Coastal Protection and Restoration Authority of Louisiana

Office of Coastal Protection and Restoration

2013 Annual Inspection Report

Fritchie Marsh Restoration

State Project Number PO-06
Priority Project List 2

May 15, 2013
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 bound 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-ac (915-ha) of emergent marsh within the Fritchie Marsh project area have been 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.

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 held on May 15, 2013, by Kyle Breaux (CPRA), Steven Armstrong (CPRA), Warren Blanchard(NRCS), and Brandon Samson(NRCS). Access through Salt Bayou was possible for not available due to siltation.

IV. Inspection Results

Hwy 90 Culvert and Stone Revetment

There is no change in this structure from the previous inspection. The bank scour reported in previous inspection reports is still of concern.

Salt Bayou Dredging

Salt Bayou was accessible until approximately 1.3 miles from the Hwy 90 culverts. The bayou had silted in between this point and the end of the project dredging. Flow through the culverts seeps through breaks in the marsh banks. There are trees and tree limbs in the bayou approximately 200 feet from the culvert outlet.

W-14 Weir

There was no visible damage to this structure or the signs. It is operating as designed.

W-14 Diversion Channel Dredging

There is no visible change to this feature. Water is flowing through as designed.
V. Conclusions

The project features for the Fritchie Marsh Restoration Project are performing as designed. Insufficient maintenance funds prevent re-dredging of the bayou. If the project team deemed it appropriate, discussion of a channel survey could be observed to verify existing conditions.

The main goal of the project is to divert and retain fresh water into the project area. Previous reports discussed an evaluation of Salt Bayou’s effectiveness to deliver water to the project area. However, after reviewing the goals of the project it was determined that this was not necessary. While a good portion of Salt Bayou has silted in, there is a stretch entering the project area from the culverts that remains deep. This allows fresh water to enter the project area, at which point the silted in bayou forces water to divert into adjacent marsh through the breaches in the bank fulfilling the referenced project goal.

VI. Recommendations

Continue to inspect the project features for functionality. The project budget calls for sign replacement at Year 14 or 2016. The project team will determine the necessity of such replacement.

**Immediate Repairs**

- None at this time.

**Programmed Maintenance**

- None at this time.
Appendix A

Project Features Map
Appendix B

Photographs
2013 Annual Inspection Report
Fritchie Marsh Restoration
State Project No. PO-06

W-14 Diversion Channel Beyond Dredging

Salt Bayou Bank Near Culverts
Appendix C

Three Year Budget Projection
### Fritchie Marsh Hydrologic Restoration (PO-06)

#### Federal Sponsor: NRCS

**Construction Completed:** March 6, 2001

**PPL 2**

<table>
<thead>
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<th>Current Approved O&amp;M Budget</th>
<th>Year 0</th>
<th>Year - 1</th>
<th>Year - 2</th>
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</table>

#### Remaining Current 3 year Project Life Request

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<th>Projected O&amp;M Expenditures</th>
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<th>Current 3 year Request</th>
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<td>Maintenance Inspection</td>
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<td>General Maintenance</td>
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<td>Surveys</td>
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<td>Sign Replacement</td>
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<td>$4,543</td>
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<td>Maintenance/Rehabilitation</td>
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<td>Total</td>
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<td>$18,206</td>
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#### O&M Expenditures from COE Report

- Maintenance Inspection: $3,796
- General Maintenance: $3,996
- Sign Replacement: $4,206
- Maintenance/Rehabilitation: $4,428
- Construction: $4,661

**Total Estimated O&M Expenditures (as of April 2010): $129,302**

**Remaining Available O&M Budget:** $95,909

**Total Projected Project Life Budget:** $178,335

**Incremental Funding Request Amount FY12-FY14:** $83,607

**Project Life Budget Request Amount:** $46,876
Appendix D

Field Inspection Form
## MAINTENANCE INSPECTION REPORT CHECK SHEET

**Project No. / Name:** PO-06 Fritchie Marsh  
**Date of Inspection:** 5/15/13  
**Time:** 9:00am  
**Inspector(s):** Breaux, Armstrong, Blanchard, Samson  
**Structure Description:** HWY 90 Culvert & Salt Bayou Bulkhead  
**Water Level**  
Inside: 0.2  
Outside: N/A  
**Type of Inspection:** Annual  
**Weather Conditions:** Warm, Clear

<table>
<thead>
<tr>
<th>Item</th>
<th>Condition</th>
<th>Physical Damage</th>
<th>Corrosion</th>
<th>Observations and Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel Bulkhead / Caps</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td>Good</td>
</tr>
<tr>
<td>Handrails, Grating, Hardware, etc.</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td>Vegetation and debris surrounding railings. Overall condition is good.</td>
</tr>
<tr>
<td>Signage, Supports</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td>Clear and legible. Reflective tape fading</td>
</tr>
<tr>
<td>Rock RipRap channel lining</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>W-14 Weir structure</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td>Submerged. Water flowing</td>
</tr>
<tr>
<td>W-14 diversion channel dredge</td>
<td>Good</td>
<td>n/a</td>
<td>n/a</td>
<td>Debris at inlet of channel</td>
</tr>
<tr>
<td>Salt Bayou dredging</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>Inspection halted approximately 1.3 miles from Hwy 0 to due shallow water levels in Salt Bayou. Branches and fallen debris in channel at culvert outlet</td>
</tr>
<tr>
<td>72&quot; Diameter culvert</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td>Functioning properly. No undermining of the structure observed.</td>
</tr>
<tr>
<td>HWY 90 road surface</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td>Asphalt layer appears to have been ground down recently. Cracks exist.</td>
</tr>
</tbody>
</table>