



**State of Louisiana
Coastal Protection and Restoration Authority**

2015 Annual Inspection Report

for

Fritchie Marsh Restoration

State Project Number PO-06
Priority Project List 2

June 29, 2015
St. Tammany Parish

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I. Introduction

The Fritchie Marsh Restoration Project (PO-06) project area contains intermediate and brackish marsh, and is located southeast of Slidell in St. Tammany Parish (Appendix A). The area is bounded by US Hwy 190 to the north, US Hwy 90 to the south and east, and LA Hwy 433 to the west and south.

II. Project Description and History

From 1956 to 1984, 2,260 acres (915-ha) of emergent marsh within the Fritchie Marsh project area were converted to open water, with the greatest loss occurring in the northern project area. This loss reflects a pattern of marsh deterioration from north to south due to a reduction of freshwater and sediment input into the northern part of the project area. Natural hydrologic patterns have been disrupted by the construction of the perimeter highways. These embankments isolate the marsh from the West Pearl River, and have restricted inflow of freshwater, nutrients, and sediment. Additionally, saltwater from Lake Pontchartrain enters the marsh through the W-14 canal and Little Lagoon during high tides and strong winds. As a result, the project area has converted from a predominantly fresh marsh in 1956 to a predominantly brackish marsh in 1990.

The objective of the Fritchie Marsh Restoration Project is to reduce marsh loss by restoring more natural hydrologic conditions in the project area through management of available freshwater. Specific objectives are (1) to increase freshwater flow and promote water exchange into the area from West Pearl River by enlarging the culvert at U.S. Highway 90 and by dredging portions of Salt Bayou and (2) increase freshwater flow into the northern project area by diverting flow from the W-14 canal.

The Fritchie Marsh Restoration Project was constructed in one phase beginning in October 2000 and completed in March 2001. The project has a 20-year economic life which began in March 2001.

The principal project features include:

- A 72-inch diameter by 136-foot long concrete culvert under U.S. Highway 90, rock riprap lining of the Salt Bayou channel bottom and pipe outlets, and installation of 308 linear feet of sheet piling to form a bulkhead.
- Dredging of approximately 5300 linear feet of Salt Bayou.
- Installation of a weir in the W-14 canal. The weir consists of 108 linear feet of sheet pile with a 20-foot wide boat bay.
- Dredging approximately 400 linear feet of the W-14 diversion channel.

In August 2005 Hurricane Katrina passed directly over the Fritchie Marsh Project area. The forces created by this storm caused significant damage to the marsh but not to any of the project features. Large areas of marsh were converted to open water, whereas sections of sheared marsh were deposited into the natural bayous and canals creating a number of

blockages. Existing breaches on the banks of Salt Bayou were enlarged and new breaches were created, which are diverting water away from the natural conveyance channels. The previously established hydrology within the project area has been significantly altered.

Past Maintenance Projects

The warning signs and directional arrows at the W-14 weir were repaired in Spring 2015 due to weathering of the reflective surfaces and faded coloring. Eight (8) new sign faces and mounting hardware were purchased at a cost of \$2,195.99 and installed by CPRA personnel over a two-day field effort.

III. Inspection Purpose and Procedures

The purpose of the annual inspection of the Fritchie Marsh Restoration Project (PO-06) 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 July 10, 2002). The annual inspection report also contains a summary of maintenance projects 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 project are outlined in Section II.

An inspection of the Fritchie Marsh Restoration Project (PO-06) was conducted on June 24, 2015 by Luke Prendergast (CPRA), Doug Baker (NRCS), and David Brunet (St. Tammany Parish). Access to Salt Bayou was not possible due to shallow water depths.

IV. Inspection Results

Hwy 90 Culvert and Stone Revetment

There is little change in this structure from the previous inspection. The bank scour reported in previous inspections did not appear to have progressed appreciably. The low area in the north bank, located approximately 150' west of the roadway centerline, still allows overbank flow of fresh water to enter the marsh during high water events. This area deserves continued observation during future inspections.

Salt Bayou Dredging

Due to shallow water depths in Salt Bayou, the inspection team was not able to inspect this project feature by boat. Visual observation was performed from the Highway 90 shoulder adjacent to the culverts and revetment. The deadfall observed in the bayou last year appears to have been partially cleared, and water was flowing into the project area.

W-14 Weir

The weir structure was fully submerged and partially surrounded by aquatic vegetation. The visible portion of the handrails appeared to be in good condition. The new warning signs were in very good condition. No maintenance is required in this area at this time.

W-14 Diversion Channel Dredging

The channel inlet was free of obstructions. Emergent aquatic vegetation was present in the channel outfall. The diversion channel appeared to be functioning as designed.

V. Conclusions

The project appears to be meeting the goal of diverting fresh water into the Fritchie Marsh area. While a significant portion of Salt Bayou has experienced siltation, water is still entering the project area from the portion of the bayou near the Hwy. 90 culverts.

VI. Recommendations

Continue to inspect the project features on an annual basis. Coordinate with resource agencies and local stakeholders on potential upcoming projects within Fritchie Marsh area to assess potential impacts on Salt Bayou and project hydrology.

