



Coastal Protection and Restoration Authority of Louisiana

Office of Coastal Protection and Restoration

2011 Annual Inspection Report

Jonathan Davis Wetland Protection

State Project Number BA-20
Priority Project List 2

June 29, 2011
Jefferson Parish

Prepared by:

Barry Richard, P.E.
CPRA/ Office of Coastal Protection and Restoration
New Orleans Field Office
CERM, Suite 309
2045 Lakeshore Dr.
New Orleans, La 70122

Table of Contents

I. Introduction.....	1
II. Project Description and History	1
III. Inspection Purpose and Procedures.....	2
IV. Inspection Results	2
V. Conclusions.....	5
VI. Recommendations.....	5
Immediate Repairs	5
Programmed Maintenance	5

Appendices

- Appendix A Project Features Map
- Appendix B Photographs
- Appendix C Three Year Budget Projections
- Appendix D Field Inspection Form

I. Introduction

The Jonathan Davis Wetland Protection (BA-20) project is located in Jefferson Parish within the Barataria Basin. It encompasses 7,199 acres (2,880 ha) of wetlands, which were classified as intermediate marsh in 1994 (OCPR 1998). The project is bounded on the north by the Paillet Canal, on the east by La. Hwy. 301, on the south by Bayous Perot and Rigolettes, and on the west by the Gulf Intracoastal Waterway (GIWW) (Appendix A).

II. Project Description and History

Overall, 1,393 ac (557 ha) of land within the Jonathan Davis Wetland Protection project area have been converted to open water between 1945 and 1989 (Coastal Environments Inc. 1991). The average rate of change of marsh to non-marsh (including loss to both open water and commercial development) has increased since the 1940s. National Biological Survey (NBS) Geographic Information System (GIS) habitat data from 1956 characterized the majority of the area as fresh marsh. However, the 1978 and 1990 data indicate that the area has become more saline. In both 1978 and 1990, the area was classified as primarily intermediate marsh. Chabreck and Linscombe (1988) also characterize the area as intermediate marsh.

Large scale factors influencing degradation in the Barataria basin include subsidence, lack of sedimentation, and reduced freshwater influx due to the levee system on the Mississippi River and its major distributaries. To compound this problem, there are no major external sources of inorganic sediment into the project area although some sediment does enter via the GIWW. Moreover, storm surges moving through numerous oil field canals within the area have facilitated the export of a large portion of the indigenous inorganic and organic sediments.

Other factors influencing wetland loss within the project area are increased water exchange, saltwater intrusion, tidal scour, and shoreline erosion along Bayous Perot and Rigolettes. Shoreline erosion from 1945 to 1989 caused primarily by wave action along Bayou Perot has been measured at 20 ft/yr (6.1 m/yr). Saltwater intrusion and tidal scour are believed to have been enhanced with the construction of various oil field canals that were dredged in the 1940s when oil companies were not responsible for maintaining a continuous spoil bank along the canals. As a result, the breaches that occurred were not repaired and subsequently exposed the interior marsh to increased tidal flows and salinity during storm surges.

Project features consist of shoreline protection, rock armored plugs, rock weirs, and weirs with boat bays. Construction Unit 1, which consists of project features 12, 13, 14, 15, 16, 17, 19, 20, and 21, was completed in September 1998. Construction Unit 2 was completed in May 2001. It encompassed installing a weir at structure 22, and shoreline protection from structures 20 to 22. Construction Unit 3, which consists of shoreline

protection extending from project feature 12, west to the Gulf Intracoastal Waterway, was completed on July 7, 2003. Construction of features 1, 2, 3, 6, 8, 9, 10, and 11 in the northern project area has been deferred due to the anticipated positive influence of Davis Pond Diversion, lack of funding, and land rights issues. (Appendix A)

On January 30, 2002, Stone Energy Corporation was issued a Coastal Use Permit to plug and abandon existing wells within the Jonathan Davis Wetland Protection Project. This work was completed on 7/18/02 and consisted of removing and replacing structures 13 & 19 to plug and abandon several existing wells located behind these structures. The cost associated with removing and replacing these structures was incurred entirely by Stone Energy Corporation. However, at the request of NRCS, OCPR was required to provide inspection services for this project. OCPR obtained the services of GSE Associates, Inc. to inspect construction activities and prepare a project completion report and as-built drawings. These services were performed for a total cost of \$9,394.13.

