CWPPRA

Coastal Wetlands Planning, Protection and Restoration Act

Technical Committee Meeting

September 10, 2015

Baton Rouge, Louisiana

ATTENDANCE RECORD

DATE(S)	SPONSORING ORGANIZATION	LOCATION
September 10, 2015 9:30 A.M.	COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	LA Dept of Wildlife and Fisheries Louisiana Room 2000 Quail Drive Baton Rouge, LA

PURPOSE **MEETING OF THE CWPPRA TECHNICAL COMMITTEE**

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
David Brunet	St Tammany Parish	985-898-2552
Jason Kroll	NOAA	225 757 5411
Erick Swenson	LSU	225 578 2730
Cecelia Linder	NOAA	240 ~~301~~ 535 2334
RALPH Liberat	Vermilion Parish	337-652-6557
Laurie Cormier	Calcasieu Parish	337-721-3600
Chad Courville	Miami Corporation	337.264.1695
Garrin Pittman	CPRA	225-229-3569
Jennifer Manuel	LDWF	337-373-0032
James Miller	TerrebonNe	985-580-8145
Catherine Normand	LDWF	337-373-0032
Logan Bodreaux	CPRA	225-342-2639
LOLAND BROUSSARD	NRCS	337-291-3069
[signature]	USFWS	337-291-3111
Kevin Roy	USFWS	337-291-3120
Quin Kinler	NRCS	225-665-4253
Kelly Bingham	CWPPRA	337-266-8623
Nikki Cavalier	CWPPRA	225-505-5313
Kate Spear	USGS	337-266-8645
Bob Barth	CPRA	225-454-4345
Ronny Paille	FWS	337-291-3117
Frank Luccio	CPRA	337-298-1457

LMV FORM 583-R
JAN 88

* If you wish to be furnished a copy of the attendance record, please indicate so next to your name.

ATTENDANCE RECORD

DATE(S)	SPONSORING ORGANIZATION	LOCATION
September 10, 2015 9:30 A.M.	COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT	LA Dept of Wildlife and Fisheries Louisiana Room 2000 Quail Drive Baton Rouge, LA

PURPOSE **MEETING OF THE CWPPRA TECHNICAL COMMITTEE**

PARTICIPANT REGISTER*

NAME	JOB TITLE AND ORGANIZATION	PHONE NUMBER
~~BRADLEY~~ HERBERT	LDWF	225 765 0773
Bill Boshart	CPRA	504-280-4063
Leigh Ann Sharp	CPRA	337-482-0659
Danielle Richardi	CPRA	504-280-1007
Tommy McGinnis	CPRA	337-482-0665
Dana Weifenbach	CPRA	3374820866
Mark Mendelssohn	CPRA	337-482-0661
Rene Escuriex	Fenstermaker	337-314-0498
Betsy Brien	Condea Phillips	504.415.8181
DARRELL PONTIFF	CPRA	337 482-0683
MEL GUIDRY	CPRA	337-482-0682
NEDRA DAVIS	Chenier Plain Authority	225-333-8234
Troy Mallach	NRCS	337/291-3064
Jeanne Jarreau	CPRA	225-342-4119
JOHN FORET	NMFS	337.291.2107
Randy Moertle	McIlhenny/Clovelly/Point Au Fer	985-956-3630
Erik Mayo	Coastal Law Group	225-485-1558
Steve Lauga	Ducks Unlimited	985-209-3270
Eden Davis	Louisiana Wildlife Federation	504 421 5162
Donna Rogers	NOAA Restoration Center	225-316-8958

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JAN 88

* If you wish to be furnished a copy of the attendance record, please indicate so next to your name.

CWPPRA

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT
TECHNICAL COMMITTEE MEETING

AGENDA

September 10, 2015, 9:30 a.m.

Location:
LA Department of Wildlife and Fisheries
Louisiana Room
2000 Quail Drive
Baton Rouge, Louisiana

Documentation of Technical Committee meetings (including minutes, attendance records, PowerPoint Presentations, and meeting binders) may be found at:
http://www.mvn.usace.army.mil/Missions/Environmental/CWPPRA.aspx

Tab Number **Agenda Item**

1. **Meeting Initiation 9:30 a.m. to 9:40 a.m.**
   a. Introduction of Technical Committee or Alternates
   b. Opening remarks of Technical Committee Members
   c. Request for Agenda Changes/Additional Agenda Items/Adoption of Agenda

2. **Report: Status of CWPPRA Program Funds and Projects (Susan Mabry, USACE) 9:40 a.m. to 9:55 a.m.** Ms. Susan Mabry will provide an overview of the status of CWPPRA accounts and available funding in the Planning and Construction Programs.

3. **Report/Decision: Status of Unconstructed Projects (Brad Inman, USACE) 9:55 a.m. to 10:10 a.m.** The P&E Subcommittee will report on the status of unconstructed CWPPRA projects that have been experiencing project delays and considered "critical-watch" as well as projects recommended for deauthorization and inactivation.
   a. Critical-watch unconstructed projects status and milestone updates:
      - North Lake Boudreaux Freshwater Introduction and Hydrologic Management (TE-32a), PPL 6, FWS
   b. Unconstructed project recommended by the project team to deauthorize:
      - Kelso Bayou Marsh Creation (CS-53), PPL 20, NRCS
   c. Unconstructed project requested by the project team to inactivate:
      - Madison Bay Marsh Creation & Terracing (TE-51), PPL 16, NMFS

4. **Report/Decision: Status of the 2015 Report to Congress (Darryl Clark, FWS) 10:10 a.m. to 10:15 a.m.** Mr. Darryl Clark will provide a status update on the 2015 Report to Congress. The FWS-USGS-CPRA Report to Congress Work Group presents the semi-final edited draft 2015 Report to Congress (RTC) to the CWPPRA Technical

Committee for approval. The CWPPRA agencies reviewed the first and second drafts; the final draft was edited by USGS editors in August. After Technical Committee approval, the editors will prepare the final formatted draft, including tables, figures, and photos, for Task Force approval at their October 15, 2015 meeting.

5. **Decision: Annual Request for Incremental Funding for FY18 Administrative Costs for Cash Flow Projects (Susan Mabry, USACE) 10:15 a.m. to 10:20 a.m.** The U.S. Army Corps of Engineers will request funding approval in the amount of $24,641 for administrative costs for cash flow projects beyond Increment 1. The Technical Committee will consider and vote to make a recommendation to the Task Force on the request for funds.

6. **Decision: Request for Funding for the CWPPRA Program's Technical Services (Sarai Piazza, USGS) 10:20 a.m. to 10:25 a.m.** The U.S. Geological Survey (USGS) and CPRA are requesting funding for technical services for the CWPPRA program in the amount of $171,410. The Technical Committee will consider and vote to make a recommendation to the Task Force to approve the request for budget increase and funding for technical services in the amount of $171,410.

7. **Decision: Request for a Phase 1 Budget Increase for the Cameron Creole Freshwater Introduction Project (CS-49) (Garvin Pittman, CPRA) 10:25 a.m to 10:35 a.m.** CPRA has overspent CPRA Administration funds by $4,572. CPRA proposes a budget increase and increase funding for Phase I CPRA Administration by $64,572 to cover the over expenditure and to allow CPRA enough funds to perform Administration duties through the Engineering and Design Phase of the project.

8. **Decision: Request for a Phase 1 Budget Increase for the Non-Rock Alternatives to Shoreline Protection Demonstration Project (LA-16) (Garvin Pittman, CPRA) 10:35 a.m. to 10:45 a.m.** CPRA has overspent CPRA Easements and Land Rights funds by $15,989.64 and has overspent total CPRA Supervision and Administration funds by $33,809.48. CPRA requests a budget increase in the amount of $55,140.28 to cover the over expenditures and to allow CPRA's Lafayette Regional Office Staff enough funds to perform Construction Administration duties through the Construction Phase of the project.

9. **Decision: Request for Transfer of Funds from PPL6 Delta-wide Crevasses (MR-09) Operations and Maintenance to Monitoring and Long-term S&A. (Stuart Brown, CPRA) 10:45 a.m. 10:55 a.m.** For the MR-09 Delta-wide Crevasses project, CPRA and NOAA Fisheries are proposing the repurposing of authorized funding from the Operations and Maintenance (O&M) activity to the Monitoring activity in the amount of $241,500, and from the O&M activity to NOAA Long-term S&A in the amount of $40,000 via Memorandum of Agreement between the two agencies. These adjustments do not cause the total project estimates to exceed the maximum total project cost as currently authorized by the CWPPRA Task Force.

10. **Decision: Request for Transfer of Funds from the PPL2 Clear Marais Bank Protection (CS-22) Operations and Maintenance to Monitoring (Brad Inman; USACE; Stuart Brown, CPRA) 10:55 a.m. to 11:05 a.m.** The CS-22 project does not

have sufficient funds to complete remaining monitoring tasks which include final shoreline data collection and composition of the final OM&M Report. There are sufficient O&M funds available to complete the remaining O&M inspections and to fund the monitoring tasks through the end of the project in 2017 at a cost of $47,100. The Technical Committee will consider and vote to make a recommendation to the Task Force on the requested transfer of funds.

11. **Decision: Request for Operation and Maintenance (O&M) Incremental Funding and Budget Increases (Stuart Brown, CPRA) 11:05 a.m. to 11:35 a.m.** The Technical Committee will consider and vote to make a recommendation to the Task Force to approve requests for total FY18 incremental funding in the amount of $8,999,435 and O&M budget increases totaling $3,048,600.
    a. PPL 9+ Projects requesting approval for FY18 incremental funding in the total amount of $5,959,556 for the following projects:
        - GIWW - Perry Ridge West Bank Stabilization (CS-30), PPL9, NRCS
          Incremental funding amount: $6,539
        - Freshwater Introduction South of Highway 82 (ME-16), PPL-9, USFWS
          Incremental Funding amount: $120,478
        - North Lake Mechant Landbridge Restoration, (TE-44), PPL-10, USFWS
          Incremental Funding amount: $400,000
        - Little Lake Shoreline Protection/ Dedicated Dredging Near Round Lake, (BA-37), PPL-11, NMFS
          Incremental Funding amount: $600,000
        - West Lake Boudreaux Shoreline Protection and Marsh Creation (TE-46), PPL11, USFWS
          Incremental Funding amount: $1,489,805
        - Coastwide Nutria Control Program (LA-03b), PPL-11, NRCS
          Incremental funding amount (FY16): $2,086,556
        - Mississippi River Sediment Delivery System - Bayou Dupont (BA-39), PPL12, EPA
          Incremental Funding amount: $7,200
        - South White Lake Shoreline Protection (ME-22), PPL12, COE
          Incremental funding amount: $8,315
        - West Belle Pass Barrier Headland Restoration, (TE-52), PPL-16, NMFS
          Incremental Funding amount: $7,259
        - Coastwide Vegetative Planting (LA-39), PPL-20, NRCS
          Incremental Funding amount: $1,188,080
        - Four Mile Canal Terracing and Sediment Trapping (TV-18), PPL 9, NMFS
          Incremental funding amount: $6,267
        - Barataria Barrier Island Complex: Pelican Island and Pass La Mer to Chaland Pass Restoration (BA-38), PPL 11, NMFS
          Incremental Funding amount: $12,428
        - Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration (BA-35, PPL 11, NMFS
          Incremental Funding amount: $9,653

- Bayou Dupont Marsh and Ridge Creation (BA-48), PPL-17, NMFS
  Incremental funding amount: $10,218
- Grand Liard Marsh and Ridge Restoration (BA-68), PPL-18, NMFS
  Incremental funding amount: $6,758

b. PPL 1-8 Project requesting approval for FY18 incremental funding in the total amount of $227,361:
   - GIWW to Clovelly Hydrologic Restoration (BA-02), PPL-1, NRCS
     Incremental Funding amount: $28,751
   - Highway 384 Hydrologic Restoration (CS-21), PPL2, NRCS
     Incremental Funding amount: $23,867
   - Sabine Refuge Structures (CS-23), PPL-3, USFWS
     Incremental Funding amount: $ 43,709
   - Lake Chapeau Sediment Input and Hydrologic Restoration, Point Au Fer Island (TE-26), PPL-3, NMFS
     Incremental Funding amount: $10,094
   - Brady Canal Hydrologic Rest, (TE-28), PPL-3, NRCS
     Incremental Funding amount: $ 103,716
   - Black Bayou Hydrologic Restoration (CS-27), PPL-6, NMFS
     Incremental Funding amount: $17,224

c. PPL 9+ Projects requesting approval for a budget increase in the amount of $3,048,600 and FY18 incremental funding in the amount of $2,812,518 for the following projects:
   - Raccoon Island Shoreline Protection/Marsh Creation, (TE-48), PPL-11, NRCS
     Budget increase amount: $3,048,600
     Incremental Funding amount: $2,812,518

12. Decision: Request for Monitoring Incremental Funding and Budget Increases (Stuart Brown, CPRA) 11:35 a.m. to 12:05 p.m. The Technical Committee will consider and vote to make a recommendation to the Task Force to approve requests for monitoring budget increases totaling $1,783,381 and for FY18 incremental funding in the amount of $11,454,315.

