



Coastal Protection and Restoration Authority of Louisiana

Office of Coastal Protection and Restoration

2007/2008 Annual Inspection Report

For

GRAND-WHITE LAKES LANDBRIDGE PROTECTION PROJECT (ME-19)

State Project Number ME-19
Priority Project List 10

April 4, 2008
Cameron Parish

Prepared by:

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I. Introduction

The Grand-White Lake Land Bridge Protection project is a shoreline protection project from the 10th priority list of the Coastal Wetlands Planning, Protection, and Restoration Act, comprised of 1,530 acres (619 ha) of fresh marsh and open water in Cameron Parish, Louisiana. The project area includes Round Lake, a portion of the southwest Grand Lake shoreline, and the northern half of the shoreline of Collicon Lake. The project is located in the Mermentau Basin Lake's Sub-basin on the southeast shoreline of Grand Lake, from the old Gulf Intracoastal Waterway (GIWW) to the level of the northern edge of Round Lake, and eastward above Corp Mound Bayou to the eastern shore of Collicon Lake. Currently, 29% (451 acres/183 ha) of the project area is classified as fresh marsh, 71% (1,079 ac/437 ha) is open water, and less than 1% as bottomland shrub/scrub (United States Geological Survey/National Wetlands Research Center [USGS/NWRC] 1988/90).

Wind induced erosion of the southeast shoreline of Grand Lake (15 mi/24.1 km northwest fetch) and the west shoreline of Collicon Lake (2 mi/3.2 km southeast fetch) has removed the lake rims and is endangering the narrow land bridge between the two lakes. The 3,000 ac (1,214 ha) Collicon Lake is in danger of breaching (< 500 ft) into the eastern portion of Grand Lake endangering the 13,281 acre (5374.6 ha) Grand-White Lake Land Bridge area. Should this breach occur, the size of Grand Lake will increase by over 4,800 acres (1,943 ha) and the size of the land bridge will be reduced by 2 miles (3.2 km). The small strip of marsh separating Collicon and Round Lake would also be lost and the entire 1,530 ac (619 ha) project area will become part of Grand Lake. Shoreline erosion would accelerate in the marsh between the former Collicon Lake and Alligator Lake and Lake le Bleu which will also be in jeopardy of being converted to the open waters of Grand Lake. Measurements of shoreline loss at 10 transects at the southeast portion of Grand Lake yielded loss rates from 23.9/7.3 to 36.2/11 ft/m per year (Clark et al. 1999).

The Grand-White Lakes Landbridge 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 tenth Priority Project List. The Grand-White Lakes Landbridge Project has a twenty –year (20 year) economic life, which began in September 2004.

II. Inspection Purpose and Procedures

The purpose of the annual inspection of the Grand-White Lakes Landbridge Protection Project (ME-19) 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, 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, 2003). 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.

An inspection of the Grand-White Lakes Landbridge Protection Project (ME-19) was held on April 4, 2008 under clear skies and mild temperatures. In attendance were Mel Guidry, Stan Aucoin and Tommy McGinnis of LDNR. Darryl Clark was representing USFWS. All parties met at the boat launch on the Superior Canal, and traveled north to the Grand-White Lakes Landbridge Protection Project Site. The annual inspection began at approximately 10:00 a.m. at the southeastern end of the rock dike along Grand Lake.

The field inspection included a complete visual inspection of all project features. Staff gauge readings were not available to determine approximate elevations of water, earthen terraces, 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 Grand-White Lakes Landbridge Project (ME-19) consists of two project features, specifically shoreline protection and terracing. The shoreline protection rock dike was completed in November 2003 and the earthen terraces in Collicon Lake were completed in September 2004. This purpose of this project is to protect fresh marsh by stopping or slowing erosion along the southeastern shore of Grand Lake and the western shoreline of Collicon Lake, thereby preventing the coalescence of these lakes. The principle project features of the Grand-White Lakes Landbridge Project include the following:

- A. **Grand Lake Shoreline Protection:** Excavation of a barge access canal lakeward of and parallel to the foreshore dike. The access canal spoil will be used to create marsh behind the foreshore dike. Placement of approximately 12,000 ft. of limestone rock as a foreshore dike 150-250 ft. lakeward of the shoreline, with 25 ft. gaps every 700-1,000 ft. The gaps left in the foreshore dike and marsh creation area will provide for water exchange and fish access.
- B. **Collicon Lake Terraces:** Construction of two rows of 200 ft. long terrace segments with 50 ft. gaps between each segment. Total length of terraces will be 25,000 ft. Terraces will be planted with various types of vegetation and seeds. The southern shoreline of Round Lake will be planted with giant cutgrass or other suitable vegetation.

The specific goals of the project are:

1. Stopping erosion along the southeastern shoreline of Grand Lake and the north and western shorelines of Collicon Lake.
2. Creating a total of 17 acres of emergent marsh along the southeastern shoreline of Grand Lake and 10 acres of emergent marsh along the north and western shorelines of Collicon Lake.
3. Reducing erosion along the southern shoreline of Round Lake by 50 per cent.

IV. Summary of Past Operation and Maintenance Projects

General Maintenance: Below is a summary of completed maintenance projects and operation tasks performed since September 2004, the construction completion date of the Grand-White Lakes Landbridge Protection Project (ME-19).

No maintenance has been required on this project.

Structure Operations:

There are no active operations associated with this project.