As part of the construction documents prepared by NRCS for this project, Stone Energy Corporation was required to reconstruct structure 13, increasing the boat bay crest from 50' to 100' in width and raising the crest elevation from -5.0' NGVD to -2.5' NGVD.

As part of work for Construction Unit 4, maintenance was performed on structures 14, 15, and 17. Due to the location and activity of a pipeline in the vicinity of Structure 16 no work was performed there. However, due to the location and infilling in front of Structure 16, no work is required.

III. Inspection Purpose and Procedures

The purpose of the annual inspection of the Jonathan Davis Wetland Protection (BA-20) project 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, 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 (O&M Plan March 18, 2002). The annual inspection report also contains a summary of maintenance projects 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 project are outlined in Section II.

An inspection of the Jonathan Davis Wetland Protection (BA-20) project was held on April 21, 2011, by Barry Richard of OCPR and Quin Kinler and Mike Trusclair of NRCS. Photographs of that inspection are included in Appendix B of this report.

IV. Inspection Results

Construction Unit No. 1

Structure No. 12 – Rock rip-rap armored plug

The structure is in good condition. There is some slight settling across the structure. All of the signs and supports were in good condition. At this time there is no need for any maintenance work to be done at this structure.

Structure No. 13 – Rock rip-rap armored weir w/ boat bay

Due to the water level and structure settlement the structure was not visible. All signs and supports are in good condition. No maintenance will be required at this time.

Structure No. 14 – Rock rip-rap armored plug

Approximately 80% of this structure has been repaired. The two breaches were still present at the time of the inspection. The repairs that were effected at the time of the inspection looked good. (Photo #1)

Structure No. 15 – Rock rip-rap weir w/ boat bay

All maintenance has been performed on this structure during construction of Construction Unit 4. The boat bay has been filled and everything is in good condition. (Photo #2)

Structure No. 16 – Rock rip-rap channel plug

Structure 16 was difficult to inspect due to the amount of vegetation growing on the structure. (Photo #3) It is assumed that this structure has stabilized due to the conditions of the channel and the structure signage. The new construction has tied this in with the rest of the Construction Units and it is recommended that there be no maintenance work at this time.

Structure No. 17 – Rock rip-rap channel plug

All maintenance work has been completed through Construction Unit 4 and the structure is in good condition.

Structure No. 19 – Rock rip-rap weir w/ boat bay

Structure 19 appeared to be in good condition. The tides and settlement prevented us from viewing the entire structure. The warning signs and supports were also in good condition. NRCS and OCPR agree that this structure will not require maintenance.

Structure No. 20 – Rock rip-rap armored plug

The structure appeared to be in good condition with no signs of settlement of the rock weir. The warning signs and supports were also in good condition. The structure was heavily vegetated at the time of inspection. NRCS and OCPR agree that this structure will not require maintenance.

Structure No. 21 – Rock rip-rap armored plug

The rock armored plug appeared to be in good condition with slight settlement on the east side of the structure. This was hard to fully assess due to the amount of vegetation on the structure. OCPR and NRCS agree that the structure will not require maintenance at this time.

Construction Unit No.2

Structure No. 22 A – Canal bank stabilization

The structure looked to be in good condition. The structure is becoming more vegetated and there are little to no signs of settlement. OCPR and NRCS agree that maintenance of this structure is not needed at this time.

Structure No.22 – Steel sheet pile weir w/ boat bay

The structure appears to be in good condition along with the signs, supports, and sheet pile caps. OCPR and NRCS agree that this structure will require no work at this time.

Bayou Rigolettes Bank Stabilization

The rock dike along the northern shore of Bayou Rigolettes appears to be in good condition. There is some noticeable settlement near the western end of this feature (Photo #4). Any maintenance work required will be completed in a future maintenance event.

