



**Coastal Protection and Restoration
Authority of Louisiana**

**Office of Coastal Protection and
Restoration**

**2008/2009 Annual Inspection
Report**

for

**FRESHWATER BAYOU
WETLANDS PROJECT
(ME-04)**

State Project Number ME-04
Priority Project List 3

October 9, 2008
Vermilion Parish

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I. Introduction

The Freshwater Bayou Wetlands Project (State Project No. ME-04) is located in the Mermentau Basin on the western bank of the Freshwater Bayou Canal in Vermilion Parish just south of the town of Intracoastal City. Structural components of the project extend from the North Prong/Belle Isle Canal south to the Humble/Acadiana Marina Canal. (See Appendix A).

The Freshwater Bayou Wetlands Project was authorized by Section 303(a) of Title III Public Law 101-646, the Coastal Wetlands Planning Protection and Restoration Act (CWPPRA) enacted on November 29, 1990 as amended and approved on the second Priority Project List. The Freshwater Bayou Wetlands Project has a twenty –year (20 year) economic life, which began in March 1995.

II. Inspection Purpose and Procedures

The purpose of the annual inspection of the Freshwater Bayou Wetlands Project (ME-04) is to evaluate the constructed project features to identify any deficiencies and prepare a report detailing the condition of project features and recommended corrective actions needed. Should it be determined that corrective actions are needed, OCPR shall provide, in the report, a detailed cost estimate for engineering, design, supervision, inspection, and construction contingencies, and an assessment of the urgency of such repairs (O&M Plan, 2003). The annual inspection report also contains a summary of maintenance projects which were completed since completion of constructed project features and an estimated projected budget for the upcoming three (3) years for operation, maintenance and rehabilitation. The three (3) year projected operation and maintenance budget is shown in Appendix C. A summary of past operation and maintenance projects completed since completion of the Freshwater Bayou Wetlands Project are outlined in Section IV.

In 2003, the CWPPRA Task Force determined, due to the fact that OCPR was responsible for the operation and maintenance phase of the vast majority of CWPPRA projects, that OCPR would be the responsible party for all Post Storm/Hurricane Assessments. After Hurricane Ike, every project appeared to have been impacted by the storms; therefore, OCPR determined that all projects should be assessed for damages (Broussard, 2006). With concurrence from the federal sponsor, OCPR has decided to use the information obtained during this post hurricane assessment in this Annual Maintenance Inspection.

An inspection of the Freshwater Bayou Wetlands Project (ME-04) was held on October 9, 2008, under partly cloudy skies and mild temperatures. In attendance were Stan Aucoin and Mel Guidry from (OCPR); Dale Garber representing (NRCS); and John Foret (NOAA) for other inspections. The inspection began at the northern end of the rock dike alignment at 1:05 pm.

The field inspection included a complete visual inspection of the entire project site. Staff gauge readings when available and existing temporary benchmarks were used to determine approximate water level and foreshore rock dike elevation. (See Appendix D).

III. Project Description and History

The Freshwater Bayou Wetlands (ME-04) project encompasses approximately 37,000 acres of fresh to intermediate wetlands located between La. Hwy. 82 and Freshwater Bayou Canal, approximately 5 mi east of White Lake, Louisiana (figure 1). Boat wake-induced shoreline erosion, which averaged 12.5 ft/yr along each bank of Freshwater Bayou Canal between 1968 and 1992 (Brown & Root 1992), has deteriorated the spoil banks along the channel, allowing multiple breaches to form, and tidal scour of the organic soils in the adjacent wetlands to ensue. Between 1968 and 1990, the bank width of this navigation canal increased almost fourfold, resulting in the loss of 768 acres of coastal wetlands (Good et al. 1995).

The objective of phase 1 of this project is to prevent further widening of the Freshwater Bayou Canal channel into the project area, thereby protecting existing emergent wetlands along the west bank of the canal from further deterioration caused by shoreline erosion and tidal scour. The specific goal of the project is to decrease the rate of erosion and wetland loss along the west bank of Freshwater Bayou Canal using a rock dike. Construction of approximately 28,000 linear ft of free-standing, continuous rock dike along the west bank of the canal was completed in March 1995 by using existing rock that was salvaged from a weir at Wax Lake Outlet. The USACE provided manpower and equipment to facilitate removal of the rock from the weir and transport to the FWB Wetlands location for initial construction of this project.

The principal project features include:

- Site 1 - Foreshore Rock Dike (approximately 28,000 linear feet)

IV. Summary of Past Operation and Maintenance Projects

General Maintenance: Below is a summary of completed maintenance projects and operation tasks performed since March 1995, the construction completion date of the Freshwater Bayou Wetlands Project (ME-04).