a. PPL 9+ Projects requesting approval for FY18 incremental funding in the total amount of $337,671 for the following projects:
   - Barataria Basin Landbridge Shoreline Protection (BA27c), PPL-9, NRCS
     Incremental funding amount: $4,689
   - Delta Management at Fort St. Philip (BS-11), PPL-10, USFWS
     Incremental funding amount: $55,201
   - Raccoon Island Shoreline Protection/Marsh Creation (TE-48), PPL-11, NRCS.
     Incremental funding amount: $44,353
   - Coastwide Nutria Control Program (LA-03b) PPL-11 NRCS
     Incremental funding amount: $ 96,695
   - West Belle Pass Barrier Headland Restoration (TE-52), PPL-16, NMFS
     Incremental funding Request: $57,262
   - Coastwide Vegetative Planting (LA-39), PPL-20, NRCS

Incremental Funding amount: $ 79,471

b. PPL 1-8 Project requesting approval for FY18 incremental funding in the total amount of $153,898:
    - Sabine Refuge Marsh Creation, Increment 3 (CS-28-3), PPL-8 USACE/USFWS
      Incremental funding request: $90,000
    - Clear Marais Bank Protection (CS-22), PPL-2, USACE
      Incremental funding request: $47,100
    - Naomi Outfall Project (BA-03c), PPL-5, NRCS
      Incremental Funding amount: $ 16,798
c. Coastwide Reference Monitoring System (CRMS) requesting approval for FY18 incremental funding in the total amount of $10,197,109:
    - Incremental funding (FY18): $10,197,109
d. PPL 9+ Projects requesting approval for a budget increase in the amount of $1,246,966 and FY18 incremental funding in the amount of $592,219 for the following project:
    - Timbalier Island Dune and Marsh Creation (TE-40), PPL-9, EPA
      Budget increase amount: $55,889
      Incremental Funding amount: $41,250
    - Lake Hermitage Marsh Creation (BA-42), PPL-15, USFWS
      Budget increase amount: $240,354
      Incremental Funding amount: $120,418
    - Bayou Dupont Marsh and Ridge Creation (BA-48), PPL-17, NMFS
      Budget increase amount: $445,577
      Incremental Funding amount: $73,326
    - South Lake Leary Shoreline and Marsh Restoration (BS-16), PPL17, USFWS
      Budget increase amount: $ 196,816
      Incremental Funding amount: $ 48,265
    - Non-Rock Alternatives to Shoreline Protection Demonstration (LA-16), PPL18, NRCS
      Budget increase amount: $ 308,960
      Incremental Funding amount: $ 308,960
e. PPL 1-8 Projects requesting approval for budget increases in the total amount of $536,415 and FY18 incremental funding in the total amount of $173,418 for the following projects:
    - Sabine Refuge Marsh Creation, Increments 4 and 5 (CS-28), PPL8, USFWS
      Budget increase amount: $455,015
      Incremental Funding amount: $48,458
    - Channel Armor Gap Crevasse (MR-06), PPL3, USACE
      Budget increase amount: $81,400
      Incremental Funding amount: $124,960

13. **Report/Decision: Request to Increase Operation and Maintenance and Monitoring Budgets for PPL 14 – East Marsh Island Marsh Creation (TV-21) (Darrell Pontiff, CPRA) 12:05 p.m. to 12:15 p.m.** CPRA and NRCS report that Phase I is being closed out with an actual/reconciled cost of $905,585.42, and that $288,020.58 of Phase I funds are being returned to the CWPPRA Program. CPRA and NRCS report that construction is complete and that Phase II first costs (construction, including construction S&A, S&I, and COE) are being closed out with an actual/reconciled cost of $18,241,348.69. This results in a potential return of $1,780,980.31 to the CWPPRA Program; however, CPRA and NRCS propose to increase the Operation and Maintenance budget by $515,342, increase the Monitoring budget by $272,274, and decrease Corps Admin budget by $1,504, with incremental increases of $605,884 (O&M); $92,804 (Monitoring), and $5,131 (COE Admin). If approved, the revised fully-funded Phase II cost would be $21,831,844.00, resulting in $ 994,868.31 of Phase II funds being returned to the program.

14. **Decision: Request to Combine Budgets and Reports for CWPPRA Projects: Isles Dernieres Restoration Phase 0 East Island (TE-20), Isles Dernieres Restoration Phase 1 Trinity Island (TE-24) and Whiskey Island Restoration (TE-27) (Stuart Brown, CPRA) 12:15 p.m. to 12:25 p.m.** Project Sponsors CPRA and EPA would like to combine Operations, Maintenance and Monitoring Reports as well as project monitoring funds for the above projects rather than request an increase in funding. In our opinion, this would be prudent due to the fact that both Isles Dernieres Restoration Phases occurred on the same island. Additionally, data collection efforts for all of the projects are on the same timeline. We would like acknowledgement that we will be allowed to utilize the remaining funds from Isles Dernieres Restoration Phase 0 (TE-20) to complete monitoring activities and the associated project close out report for all 3 projects.

15. **Additional Agenda Items (Brad Inman, USACE) 12:25 p.m. to 12:30 p.m.**

16. **Request for Public Comments (Brad Inman, USACE) 12:30 p.m. to 12:35 p.m.**

17. **Announcement: Dates of Upcoming CWPPRA 25th Anniversary Dedication Event (Brad Inman, USACE) 12:35 p.m. to 12:40 p.m.** A dedication ceremony will be held on October 14, 2015 to celebrate the 25th anniversary of the CWPPRA program. The ceremony will begin at 10:00 a.m. at the Grand Isle State Park in Grand Isle, Louisiana. More details will be provided via the CWPPRA Newsflash.

18. **Announcement: Dates of Upcoming CWPPRA Program Meeting (Brad Inman, USACE) 12:40 p.m. to 12:45 p.m.** The Task Force Meeting will be held October 15, 2015 at 9:30 a.m. at the Grand Isle Multiplex, Highway 1 at Ludwig Lane, Grand Isle, Louisiana.

19. **Announcement: Scheduled Dates of Future Program Meetings (Brad Inman, USACE) 12:45 p.m. to 12:50 p.m.**

October 15, 2015	9:30 a.m.	Task Force	Grand Isle
December 10, 2015	9:30 a.m.	Technical Committee	Baton Rouge

January 13, 2016	9:30 a.m.	Task Force	New Orleans
January 26, 2016	11:00 a.m.	Region IV Planning Team	Lafayette
January 27, 2016	9:00 a.m.	Region III Planning Team	Gray
January 28, 2016	8:00 a.m.	Region I & II Planning Team	Lacombe

20. Decision: Adjourn

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

MEETING INITIATION

a. Introduction of Technical Committee or Alternates
b. Opening remarks of Technical Committee Members
c. Request for Agenda Changes/Additional Agenda Items/Adoption of Agenda

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

STATUS OF CWPPRA PROGRAM FUNDS AND PROJECTS

For Report:

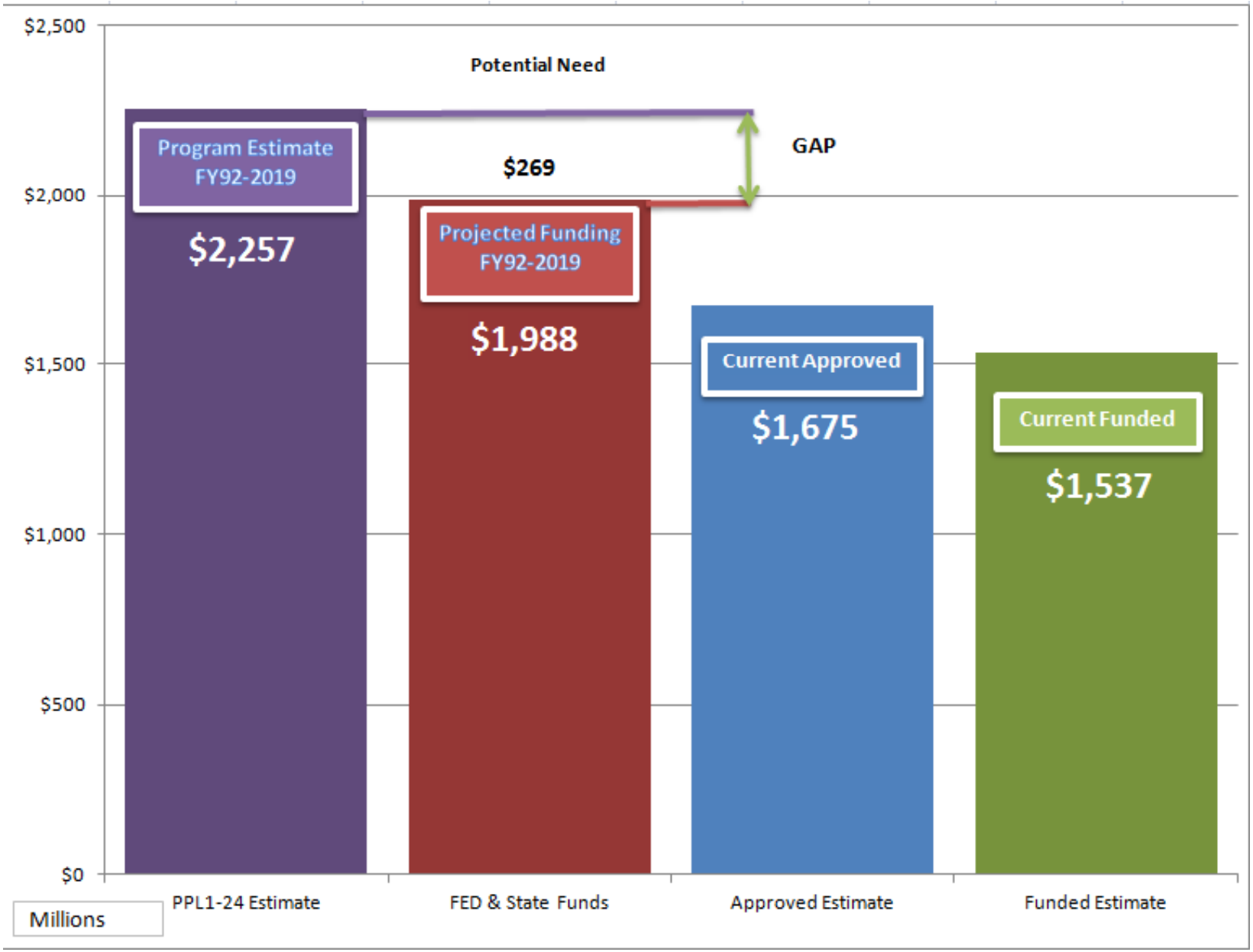
Ms. Susan Mabry will provide an overview of the status of CWPPRA accounts and available funding in the Planning and Construction Programs.

Status of Breaux Act Program Funds and Projects

Susan M. Mabry

September 10, 2015

CWPPRA CONSTRUCTION PROGRAM



CWPPRA PROGRAM BUDGET INCREASES

Budget Increases	
Phase I	$119,713
Operation & Maintenance	$3,562,438
Monitoring	$2,055,655
TOTAL:	**$5,737,806**

Special Projects	
Construction Program Technical Services	$171,410
TOTAL:	**$171,410**

CWPPRA POGRAM FUNDING REQUESTS

Available Funds	
Carried in From May Task Force Meeting	$9,805,356
NMFS Returned Funds to the Program: BA-68, TE-51, BA-37, TE-52, BA-76, BA-48	$15,652,977
EPA Returned Funds to the Program: BA-48; BS-15	$1,575,432
FY16 DOI Funds Estimate	$69,647,851
TOTAL:	**$96,681,616**