V. Inspection Results

Grand Lake Shoreline Protection

The foreshore rock dike feature is in excellent condition. No maintenance is required at this time. (Photos: Appendix B, Photos 1 & 2)

Collicon Lake Terraces

Marsh side and lake side earthen terraces along Collicon Lake continue to experience erosion, with the lake side sacrificial terraces being more severe. Original giant cutgrass plantings along the marsh side terraces were visible. (Photos: Appendix B, Photos 3 & 4)

VI. Conclusions and Recommendations

Overall, the foreshore rock dike feature of the Grand-White Lake Landbridge Project is in excellent condition and is functioning as designed, however some maintenance on the terraces is required as listed below. Plans and specifications will be prepared to address these issues in 2008/2009.

- Install 5,000 vegetative plantings on the Collicon Lake terraces.

Appendix A
Project Features Map



Appendix B

Photographs



Photo 1, Typical rock dike.



Photo 2, Rock foreshore dike.



Photo 3, Earthen terraces.



Photo 4, Earthen terraces

Appendix C

Three Year Budget Projection

Annual Inspection Report
 GRAND-WHITE LAKES LANDBRIDGE PROTECTION PROJECT
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GRAND-WHITE LAKES LANDBRIDGE/ ME-19 / PPL 10
Three-Year Operations & Maintenance Budgets 07/01/2008 - 06/30/2011

<u>Project Manager</u> Pat Landry	<u>O & M Manager</u> Mel Guidry	<u>Federal Sponsor</u> USFWS	<u>Prepared By</u> Mel Guidry
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	2008/2009	2009/2010	2010/2011
Maintenance Inspection	\$ 5,570.00	\$ 5,737.00	\$ 5,909.00
Structure Operation			
Administration	\$3,000.00	\$ -	\$ -

Maintenance/Rehabilitation

08/09 Description:

E&D	\$10,000.00
Construction	\$50,000.00
Construction Oversight	\$10,000.00
<i>Sub Total - Maint. And Rehab.</i>	<u>\$ 70,000.00</u>

09/10 Description:

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

10/11 Description:

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

	2008/2009	2009/2010	2010/2011
Total O&M Budgets	<u>\$ 78,570.00</u>	<u>\$ 5,737.00</u>	<u>\$ 5,909.00</u>

<u>O & M Budget (3 yr Total)</u>	<u>\$ 90,216.00</u>
<u>Unexpended O & M Budget</u>	<u>\$ 1,119,405.69</u>
<u>Remaining O & M Budget (Projected)</u>	<u>\$ 1,029,189.69</u>

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OPERATION AND MAINTENANCE BUDGET WORKSHEET
 GRAND-WHITE LAKES LANDBRIDGE / PROJECT NO. ME-19 / PPL NO. 10

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	\$10,000.00	\$10,000.00
Operations Contract	LUMP	1	\$0.00	\$0.00
Construction Oversight	LUMP	1	\$10,000.00	\$10,000.00

ADMINISTRATION

LDNR / CRD Admin.	LUMP	1	\$2,000.00	\$2,000.00
FEDERAL SPONSOR Admin.	LUMP	1	\$1,000.00	\$1,000.00
SURVEY Admin.	LUMP	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL ADMINISTRATION COSTS:				\$3,000.00

MAINTENANCE / CONSTRUCTION

SURVEY

SURVEY DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	Secondary Monument	EACH	0	\$0.00	\$0.00
	Staff Gauge / Recorders	EACH	0	\$0.00	\$0.00
	Marsh Elevation / Topography	LUMP	0	\$0.00	\$0.00
	TBM Installation	EACH	0	\$0.00	\$0.00
	OTHER				\$0.00
TOTAL SURVEY COSTS:					\$0.00

GEOTECHNICAL

GEOTECH DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	Borings	EACH	0	\$0.00	\$0.00
	OTHER				\$0.00
TOTAL GEOTECHNICAL COSTS:					\$0.00

CONSTRUCTION

CONSTRUCTION DESCRIPTION:	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
	Vegetative plantings on terraces.				
	Rip Rap	LIN FT	TONS	UNIT PRICE	
	Bank Paving	0	0.0	0	\$0.00
		0	0.0	0	\$0.00
		0	0.0	0	\$0.00
	Filter Cloth / Geogrid Fabric	SQ YD		\$0.00	\$0.00
	Navigation Aid	EACH		\$0.00	\$0.00
	Signage	EACH		\$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	1	\$0.00	\$0.00
	Contingency	LUMP	1	\$0.00	\$0.00
	General Structure Maintenance	LUMP	1	\$0.00	\$0.00
	Vegetative Plantings	EACH	5,000	\$10.00	\$50,000.00
	OTHER			\$0.00	\$0.00
	OTHER			\$0.00	\$0.00
TOTAL CONSTRUCTION COSTS:					\$50,000.00

TOTAL OPERATIONS AND MAINTENANCE BUDGET: \$78,570.00

Appendix D

Field Inspection Form

Annual Inspection Report
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MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: ME-19 Grand-White Lake Landbridge

Date of Inspection: April 8, 2008 Time: 10:00 am

Structure No.

Inspector(s): Mel Guidry, Stan Aucoin (LDNR), Darryl Clark (USFWS)
 Tommy McGinnis (LDNR)

Structure Description: Rock Dike and Earthen Terraces

Water Level Inside: _____ Outside: _____

Type of Inspection: Annual

Weather Conditions: Sunny 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				
Cables	N/A				
Signage / Supports	N/A				
Rip Rap (fill) Rock Dike	Good			1 & 2	Rock dike is in very good shape.
Earthen Terraces	Fair			3 & 4	Terraces will require vegetative planting.

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