



**State of Louisiana**

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

## **2016/2017 Annual Inspection Report**

for

### **SABINE REFUGE MARSH CREATION PROJECT (CS-28-4&5)**

State Project Number CS-28-4&5  
Priority Project List 8



June 15, 2017  
Cameron Parish

Prepared by:

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## **I. Introduction**

The Sabine Refuge Marsh Creation Cycle 4 & 5 Project consists of approximately 230 and 232 acres (respectively) of brackish marsh platform using material dredged from the Calcasieu River Ship Channel. The project is located in the Sabine National Wildlife Refuge west of LA Highway 27, in large, open water areas west of Brown's Lake in Cameron Parish, Louisiana. (See Appendix A).

The Sabine Refuge Marsh Creation Cycle-4&5 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 eighth Priority Project List. The Sabine Refuge Protection Project has a twenty-year (20 year) economic life, which began in May 2015.

## **II. Inspection Purpose and Procedures**

The purpose of the annual inspection of the Sabine Refuge Marsh Creation Cycle-4&5 Project (CS-28-4&5) 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, 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. 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 Sabine Refuge Marsh Creation Cycle-4&5 Project (CS-28-4&5) are outlined in Section IV.

An inspection of the Sabine Refuge Marsh Creation Cycle-2 Project (CS-28-2) was held on June 15, 2017 under sunny skies and hot temperatures. In attendance were Darrell Pontiff, Jody White, and Mike Miller from CPRA, Chris Simon from Simon & Delany, and Tommy Todd, Stan's Airboat Service. Representatives from USACE and USFWS were unable to attend. The inspection began at marsh creation cell for Cycle No. 4.

The field inspection included an inspection of all of the project features. Photographs were taken (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**

The purpose of this project is designed to create new marsh in two areas within the Sabine National Wildlife Refuge through beneficial use of dredged materials from the USACE maintenance dredging of the Calcasieu River Ship Channel. The marsh creation projects proposed in this area will re-create brackish marsh habitat in the open water areas of the interior marsh primarily caused by saltwater intrusion and freshwater loss.

The Permanent pipeline was used in the construction of Sabine Refuge Marsh Creation Cycles 4 & 5. Additional PE and Pontoon pipe were installed to make up the length needed to dredge the Calcasieu Ship Channel Mile 10.5 to 15.0 and transport the material to the marsh creation areas. The marsh creation project was built in conjunction with the USACE routine dredging cycle and a joint effort between the USACE, USFWS, and CPRA. The prime dredge contractor was Mike Hooks, Inc. with Dean Equipment as a sub-contractor for containment dike construction. Containment dike construction began September 5, 2014 beginning with the Cycle 4 cell and ended in December 2014 with the Cycle 5 cell. The channel reach MI.12.2 to 15.0 dredged between November 2014 and January 2015, was placed in Cycle 4 marsh creation area. The channel reach MI. 12.2 to 10.5 dredged between January 2015 to March 2015 was placed in Cycle 5 marsh creation area. The 32" dredge placed 909,522 CYDS in Cycle 4 and 739,153 CYDS in Cycle 5 at a cost of \$4.70 per CYD. The Ship Channel was dredged to -42.0 FT (MLG) by 400ft wide within this reach.

The project goals and objectives are:

1. To create new marsh through beneficial use of dredged materials and re-create brackish marsh habitat.

### **IV. Summary of Past Operation and Maintenance Projects**

**General Maintenance:** Anticipated maintenance for this project is creation of additional gaps in the containment dike to allow tidal exchange within the marsh creation cell. Below is a summary of completed maintenance projects and operation tasks performed since May 2015, the construction completion date of the Sabine Refuge Marsh Creation Cycle-4&5 Project (CS-28-4&5).

There has been no required maintenance on this project.