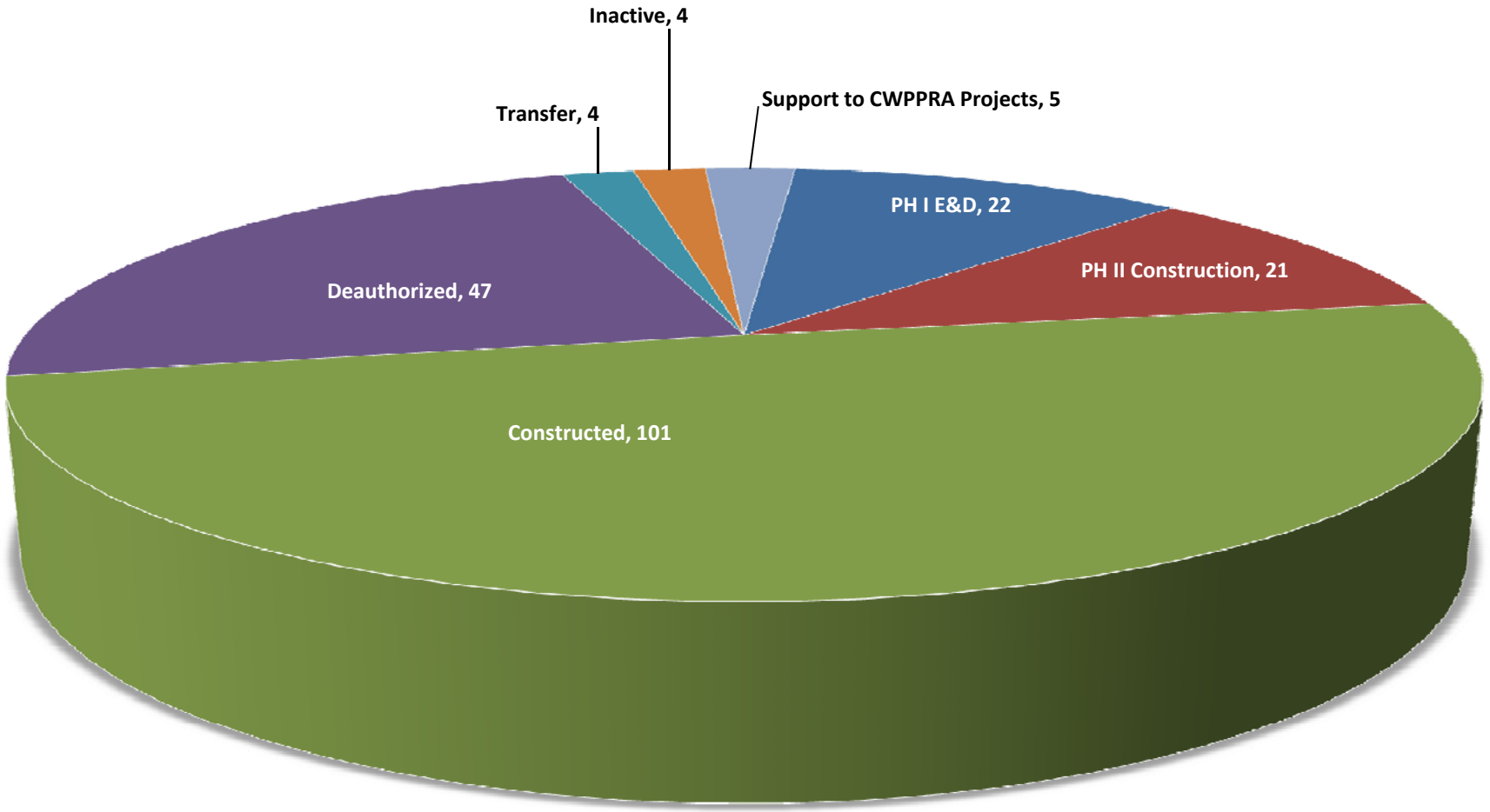
TOTAL REQUESTS	
Phase I	$119,713
Operation & Maintenance	$9,801,370
Monitoring	$11,552,250
TOTAL:	**$21,473,333**

REMAINING: $75,208,283

CWPPRA PROJECT STATUS

TOTAL CWPPRA PROJECTS: 204

ACTIVE PROJECTS: 149



Construction Program Funding Requests: TEC Approval September 2015

	Program Estimate	TC	FUNDING	TC	Fed	Non-Fed
1. Estimate/Funds Available:						
Approved Funded Estimate PPL 1-23	$2,274,087,075					
Carried in From May Task Force Meeting			$9,805,356			
NMFS Returned Funds to the Program: BA-68,TE-51,BA-37,TE-52,BA-76,BA-48	**($15,652,977)**		$15,652,977			
EPA Returned Funds to the Program: BA-48; BS-15	**($1,575,432)**		$1,575,432			
FY16 DOI Funds Estimate			$69,647,851			
Total Program / Funds Available:	**$2,256,858,666**		**$96,681,616**			
1. Agenda Item 3: Unconstructed Projects						
Kelso Bayou Marsh Creation (CS-53), PPL 20, NRCS	($1,187,288)		($1,187,288)		($1,009,195)	($178,093)
Madison Bay Marsh Creation & Terracing (TE-51), PPL 16, NMFS	($1,263,827)		($1,263,827)		($1,074,253)	($189,574)
Total	**($2,451,115)**		**($2,451,115)**		**($2,083,448)**	**($367,667)**
2. Agenda Item 5: COE Long-Term Admin, FY18 Incremental Funding Approval Request						
Funding for multiple projects			$24,641		$20,945	$3,696
Total	**$0**		**$24,641**		**$20,945**	**$3,696**
3. Agenda Item 6: Request for Funding for the CWPPRA Program's Technical Services						
Construction Program Technical Services	$171,410		$171,410		$145,699	$25,712
Total	**$171,410**		**$171,410**		**$145,699**	**$25,712**
4. Agenda Item 7: Request for Phase 1 Budget Increase						
Cameron Creole Freshwater Intro Project (CS-49), PPL 18 NRCS	$64,572		$64,572		$54,886	$9,686
Total	**$64,572**		**$64,572**		**$54,886**	**$9,686**
5. Agenda Item 8: Request for Phase 1 Budget Increase						
Non-Rock Alternatives Demonstration Project (LA-16), PPL 18 NRCS	$55,141		$55,141		$46,870	$8,271
Total	**$55,141**		**$55,141**		**$46,870**	**$8,271**
6. Agenda Item 11a: O&M - PPL 9+ Projects Request Approval for FY18 Incremental Funding						
GIWW - Perry Ridge West Bank Stabilization (CS-30), PPL9, NRCS			$6,539		$5,558	$981
Freshwater Introduction South of Highway 82 (ME-16), PPL-9, FWS			$120,478		$102,406	$18,072
North Lake Mechant Landbridge Restoration, (TE-44), PPL-10, FWS			$400,000		$340,000	$60,000
Little Lake Shoreline Protection (BA-37), PPL-11, NMFS			$600,000		$510,000	$90,000
West Lake Boudreaux Shoreline Protection (TE-46), PPL11, FWS			$1,489,805		$1,266,334	$223,471
Coastwide Nutria Control Program (LA-03b), PPL-11, NRCS			$2,086,556		$1,773,573	$312,983
Mississippi River SDS- Bayou Dupont (BA-39), PPL-12, EPA			$7,200		$6,120	$1,080
South White Lake Shoreline Protection (ME-22), PPL-12, COE			$8,315		$7,068	$1,247
West Belle Pass Barrier Headland Restoration, (TE-52), PPL-16, NMFS			$7,259		$6,170	$1,089
Coastwide Vegetative Planting (LA-39), PPL-20, NRCS			$1,188,080		$1,009,868	$178,212
Four Mile Canal Terracing and Sediment Trapping (TV-18), PPL 9, NMFS			$6,267		$5,327	$940

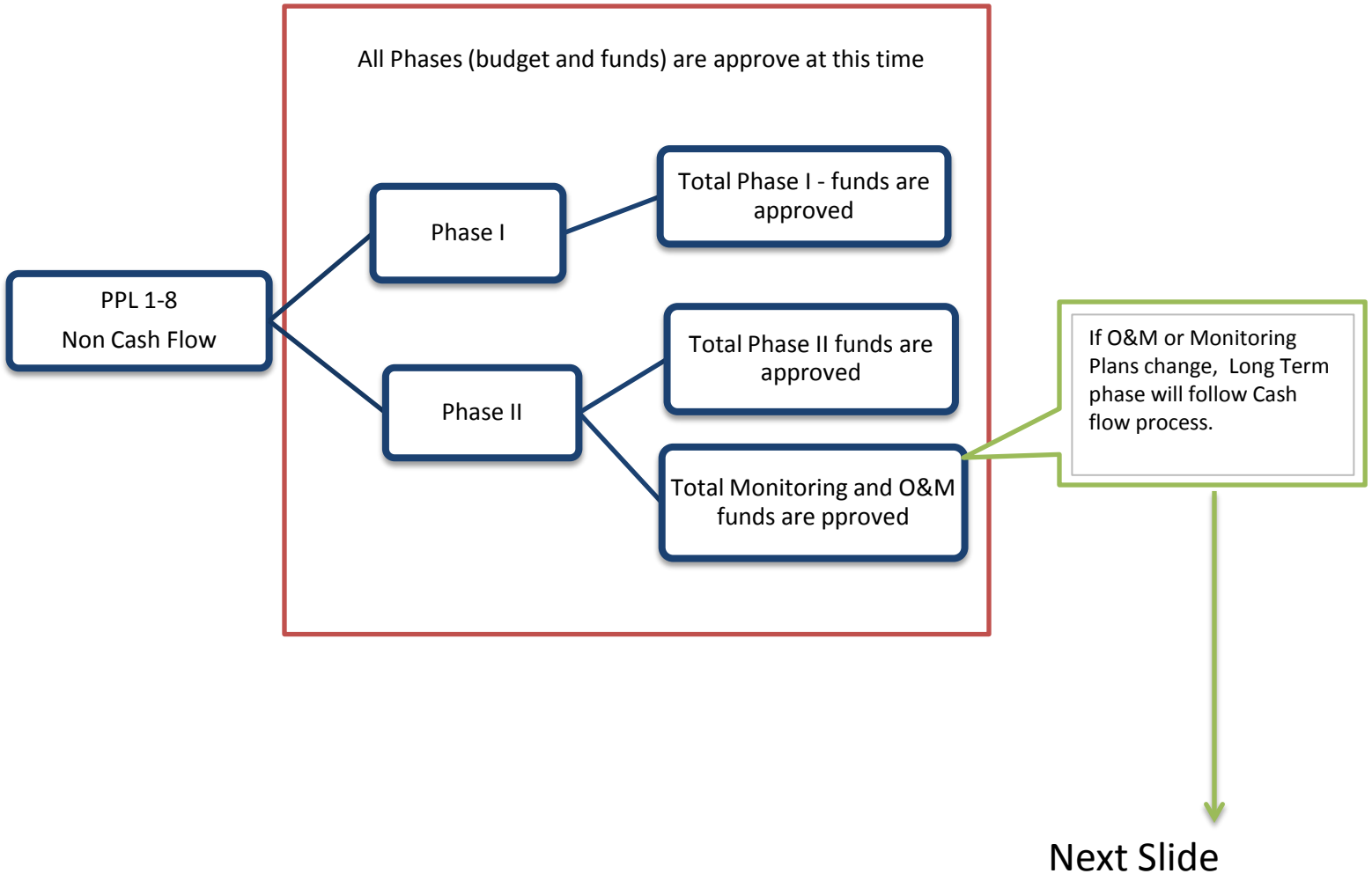
Construction Program Funding Requests: TEC Approval September 2015

	Program Estimate	TC	FUNDING	TC	Fed	Non-Fed
Barataria Barrier Island Complex: Pelican Islan (BA-38), PPL 11, NMFS			$12,428		$10,564	$1,864
Pass Chaland to Grand Bayou Pass (BA-35), PPL 11, NMFS			$9,653		$8,205	$1,448
Bayou Dupont Marsh and Ridge Creation (BA-48), PPL-17, NMFS			$10,218		$8,685	$1,533
Grand Liard Marsh and Ridge Restoration (BA-68), PPL-18, NMFS			$6,758		$5,744	$1,014
Total	**$0**		**$5,959,556**		**$5,065,623**	**$893,933**
7. Agenda Item 11b: O&M - PPL 1-8 Project Request Approval for FY18 Incremental Funding						
GIWW to Clovelly Hydrologic Restoration (BA-02), PPL-1, NRCS			$28,751		$24,438	$4,313
Highway 384 Hydrologic Restoration (CS-21), PPL2, NRCS			$23,867		$20,287	$3,580
Sabine Refuge Structures (CS-23), PPL-3, FWS			$43,709		$37,153	$6,556
Lake Chapeau Sediment Input and Hydro (TE-26), PPL-3, NMFS			$10,094		$8,580	$1,514
Brady Canal Hydrologic Rest, (TE-28), PPL-3, NRCS			$103,716		$88,159	$15,557
Black Bayou Hydrologic Restoration (CS-27), PPL-6, NMFS			$17,224		$14,640	$2,584
Total	**$0**		**$227,361**		**$193,257**	**$34,104**
8. Agenda Item 11c: O&M - PPL 1-8 Project Approval for Budget Increase & FY18 Incremental Funding						
Raccoon Island Shoreline Protection (TE-48), PPL-11, NRCS	$3,048,600		$2,812,518		$2,390,640	$421,878
Total	**$3,048,600**		**$2,812,518**		**$2,390,640**	**$421,878**
9. Agenda Item 12a: Monitoring - PPL 9+ Projects Request Approval for FY18 Incremental Funding						
Barataria Basin Landbridge SP (BA27c), PPL-9 NRCS			$4,689		$3,986	$703
Delta Management at Fort St. Philip (BS-11), PPL-10, USFWS			$55,201		$46,921	$8,280
Raccoon Island Shoreline Protection (TE-48), PPL-11, NRCS			$44,353		$37,700	$6,653
Coastwide Nutria Control Program (LA-03b) PPL-11 NRCS			$96,695		$82,191	$14,504
West Belle Pass Barrier Headland Restoration (TE-52), PPL-16, NMFS			$57,262		$48,673	$8,589
Coastwide Vegetative Planting (LA-39), PPL-20, NRCS			$79,471		$67,550	$11,921
Total	**$0**		**$337,671**		**$287,020**	**$50,651**
10. Agenda Item 12b: Monitoring - PPL 1-8 Project Request Approval for FY18 Incremental Funding						
Sabine Refuge Marsh Creation 3 (CS-28-3), PPL-8 USACE/USFWS			$90,000		$76,500	$13,500
Clear Marais Bank Protection (CS-22), PPL-2, USACE			$47,100		$40,035	$7,065
Naomi Outfall Project (BA-03c), PPL-5, NRCS			$16,798		$14,278	$2,520
Total	**$0**		**$153,898**		**$130,813**	**$23,085**
11. Agenda Item 12c: Monitoring - CRMS FY18 Incremental Funding Approval Request						
Coastwide Reference Monitoring System (CRMS)			$10,197,109		$8,667,543	$1,529,566
Total	**$0**		**$10,197,109**		**$8,667,543**	**$1,529,566**

