**Coastal Protection and Restoration Authority of Louisiana**

**Office of Coastal Protection and Restoration**

# 2007/2008 Annual Inspection Report

for

# LITTLE VERMILION BAY SEDITMENT TRAPPING PROJECT (TV-12)

State Project Number TV-12
Priority Project List 5

June 6, 2008
Vermilion Parish

Prepared by:

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## Appendices

# I. Introduction

The Little Vermilion Bay Sediment Trapping Project (T/V-12) is located in the northwest corner of Vermilion Bay approximately three and three quarters (3-3/4) miles south west of Intracoastal City in Vermilion Parish. The project consists of dredging approximately 21,300 linear feet of distributary channels and create approximately 33 acres of terraces. The channels and terraces are intended to trap sediments from Freshwater Bayou to create vegetative wetlands and dissipate wave energy in this open water area and combat land loss being experienced as a result of wave action. The project will create marsh using trapped sediment material. The terraces were planted in an effort to establish vegetation in an area that was previously open water.

The Little Vermilion Bay Sediment Trapping 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 fifth Priority Project List. The Little Vermilion Bay Project has a twenty –year (20 year) economic life, which began in July 1999.

# II. Inspection Purpose and Procedures

The purpose of the annual inspection of the Little Vermilion Bay Sediment Trapping Project (TV-12) 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, LDNR 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, 2002). 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 Little Vermilion Bay Project are outlined in Section IV.

An inspection of the Little Vermilion Bay Sediment Trapping Project (TV-12) was held on June 6, 2008 under clear skies and hot temperatures. In attendance were Stan Aucoin of LDNR and John Foret of NOAA Fisheries. Parties met at the Lafayette Field Office of CED and traveled to Intracoastal City in Vermilion Parish, LA. The annual inspection began at the westernmost terraces of Little Vermilion Bay.

The field inspection included a complete visual inspection of the entire project site. Staff gauge readings were used, when available, to determine approximate elevations of water and earthen terraces. Photographs were taken at each project feature (see Appendix B) and Field Inspection notes were completed in the field to record measurements and deficiencies (see Appendix D).

## III. Project Description and History

Recent erosion rates in Little Vermilion Bay of 8 feet per year are expected to continue, thereby causing the loss of emergent wetlands in surrounding the bay. The marshes separating Freshwater Bayou from Little Vermilion Bay have eroded to the point that 750 feet of the navigation channel are currently directly exposed to wave energy from Little Vermilion Bay. Another 1000 feet of Freshwater Bayou are currently separated from Little Vermilion Bay by 100 foot wide strip of eroding marsh. It is therefore likely that 1,750 feet of Freshwater Bayou will soon be exposed to open bay wave energy. Actions are needed to stop and reverse marsh erosion that is exposing a vital shipping corridor on Freshwater Bayou to wave energy from Little Vermilion Bay. The project has a twenty-year (20 year) economic life, which began in July 1999.

The principal project features include:

1. 21,300 Linear Feet of Earthen Terraces

2. Smooth Cordgrass Plantings on Terraces

## IV. Summary of Past Operation and Maintenance Projects

**General Maintenance:** Below is a summary of completed maintenance projects and operation tasks performed since July 1999, the construction completion date of the Little Vermilion Bay Sediment Trapping Project.

None as yet required.

### Structure Operations:

There are no active operations associated with this project.

## V. Inspection Results

**Site 1—Earthen terraces**

The terraces are in excellent condition. Water elevation was not available at the time of this inspection. Staff gauges will need to be re-established in the area. Erosion continues on the southwestern most terraces but vegetation is still evident and the terrace is still functioning as protection to the terraces to the north. The terraces nearest Freshwater Bayou have begun to show significant erosion on the northern side due to the continual widening of the opening to Little Vermilion Bay. (Photos: Appendix B, Photo 1-2)

**Site 2—Vegetation plantings**
Vegetation has expanded 40-60 feet from the original plantings. No maintenance needed at this time.