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

## **V. Inspection Results**

### **Marsh Creation Area 4**

No need for maintenance at this time. The cell has some vegetation starting to take hold. The containment dikes appear to have gaps forming or remaining from original construction. (Photos: Appendix B, Photos 1 - 6)

### **Marsh Creation Area 5**

No need for maintenance at this time. The cell has thick stands of vegetation starting to take hold, more so than Cycle No. 4. The containment dikes appear to have gaps forming or remaining from original construction. (Photos: Appendix B, Photos 1 - 6)

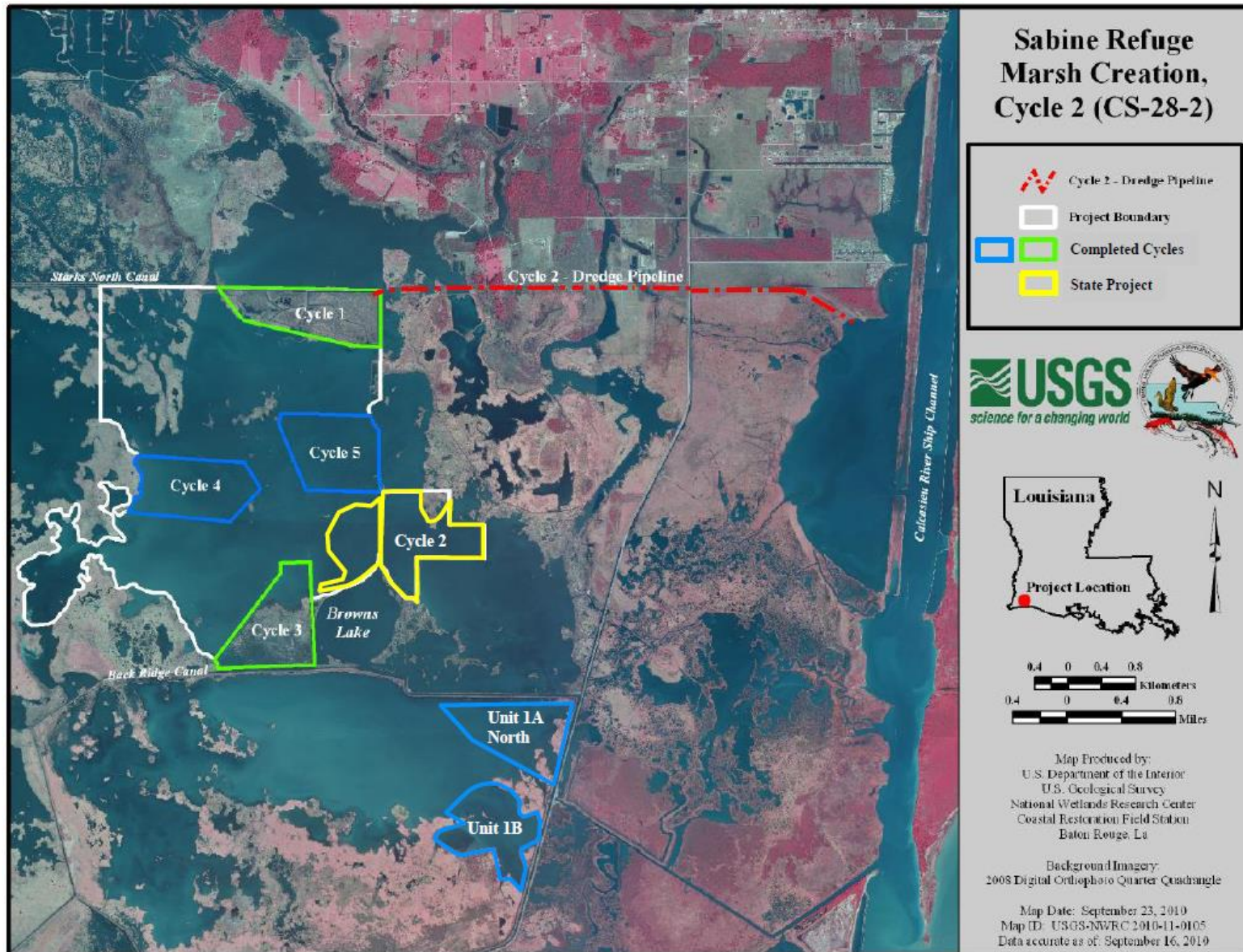
## **VI. Conclusions and Recommendations**

Overall, the Sabine Refuge Marsh Creation Cycle-4&5 Project (CS-28-4&5) is in good condition with the marsh creation cells functioning as designed. Further discussion will be necessary to determine whether dike gapping is needed.