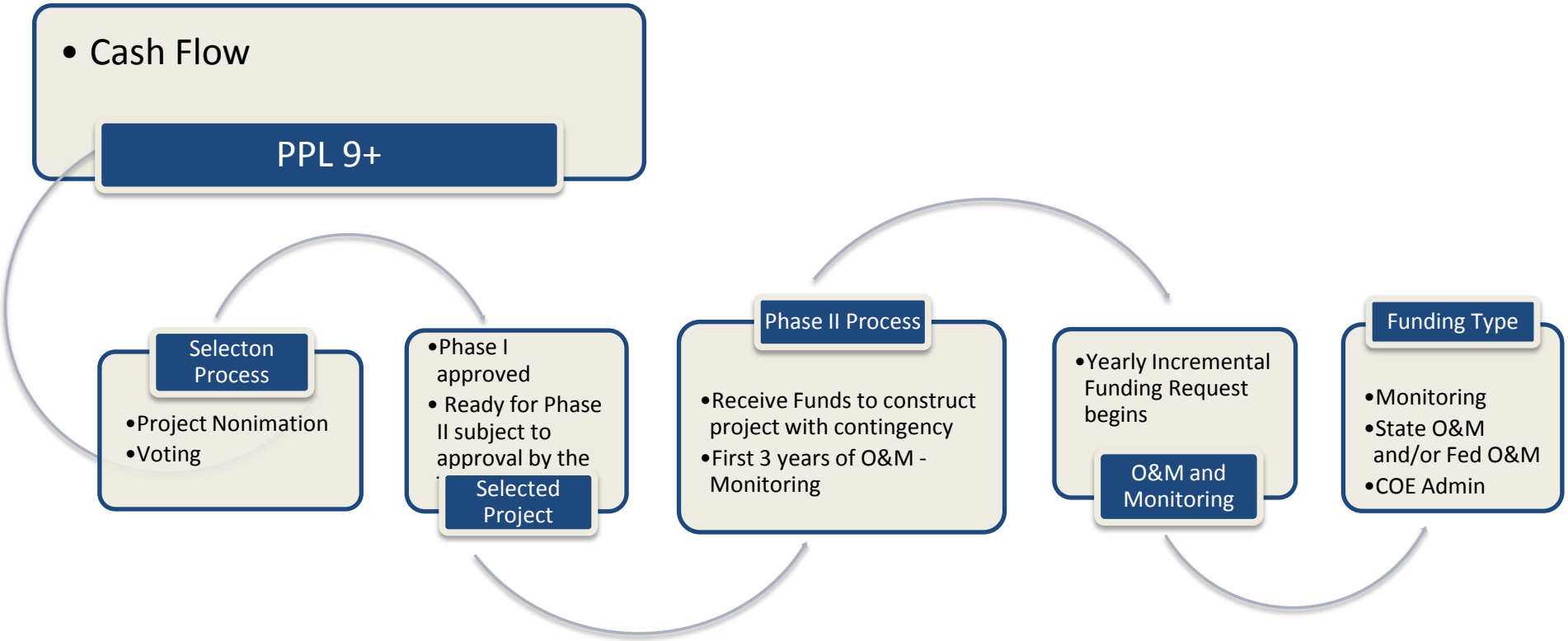
Construction Program Funding Requests: TEC Approval September 2015

	Program Estimate	TC	FUNDING	TC	Fed	Non-Fed
12. Agenda Item 12d: Monitoring - PPL 9+ Projects Request Approval for FY18 Budget increase and incremental Funding						
Timbalier Island Dune and Marsh Creation (TE-40), PPL-9, EPA	$55,889		$41,250		$35,063	$6,188
Lake Hermitage Marsh Creation (BA-42), PPL-15, USFWS	$240,354		$120,418		$102,355	$18,063
Bayou Dupont Marsh and Ridge Creation (BA-48), PPL-17, NMFS	$445,577		$73,326		$62,327	$10,999
South Lake Leary Shoreline Protection (BS-16), PPL17, USFWS	$196,186		$48,265		$41,025	$7,240
Non-Rock Alternatives Demonstration (LA-16), PPL18, NRCS	$308,960		$308,960		$262,616	$46,344
Total	**$1,246,966**		**$592,219**		**$503,386**	**$88,833**
13. Agenda Item 12e: Monitoring - PPL 1-8 Project Request Approval for FY18 budget increase and incremental Funding						
Sabine Refuge Marsh Creation 4-5 (CS-28-4-5), PPL8, USFWS	$455,015		$48,458		$41,189	$7,269
Channel Armor Gap Crevasse (MR-06), PPL 3, USACE	$81,400		$124,960		$106,216	$18,744
Total	**$536,415**		**$173,418**		**$147,405**	**$26,013**
14. Agenda Item 13: Approval for Budget Increase budget increase and incremental Funding						
East Marsh Island Marsh Creation (TV-21) PPL14, NRCS	$786,112		$703,819		$598,246	$105,573
Total	**$786,112**		**$703,819**		**$598,246**	**$105,573**
Estimate/Funds Available for Recommendations	**$2,256,858,666**		**$96,681,616**			
(2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12) Recommendations	**$5,909,216**		**($21,473,333)**			
Program Amount/Available Funds Surplus/Shortage	**$2,262,767,882**		**$75,208,283**			

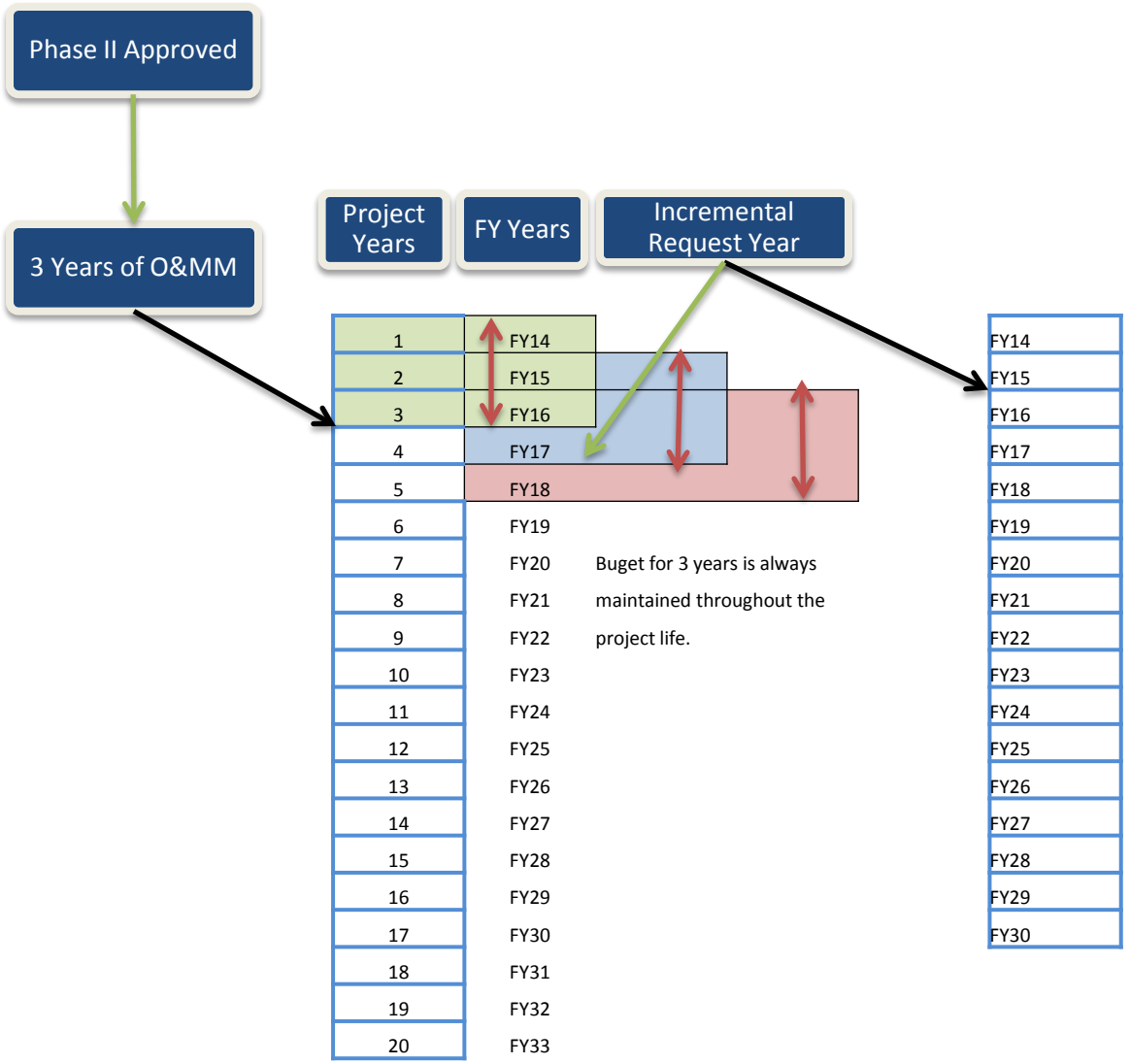
Non Cash Flow Process



Cash Flow Process



Why Funding Incremental Year is different?



COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

STATUS OF UNCONSTRUCTED PROJECTS

For Report/Decision:

The P&E Subcommittee will report on the status of unconstructed CWPPRA projects that have been experiencing project delays and considered "critical-watch" as well as projects recommended for deauthorization and inactivation.

a. Critical-watch unconstructed projects status and milestone updates:
- North Lake Boudreaux Freshwater Introduction and Hydrologic Management (TE-32a), PPL 6, FWS

b. Unconstructed project recommended by the project team to deauthorize:
- Kelso Bayou Marsh Creation (CS-53), PPL 20, NRCS

c. Unconstructed project requested by the project team to inactivate:
- Madison Bay Marsh Creation & Terracing (TE-51), PPL 16, NMFS

SUMMARY OF LANDRIGHTS ACQUISITION PROBLEM
NORTH LAKE BOUDREAUX BASIN FRESHWATER INTRODUCTION PROJECT
(TE-32A)

TECHNICAL COMMITTEE MEETING – SEPTEMBER 10, 2015

BACKGROUND

In 1997, the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) Task Force approved the planning and construction of the North Lake Boudreaux Basin Freshwater Introduction and Hydrologic Management project (TE-32a). The Phase II construction estimate of $25.8M was approved by the Task Force in October 2010. The Fish and Wildlife Service (Service) is the Federal project sponsor.

Area marshes are suffering from a lack of fresh water, increasing the negative effects of saltwater intrusion into the marshes north of Lake Boudreaux. The purpose of the project is to reduce the deterioration and loss of area marshes by seasonally introducing fresh water into the basin from the Houma Navigation Canal. This project would achieve a Coast 2050 Region 3 regional restoration strategy to introduce freshwater into the northern Lake Boudreaux basin. This project was also a feature in the authorized Louisiana Coastal Area Project, "Convey Atchafalaya River water to Northern Terrebonne Marshes and the Multi-Purpose Operation of Houma Navigation Lock". Terrebonne Parish considers this project a top priority.

Construction of the proposed freshwater conveyance channel would sever 22 privately owned tracts of land. In 2010, the CPRA obtained preliminary land rights agreements from all affected landowners and partial compensation for canal impacts was provided to those landowners. However, in 2014 or 2015, the CPRA determined that those agreements did not adequately cover federal Relocations Act requirements, and voided those agreements. As a result, landrights acquisition work for those properties was restarted and included the acquisition of updated property appraisals.

By the end of May 2015, 8 landowners had signed, 4 landowners had refused to sign, and acquisition efforts were incomplete for 10 landowners. Some landowners have rejected the new lower compensation values. Although local options for property expropriation have been suggested, the Service has rejected that approach.

