



**Coastal Protection and Restoration
Authority of Louisiana**

**Office of Coastal Protection and
Restoration**

**2008/2009 Annual Inspection
Report**

For

**SOUTH WHITE LAKE
SHORELINE PROTECTION
PROJECT
(ME-22)**

State Project Number ME-22
Priority Project List 12

October 29, 2008
Vermilion Parish

Prepared by:

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I. Introduction

The South White Lake Shoreline Protection (ME-22) project is located in the Mermentau Basin in Vermilion Parish, Louisiana. The project area encompasses the southern shore of White Lake from Will's Point to the western shore of Bear Lake. The total area of the South White Lake Shoreline Protection project is approximately 5,222 acres and is primarily composed of fresh emergent marsh (2,314 acres) and open water (2,908 acres) habitats (USACE 2002). (See Appendix A)

The South White Lake Shoreline Protection 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 twelfth Priority Project List. The South White Lake Shoreline Protection Project has a twenty-year (20 year) economic life, which began in August 2006.

II. Inspection Purpose and Procedures

The purpose of the annual inspection of the South White Lake Shoreline Protection Project (ME-22) is to evaluate the constructed project features, 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. The annual inspection report also contains a summary of maintenance projects, if any, 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.

In 2003, the CWPPRA Task Force determined, due to the fact that OCPR was responsible for the operation and maintenance phase of the vast majority of CWPPRA projects, that OCPR would be the responsible party for all Post Storm/Hurricane Assessments. After Hurricane Ike, every project appeared to have been impacted by the storms; therefore, OCPR determined that all projects should be assessed for damages (Broussard, 2006). With concurrence from the federal sponsor, OCPR has decided to use the information obtained during this post hurricane assessment in this Annual Maintenance Inspection.

An inspection of the South White Lake Shoreline Protection Project (ME-22) was held on October 29, 2008 under sunny skies and warm temperatures. In attendance were Stan Aucoin, Darrell Pontiff, and Troy Barrilleaux from (OCPR). Representatives from the (USACE) were invited but could not attend. All parties met at the boat launch on the Old Intracoastal Waterway and traveled west to the project site. The annual inspection began at approximately 10:25 a.m. at Bear Lake on the west end the project.

The field inspection included a complete visual inspection of all project features. Staff gauge readings where available were used to determine approximate elevations of water, earthen

embankments, rock dike and other project features. Photographs were taken at each project feature (see Appendix B) and Field Inspection notes were completed in the field to record measurements and any notable deficiencies (see Appendix D).

III. Project Description and History

The South White Lake Shoreline Protection Project (ME-22) was completed in August 2006 and involved the construction of 61,500 linear feet of foreshore rock dike, including fish dips at 1,000 foot intervals with a top width of 50 feet and the toe lined with a layer of rock. The principle project features of the South White Lake Shoreline Protection Project include the following:

- A. **Foreshore Rock Dike:** Approximately 61,500 LF of rock dike built with 650 LB stone on geotextile fabric, 4 foot crown, 1V:1.5H side slopes, top elevation of +3.5 NAVD88 (+/- 0.5 foot). Foreshore dike includes fish dips every 1,000 feet, gaps at pipeline crossings and navigation crossings. Warning signs are located at all pipeline crossings, fish dips and navigation openings.

Coast 2050 identified wave erosion, high water levels, and altered hydrology as the major factors contributing to the rapid erosion of the southern shore of White Lake (Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority [LCWCRTF & WCRA] 1999). Between 1932 and 1990 an estimated 6,525 acres of marsh south of White Lake were lost (LCWCRTF & WCRA 1999). Future land loss projections predicted an additional loss of 4,220 acres of fresh marsh by 2050 or nearly 14% of the remaining 30,270 acres of marsh.

The construction of the foreshore rock dike will effectively stop erosion along the southern White Lake shoreline by damping wind generated waves. By stabilizing the southern White Lake shoreline, the interior marsh will be maintained at or near current levels. Emergent marsh will be created through the beneficial use of dredged material from the digging of the flotation canal.

The Shoreline Protection Foundation Improvement Demonstration (LA-06) project, authorized on the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) 13th priority project list has been incorporated into the ME-22 construction project. The goal of this demonstration project is to determine the feasibility of shoreline protection structures where a relatively poor soil foundation exists. The strategy of the Shoreline Protection Foundation Improvements Demonstration is to use sand as a foundation beneath rock dike structures as a means to achieve increased bearing capacity and consolidation settlement design tolerances in a manner that lessens 20-year shoreline protection project costs.