Construction Unit No.3

Bayou Perot Bank Stabilization

The Bayou Perot Bank Stabilization looks good. There was some erosion noticed at the western most portion of the West Reach of the structure. This are of erosion has increased and will continue to be monitored. There was also some settlement noticed. It is agreed

that some maintenance work is needed for this structure during a future maintenance event.

V. Conclusions

Overall this project has proven very effective in reducing shoreline erosion. With the exception of the few locations where the individual structures and the rock dike bank stabilization is experiencing more rapid settlement, the structures have proven to be very stable. There is not enough maintenance required at this time to warrant any maintenance activity. If more settlement is noticed then an assessment of needed maintenance will occur at that time.

VI. Recommendations

There is no need for any maintenance activity at this time.

Immediate Repairs

- None at this time.

Programmed Maintenance

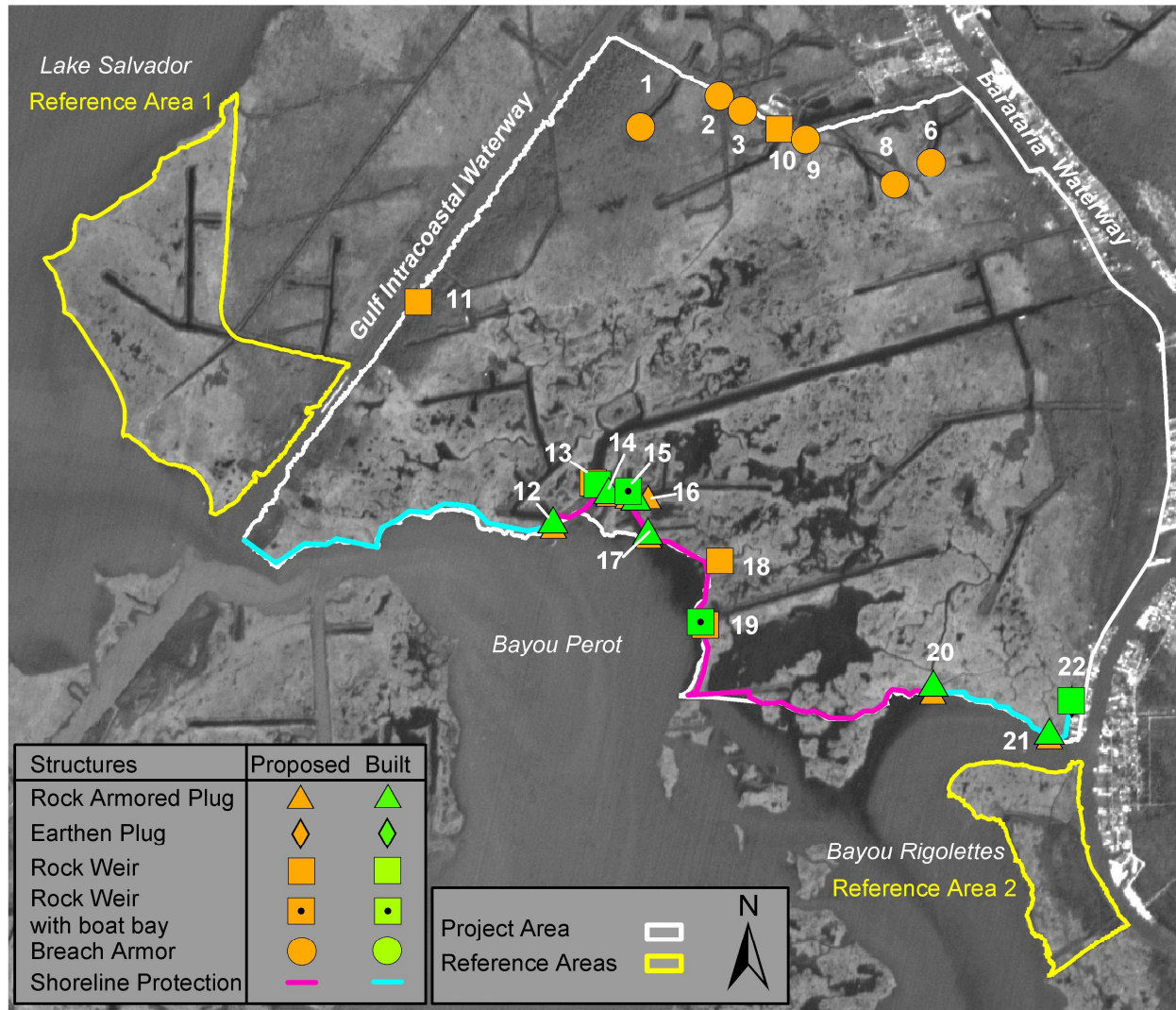
- Continue to monitor the condition of all structures.