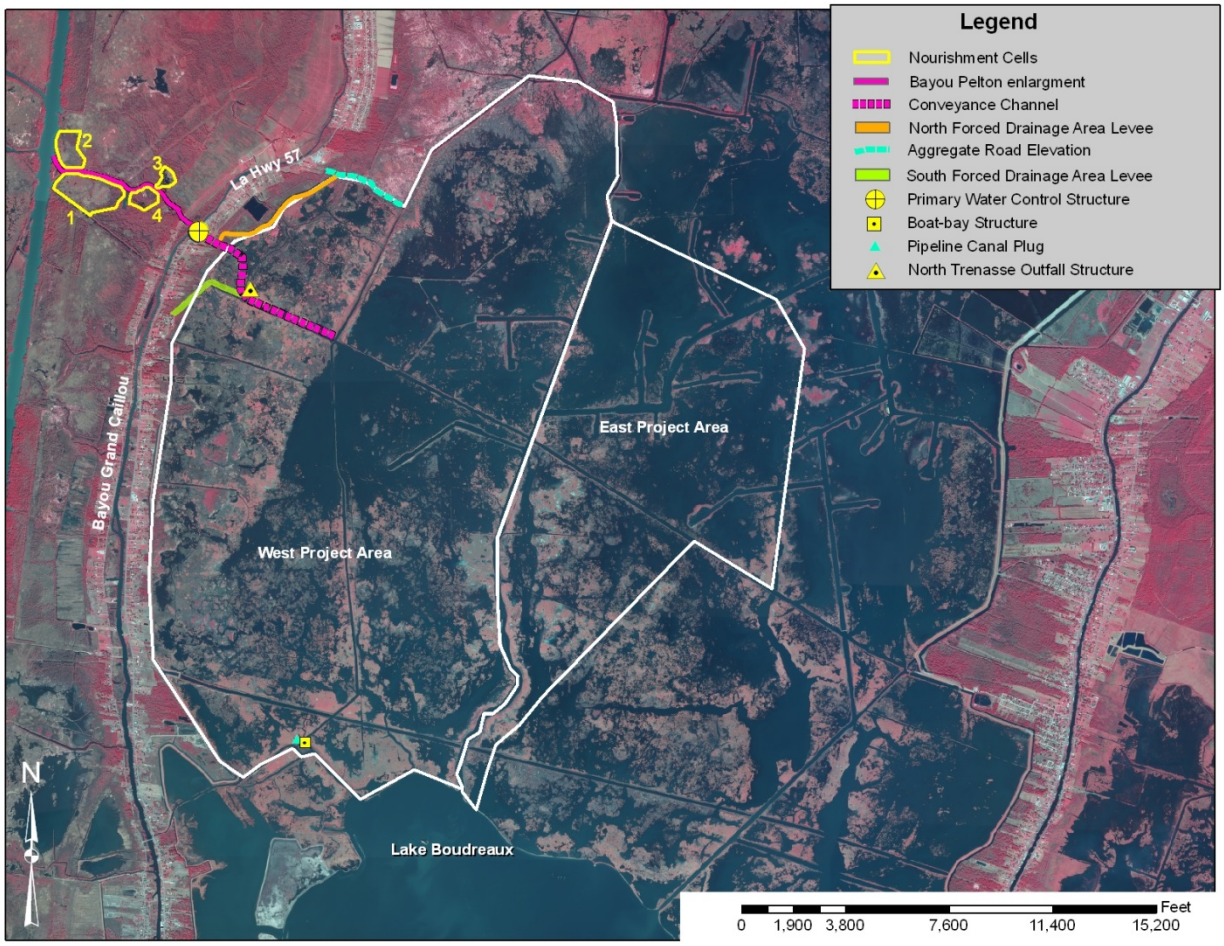
PATH FORWARD

The CPRA is contracting with Terrebonne Parish to have knowledgeable local persons work to voluntarily obtain the remaining landrights. If all required landrights have not been acquired upon the completion of that effort (May 31, 2016), the Service will move to have the project placed on the inactive projects list, and will return the remaining funding according to the SOP.

ATTACHMENTS:

Map
CWPPRA fact sheet

Map of North Lake Boudreaux Project features (TE-32a).



NORTH LAKE BOUDREAUX BASIN FRESHWATER INTRODUCTION PROJECT (TE-32A)

FACT SHEET – JANUARY 2013

Coast 2050 Strategy:

Regional Strategy # 4 – Enhance Atchafalaya River influence to northern Terrebonne Basin marshes

Project Location:

Region 3, Terrebonne Basin, Terrebonne Parish, north of Lake Boudreaux

Problem:

Rapid conversion of organic freshwater marshes and cypress swamps to open water and deteriorated brackish marsh.

Goals:

Seasonally introduce Atchafalaya River freshwater directly into deteriorated intermediate and brackish marshes north of Lake Boudreaux.

Proposed Solution:

Enlarge Bayou Pelton and dredge a new water conveyance channel to seasonally introduce up to 1,000 cubic feet per second of freshwater from the Houma Navigation Canal (HNC) into the northern Lake Boudreaux Basin marshes. An average discharge of 408 cubic feet per second (cfs) is expected during the 286 days per year the structure is anticipated to operate. Introduction of freshwater would be regulated by an automated primary water control structure (six 10 foot by 10 foot culverts) which would be closed to prevent introduction during occasional HNC saltwater intrusion events. The structure would also be operated to preclude backflow of freshwater out of the upper basin. The structure would be installed beneath Louisiana Highway 57. Two outfall management structures would be constructed to improve distribution of introduced freshwater. Additionally, the project would provide $1.8 M to assist Terrebonne Parish in the construction of forced drainage levees and pump stations to preclude project-induced high water impacts on developed properties during periods of maximum freshwater introduction.

Project Benefits:

The project would benefit 9,600 acres of marsh and open water habitats. A total of 267 net wetland acres would be protected/created over the 20-year project life.

Project Costs:

The total fully-funded cost for the project is approximately $25.8 M.

Preparer(s) of Fact Sheet:

Ronny Paille, USFWS, (337) 291-3117, Ronald_Paille@FWS.GOV

October 2003
Cost figures as of: July 2015

North Lake Boudreaux Basin Freshwater Introduction and Hydrologic Management (TE-32a)

Project Status

Approved Date: 1997 **Project Area:** 9,795 acres
Approved Funds: $20.0 M **Total Est. Cost:** $25.7 M
Net Benefit After 20 Years: 266 acres
Status: Engineering and Design
Project Type: Water Diversion
PPL #: 6

Location

The project is located in Terrebonne Parish, approximately 5 miles southwest of Chauvin, Louisiana.

Problems

The area is suffering from a lack of fresh water, increasing the negative effects of saltwater intrusion into the north Lake Boudreaux basin marshes.

Restoration Strategy

The purpose of the project is to reduce deterioration and loss of area marshes by seasonally introducing fresh water from the Houma Navigation Canal. This project includes the construction of a freshwater conveyance channel with water management gates and the installation of several outfall management structures to allow drainage and reduce ponding of water.

Progress to Date

The contracted Feasibility Study report has indicated that the project, as proposed, can introduce the originally projected volumes of fresh water. Prior to beginning engineering and design work, a landrights assessment is being conducted to better determine where the project's conveyance channel can be located.

This project is on Priority Project List 6.

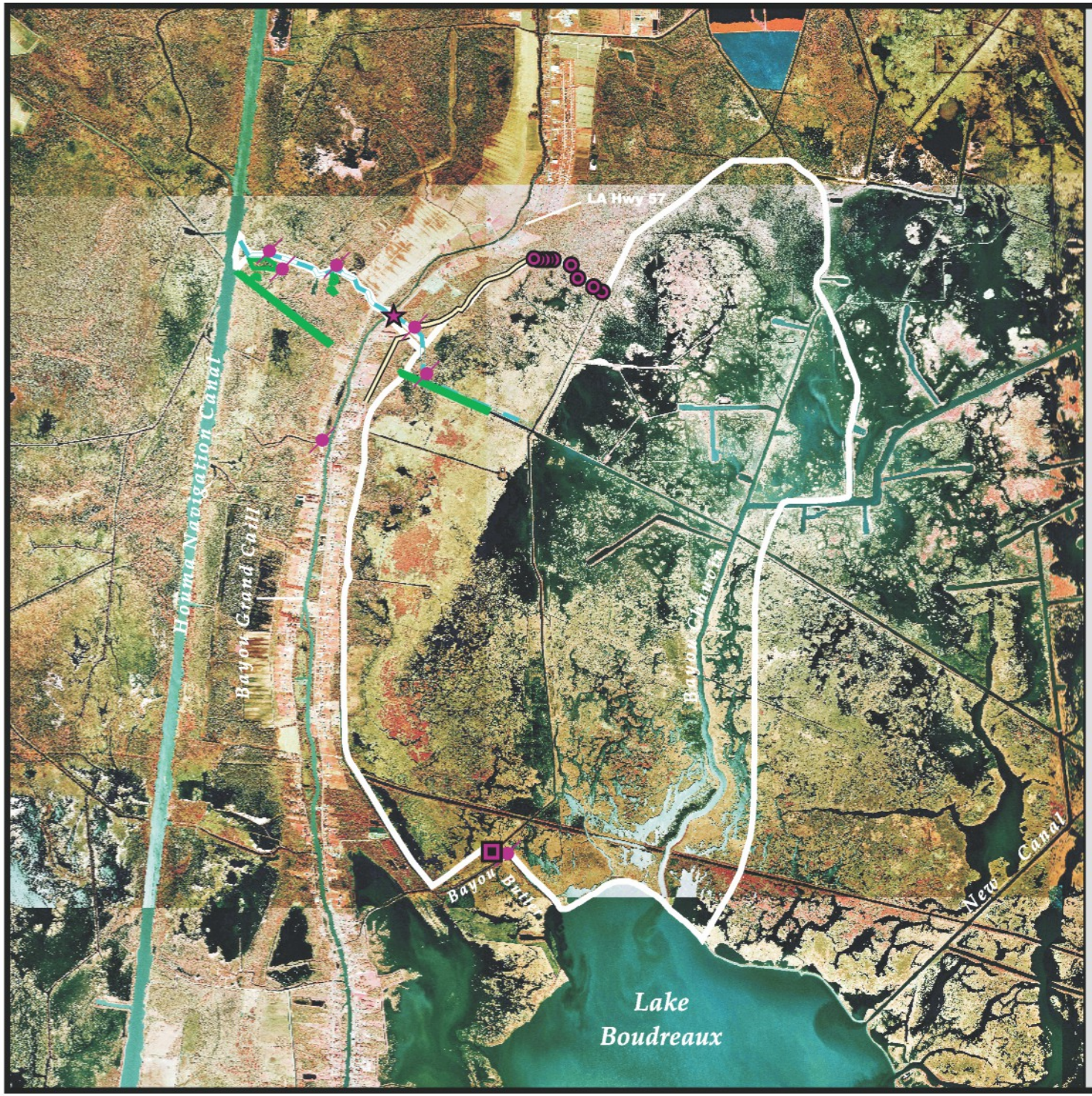
Dead cypress swamps in the northern part of the project area.

Aerial view of dead cypress swamps in the northern part of the project area.

For more project information, please contact:

Federal Sponsor:
U.S. Fish and Wildlife Service
Lafayette, LA
(337) 291-3100

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



North Lake Boudreaux Basin Freshwater Introduction and Hydrologic Management (TE-32a)

- Culvert*
- Plug*
- Water Control Structure*
- Bridge*
- Levee
- Freshwater Diversion*
- Marsh Creation Area*
- Project Boundary

* denotes proposed feature

USGS science for a changing world

Louisiana

Project Location

N

0.5 0 0.5 1 Miles

0.5 0 0.5 1 Kilometers

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
1998 Digital Orthophoto Quarter Qaud
Map Date: October 17, 2003
Map ID: USGS-NWRC 2003-11-044
Data accurate as of: October 17, 2003

January 2011
Cost figures as of: July 2015

Kelso Bayou Marsh Creation (CS-53)

Project Status

Approved Date: 2011 **Project Area:** 319 acres
Approved Funds: $2.36 M **Total Est. Cost:** $16.6 M
Net Benefit After 20 Years: 274 acres
Status: Engineering and Design
Project Type: Marsh Creation
PPL #: 20

Location

This project is located in Region 4, Calcasieu-Sabine Basin, Cameron Parish. The project features are located in an area south of the Gulf Intracoastal Waterway and just west of the Calcasieu Ship Channel.

Problems

The most significant environmental problem affecting the marshes in this area is deterioration and conversion to open water. Marsh loss has and continues to occur as a result of salt water intrusion and sediment export (erosion). The construction of the Calcasieu Ship Channel and the Gulf Intracoastal Waterway greatly increased the efficiency of water exchange through Calcasieu Pass. Freshwater retention was consequently reduced and salt water is able to enter interior marshes and penetrate further north and west. Project-area marshes are connected to the navigation channels through a network of canals and bayous including Kelso Bayou and Alkali Ditch. Unvegetated substrate is vulnerable to increased tidal exchange and immense quantities of organic substrate are being exported.

Recent marsh loss and scouring at the mouth of Kelso Bayou from impacts related to Hurricanes Rita and Ike allow increased salt water intrusion, tidal exchange, and storm surge impacts.

Restoration Strategy

The goal of this project is to restore and protect approximately 319 acres of critically important marsh and the numerous functions provided by those areas. The proposed project will restore a portion of the historic meandering channel of Kelso Bayou and provide direct protection to Louisiana State Highway 27, the region's only northward hurricane evacuation route. Project features include creating/nourishing 319 acres of marsh, 3,200 linear feet of shoreline protection, and rock armor at the mouth of Kelso Bayou to prevent additional tidal scour.