2002 - Freshwater Bayou Wetlands Maintenance Project – LDNR: This maintenance project included the installation of approximately 26,750 tons of 1000 lb gradation stone to repair fifteen thousand, two hundred and sixty-three linear feet of bank. Quantity limitations prevented the repair of all sections required. Construction was completed on 4/22/2002. The cost associated with the engineering, design and construction of the Freshwater Bayou Wetlands Maintenance Project is as follows:

Construction:	\$615,900.00
Engineering & Design:	\$ 46,882.86

Construction Administration:	\$ 36,954.00
Construction Oversight/As built:	<u>\$ 17,311.06</u>
Project Total:	\$717,047.92

2005 - Freshwater Bayou Wetlands Maintenance Project – LDNR (Luhr Bros. Contractor): This maintenance project included the installation of approximately 21,370 tons of 1,250 lb gradation stone to repair 11,426 linear feet of bank. Quantity limitations prevented the repair of all sections required. Construction was completed on 12/15/2005. The cost associated with the engineering, design and construction of the Freshwater Bayou Wetlands Maintenance Project is as follows:

Construction:	\$472,660.50
Engineering & Design:	\$ 1,282.84
Construction Administration:	\$ 5,625.00
Construction Oversight/As built:	<u>\$ 4,419.68</u>
Project Total:	\$483,988.02

Structure Operations: There are no active operations associated with this project.

V. Inspection Results

Site 1—Foreshore rock dike

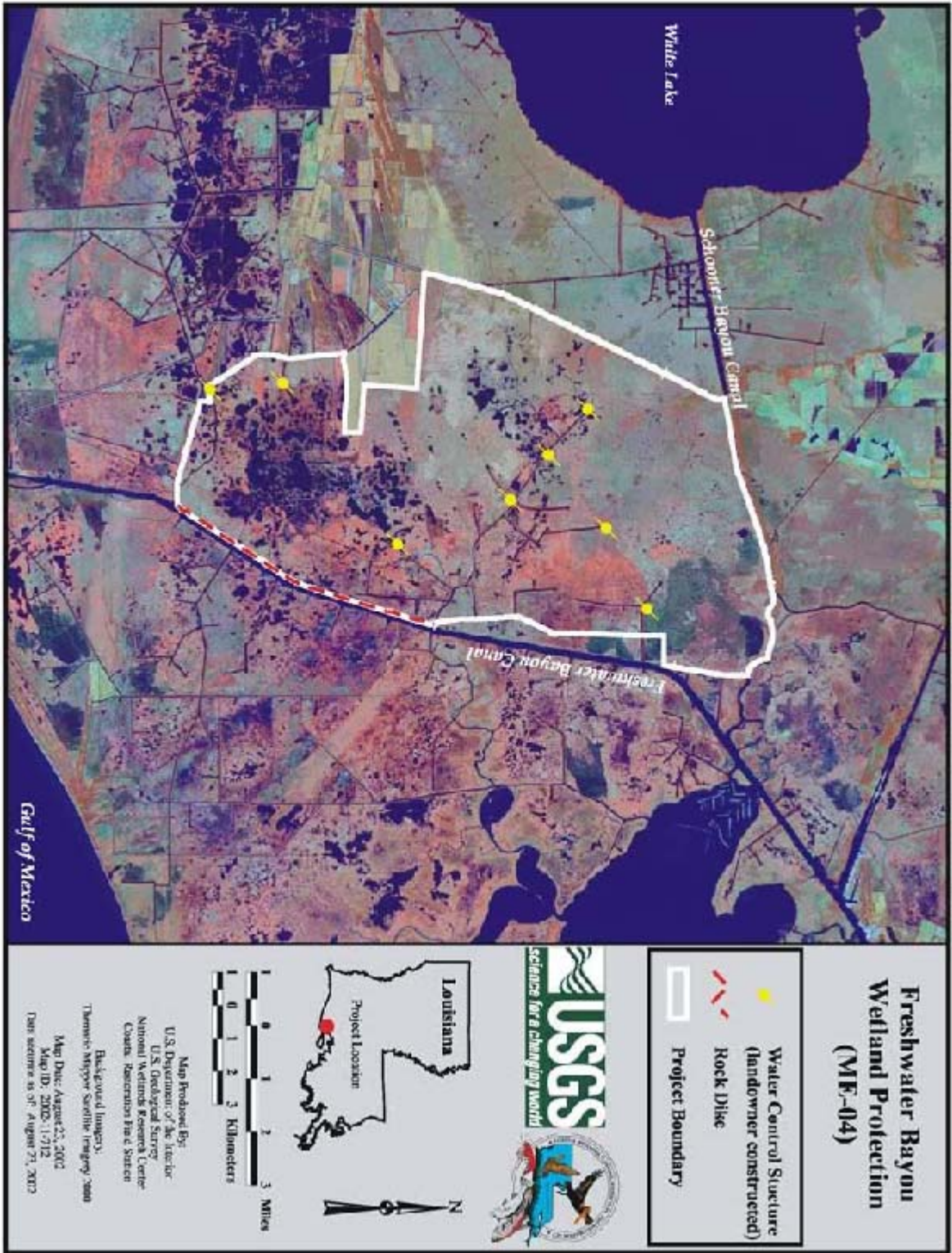
The inspection revealed the 11,420 linear feet of foreshore dike repaired in the 2005 maintenance project is in good condition and does not appear to have suffered any damages from Hurricane Ike. There are some areas of rolled up marsh, new open water areas and marsh balls/wrack deposited within some of the canals on the interior of the project. The additional 2,000 linear feet of foreshore rock dike identified in the 2003/2004 O & M Inspection as being below elevation 4.0' NAVD, but above elevation 2.0' NAVD, which was not addressed due to budget limitations has not deteriorated further. (Photos: Appendix B, Photos 1 & 2)