Immediate Repairs

- None at this time.

Programmed Maintenance

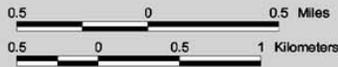
- None at this time.

Appendix A
Project Features Map



Data Source:
 U.S. Department of the Interior
 U.S. Geological Survey
 National Wetlands Research Center
 Coastal Restoration Field Station
 Baton Rouge, LA
 and
 Louisiana Department of Natural Resources
 Coastal Restoration Division
 Baton Rouge, LA

1998 DOQQ Imagery
 Map Date: April 23, 2004
 Map ID: USGS-NWRC 2004-04-0148



LEGEND

- PO-06 Project Boundary
- 5300 ft. Dredge Area on Salt Bayou
- 400 ft. Dredge Area on the W-14
- Diversion Channel
- Bulkhead of Steel Sheetpile
- 72" Concrete Culvert
- Steel Sheetpile Weir with Boat Bay
- Water Flow Monitoring Stations
- Staff Gauge Only
- Continuous Recorder

Appendix B
Photographs



Photo 1: W-14 Weir and Warning Signs



Photo 2: W-14 Diversion Canal



Photo 3: Hwy. 90 Road Surface Above Culverts



Photo 4: Culverts Below Hwy. 90



Photo 5: Salt Bayou Flowing into Project Area



Photo 6: Bulkhead on Southeast Side of Hwy. 90

Appendix C

Three Year Budget Projection

2015 Annual Inspection Report
 Fritchie Marsh Restoration
 State Project No. PO-06

Fritchie Marsh Hydrologic Restoration (PO-06)

Federal Sponsor: NRCS
 Construction Completed : March 6, 2001
 PPL 2

Current Approved O&M Budget June 2009	Year 0 FY02	Year - 1 FY03	Year -2 FY04	Year -3 FY05	Year -4 FY06	Year -5 FY07	Year -6 FY08	Year -7 FY09	Year -8 FY10	Year -9 FY11	Year -10 FY12	Year -11 FY13	Year -12 FY14	Year -13 FY15	Year -14 FY16	Year -15 FY17	Year -16 FY18	Year - 17 FY19	Year -18 FY20	Year -19 FY21	Project Life Budget	Currently Funded		
State O&M																						\$225,211	\$225,211	
Corps Admin																							\$0	\$0
Federal S&A																							\$0	\$0
Total																							\$225,211	\$225,211

Projected O&M Expenditures																						Remaining Project Life	Current 3 year Request							
Maintenance Inspection																							\$4,206	\$4,316	\$4,428	\$4,543	\$4,661	\$4,782	\$26,937	\$12,950
General Maintenance																							\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Surveys																							\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sign Replacement																							\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Federal S&A																							\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Maintenance/Rehabilitation																							\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
E&D																							\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction																							\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction Oversight																							\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total																							\$4,206	\$4,316	\$4,428	\$4,543	\$4,661	\$4,782	\$26,937	\$12,950

O&M Expenditures from COE Lana Report	\$129,742	Current O&M Budget less COE Admin	\$225,211	Current Project Life Budget less COE Admin	\$225,211
State O&M Expenditures not submitted for in-kind credit	\$0	Remaining Available O&M Budget	\$95,469	Total Projected Project Life Budget	\$156,679
Federal Sponsor MIPRs (if applicable)	\$0	Incremental Funding Request Amount FY16-FY18	(\$82,519)	Project Life Budget Request Amount	(\$68,532)
Total Estimated O&M Expenditures (as of May 2015)	\$129,742				

Appendix D

Field Inspection Form

MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: **PO-06 Fritchie Marsh**

Date of Inspection: 6/24/2015 Time: 10:00am

Structure No. n/a

Inspector(s): Prendergast (CPRA), Baker (NRCS), Brunet (STP)

Structure Description: **HWY 90 Culvert & Salt Bayou Bulkhead**

Water Level Inside: n/a Outside: n/a

Type of Inspection: **Annual**

Weather Conditions: Warm, overcast

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Steel Bulkhead / Caps	Good	None	None	6	No significant defects noted.
Handrails, Grating, Hardware, etc.	Good	None	None	1	No significant defects noted.
Signage, Supports	Very Good	None	None	1	Signs and timber support piles appeared to be in very good condition.
Rock RipRap channel lining	Good	None		4	Good condition. Rip-rap covered by concrete debris on South bank.
W-14 Weir structure	See remarks	See remarks		1	Structure was fully submerged; flow visible.
W-14 diversion channel dredge	Good	None		2	Channel entrance is shallow but unobstructed. Emergent vegetation was present in outfall.
Salt Bayou dredging	See remarks	N/A		5	Boat access was not possible due to shallow depths in bayou. Inspection was performed from road embankment at Hwy 90. Water was observed flowing into the project area.
72" Diameter culvert	Good	None		4	No significant defects noted; water appeared to be flowing freely through culvert.
HWY 90 road surface	Good	None		3	No significant change since last inspection.