Progress to Date

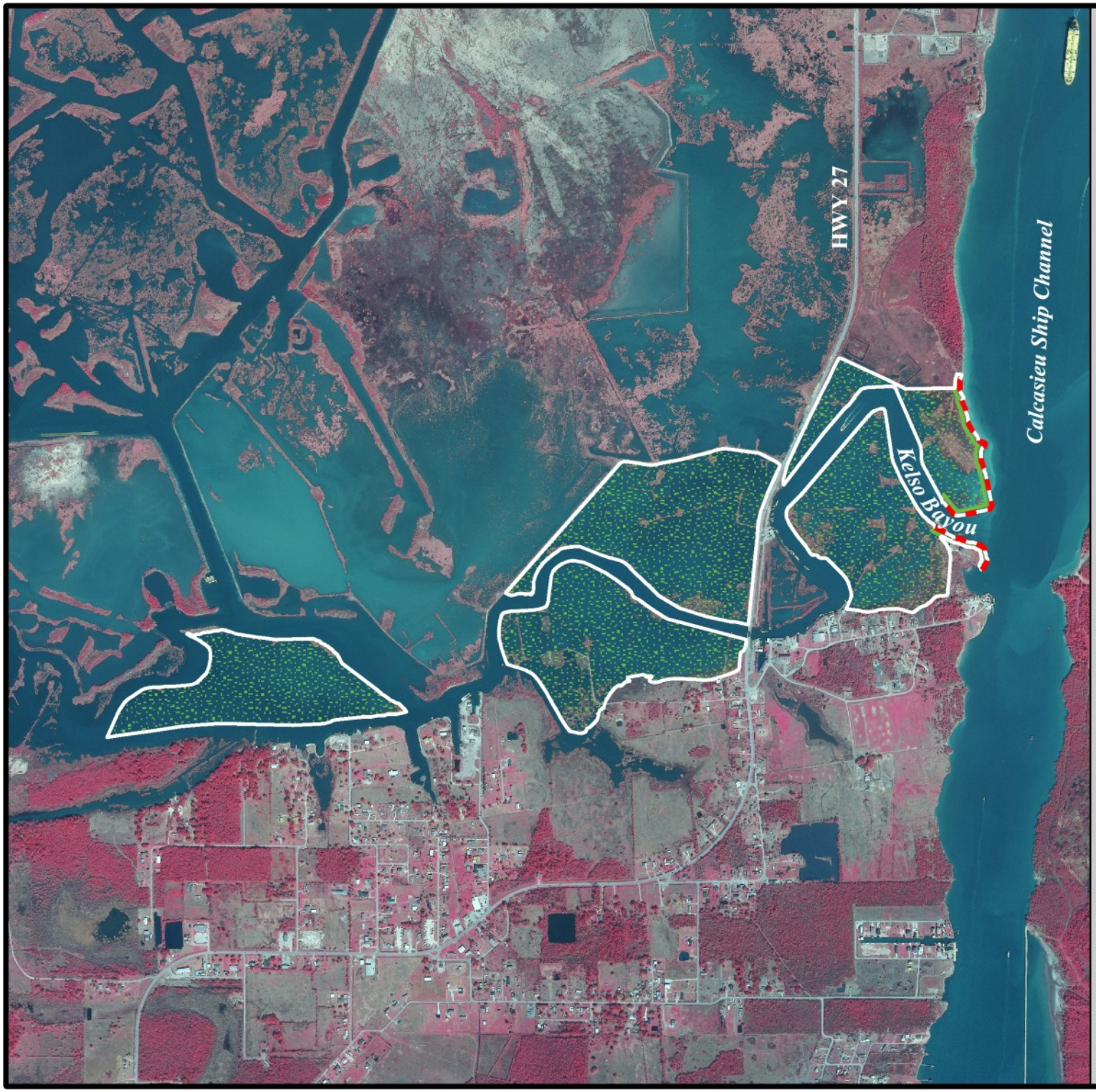
This project is on Priority Project List 20. Phase 1 funding approval for engineering and design was given by the Task Force in January 2011.

Interior marsh loss along Louisiana Highway 27 exposes the areas only hurricane evacuation route to increased storm impacts.

For more project information, please contact:

Federal Sponsor:
Natural Resources Conservation Service
Alexandria, LA
(318) 473-7756

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



Kelso Bayou Marsh Creation (CS-53)

Shoreline Protection *

Marsh Creation *

Project Boundary

*denotes proposed features

USGS science for a changing world

Louisiana

Project Location

N

0.2 0 0.2 0.4 Kilometers

0.2 0 0.2 0.4 Miles

Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La.

Background Imagery:
2008 Digital Orthophoto Quarter Quadrangle

Map Date: February 8, 2011
Map ID: USGS-NWRC 2011-11-0015
Data accurate as of: January 3, 2011

rev. April 2013
Cost figures as of: July 2015

Madison Bay Marsh Creation and Terracing (TE-51)

Project Status

Approved Date: 2006 **Project Area:** 943 acres
Approved Funds: $3.00 M **Total Est. Cost:** $38.7 M
Net Benefit After 20 Years: 334 acres
Status: Engineering and Design
Project Type: Marsh Creation
PPL #: 16

Location

The 1,250-acre project area is located in Terrebonne Parish, Louisiana, east of Wonder Lake and adjacent to the Bayou St. Jean Charles Ridge.

Problems

This area has experienced tremendous wetland loss due to a variety of forces including subsidence, salt water intrusion, a lack of sediment supply, and oil and gas activities. The loss of these marshes has exposed significant infrastructure to open water conditions, and has made the project area less suitable for various wildlife and fish species.

Restoration Strategy

Project goals include creating and nourishing marsh and associated edge habitat, and promoting conditions conducive to the growth of submerged aquatic vegetation (SAV). Secondarily, proposed terraces will reduce the wave erosion of created and existing marshes along the fringes of Madison Bay.

Project goals include creating and nourishing 470 acres of brackish marsh and constructing about 24,600 linear feet (LF) of terraces. Approximately one-half of the marsh creation area will be planted with smooth cord-grass or marsh hay cord-grass. Reducing shoreline erosion would protect about 6 acres of existing marsh (from existing marsh in terrace field only), and the percent cover of SAV is projected to increase in the project area.

Progress to Date

Project design is underway, with the project Phase 2 request (construction authorization) expected in December 2013.

The estimated total fully funded project cost is $36,645,499.

This project is on Priority Project List 16.

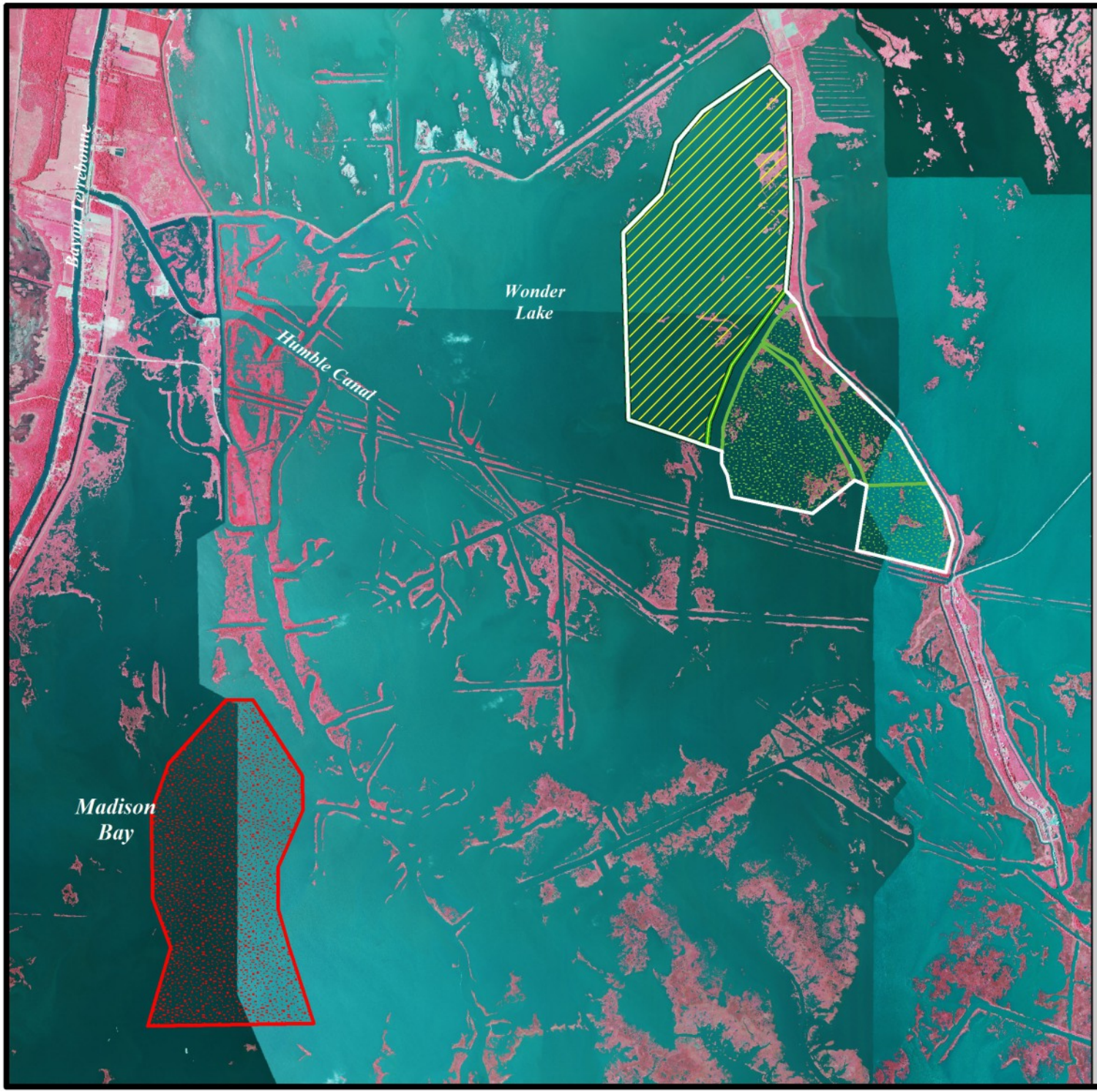
This dredge pipe is rebuilding marsh by depositing sediment dredged from a nearby borrow area. The placed sediment will reach an elevation conducive for growing and sustaining marsh vegetation.

The above terraces are an example for the proposed project. These terraces would help protect the created and existing marshes from wave erosion.

For more project information, please contact:

Federal Sponsor:
National Marine Fisheries Service
Baton Rouge, LA
(225) 389-0508

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



Madison Bay Marsh Creation and Terracing (TE-51)

- Terrace Field*
- Marsh Creation *
- Borrow *
- Project Boundary

*denotes proposed features

USGS science for a changing world

Louisiana

Project Location

N

0.25 0 0.25 0.5 Kilometers

0.25 0 0.25 0.5 Miles

Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Assessment Branch
Baton Rouge, La.

Background Imagery:
2010 NAIP Photography

Map Date: April 25, 2013
Map ID: USGS-NWRC 2013-11-0020
Data accurate as of: April 25, 2013

q. PROJECT DEAUTHORIZATION, INACTIVATION, OR TRANSFERS TO OTHER PROGRAMS

(1) If the project sponsors agree that it is necessary to deauthorize a project prior to construction, then they shall submit a letter to the TC requesting approval by the TF to deauthorize the project and explaining the reasons for the request.

If the project sponsors do not agree to deauthorize a project prior to construction, then either party or the chair of the P&E may submit a letter to the TC requesting approval by the TF to deauthorize the project and explaining their reasons for the request.

If circumstances warrant transfer of a project to an alternate authority, either as directed by programmatic Congressional authorization or voluntarily requested by a separate authority, then that receiving authority, in coordination with the project sponsors, shall submit a letter to TC requesting the transfer and explaining the reasons for the transfer.

(2) The TC will forward to the TF a recommendation concerning deauthorization or transfer of the project. Nothing herein shall preclude the federal sponsor, local sponsor, or a receiving authority from bringing a request for deauthorization or transfer to the TF irrespective of the recommendation of the TC.

(3) Upon submittal of a request for deauthorization or transfer the TC, all parties shall suspend all future obligations and expenditures as soon as practicable until the issue is resolved.

(4) Upon receiving preliminary approval from the TF to deauthorize or transfer a project, the Chairman of the TC shall send notice to the Louisiana Congressional delegation, the State House and Senate Natural Resources Committee chairs, the State Senator(s) and State Representatives(s) in whose district the project falls, senior parish officials in the parish(es) where the project is located, any landowners whose property would be directly affected by the project, any interested parties, requesting their comments and advising them a final decision on deauthorization or transfer will be made at the next TF meeting.

(5) If the TF determines that a project should be transferred to another authority, the project sponsors shall provide a chronological summary of all work completed to date; identify any outstanding issues; and provide all project information to the receiving authority, including acquired data, engineering and design analyses, and project documents. The project sponsors shall host an information transfer meeting with appropriate representatives of the receiving authority. The purpose of the meeting is to review project status and details regarding work accomplished to date. Expenditures of CWPPRA funds to re-package project information, conduct additional analyses, or acquire new data or information are not anticipated and shall require explicit approval by the TF.

(6) When the TF determines that a project should be abandoned or no longer pursued because of economic or other reasons or transferred to another authorization, all expenditures shall cease immediately or as soon as practicable if the project is deauthorized or after information is transferred to another authority according to Section 6.q(5) to another authority. The TC will notify Congress and the State House and Senate Natural Resources Committee chairs of the decision.

(7) Once a project is deauthorized or transferred by the TF, it shall be categorized as "deauthorized" or "transferred" and closed-out as required by Section 6.p.

(8) At the discretion of the TF, unconstructed projects that are considered feasible but have not been funded for construction due to programmatic issues (e.g., high costs, cost share agreement issues, etc.) and have completed a 95% Design Review may be considered for inactivation. If this occurs, all project funding will be returned to the program. If conditions (e.g., economic and/or programmatic) change, the project sponsors may request consideration from the TC to return to active status with an updated funding request. Upon approval by the TF, the project will be placed back into active status. If not approved, the project will remain inactive until conditions do change, or the project is transferred to an entity outside of the CWPPRA program. A project placed in an inactive status does not preclude it from being transferred to a willing party if approved by the TF.