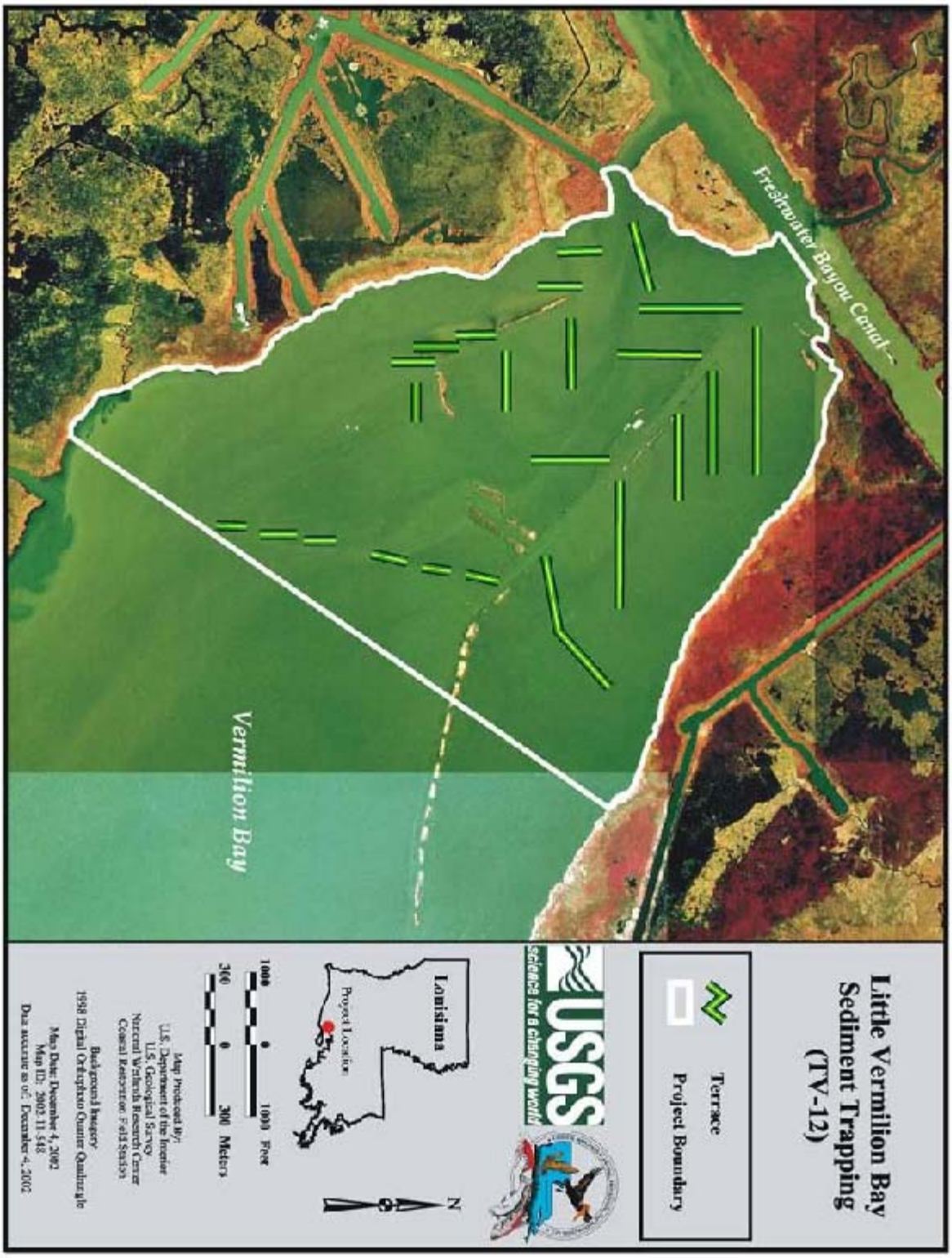
## VI. Conclusions and Recommendations

The Little Vermilion Bay Sediment Trapping Project is in excellent condition and functioning as intended. Accretion between the terraces is still evident and continues to accrete. Emergent vegetation should soon become established. Maintenance required in 2008/2009:

- Installation of a staff gauge

# Appendix A

# Project Features Map


Freshwater Bayou Canal
Vermilion Bay
Little Vermilion Bay
Sediment Trapping
(TV-12)
Terrace
Project Boundary
USGS
science for a changing world
Louisiana
Project Location
N
1000 0 1000 Feet
300 0 300 Meters
Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Background Imagery:
1998 Digital Orthophoto Quarter Quadrangle
Map Date: December 4, 2002
Map ID: 2002_11_548
Data accurate as of: December 4, 2002

# Appendix B

# Photographs

**Photo 1—**typical terrace

**Photo 2—**typical vegetated terrace

# Appendix C

# Three Year Budget Projection

## LITTLE VERMILION/ TV12 / PPL 5

### Three-Year Operations & Maintenance Budgets 07/01/2008 - 06/30/2011

| Project Manager | O & M Manager | Federal Sponsor | Prepared By |
|---|---|---|---|
| *Pat Landry* | *Stan Aucoin* | *NMFS* | *Stan Aucoin* |

| | 2008/2009 | 2009/2010 | 2010/2011 |
|---|---|---|---|
| ***Maintenance Inspection*** | $ 5,570.00 | $ 5,737.00 | $ 5,909.00 |
| ***Structure Operation*** | | | |
| ***Administration*** | | $ - | $ - |
| ***Maintenance/Rehabilitation*** | | | |

08/09 Description:

| | |
|---|---|
| *E&D* | |
| *Construction* | $7,500.00 |
| *Construction Oversight* | |
| *Sub Total - Maint. And Rehab.* | $ 7,500.00 |

09/10 Description

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

10/11 Description:

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

| | 2008/2009 | 2009/2010 | 2010/2011 |
|---|---|---|---|
| ***Total O&M Budgets*** | **$ 13,070.00** | **$ 5,737.00** | **$ 5,909.00** |

| | |
|---|---|
| **O &M Budget (3 yr Total)** | **$ 24,716.00** |
| **Unexpended O & M Budget** | **$ 172,465.30** |
| **Remaining O & M Budget (Projected)** | **$ 147,749.30** |

