



State of Louisiana

**Coastal Protection and Restoration
Authority of Louisiana (CPRA)**

**2011/2012 Annual Inspection
Report**

For

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

State Project Number ME-19
Priority Project List 10

May 17, 2012
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 hectares (ha)) of fresh marsh and open water in Cameron Parish, Louisiana. The project area includes Round Lake, a portion of the southeast Grand Lake shoreline, and the western and 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. In 1990, 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) CWPPRA project 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, CPRA 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 May 17, 2012 under clear skies and mild temperatures. In attendance were Mel Guidry, Stan Aucoin, Darrell Pontiff and Jody White of CPRA. Representatives of (USFWS) were unable to attend. The boat was launched on Miami Corporation property at Superior Canal. The annual inspection began at approximately 10:30 a.m. at the south end of the rock dike along the east shoreline of 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. The 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 was 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 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 is 25,000 ft. Terraces are planted with Giant Cutgrass and Roseau Cane. The southern shoreline of Round Lake will be planted with giant.

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).

2009 Stream Wetland Services, LLC – The lakeside earthen terraces were planted with 3,242 Roseau Cane plants to help with erosion to the terraces. The work was completed in March of 2009. The costs associated with this maintenance event were as follows:

E&D (Done by OCPR)	\$ 5,000.00
Construction Contract	\$24,120.48
TOTAL	\$29,120.48

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. Warning signs are present. There is vegetation behind the rock dike over the majority of length of dike. No maintenance is required at this time. (Photos: Appendix B, Photo 1-3)

Collicon Lake Terraces

Marsh side and lake side earthen terraces along Collicon Lake continue to experience erosion. Several terraces along the northwest and west shoreline of Collicon Lake are no longer visible. (Photos: Appendix B, Photo 5) The northern and southern most sections of terraces are flourishing with Roseau Cane; however, it was difficult to distinguish by boat whether two rows of terraces remain. (Photos: Appendix B, Photo 4 &6)

VI. Conclusions and Recommendations

The foreshore rock dike feature of the Grand-White Lake Landbridge Project is in excellent condition and is functioning as designed; however, there is still concern about the erosion of the sacrificial terraces on Lake Collicon. Maintenance is being planned to armor these terraces into the future. An IDIQ contractor has been tasked to do surveying and a design report.

Appendix A
Project Features Map



Appendix B
Photographs



Photo No. 1, Rock Dike and Signs on East Shoreline of Grand Lake



Photo No. 2, Vegetation and Rock Dike on East Shoreline of Grand Lake



Photo No. 3, Rock Dike on East Shoreline of Grand Lake



Photo No. 4, Earthen Terraces on North End of Collicon Lake



Photo No. 5, Earthen Terraces on Northwest and West Sides of Collicon Lake



Photo No. 6, Earthen Terraces on Southwest End of Collicon Lake

Appendix C
Three Year Budget Projection

GRAND-WHITE LAKES LANDBRIDGE/ ME-19 / PPL 10
Three-Year Operations & Maintenance Budgets 07/01/2012 - 06/30/2015

<u>Project Manager</u>	<u>O & M Manager</u>	<u>Federal Sponsor</u>	<u>Prepared By</u>
Pat Landry	Mel Guidry	USFWS	Mel Guidry

	2012/2013 (-8)	2013/2014 (-9)	2014/2015 (-10)
Maintenance Inspection	\$ 6,269.00	\$ 6,457.00	\$ 6,651.00
Structure Operation			
State Administration		\$ -	\$ -
Federal Administration		\$ -	\$ -

Maintenance/Rehabilitation

12/13 Description: Survey and Design Report

E&D	\$37,946.00
Construction	
Construction Oversight	
Sub Total - Maint. And Rehab.	\$ 37,946.00

13/14 Description:

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

14/15 Description:

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

	2012/2013 (-8)	2013/2014 (-9)	2014/2015 (-10)
Total O&M Budgets	\$ 44,215.00	\$ 6,457.00	\$ 6,651.00

O & M Budget (3 yr Total)	\$ 57,323.00
Unexpended O & M Budget	\$ 1,080,146.00
Remaining O & M Budget (Projected)	\$ 1,022,823.00

Annual Inspection Report
 GRAND-WHITE LAKES LANDBRIDGE PROTECTION PROJECT
 State Project No. ME-19

OPERATION AND MAINTENANCE BUDGET WORKSHEET

GRAND-WHITE LAKES LANDBRIDGE / PROJECT NO. ME-19 / PPL NO. 10/ 2012-2015

DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	ESTIMATED TOTAL
O&M Inspection and Report	EACH	1	\$6,269.00	\$6,269.00
General Structure Maintenance	LUMP	0	\$0.00	\$0.00
Engineering and Design	LUMP	1	\$37,946.00	\$37,946.00
Operations Contract	LUMP	0	\$0.00	\$0.00
Construction Oversight	LUMP	0	\$0.00	\$0.00

ADMINISTRATION

LDNR / CRD Admin.	LUMP	0	\$0.00	\$0.00
FEDERAL SPONSOR Admin.	LUMP	0	\$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:				
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:				
Borings	EACH	0	\$0.00	\$0.00
OTHER				\$0.00
TOTAL GEOTECHNICAL COSTS:				\$0.00

CONSTRUCTION

CONSTRUCTION DESCRIPTION:				
Vegetative plantings on terraces.				
Rip Rap	LIN FT	TON / 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	\$0.00	\$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	0	\$0.00	\$0.00
Materials	LUMP	0	\$0.00	\$0.00
Mob / Demob	LUMP	0	\$0.00	\$0.00
Contingency	LUMP	0	\$0.00	\$0.00
General Structure Maintenance	LUMP	0	\$0.00	\$0.00
Vegetative Plantings	EACH	0	\$0.00	\$0.00
OTHER			\$0.00	\$0.00
OTHER			\$0.00	\$0.00
TOTAL CONSTRUCTION COSTS:				\$0.00

TOTAL OPERATIONS AND MAINTENANCE BUDGET: \$44,215.00

Appendix D
Field Inspection Form

Annual Inspection Report
 GRAND-WHITE LAKES LANDBRIDGE PROTECTION PROJECT
 State Project No. ME-19

MAINTENANCE INSPECTION REPORT CHECK SHEET					
Project No. / Name: ME-19 Grand-White Lake Landbridge			Date of Inspection: May, 17 2012 Time: 10:30 am		
Structure No.			Inspector(s): Mel Guidry, Stan Aucoin, Darrell Pontiff, and Jody White (CPRA)		
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	Excellent			1 - 3	Rock dike is in very good shape. Vegetation is healthy behind rock dike.
Earthen Terraces	Fair			4-6	Terraces are eroding and will require maintenance.
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?					