2015 SOUP - Status Unconstructed Projects - PPL 1 - 20

Project Name	Project No.	Agency	PPL	Authorized Date/Phase I Approval	Construction/ Phase II Approval	30% Design Review Date*	95% Design Review Date*	Current Approved Economic Analsyis Date (Budget Estimate on Books)	Construct Start*	Construct Complete*	Current Approved Funded Budget	Expenditures	1st cost Unexpended	Monitoring Unexpended	O&M Unexpended	TOTAL Unexpended	TOTAL Unobligated	Current Total FF Cost Est . On Books	On Sched	Waiting on Phase II Funds	Proj Issue Delays	Prog Issue Delays	Recomm end Transfer	Recom mend Deautho rization	Recom mend Inactivat ion	Inactive Projects
Hydrologic Restoration & Vegetative Planting in the des Allemands Swamp	BA-34-2	EPA	10	10-Jan-01	22-Jan-16	23-Jul-15	31-Oct-15	30-May-13	1-May-16	1-Oct-16	$1,253,220	$276,818	$976,402			$976,402	$228,246	$8,263,731	X							
South Grand Chenier Marsh Creation	ME-20	FWS	11	16-Jan-02	22-Jan-14	6-Aug-09	3-Nov-09	16-Jan-14	1-May-15	1-May-16	$22,282,940	$1,743,172	$594,530	$20,898		$615,248	$20,512,171	$22,623,346	X							
Grand Lake Shoreline Protection, Tebo Point & O&M Only [CIAP]	ME-21	NRCS	11	16-Jan-02	15-Feb-07	11-May-04	16-Aug-04	15-May-14	1-Jan-16	30-Aug-16	$10,055,616	$944,285	$2,280,447	$14,559	$6,306,586	$9,111,331		$10,055,616	X							
Cameron-Creole Freshwater Introduction	CS-49	NRCS	18	21-Jan-09	1-Jan-16	10-Dec-14	1-Oct-15	17-Oct-08	1-Sep-16	30-Sep-17	$2,696,928	$1,621,960	$574,205		$530,994	$918,070		$16,640,120	X							
Freshwater Bayou Marsh Creation	ME-31	NRCS	19	20-Jan-10	1-Jan-17	1-May-16	1-Aug-16	3-Nov-09	1-Sep-18	30-Sep-19	$2,425,997	$1,298,081	$1,499,064			$1,127,916		$25,523,755	X							
LaBranche East Marsh Creation	PO-75	NRCS	19	20-Jan-10	1-Jan-17	1-May-16	1-Aug-16	3-Nov-09	1-Sep-18	30-Sep-19	$2,571,273	$2,228,311	$489,554			$342,962		$32,323,291	X							
Lost Lake Marsh Creation and Hydrologic Restoration	TE-72	FWS	19	20-Jan-10	24-Jan-13	19-Jun-12	31-Oct-12	24-Jan-13	1-Oct-15	31-Oct-16	$34,626,728	$765,116	$1,555,098	$281,401	$3,205,880	$33,861,612	$33,822,807	$34,626,728	X							
Cameron-Creole Watershed Grand Bayou Marsh Creation	CS-54	FWS	20	19-Jan-11	22-Jan-15	27-Mar-13	24-Oct-13	22-Jan-15	31-Jan-16	30-Mar-16	$28,707,688	$454,702	$1,922,087	$542,252	$286,235	$25,326,023	$28,200,551	$28,707,688	X							
Rockefeller Refuge Gulf Shoreline Stabilization	ME-18	NMFS	10	10-Jan-01		15-May-14	29-Sep-14	23-May-13			$2,408,478	$1,595,270	$677,921	$6,931		$684,852	$609,259	$28,082,507		X						
**North Lake Boudreaux Basin Freshwater Intro and Hydro Mgt	TE-32a	FWS	6	NA	28-Oct-10	4-Aug-09	29-Jun-10	28-Oct-10	1-Apr-16	1-May-17	$20,048,152	$3,108,603	$16,146,485	$363,872	$429,192	$16,939,549	$17,094,309	$25,766,765			X					
Central Terrebonne Freshwater Enhancement	TE-66	NRCS	18	21-Jan-09	1-Jan-17	1-May-16	1-Aug-16	17-Oct-08	1-Sep-17	30-Sep-18	$2,326,289	$1,211,159	$1,225,540			$1,115,130		$16,640,120			X					
Bayou Bonfouca Marsh Creation	PO-104	FWS	20	19-Jan-11	24-Jan-13	25-Apr-12	31-Oct-12	14-Nov-12	1-Mar-16	1-Dec-16	$28,023,984	$521,876	$2,901,750	$57,011	$439,547	$27,502,108	$27,492,451	$28,023,984			X					
Terrebonne Bay Marsh Creation Nourishment	TE-83	FWS	20	19-Jan-11				19-Jan-11			$2,901,750	$536,321	$2,365,429		$434,218	$2,365,429	$2,273,022	$2,901,750			X					
Kelso Bayou Marsh Creation	CS-53	NRCS	20									$1,148,110				$1,212,499								X		
Madison Bay Marsh Creation and Terracing	TE-51	NMFS	16	18-Oct-06		23-Jul-13	24-Oct-13	18-Oct-06			$3,002,171	$1,738,344	$1,263,773			$1,263,773	$11,308	$38,798,788							X	
Freshwater Bayou Bank Stab - Belle Isle Canal to Lock	TV-11b	COE	9	11-Jan-00		17-Jun-02	22-Jan-04	11-Jan-00			$1,498,967	$1,101,738	$283,328	$113,901		$397,229	$397,229	$35,634,067								X
Ship Shoal: Whiskey West Flank Restoration	TE-47	EPA	11	16-Jan-02	23-Jan-13	5-Oct-04	28-Sep-05	16-Jan-02	15-Jan-14	1-Oct-14	$3,742,053	$2,017,484	$1,712,888	$11,681		$1,724,569	$408,354	$65,355,775								X
Venice Ponds Marsh Creation & Crevasses	MR-15	EPA	15	08-Feb-06	23-Jan-13	29-Jun-11	25-Oct-11	8-Feb-06	1-Sep-13	1-Sep-14	$1,074,522	$400,614	$673,908			$673,908	$161,184	$22,156,292								X
Alligator Bend Marsh Restoration and Shoreline Protection	PO-34	NRCS	16	18-Oct-06	23-Jan-13	18-Aug-11	16-Nov-11	12-Nov-13			$1,660,985	$1,360,735	$300,250			$300,250		$44,832,616								X

*Use actual or current schedule date for design review and construction schedules

**CRITICAL WATCH LIST PROJECT

***Preliminary Analysis of Consistency

na= Not applicable (Cash Flow, Complex, or PENDING DEAUTH)

Agency Key:

FWS
NMFS
EPA
COE
NRCS
Inactive Projects

	Current Approved Funded Budget	Expenditures	1st cost Unexpended	Monitoring Unexpended	O&M Unexpended	TOTAL Unexpended	TOTAL Unobligated	Current Total FF Cost Est . On Books
On Schedule	$104,620,390	$9,332,445	$9,891,387	$859,110	$10,329,695	$72,279,564	$82,763,775	$178,764,275
Waiting on Phase II $	$2,408,478	$1,595,270	$677,921	$6,931	$0	$684,852	$609,259	$28,082,507
Project Issue Delays	$53,300,175	$5,377,959	$22,639,204	$420,883	$1,302,957	$47,922,216	$46,859,782	$73,332,619
Program Issue Delays								
Rec. Transfer								
Rec. Deauthorization	$0	$1,148,110	$0	$0	$0	$1,212,499	$0	$0
Rec. Inactivation	$3,002,171	$1,738,344	$1,263,773	$0	$0	$1,263,773	$11,308	$38,798,788
Over $50 million								

Critical Watch List

Note: All projects on this tab will give a status report at the fall Technical Committee Meeting

Project Name	Project No.	Agency	PPL	Project Issue Delays	Near-term Milestones	Current Phase
North Lake Boudreaux Basin Freshwater Intro and Hydro Mgt	TE-32a	FWS	6	Permitting & Landrights	Several regulatory issues remain and still need to be resolved. A 404 permit should be issued by August 2015. Landrights issues also remain and work should be finalized by January 2016. Construction is expected to begin in April 2016.	II

Projects On Schedule

Project Name	Project No.	Agency	PPL	Project Status & Critical Milestone(s)	Current Phase
Hydrologic Restoration and Vegetative Planting in the des Allemands Swamp	BA-34-2	EPA	10	Scope/Name change approved by the Task Force in June 2013. Field work has been completed as of June 2015. 30% Design Meeting planned for July 2015 and 95% Design Meeting anticipated for October 2015. Phase II funding request planned for December 2015.	I
South Grand Chenier Marsh Creation	ME-20	FWS	11	Phase 2 funding was approved in January 2014. Plans have been revised and currently waiting on a modified permit to fill additional areas. Bid advertisement is expected in November 2015. Construction is expected to begin April 2016.	II
Grand Lake Shoreline Protection, Tebo Point & O&M Only [CIAP]	ME-21	NRCS	11	Project design revisions completed. Permits pending. Scheduled to advertise in September 2015.	II
Cameron-Creole Freshwater Introduction	CS-49	NRCS	18	A 95% review is targeted for October 2015. Phase II funding request in Winter 2015.	I
Freshwater Bayou Marsh Creation	ME-31	NRCS	19	Landowner objection to borrow site resolved. Design is back in progress with no restrictions or issues.	I
LaBranche East Marsh Creation	PO-75	NRCS	19	Design is back in progress with no restrictions or issues.	I

Projects Waiting on Phase II Funding

Project Name	Project No.	Agency	PPL	Near-term Milestones	# of Phase II Requests	Current Phase
Rockefeller Refuge Gulf Shoreline Stabilization	ME-18	NMFS	10	Change in Scope approved for project at June 2013 Task Force meeting. Renewed cooperative agreement (CSA) expected October 2013. 30% design review Summer 2014.	1	1

Projects Delayed by Project Delivery Team Issues

Project Name	Project No.	Agency	PPL	Project Issue Delays	Project Status & Critical Milestone(s)	Current Phase
North Lake Boudreaux Basin Freshwater Intro and Hydro Mgt	TE-32a	FWS	6	Permitting & Landrights	Several regulatory issues remain and still need to be resolved. A 404 permit should be issued by August 2015. Landrights issues also remain and work should be finalized by January 2016. Construction is expected to begin in April 2016.	II
Central Terrebonne Freshwater Enhancement	TE-66	NRCS	18	Complex Scope/ Modeling	Project team agreed to complete geotechnical investigation and revise cost and benefits, then re-evaluate decision whether to complete Phase 1. Decision to be made by Winter 2015 Technical Committee meeting. If project continues in Phase 1, a request for funding to complete design will be made at this meeting with results of cost/benefits revisions. If team decides to discontinue Phase 1, a deauthorization request will be made at the same meeting.	I
Bayou Bonfouca Marsh Creation	PO-104	FWS	20	Cultural Resources and Atlantic Sturgeon consultation	Potential impacts to a cultural resources site on Lake Pontchartrain and consultation with NOAA Fisheries for the Atlantic sturgeon have delayed this project. The consultation should be completed by July 2015. Bid advertisement is expected in December 2015 with construction to begin in April 2016.	II

Projects Recommended for Deauthorization

Project Name	Project No.	Agency	PL	Issues	Reason(s) for Potential De-authorization
Kelso Bayou	CS-53	NRCS	20	Land Rights	Current land rights funding has been depleted. Estimate from CPRA to accomplish remaining work is $1.5 million. Project team unwilling to increase land rights budget. Current making decision whether project is still feasible if scope changed. Decision by Fall 2015.

Projects Recommended for Inactivation

Project Name	Project No.	Agency	PL	# of Phase II Requests	Reason(s) for Potential Inactivation
Madison Bay Marsh Creation & Terracing	TE-51	NMFS	16	2	Project did not receive funding at January 2014 and January 2015 Task Force meetings. Working on motion for the September 2015 Technical Committee meeting.