VI. Conclusions and Recommendations

Overall the Freshwater Bayou Wetland Project is in good condition and appears to have stabilized the erosion of the Freshwater Bayou Canal Bank line. Impacts from Hurricane Rita resulted in marsh loss near the Transcontinental pipeline. During construction, the rock dike in this area was tied into that marsh and exchange was limited between Freshwater Bayou and the interior marsh. Marsh loss from Rita allows increased exchange behind the rock dike and is increasing erosion and marsh loss along the shoreline and in the interior marsh. This area of

concern will need to be addressed. In addition, the above mentioned 2,000 linear feet of foreshore rock will continued to be monitored for deterioration in future O& M Inspections.

Appendix A
Project Features Map



Appendix B

Photographs



Photo No. 1, Typical rock dike

Appendix C

Three Year Budget Projection

FRESHWATER BAYOU / ME04 / PPL2
Three-Year Operations & Maintenance Budgets 07/01/2009 - 06/30/2012

<u>Project Manager</u> Pat Landry	<u>O & M Manager</u> Mel Guidry	<u>Federal Sponsor</u> NRCS	<u>Prepared By</u> Mel Guidry
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	2009/2010	2010/2011	2011/2012
<i>Maintenance Inspection</i>	\$ 5,737.00	\$ 5,909.00	\$ 6,086.00
<i>Structure Operation</i>	\$ -	\$ -	\$ -
<i>Administration</i>	\$ -	\$ -	\$ -

Maintenance/Rehabilitation

09/10 Description:

<i>E&D</i>	
<i>Construction</i>	
<i>Construction Oversight</i>	
<i>Sub Total - Maint. And Rehab.</i>	\$ -

10/11 Description:

<i>E&D</i>	
<i>Construction</i>	
<i>Construction Oversight</i>	
<i>Sub Total - Maint. And Rehab.</i>	\$ -

11/12 Description:

<i>E&D</i>	
<i>Construction</i>	
<i>Construction Oversight</i>	
<i>Sub Total - Maint. And Rehab.</i>	\$ -

	2009/2010	2010/2011	2011/2012
<i>Total O&M Budgets</i>	\$ 5,737.00	\$ 5,909.00	\$ 6,086.00

<u>O & M Budget (3 yr Total)</u>	<u>\$ 17,732.00</u>
<u>Unexpended O & M Budget</u>	<u>\$ 105,747.00</u>
<u>Remaining O & M Budget (Projected)</u>	<u>\$ 88,015.00</u>

Appendix D

Field Inspection Form

Annual Inspection Report
 FRESHWATER BAYOU WETLANDS
 State Project No. ME-04

MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: ME-04 Freshwater Bayou

Date of Inspection: October 9, 2008 Time: 1:05 pm

Structure No. N/A

Inspector(s): Stan Aucoin, Mel Guidry (OCPR)
 John Foret (NOAA), Dale Garber (NRCS)

Structure Description: Foreshore Rock Dike

Water Level
 Weather Conditions: Partly cloudy and mild

Type of Inspection: Annual

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Steel Bulkhead / Caps	N/A				
Steel Grating	N/A				
Stop Logs	N/A				
Hardware	N/A				
Timber Piles	N/A				
Timber Wales	N/A				
Galv. Pile Caps	N/A				
Cables	N/A				
Signage / Supports	N/A				
Rip Rap (fill) (foreshore dike)	Good			1 & 2	Recent maintenance work to restore dike to constructed elevation still in good condition. Approx. 2,000 LF still below +4.0 NAVD88 and will be monitored on future inspections.
Earthen Embankment	N/A				

What are the conditions of the existing levees?
 Are there any noticeable breaches?
 Settlement of rock plugs and rock weirs?
 Position of stoplogs at the time of the inspection?
 Are there any signs of vandalism?

Appendix E

Locations to be Monitored