



**Coastal Protection and Restoration
Authority of Louisiana**

**Office of Coastal Protection and
Restoration**

**2010/2011 Annual Inspection
Report**

for

**LITTLE VERMILION BAY
SEDIMENT TRAPPING
PROJECT (TV-12)**

State Project Number TV-12
Priority Project List 5

February 22, 2011
Vermilion Parish

Prepared by:

Stan Aucoin, Engineering Tech.
CPRA/ Office of Coastal Protection and Restoration
Lafayette Field Office
635 Cajundome Blvd.
Lafayette, LA 70596

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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 February 22, 2011 under partly cloudy skies and mild temperatures. In attendance were Stan Aucoin and Mel Guidry of (OCPR). Representatives from NMFS were invited but were unable to attend. The annual inspection began at the northwestern most 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 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 very good condition with the exception of the terraces nearest Freshwater Bayou Canal (FWB) and the southern most sacrificial terrace. Only three terraces remain on this southern row. Debris as well as sediment is in the borrow canal making travel along here very difficult. The terraces nearest FWB continue to erode as the bankline along Freshwater Bayou continues to worsen. It was decided after this inspection to request funding to place

rock in the opening of the bay at it's intersection with FWB. This opening will need to be narrowed to a width of 100 feet to allow access for oilfield traffic. The bank on both sides of this opening will also need to be hardened with rock. The expense of this recommended action will exceed the currently approved project funds. Surveys will be performed during the fall of 2011 in order to prepare a more detailed estimation of the costs associated with this action. (Photos: Appendix B, Photos 1-2)

Site 2—Vegetation plantings

Vegetation has expanded significantly from the original plantings and appears strong. Emergent vegetation between the terraces is also becoming established. No maintenance with regard to vegetation needed at this time.

VI. Conclusions and Recommendations

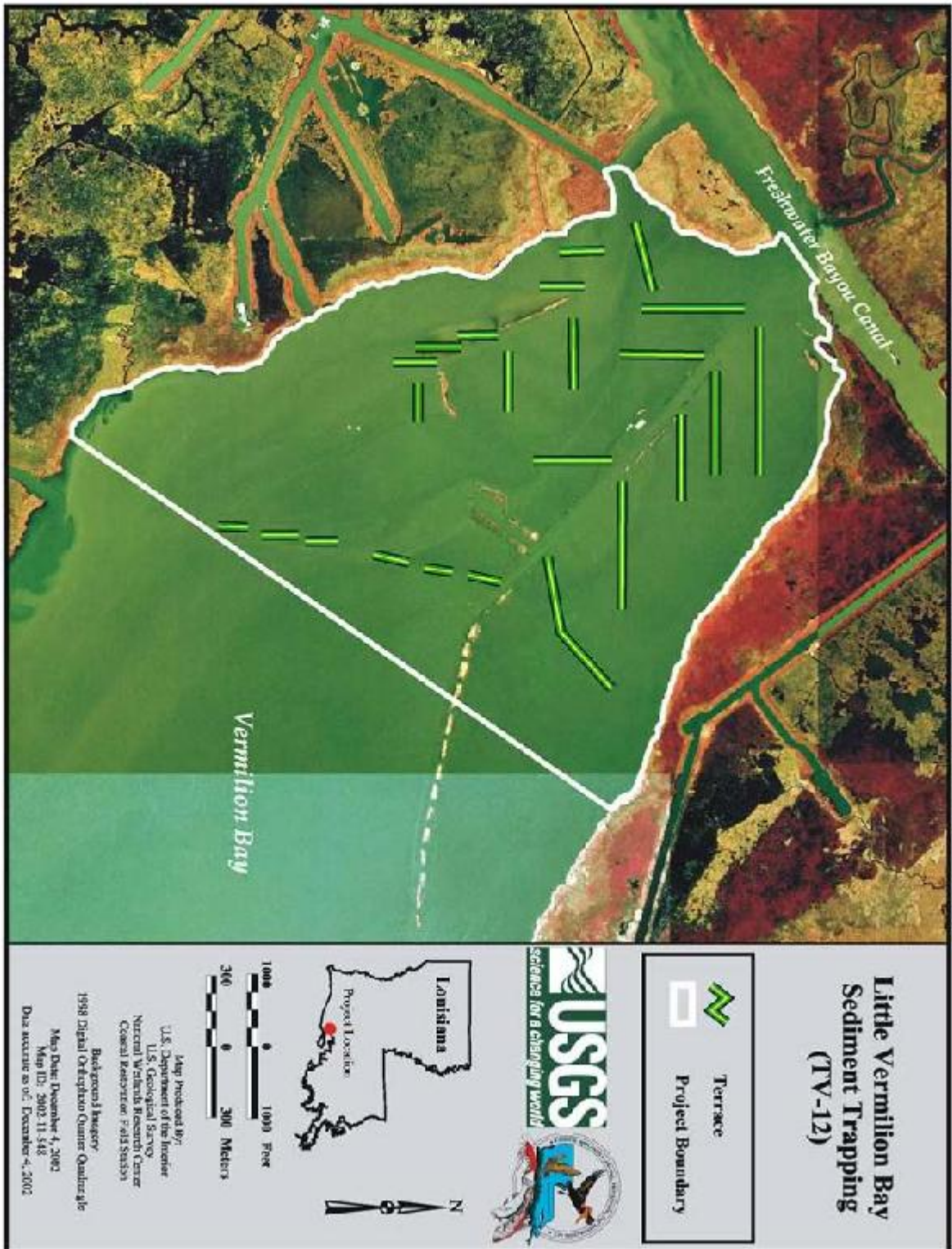
The Little Vermilion Bay Sediment Trapping Project is in very good condition and still functioning as intended. Accretion between the terraces continues to accrete. Emergent vegetation is becoming established. Narrowing the opening into FWB and re-establishing the sacrificial terraces to the south will allow this project to continue to be successful. Maintenance required in 2011/2012:

- Installation of a staff gauge
- Rock the opening of the bay at it's intersection with FWB
- Rebuild the southern most terraces

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Appendix A

Project Features Map



Appendix B

Photographs

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Photo No. 1—typical terrace



Photo No. 2—cut bank on terrace near Freshwater Bayou Canal

Appendix C

Three Year Budget Projection

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LITTLE VERMILION/ TV12 / PPL 5
Three-Year Operations & Maintenance Budgets 07/01/2011 - 06/30/2014

<u>Project Manager</u> Darrell Pontiff	<u>O & M Manager</u> Stan Aucoin	<u>Federal Sponsor</u> NMFS	<u>Prepared By</u> Stan Aucoin
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	2011/2012 (-12)	2012/2013 (-13)	2013/2014 (-14)
Maintenance Inspection	\$ 6,086.00	\$ 6,269.00	\$ 6,457.00
Structure Operation			
State Administration		\$ -	\$ -
Federal Administration		\$ -	\$ -

Maintenance/Rehabilitation

11/12 Description: Install one staff gauge and perform surveys.

E&D	\$30,000.00
Construction	\$7,500.00
Construction Oversight	
<i>Sub Total - Maint. And Rehab.</i>	<u>\$ 37,500.00</u>

12/13 Description

E&D	\$ -
Construction	\$ -
Construction Oversight	\$ -
<i>Sub Total - Maint. And Rehab.</i>	<u>\$ -</u>

13/14 Description:

E&D	\$ -
Construction	\$ -
Construction Oversight	\$ -
<i>Sub Total - Maint. And Rehab.</i>	<u>\$ -</u>

	2011/2012 (-12)	2012/2013 (-13)	2013/2014 (-14)
<u>Total O&M Budgets</u>	<u>\$ 43,586.00</u>	<u>\$ 6,269.00</u>	<u>\$ 6,457.00</u>

<u>O & M Budget (3 yr Total)</u>	<u>\$ 56,312.00</u>
<u>Unexpended O & M Budget</u>	<u>\$ 168,070.00</u>
<u>Remaining O & M Budget (Projected)</u>	<u>\$ 111,758.00</u>

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Appendix D

Field Inspection Form

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MAINTENANCE INSPECTION REPORT CHECK SHEET

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

Date of Inspection: February 22, 2011 Time: 11:30 am

Structure No. N/A

Inspector(s): Stan Aucoin, Mel Guidry (OCPR)

Structure Description: Terraces/Vegetation

Water Level NAVD

Type of Inspection: Annual

Weater Conditions: Partly cloudy and mild

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			1,2	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