Appendix A

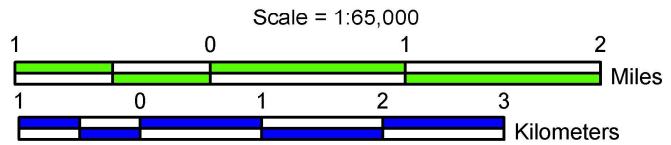
Project Features Map



Jonathan Davis Wetland Protection (BA-20)
 Coastal Wetlands Planning, Protection and Restoration Act
 Proposed Structures



Data Source:
 Background image is a 1993 SPOT panchromatic satellite image shown at 1:65,000.



Prepared by:
 U.S. Department of the Interior
 U.S. Geological Survey
 National Wetlands Research Center
 Lafayette, LA
 and
 Louisiana Department of Natural Resources
 Coastal Restoration Division
 New Orleans Field Office



Federal Sponsor:
 U.S. Department of Agriculture
 Natural Resources Conservation Service



Map ID: USGS-NWRC 2004-02-XXXX

Appendix B

Photographs



Photo #1 – Structure #14



Photo #2 – Structure #15



Photo #3 – New Rock to Structure #16 (under vegetation)



Photo #4 – Low spot near Structure #20

Appendix C

Three Year Budget Projection

2011 Annual Inspection Report
Jonathan Davis Wetland Protection
State Project No. BA-20

Jonathan Davis Wetland Restoration Project (BA-20)

Federal Sponsor: NRCS

Construction Completed : 5/29/2001

PPL 2

Current Approved O&M Budget June 2009	Year 0 FY02	Year - 1 FY03	Year -2 FY04	Year -3 FY05	Year -4 FY06	Year -5 FY07	Year -6 FY08	Year -7 FY09	Year -8 FY10	Year -9 FY11	Year -10 FY12	Year -11 FY13	Year -12 FY14	Year -13 FY15	Year -14 FY16	Year -15 FY17	Year -16 FY18	Year - 17 FY19	Year -18 FY20	Year -19 FY21	Project Life Budget	Currently Funded
State O&M	\$4,200	\$4,309	\$4,421	\$4,536	\$84,433	\$504,924	\$4,899	\$5,027	\$5,157	\$111,609	\$2,668,178	\$5,570	\$5,715	\$218,766	\$170,377	\$3,462,144	\$11,333	\$11,498	\$11,667	\$11,840	\$7,310,604	\$7,310,604
Corps Admin																					\$0	\$0
Federal S&A																					\$0	\$0
Total																					\$7,310,604	\$7,310,604

Projected O&M Expenditures																				Remaining Project Life	Current 3 year Request	
Maintenance Inspection	\$4,200	\$4,309	\$4,421	\$4,536	\$4,654	\$4,775	\$4,899	\$5,027	\$5,157	\$5,291	\$5,429	\$5,570	\$5,715	\$5,864	\$6,016	\$6,172	\$6,333	\$6,498	\$6,667	\$6,840	\$61,103	\$16,714
General Maintenance																					\$0	\$0
Surveys					\$75,000					\$100,000					\$150,000						\$150,000	\$0
Sign Replacement														\$200,000							\$200,000	\$0
Federal S&A					\$4,779	\$19,420				\$6,317	\$102,622			\$12,352	\$9,361	\$132,967					\$257,302	\$102,622
Maintenance/Rehabilitation																					\$0	\$0
E&D						\$32,688				\$155,327						\$198,005					\$353,332	\$155,327
Construction						\$430,809				\$2,312,307						\$3,000,000					\$5,312,307	\$2,312,307
Construction Oversight						\$17,232				\$92,492						\$120,000					\$212,492	\$92,492
Total					\$84,433	\$504,924	\$4,899	\$5,027	\$5,157	\$111,609	\$2,668,178	\$5,570	\$5,715	\$218,215	\$165,377	\$3,457,144	\$6,333	\$6,498	\$6,667	\$6,840	\$6,546,537	\$2,679,463