## OPERATION AND MAINTENANCE BUDGET WORKSHEET

LITTLE VERMILION SNT / PROJECT NO. TV-12 / PPL NO. 5

| DESCRIPTION | UNIT | EST. QTY. | UNIT PRICE | ESTIMATED TOTAL |
|---|---|---|---|---|
| O&M Inspection and Report | EACH | 1 | $5,570.00 | **$5,570.00** |
| General Structure Maintenance | LUMP | 1 | $0.00 | **$0.00** |
| Engineering and Design | LUMP | 1 | $0.00 | **$0.00** |
| Operations Contract | LUMP | 1 | $0.00 | **$0.00** |
| Construction Oversight | LUMP | 1 | $0.00 | **$0.00** |

**ADMINISTRATION**

| | | | | |
|---|---|---|---|---|
| LDNR / CRD Admin. | LUMP | 1 | $0.00 | $0.00 |
| FEDERAL SPONSOR Admin. | LUMP | 1 | $0.00 | $0.00 |
| SURVEY Admin. | LUMP | 0 | $0.00 | $0.00 |
| OTHER | | | | $0.00 |
| | | | **TOTAL ADMINISTRATION COSTS:** | **$0.00** |

**MAINTENANCE / CONSTRUCTION**

***SURVEY***

SURVEY DESCRIPTION: Set staff gage.

| | | | | |
|---|---|---|---|---|
| Secondary Monument | EACH | 0 | $0.00 | $0.00 |
| Staff Gauge / Recorders | EACH | 1 | $7,500.00 | $7,500.00 |
| Marsh Elevation / Topography | LUMP | 0 | $0.00 | $0.00 |
| TBM Installation | EACH | 0 | $0.00 | $0.00 |
| OTHER | | | | $0.00 |
| | | | **TOTAL SURVEY COSTS:** | **$7,500.00** |

***GEOTECHNICAL***

GEOTECH DESCRIPTION:

| | | | | |
|---|---|---|---|---|
| Borings | EACH | 0 | $0.00 | $0.00 |
| OTHER | | | | $0.00 |
| | | | **TOTAL GEOTECHNICAL COSTS:** | **$0.00** |

***CONSTRUCTION***

CONSTRUCTION DESCRIPTION: Hurricane RITA repairs, bank paving at ends of closures.

| Rip Rap | LIN FT | TON / FT | TONS | UNIT PRICE | |
|---|---|---|---|---|---|
| Rock Dike | 0 | 0.0 | 0 | $0.00 | $0.00 |
| Bank Paving | 0 | 0.0 | 0 | $0.00 | $0.00 |
| | 0 | 0.0 | 0 | $0.00 | $0.00 |
| Filter Cloth / Geogrid Fabric | | SQ YD | 0 | $8.00 | $0.00 |
| Navigation Aid | | EACH | 0 | $0.00 | $0.00 |
| Signage | | EACH | 0 | $0.00 | $0.00 |
| General Excavation / Fill | | CU YD | 0 | $0.00 | $0.00 |
| Dredging | | CU YD | 0 | $0.00 | $0.00 |
| Sheet Piles (Lin Ft or Sq Yds) | | | 0 | $0.00 | $0.00 |
| Timber Piles (each or lump sum) | | | 0 | $0.00 | $0.00 |
| Timber Members (each or lump sum) | | | 0 | $0.00 | $0.00 |
| Hardware | | LUMP | 1 | $0.00 | $0.00 |
| Materials | | LUMP | 1 | $0.00 | $0.00 |
| Mob / Demob | | LUMP | 0 | $0.00 | $0.00 |
| Contingency | | LUMP | 0 | $0.00 | $0.00 |
| General Structure Maintenance | | LUMP | 1 | $0.00 | $0.00 |
| OTHER | | | | $0.00 | $0.00 |
| OTHER | | | | $0.00 | $0.00 |
| OTHER | | | | $0.00 | $0.00 |
| | | | | **TOTAL CONSTRUCTION COSTS:** | **$0.00** |

**TOTAL OPERATIONS AND MAINTENANCE BUDGET:** **$13,070.00**

# Appendix D

# Field Inspection Form

Annual Inspection Report
LITTLE VERMILION BAY SEDIMENT TRAPPING PROJECT
State Project No. TV-12

**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: TV-12 Little Vermilion Bay

Date of Inspection: June 6, 2008 Time:

Structure No. N/A

Inspector(s): Stan Aucoin (LDNR)
John Foret (NMFS)

Structure Description: Terraces/Vegetation

Water Level NAVD

Type of Inspection: Annual

Weater Conditions: Sunny and warm

| 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 | | | | |
| Vegetation | Good | | | | |
| Signage /Supports | N/A | | | | |
| Rip Rap (fill) | N/A | | | | |
| Earthen Embankment (terraces) | Excellent | | | | Terraces are in good condition, although some erosion is occurring. |

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