. Obtain soil borings and geotechnical recommendations for breakwater cross section.

### **RESTORE Act Eligibility**

This project meets the RESTORE Act criteria. Specific eligible activities include the following:

- Planning Assistance
- Coastal Flood Protection and Related Infrastructure

The proposed activities (which include geotechnical and surveying services) for this proposed Direct Component funded project meet the eligibility requirements of planning activities under the RESTORE Act. The planning assistance for this project will be conducted within the Gulf Coast Region and the underlying project site (Lake Pontchartrain) is located within the Gulf Coast Region.

### **Measures of Success**

The following milestones shall be marked as measures of success for this project:

1. Completion of geotechnical report and bathymetric survey.

### **Proposed Schedule**

The proposed schedule for survey and geotechnical activities will be established within two months of project initiation.

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## Construction Budget

The total estimated construction cost for Phase I of the project is \$3,628,321.00. A breakdown of this estimate is presented in Figure 6.

COST ESTIMATE FOR BREAKWATER IN ST. JOHN THE BAPTIST PARISH					
Segment 1 of Breakwater (Parish Line to Peavine Rd.)					
11,500 ft (2.2 miles)					
REF. NO.	Item Description	Quantity	Unit	Unit Price	Total Price
1	Mobilization and Demobilization	1	LS	\$172,800.00	\$172,800.00
2	Rip-rap R1500	15,137	TON	\$59.00	\$893,083.00
3	Rip-rap R650	21,020	TON	\$53.00	\$1,114,060.00
4	#57 Stone (6" thick)	2,200	TON	\$55.00	\$121,000.00
5	Geogrid	10,542	SY	\$4.00	\$42,168.00
6	Geotextile	10,542	SY	\$5.00	\$52,710.00
7	Turbidity Curtain	11,500	LF	\$43.00	\$494,500.00
8	Flotation Channel	69,000	CY	\$10.00	\$690,000.00
9	Marine Hazard Markers (Every 1000ft)	12	EA	\$4,000.00	\$48,000.00
Total:					<b>\$3,628,321.00</b>

**Figure 6: Breakdown of Construction Cost Estimate**

The estimated cost for pre-construction Engineering services is calculated using the Parish fee curve. Based on the curve, the fee for engineering services will be approximately 7.136% of the construction cost which amounts to \$258,917.00.

Resident inspection costs are also calculated using the Parish fee curve. Based on the curve, the fee for inspection services will be approximately 3.163% of the construction cost which amounts to \$114,764.00.

Geotechnical services are estimated to be approximately \$81,500.00 and bathymetric surveying services are estimated to be approximately \$110,000.00.

The total estimated cost of the proposed project is as follows:

$$\$3,628,321.00 + \$258,917.00 + \$114,763.00 + \$82,000.00 + \$110,000.00 = \mathbf{\$4,193,502.00}$$

The total cost of eligible activities within this Multiyear Plan which include geotechnical and survey services is as follows:  $\$81,500.00 + \$110,000.00 = \mathbf{\$191,500.00}$

Currently St. John the Baptist Parish is actively seeking a source of funds for the construction of the proposed project. Before the project is shovel ready and can move to the construction phase the design phase has to be completed. The design phase will be completed with RESTORE Act funds and St. John Parish will continue to try and identify funds for construction.

## Direct Component Multiyear Plan Matrix

RESTORE ACT Direct Component Multiyear Plan Matrix — Department of the Treasury										OMB Approval No. 1505-0250	
Applicant Name:		St. John the Baptist Parish									
1. CUMULATIVE DIRECT COMPONENT ALLOCATION AVAILABLE FOR DISTRIBUTION TO APPLICANT:				\$219,782.12			FUND FOR DIRECT COMPONENT:				\$219,782.12
3. Primary Direct Component Eligible Activity Further Described in Application (Static Field)	4. Activity Number and Activity Title (Static Field)	5. Location - Municipality(ies) (Static Field, locations also shown on attached map)	6. Total Funding Resources For Activity Budget (refer to Instructions)				7. Proposed Start Date mm/yyyy	8. Actual Start Date mm/yyyy (Static Field)	9. Proposed End Date mm/yyyy	10. Actual End Date mm/yyyy (Static Field)	11. Proposed High Level Milestones Further Described in Application
			6a. Direct Component Contribution	6b. Other RESTORE Act Contribution	6c. Other Third Party Contribution	6d. Total Project Budget					
Planning assistance	Lake Pontchartrain Shoreline Protection and Restoration Project - Survey and Geotechnical Services	St. John the Baptist Parish	\$219,782.12	\$0.00	\$0.00	\$219,782.12	Jan-17	TBD	Jan-18	TBD	Receipt of bathymetric survey and geotechnical report
12. TOTAL FUNDING FOR BUDGET (refer to Instructions)			\$219,782.12	\$0.00	\$0.00	\$219,782.12					

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 1505-0250. Comments concerning the time required to complete this information collection, including the time to review instructions, search existing data resources, gathering and maintaining the data needed, and completing and reviewing the collection of information, should be directed to the Department of the Treasury, RESTORE Act Program, 1500 Pennsylvania Ave., NW, Washington, DC 20220.