The demonstration project experimental design will include two sub-reaches. Each sub-reach is divided into two 900-foot treatment sections and one 900-foot control section. Fish dips are built at approximately 900-foot intervals with a top width of 50 feet. Treatment A was built by

placing sand directly on top of soil and then placing the rock material on top of the sand foundation. Treatment B was built by dredging out the soil foundation, filling the cavity with

sand, and then rock was placed on top of the sand foundation. Treatment C is the control or reference section and consists of the typical rock dike cross-section.

The specific goals of the project are:

1. Stop erosion along the South White Lake shoreline between Will's Point and west of Bear Lake.
2. Build marsh substrate behind the rock breakwaters using dredge material from the project construction flotation channel.
3. Prevent a breach from occurring between White Lake and the management unit known as the Kaplan Tract.

IV. Summary of Past Operation and Maintenance Projects

General Maintenance: Below is a summary of completed maintenance projects and operation tasks performed since August 2006, the construction completion date of the South White Lake Shoreline Protection Project (ME-22).

There has been no maintenance on this project.

Structure Operations: There are no active operations associated with this project.

V. Inspection Results

Foreshore Rock Dike

The rock dike is in excellent post construction condition and does not appear to have suffered any major damage from Hurricane Ike. A few low areas were noted along Bear Lake where there was some initial settling during construction. These areas will be monitored during future inspections. Signage along the entire project is also in good condition, however there were a few signs that were leaning and one is completely missing. The spoil bank material placed behind the rock dike generated from the flotation excavation has approximately 90 per cent vegetation cover. Generally, the vegetation of the project area was not severely damaged by Hurricane Ike. The most visible damage was the presence of salt-burned *Sesbania drummondii* (rattlebox) directly behind the rock dike where the flotation spoil was placed. Vegetation further back into the marsh appeared to be lightly to moderately stressed. All observations were made from White Lake. It is likely that vegetation in the project area will recover. (Photos: Appendix B, Photo 1)

Demonstration Project

The six different demonstration areas are in good condition and do not appear to look any different than the rest of the project as far as crown width, dike elevation and side slopes. However, there are two areas where some of the rock has been displaced by Hurricane Ike. The various instrumentation devices at each demonstration section are intact. A request was made to get the monitoring data from these instruments from the USACE. (Photos: Appendix B, Photo 2)

VI. Conclusions and Recommendations

Overall, the South White Lake Shoreline Protection Project is in very good condition and functioning as designed. It is recommended that the warning signs be numbered from one end of the project to the other in order to determine physical location along the twelve mile long shoreline during an inspection. A maintenance event will be planned to repair the following items:

- Replace missing sign, repair damaged signs.

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Appendix A
Project Features Map

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Appendix B

Photographs

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Photo No. 1, typical section of rock dike



Photo No. 2, displaced rock at test section

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Appendix C

Three Year Budget Projection

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SOUTH WHITE LAKE SHORELINE PROTECTION/ ME-22 / PPL 12
Three-Year Operations & Maintenance Budgets 07/01/2009 - 06/30/2012

<u>Project Manager</u> Pat Landry	<u>O & M Manager</u> Stan Aucoin	<u>Federal Sponsor</u> COE	<u>Prepared By</u> Stan Aucoin
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	2009/2010	2010/2011	2011/2012
Maintenance Inspection	\$ 5,737.00	\$ 5,909.00	\$ 6,086.00
Structure Operation			
Administration		\$ -	\$ -
Maintenance/Rehabilitation			

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.	\$ -

11/12 Description:

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

	2009/2010	2010/2011	2011/2012
Total O&M Budgets	\$ 5,737.00	\$ 5,909.00	\$ 6,086.00

O & M Budget (3 yr Total)	\$ 17,732.00
Unexpended O & M Budget	\$ 21,198.00
Remaining O & M Budget (Projected)	\$ 3,466.00

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Appendix D

Field Inspection Form

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MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: ME-22 South White Lake SP

Date of Inspection: October 29, 2008 Time: 10:25 am

Structure No.

Inspector(s): Stan Aucoin, Darrell Pontiff (OCPR),
 Troy Barrilleaux (LDNR)

Structure Description: Foreshore Rock Dike

Water Level Inside: Outside: _____

Type of Inspection: Annual

Weather 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				
Cables	N/A				
Signage / Supports	Good				Recommend numbering of signs.
Rip Rap (fill) Rock Dike	Good			1	A few low areas in Bear Lake, 90% vegetation cover.
Demonstration Sections	Good			2	No difference in typical section from remainder of project, few areas of displaced rock.

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?

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Appendix E

Locations to be Monitored