## **Appendix A**

### **Project Features Map**

Annual Inspection Report  
SABINE REFUGE MARSH CREATION  
State Project No. CS-28-4&5



## **Appendix B**

### **Photographs**





**Photo No. 1,** Cycle No. 4, East Containment Dike, Looking Southwest



**Photo No. 2,** Cycle No. 4, East Containment Dike, Looking East



**Photo No. 2,** Interior of Marsh Creation Cycle No. 4



**Photo No. 3,** West Containment Dike of Cycle No. 5 – Looking South





**Photo No. 4,** West Containment Dike of Cycle No. 5 – Looking North



**Photo No. 5,** Interior of Marsh Creation Cycle No. 5



**Photo No. 6,** Vegetation within Cycle No. 5



**Photo No. 7,** Access from Permanent Pipeline Corridor, Looking West



### CS-28 Sabine Refuge Marsh Creation, Cycle 4 Gap Locations – March 2017 – Identified from Google Earth



Gap No.	Gap Length (ft)	GPS Coordinates
1	42	29 56' 25.20"N, 93 26' 08.25"W
2	35	29 56' 24.26"N, 93 25' 56.06"W
3	9	29 56' 23.62"N, 93 25' 47.16"W
4	30	29 56' 22.21"N, 93 25' 28.45"W
5	34	29 56' 33.24"N, 93 25' 12.91"W

**USGS 295744093303800 CRMS0651-H01-RT**  
Hydrologic Unit Code 08080206  
Latitude 29°57'44", Longitude 93°30'38" NAD83  
March 13, 2017-Mean Water Level : 1.41ft  
(Gage Zero is 0.63 below NAVD88 Geoid 12a)

## CS-28 Sabine Refuge Marsh Creation, Cycle 5 Gap Locations – March 2017 – Identified from Google Earth





**September 1, 2017 Google Earth Image – High Water Post Hurricane Harvey**

## **Appendix C**

### **Three Year Budget Projection**



**SABINE REFUGE MARSH CREATION CYCLE 4&5/ CS-28-4&5 / PPL 8**  
**Three-Year Operations & Maintenance Budgets 07/01/2017 - 06/30/2020**

<u>Project Manager</u>	<u>O &amp; M Manager</u>	<u>Federal Sponsor</u>	<u>Prepared By</u>
Darrell Pontiff	Darrell Pontiff	USFWS	Darrell Pontiff

	2017/2018 (-1)	2018/2019 (-2)	2019/2020 (-3)
<b>Maintenance Inspection</b>	\$ 7,269.00	\$ 7,487.00	\$ 7,712.00
<b>Structure Operation</b>			
<b>State Administration</b>	\$5,000.00	\$ -	\$ -
<b>Federal Administration</b>	\$5,000.00	\$ -	\$ -
<b>Maintenance/Rehabilitation</b>			

17/18 Description: Degrade dikes.

E&D	\$35,600.00
Construction	\$88,130.00
Construction Oversight	
Sub Total - Maint. And Rehab.	\$ 123,730.00

18/19 Description:

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

19/20 Description:

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

	2017/2018 (-1)	2018/2019 (-2)	2019/2020 (-3)
<b>Total O&amp;M Budgets</b>	\$ 140,999.00	\$ 7,487.00	\$ 7,712.00

<b>O &amp; M Budget (3 yr Total)</b>	<b>\$ 156,198.00</b>
<b>Unexpended O &amp; M Budget</b>	<b>\$ 157,349.00</b>
<b>Remaining O &amp; M Budget (Projected)</b>	<b>\$ 1,151.00</b>

## **Appendix D**

### **Field Inspection Form**

Annual Inspection Report  
 SABINE REFUGE MARSH CREATION  
 State Project No. CS-28-4&5

**MAINTENANCE INSPECTION REPORT CHECK SHEET**

Project No. / Name: CS-28 Sabine Refuge Marsh Creation Cycle 4&5

Date of Inspection: June 15, 2017 Time: 10:30 AM

Structure No. N/A

Inspector(s): Darrell Pontiff, Jody White, and Mike Miller (CPRA)  
 Chris Simon (Simon and Delany), Tommy Todd (Stan's Airboat service)  
 Water Level Inside: N/A Outside:

Structure Description: Marsh Creation Cells

Type of Inspection: Annual

Weather Conditions: Sunny and hot

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				
Marsh Creation Cells (4&5)	Good				
Nourished Areas	Good				
Containment Dikes	Good				
Vegetation	Good				
Fencing	N/A				

What are the conditions of the existing levees? N/A  
 Are there any noticeable breaches? N/A  
 Settlement of rock plugs and rock weirs? N/A  
 Position of stoplogs at the time of the inspection? N/A  
 Are there any signs of vandalism? No