



State of Louisiana

**Coastal Protection and Restoration
Authority of Louisiana (CPRA)**

**2015/2016 Annual Inspection
Report**

for

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

State Project Number ME-04
Priority Project List 3

March 4, 2016
Vermilion Parish

Prepared by:

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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 was approved with an original twenty-year (20 year) project life, which began in March 1995. In 2016, the CWPPRA Task Force approved a project extension for an additional 20 years.

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, CPRA 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.

An inspection of the Freshwater Bayou Wetlands Project (ME-04) was held on March 4, 2016, under sunny skies and mild temperatures. In attendance were Mel Guidry and Stan Aucoin from CPRA, Lonnie Dunn with Luhr Bros., and Andre Aucoin with Acadian Engineers. The federal sponsor, NRCS, was not able to attend. The inspection began at the northern end of the rock dike alignment at 9:30 am.

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 project plan (USDA/SCS 1994) divides the project area into three Conservation Treatment Units (CTU's), with CTU 1 and 3 benefiting directly from the shoreline protection work implemented under Phase 1 of the project. 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.

Phase 2 of this CWPPRA project authorized the installation of eight (8) box-type water control structures with a single flapgate, a variable-crest weir, and two fixed-crest weirs (one with a 4 inch vertical slot) in the project area. Three structures are located in CTU 1, three in CTU 2, and two in CTU 3. A number of water control structures were already in place prior to the project. Additional structures were installed by the landowner at the landowner's expense, to enhance the operation of the eight CWPPRA structures. Phase 2 construction of the water control structures and weirs was completed in October 1998 and is maintained by the landowner. Phase 1 is the only feature that is maintained by CPRA.

The Phase 1 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-builts:	<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-builts:	<u>\$ 4,419.68</u>
Project Total:	\$483,988.02

2015 - Freshwater Bayou Wetlands Maintenance Project – CPRA (Luhr Bros. Contractor): This maintenance project included the installation of approximately 45,345 tons of 250 Lb Class Rock to repair the entire 28,000 linear feet of bank. Construction was completed on 3/4/2016. The cost associated with the engineering, design and construction of the Freshwater Bayou Wetlands Maintenance Project is as follows:

Construction:	\$1,998,736.00
Engineering & Design:	\$ 75,523.23
Construction Admin., Oversight, As-builts	<u>\$ 46,300.93</u>
Project Total:	\$2,120,560.16

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

V. Inspection Results

Site 1—Foreshore rock dike

The inspection revealed the entire 28,000 linear feet of foreshore rock dike repaired in the recent 2015 maintenance project is in excellent condition. (Appendix B, Photos 1-3) This

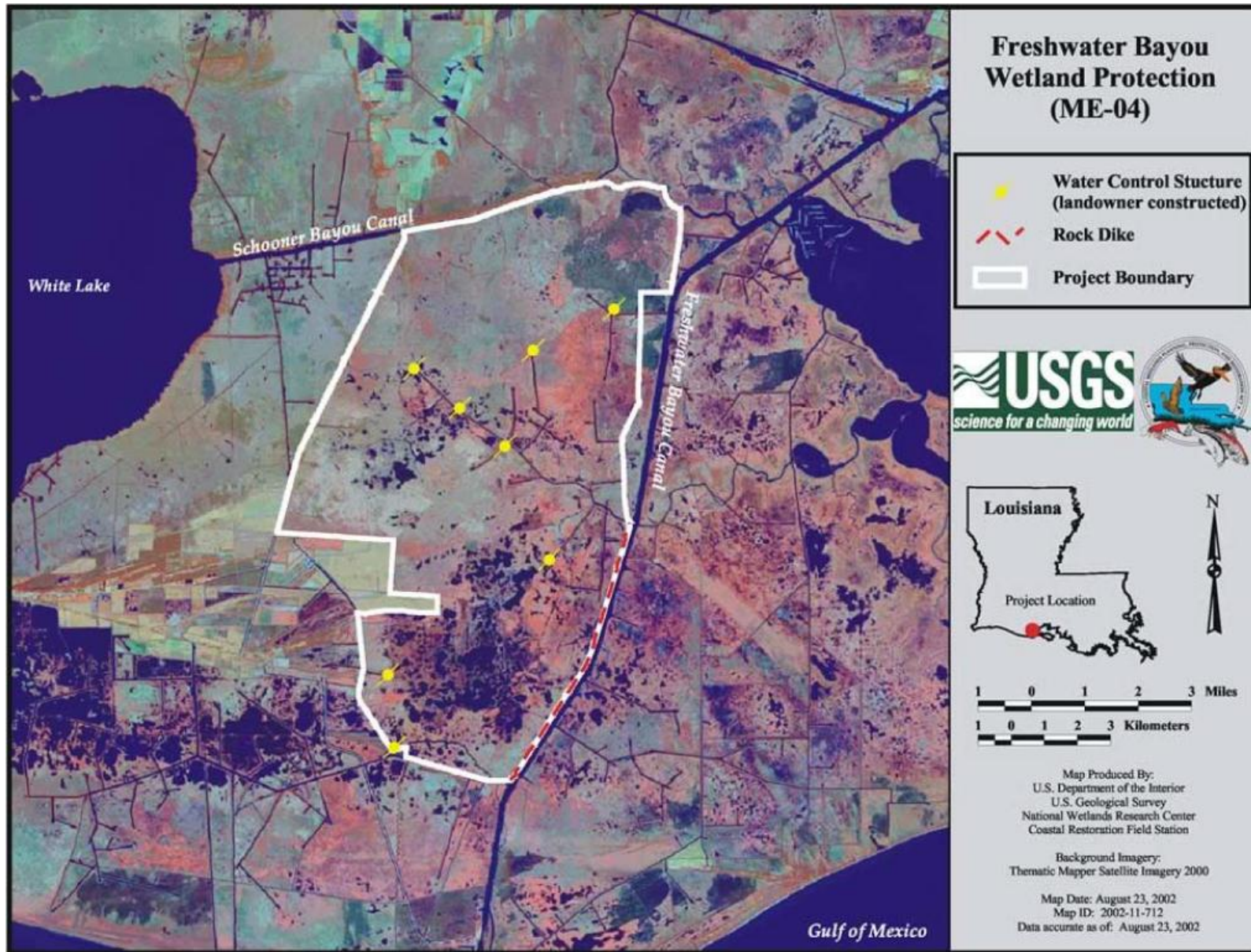
project is ready to move into the next 20 year life extension as approved by the CWPPRA Task Force.