Notes:
1. The year-by-year figures for the current Approved O&M Budget are based on the BEAST approved at the 6/3/09 Task Force meeting. This spreadsheet was a correction to the BEAST submitted for the Fall 2008 funding requests.

O&M	Current O&M Budget less COE Admin	\$7,310,604	Current Project Life Budget less COE Admin	\$7,310,604
State	Remaining Available O&M Budget	\$7,222,604	Total Projected Project Life Budget	\$6,634,538
Federal Sponsor MIPRs (if applicable)	Incremental Funding Request Amount FY12-FY14	-\$4,543,140	Project Life Budget Request Amount	-\$676,067
Total Estimated O&M Expenditures (as of April 2010)		\$88,001		

Appendix D

Field Inspection Form

MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: **BA-20 Jonathan Davis Wetland**

Date of Inspection: 4/21/2011

Time: 9:30 am

Structure No. Construction Unit No.1 -Site No. 12

Inspector(s): Richard, Kinler, Trusclair

Structure Description: Rock rip-rap armored plug

Water Level

Inside: N/A

Outside: 0.8'

Type of Inspection: Annual, Post Storm, other Annual

Weater Conditions: Partly Cloudy, Moderate Wind

Item	Condition	Pysical Damage	Corrosion	Photo #	Observations and Remarks
Signage and supports	Good				
Armored Plug	Good				Observations: There have been no changes since the last inspection. NRCS and OCPR agree that no maintenance required at this time.
Earthen Embankment	Good				
Construction Unit No.1					
Structure Description: 294 linear ft. rock rip-rap armored rock-filled plug located in a pipeline channel north of Bayou Perot, west of Bayou Barataria, and east of the GIWW					
The crest of the weir was set at an elevation of +3.9 ft. NGVD. The rock-filled plug contains 2,689 tons of rock filled with 2,518 tons of rip-rap armor. Aluminum warning signs are also located through the rock embankment.					

MAINTENANCE INSPECTION REPORT CHECK SHEET

Project No. / Name: **BA-20 Jonathan Davis Wetland**

Date of Inspection: 4/21/2011

Time: 9:30 am

Structure No. Construction Unit No. 2 -Site No. 22

Inspector(s): Richard. Kinler, Trusclair

Structure Description: Steel sheet pile structure w/ boat bay

Water Level Inside: N/A Outside: 0.8'

Type of Inspection: Annual, Post Storm, other Annual

Weater Conditions: Partly Cloudy, Moderate Wind

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Steel Bulkhead / Caps	Good				
Handrails Hardware, etc.	Good				Observation: There have been no changes since the last inspection. No maintenance required at this time.
Signage and supports	Good				
Rock weir	Good				
Earthen Wingwalls	Good				
Rock Armored Earthen Embankment	Good				
Construction Unit No.2					
Structure Description: 58 linear ft. of steel sheet pile bulkhead with a crest elevation of +1.95 ft. and a 24' - 8-1/2" wide boat bay with a crest elevation of -0.93 ft. located off of Bayou Regolettes, west of Bayou Barataria and east of GIWW. The structure consists of a steel sheet pile weir with 1,426 square feet of sheet piling set at +1.95 ft. At the bottom the boat bay, is a 1.5 ft. thick rock rip-rap scour pad section with an invert of -0.93 ft. This structure ties into structure 22A on the west side. Aluminum warning signs supported by 12" diameter timber piles are located at the entrance of the boat bay.					

