Coastal Protection and Restoration Authority of Louisiana

Office of Coastal Protection and Restoration

2011 Annual Inspection Report

Fritchie Marsh Restoration

State Project Number PO-06
Priority Project List 2

November 1, 2011
St. Tammany Parish

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Table of Contents

I. Introduction .................................................................................................................. 1
II. Project Description and History ................................................................................. 1
III. Inspection Purpose and Procedures ............................................................................ 2
IV. Inspection Results ....................................................................................................... 2
V. Conclusions .................................................................................................................. 3
VI. Recommendations ...................................................................................................... 3
    Immediate Repairs ...................................................................................................... 3
    Programmed Maintenance ......................................................................................... 3

Appendices

Appendix A  Project Features Map
Appendix B  Photographs
Appendix C  Three Year Budget Projections
Appendix D  Field Inspection Form
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 July 29, 2011, by Barry Richard and Kyle Breaux of OCPR. Access to Salt Bayou was limited due to mechanical difficulties and 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, however it is vegetating very nicely.

**Salt Bayou Dredging**

There was not a detailed inspection performed of this feature. The inspection consisted of boat travel halfway down the bayou from the west and observations made from Hwy 90 at the culverts. There was no damage observed at the areas inspected. The worst sections from the previous inspection, where breaches and infilling occurred, were not inspected.

**W-14 Weir**

There was no visible damage to this structure and it appears to be operating as designed.
W-14 Diversion Channel Dredging

There is no visible damage to this feature. It appears to be diverting the water from the north as designed.

V. Conclusions

The project features for the Fritchie Marsh Restoration Project are performing as designed. There is no need for any maintenance work at this time.

VI. Recommendations

Continue to inspect the project features for functionality.

Immediate Repairs

• None at this time.

Programmed Maintenance

• None at this time.
Appendix A

Project Features Map
Appendix B

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

**W-14 Weir**

**W-14 Diversion Channel Beyond Dredging**
Culverts from Project Side
Appendix C

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

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

<table>
<thead>
<tr>
<th>Current Approved O&amp;M Budget</th>
<th>Year - 1</th>
<th>Year - 2</th>
<th>Year - 3</th>
<th>Year - 4</th>
<th>Year - 5</th>
<th>Year - 6</th>
<th>Year - 7</th>
<th>Year - 8</th>
<th>Year - 9</th>
<th>Year - 10</th>
<th>Year - 11</th>
<th>Year - 12</th>
<th>Year - 13</th>
<th>Year - 14</th>
<th>Year - 15</th>
<th>Year - 16</th>
<th>Year - 17</th>
<th>Year - 18</th>
<th>Year - 19</th>
<th>Project Life Budget</th>
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<td>State O&amp;M</td>
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<td>$225,211</td>
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<td>Corps Admin</td>
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<tr>
<td>Federal S&amp;A</td>
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<td>$0</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>$225,211</td>
<td>$225,211</td>
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</tbody>
</table>

### Projected O&M Expenditures

| Maintenance Inspection       | $3,796 | $3,895 | $3,996 | $4,100 | $4,206 | $4,316 | $4,428 | $4,543 | $4,661 | $4,782 | $42,724 | $11,687 |
| General Maintenance           | $0     | $0     |         |         |         |         |         |         |         |         |         |         |         |
| Surveys                      | $0     | $0     |         |         |         |         |         |         |         |         |         |         |         |
| Sign Replacement             | $14,000| $14,000|         |         |         |         |         |         |         |         |         |         |         |
| Maintenance/Rehabilitation   | $0     | $0     |         |         |         |         |         |         |         |         |         |         |         |
| E&D                         | $0     | $0     |         |         |         |         |         |         |         |         |         |         |         |
| Construction                | $0     | $0     |         |         |         |         |         |         |         |         |         |         |         |
| Construction Oversight       | $0     | $0     |         |         |         |         |         |         |         |         |         |         |         |
| **Total**                   | $0     | $0     | $0      | $0      | $0      | $3,796 | $3,895 | $3,996 | $4,100 | $4,206 | $4,316 | $4,428 | $4,543 | $4,661 | $4,782 | $56,724 | $11,687 |

- O&M Expenditures from COE Report: $116,582
- Current O&M Budget less COE Admin: $225,211
- Remaining Available O&M Budget: $108,629
- Total Projected Project Life Budget: $173,306
- Incremental Funding Request Amount FY12-FY14: -$58,582
- Project Life Budget Request Amount: $114,724

**Total Estimated O&M Expenditures (as of April 2010):** $116,582
Appendix D

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

MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: **PO-06 Fritchie Marsh**  
Structure No. _______ n/a  
Structure Description: **HWY 90 Culvert & Salt Bayou Bulkhead**  
Type of Inspection: Annual  
Water Level Inside: **0.40’**  
Outside: **N/A**  
Weather Conditions: **Warm, Clear**

<table>
<thead>
<tr>
<th>Item</th>
<th>Condition</th>
<th>Pysical Damage</th>
<th>Corrosion</th>
<th>Photo #</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>1</td>
<td></td>
</tr>
<tr>
<td>Handrails, Grating, Hardware, etc.</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td>1</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>1</td>
<td>Clear and legible.</td>
</tr>
<tr>
<td>Rock RipRap channel lining</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>W-14 Weir structure</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td>1</td>
<td>Submerged.</td>
</tr>
<tr>
<td>W-14 diversion channel dredge</td>
<td>Good</td>
<td>n/a</td>
<td>n/a</td>
<td>2</td>
<td>Sunken branches 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>3</td>
<td>A thorough inspection was not conducted at this time.</td>
</tr>
<tr>
<td>72&quot; Diameter culvert</td>
<td>Good</td>
<td>None</td>
<td>None</td>
<td>4</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>n/a</td>
<td></td>
</tr>
</tbody>
</table>