VI. Conclusions and Recommendations

Overall the Freshwater Bayou Wetland Protection Project is in excellent condition and appears to have stabilized the erosion of the Freshwater Bayou Canal Bank line. Minimal maintenance should be required during the next 20 years of life extension.

In addition, the 300 foot section of rock dike originally gapped when the project was constructed has now been filled in by the Vermilion Parish Police Jury using Interim Emergency Board funds. This work was completed prior to the last maintenance event in 2015.

Appendix A
Project Features Map



Appendix B
Photographs



Photo No. 1, Typical Rock Dike



Photo No. 2, Vegetation Behind Rock Dike



Photo No. 3, Typical Rock Dike

Appendix C

Three Year Budget Projection

FRESHWATER BAYOU / ME04 / PPL2
Three-Year Operations & Maintenance Budgets 07/01/2016 - 06/30/2019

<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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	2016/2017 (-22)	2017/2018 (-23)	2018/2019 (-24)
Maintenance Inspection	\$ -	\$ -	\$ 8,130.00
Structure Operation	\$ -	\$ -	\$ -
State Administration		\$ -	\$ -
Federal Administration		\$ -	\$ 3,735.00

Maintenance/Rehabilitation

16/17 Description:

E&D	\$ -	
Construction		(Incl. 25% Contingency)
Construction Oversight		
Sub Total - Maint. And Rehab.	\$ -	

17/18 Description:

E&D	\$ -	
Construction	\$ -	
Construction Oversight	\$ -	
Sub Total - Maint. And Rehab.	\$ -	

18/19 Description:

E&D	\$ -	
Construction	\$ -	
Construction Oversight	\$ -	
Sub Total - Maint. And Rehab.	\$ -	

	2016/2017 (-22)	2017/2018 (-23)	2018/2019 (-24)
Total O&M Budgets	\$ -	\$ -	\$ 11,865.00

<u>O & M Budget (3 yr Total)</u>	\$ 11,865.00
<u>Unexpended O & M Budget</u>	\$ 2,347,033.00
<u>Remaining O & M Budget (Projected)</u>	\$ 2,335,168.00

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 Wetland Protection Date of Inspection: March 4, 2016 Time: 9:30 am
 Structure No. N/A Inspector(s): Mel Guidry, Stan Aucoin (CPRA)
 Lonnie Dunn (Luhr Bros.), Andre Aucoin (Acadian Engineers)
 Structure Description: Foreshore Rock Dike Water Level :
 Type of Inspection: Annual Weather Conditions: sunny and mild temperatures

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)	Excellent			1,2,3	Recent maintenance work to restore dike to constructed elevation still in excellent condition.
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?