Inactive Projects

Project Name	Project No.	Agency	PL	# of Phase II Requests	Project Status & Critical Milestone(s)	Current Phase
Freshwater Bayou Bank Stab - Belle Isle Canal to Lock	TV-11b	COE	9		All work was put on hold pending approval of a new Cost Share Agreement. The Task Force voted to inactivate this project at the June 4, 2013 meeting.	
Ship Shoal: Whiskey West Flank Restoration	TE-47	EPA	11	9	Since this project is still viable, it is likely that some adjustments to the plans and specifications will be required once Phase 2 approval has been obtained. It does not appear to be practical to address these adjustments until phase 2 approval has been obtained. The Task Force voted to inactivate this project at the Jan 2014 meeting due to the project having gone through a 95% design review.	
Venice Ponds Marsh Creation & Crevasses	MR-15	EPA	15	3	The Task Force voted to inactivate this project at the Jan 2014 meeting due to the project having gone through a 95% design review.	
Alligator Bend Marsh Restoration and Shoreline Protection	PO-34	NRCS	16	2	Project design is complete. Project team has decided not to request funding until CWPPRA is reauthorized or another funding source is available. The Task Force voted to inactivate this project at the May 2014 meeting.	I

Projects Removed from SOUP

Project Name	Project No.	Agency	PL	Yr Removed from SOUP	Reason Removed from SOUP List
South Lake Decade Freshwater Introduction	TE-39	NRCS	9		Construction completed July 12, 2011.
Lake Borgne and MRGO Shoreline Protection	PO-32	COE	12		Project was deauthorized.
South Shore of the Pen	BA-41	NRCS	14		Construction completed June 5, 2012.
East Marsh Island Marsh Creation	TV-21	EPA/NRCS	14		Construction completed February 2011.
Penchant Basin Natural Resources Plan, Incr 1	TE-34	NRCS	6		Construction completed August 29, 2012.
West Belle Pass Barrier Headland Restoration Project	TE-52	NMFS	16	2011	Bid opening occurred July 14, 2011.
Barataria Barrier Shoreline, Pelican Island to Chaland Pass (CU2)	BA-38	NMFS	11	2011	Bid opening occurred July 7, 2011. Low bidder within available funds. Construction anticipated to begin Fall 2011.
Fort Jackson Sediment Diversion	na	COE	na	2012	Project was closed out October 2011.
Riverine Sand Mining/Scofield Island Restoration	BA-40	NMFS	14	2012	Project was deauthorized January 2012
Lake Hermitage Marsh Creation	BA-42	FWS	15	2012	Construction scheduled to be completed by October 2012.
Barataria Basin Landbridge, Phase 3 CU #7	BA-27c	NRCS	9	2012	Construction scheduled to begin by September 2013.
Barataria Basin Landbridge, Phase 3 CU #8	BA-27c	NRCS	9	2012	Construction scheduled to begin by September 2013.
Raccoon Island Shoreline Protection and Marsh Creation	TE-48	NRCS	11	2012	Construction completed on April 27, 2013.
Little Pecan Bayou Hydrologic Restoration	ME-17	NRCS	9	2013	Project was deauthorized in October 2012.
Benneys Bay Diversion	MR-13	COE	10	2013	Project was deauthorized in October 2012.
Weeks Bay Marsh Creation/Shoreline Protection/Commercial Canal/Freshwater Redirection	TV-19	COE	9	2013	Project was transferred out of the CWPPRA Program to Iberia Parish in June 2013.
Delta Building Diversion North of Fort St. Philip	BS-10	COE	10	2013	Project was deauthorized in June 2013.
Avoca Island Diversion and Land Building	TE-49	COE	12	2013	Project was deauthorized in June 2013.
Spanish Pass Diversion	MR-14	COE	13	2013	Project was deauthorized in June 2013.
White Ditch Resurrection	BS-12	NRCS	14	2013	Project was deauthorized in June 2013.
Bohemia Mississippi River Reintroduction	BS-15	EPA	17	2013	Project was deauthorized in June 2013.
GIWW Bank Rest of Critical Areas in Terrebonne	TE-43	NRCS	10	2013	In construction
Sediment Containment for Marsh Creation Demonstration	LA-09	NRCS	17	2013	In construction
River Reintroduction into Maurepas Swamp	PO-29	EPA	11	2014	Transferred to CPRA in 2013.
Bayou Sale Shoreline Protection	TV-20	NRCS	13	2014	Project was deauthorized in May 2014.
Bertrandville Siphon	BS-18	EPA	18	2014	Project was deauthorized in May 2014.
Bayou Dupont Ridge and Marsh Restoration	BA-48	NMFS	17	2014	In construction
Grand Liard Marsh and Ridge Restoration	BA-68	NMFS	18	2014	In construction
Southwest LA Gulf Shoreline Nourishment and Protection	ME-24	COE	16	2015	Project was transferred out of the CWPPRA Program to Chenier Plain in Jan 2015
West Pointe a la Hache Outfall Management	BA-04c	NRCS	3	2015	Project was deauthorized in Jan 2015.
South Lake Lery Shoreline & Marsh Restoration	BS-16	FWS	17	2015	Notice to proceed for construction issued in 2015.
Sabine Refuge Marsh Creation, Cycles 4 & 5	CS-28-4&5	FWS	8	2015	Under construction in 2015.
West Pointe a la Hache Marsh Creation	BA-47	NRCS	17	2015	Project is completing final deauthorization procedures, expected to be deauthorized in May 2015.
Cheniere Ronquille Barrier Island Restoration	BA-76	NMFS	19	2015	Project is completing final deauthorization procedures, expected to be deauthorized in May 2015.

Status Review - Unconstructed CWPPRA Projects
June 19, 2015

1. Project Name (and number): Hydrologic Restoration and Vegetative Planting in the des Allemands Swamp (BA-34-2)

2. SOUP Category: On Schedule

3. PPL: 10

4. Federal Agency: EPA

5. Date of Construction Approval / Phase Two Approval: Anticipated January 2016

6. Approved Total Budget: $1,253,220

7. Fully Funded Cost Estimate: $8,263,731 (June 3, 2013)

8. Expenditures: $276,818

9. Unexpended Funds: $976,401

10. Estimate of anticipated funding increases, including O&M:
None anticipated at this time.

11. Potential changes to project benefits:
Project benefits are being reevaluated based on the approved request to re-scope the project from a combination of a small Mississippi River diversion, plus outfall management/hydrologic restoration, plus plantings, to a small hydrologic restoration project, plus plantings, only. Environmental benefits will decline, but so will costs. We expect costs to decline more dramatically than benefits, resulting in a more cost-effective project overall. A scope change for the project and the name of the project was requested and has been authorized by both the Technical Committee (April 2013) and the Task Force (June 2013). The project is now called the Hydrologic Restoration and Vegetative Planting in the des Allemands Swamp (BA-34-2)

As a result of Phase 1 activities, the features originally approved in Phase 0 have been modified to present a more cost effective and constructible project for consideration of Phase II funding. Tree plantings have been reduced from the whole project area and will only be planted in the spoil placement areas. Culverts were included in the Phase 0 scope; however St. James Parish installed 8 culverts under Board Road in 2013 with Parish CIAP funding making the installation of additional culverts unnecessary. It must be noted that the culverts were not included in the modeling efforts.

12. Brief chronology of project development and issues affecting implementation:
Modeling for the project has been completed and incorporates new elevation survey data for the interior of the project area. Three scenarios have been evaluated to determine the preferred alternative to reduce impoundment levels within the swamp. Topographic data has been collected for eleven possible gap locations along the northern spoil bank of Bayou Chevreuil. In addition to topographic and magnetometer surveys, a field survey was conducted to count all mature Bald Cypress and Tupelo trees located within the proposed gap survey areas.

13. Current status/remaining issues:
Field work has been completed and the design team is proceeding with 30% design. The 30% design meeting is scheduled for July 23, 2015. The 95% design meeting is anticipated to be held in October 2015 and project design is scheduled to be completed by November 2015. Phase II funding will be requested in December 2015.

14. Projected schedule:

- Revised WVA: December 2012
- Revised Phase 0 Level Cost Estimate: December 2012
- Scope Change Request: April 2013
- 30% Design Review: July 2015
- 95% Design Review: October 2015
- Design Completion: November 2015
- Phase 2 Approval: January 2016
- Construction Start: March 2016

15. Preparer: Adrian Chavarria (214-665-3103); chavarria.adrian@epa.gov

Status Review - Unconstructed CWPPRA Projects
May 1, 2015

1. Project Name (and number): South Grand Chenier Marsh Creation (ME-20)

2. SOUP Category: On Schedule

3. PPL: 11

4. Federal Agency: USFWS

5. Date of Construction Approval / Phase Two Approval: January 2014

6. Approved Total Budget (Current): $22,282,940

7. Fully-Funded Cost: $22,623,346

8. Expenditures: $1,771,539 (State charges to June 2014)

9. Unexpended Funds: $20,851,807 (from current budget to June 2014)

10. Estimate of anticipated funding increases, including O&M: Unknown.

11. Potential changes to project benefits: None.

12. Brief chronology of project development and issues affecting implementation:

1/2002	Phase I E & D Task Force approval
8/6/2009	Successful 30% Design Review Meeting
10/28/2009	Scope change to increase costs 33% to $27.9 M and remove Area A; approved by Task Force
11/3/2009	95% Design Review meeting
10/27/2010	Corps Section 404 Permit Issued
1-20-2010	Initial Phase II construction funding approval
5/16/2011	NEPA completed: Final EA and FONSI
1/2012	Returned construction funding due to landrights
11/26/2012	Scope/name change removed FW feature, reduced costs & benefits
9/2012	All landrights secured for the project
1/16/2014	Task Force Phase II Funding Approval

Issues affecting implementation: None.

13. Current status/remaining issues:

The project is on schedule for construction in March 2016.

14. Projected schedule:

4/2015	Revised Plans
6/2015	Permit Modification
11/2015	Construction Bid Advertisement
4/2016	Begin construction

15. Preparer: Darryl Clark, USFWS (337-291-3111)

dc 4-21-2015

Status Review - Unconstructed CWPPRA Projects
June 15, 2015

1. Project Name: Grand Lake Shoreline Protection (ME-21)

2. SOUP Category: On Schedule

3. PPL: 11

4. Federal Agency: NRCS

5. Date of Construction Approval / Phase Two Approval: Feb 2007

6. Approved Total Budget: Phase I $1,049,030
Phase II: $9,006,586

7. Fully Funded Cost Estimate: $10,055,616

8. Expenditures: $944,284.81

9. Unexpended Funds: 9,111,331.19

10. Estimate of anticipated funding increases, including O&M: None

11. Potential changes to project benefits: None

12. Brief chronology of project development and issues affecting implementation:

2007 – 2010 At the February 2007 Task Force meeting the Task Force (TF) took the initiative to approve the Grand Lake Project in segments. 90% of the project (37,000 lf) would be constructed under CIAP. The remaining segment of the project, Tebo Point, would be constructed under CWPPRA. The Task Force also took the initiative to approve the first 3 yrs of O&M for both of these segments. Using the Grand Lake Cost with Tebo Point included the TF broke the project up into the following:

$2,700,000 for the construction of Tebo Point
$6,300,000 for the first three yr of O&M for both segments
$9,000,000 total

2011 Task Force voted to transfer federal sponsor from USACE to NRCS. Currently USACE is providing all E&D to NRCS to determine what is needed to move to construction.

2012 MIPR delayed until 5% cash contribution from local sponsor is received. MIPR received in August 2012, alignment was surveyed in Fall 2012 to verify any changes in site since original project design.

2013	Geotechnical Investigation was performed on Tebo Point in areas not covered by original investigation. Design was updated and revised cost estimate exceeded the amount approved for construction.
2014	Permit application submitted on April 4, 2014. On October 23, 2014, the Task Force approved a transfer of $3,542,032 from O&M to construction.

13. Current status/remaining issues:

Draft COE permit received May 26, 2015. Pursuing Navigation Aid determination from US Coast guard. Preparing final contract documents.

14. Projected schedule:

Advertise construction contract in Fall 2015.

15. Preparer: Travis Creel, USACE (504) 862-1071
Updated (6/23/2011): John Jurgensen, NRCS (318) 473-7694
Updated (7/10/2012): John Jurgensen, NRCS (318) 473-7694
Updated (6/21/2013): John Jurgensen, NRCS (318) 473-7694
Updated (6/15/2015): Quin Kinler, NRCS (225) 665-4253 ext 110

Status Review - Unconstructed CWPPRA Projects
June 22, 2015

1. Project Name: Cameron Creole Freshwater Introduction (CS-49)

2. SOUP Category: On Schedule

3. PPL: 18

4. Federal Agency: NRCS

5. Date of Construction Approval / Phase Two Approval: Jan. 2010 (planting phase only)

6. Approved Total Budget: $2,696,928

7. Fully Funded Cost Estimate: $16,640,120

8. Expenditures: $1,621,959.80

9. Unexpended Funds: $918,070.20

10. Estimate of anticipated funding increases, including O&M: None

11. Potential changes to project benefits: none

12. Brief chronology of project development and issues affecting implementation:

2009 – 2014	The project was approved for Phase I funding at the January 2009 Task Force meeting. NRCS initially modeled the freshwater introduction using a spreadsheet model. Concerns about the spreadsheet model prompted discussion of using the Chenier Plain Model developed by Ehab Meselhe under the Southwest Study project to also model the project. NRCS and CPRA agreed to run that model in February 2012. Results from the Chenier Plain Model have been provided. An additional model run with channel improvements to the Montesano Canal is being conducted and results are expected in July 2014.
2014	The 30 percent design meeting is anticipated in November 2014, and the 95 percent design meetings will be conducted in early 2015.
2015	The 30 percent design meeting was held on December 10, 2014 and the 95 percent design meeting is scheduled for October 2015.

12. Current milestones/remaining issues:

Technical Committee approved project moving to 95% review, but requested an analysis of different project options. Project Team is evaluating the alternatives and will present for workgroup review prior to Fall 2015 Technical Committee meeting where sponsor will present preferred alternative. Phase II funding request is anticipated for December 2015.

13. Current status/remaining issues:

Project will request Phase II funding in Winter 2015.

14. Projected schedule:

Advertise construction contract in Spring 2016.

15. Preparer: Updated (6/17/14): Troy Mallach, NRCS, (337) 291-3064, John Jurgensen, NRCS, (318) 473-7694
Updated (6/22/15): John Jurgensen, NRCS, (318) 473-7694

Status Review - Unconstructed CWPPRA Projects
June 22, 2015

1. Project Name: Freshwater Bayou Marsh Creation (ME-31)

2. SOUP Category: On Schedule

3**. PPL: 19**

4. Federal Agency: NRCS

5. Date of Construction Approval / Phase Two Approval:

6. Approved Total Budget: $2,425,997

7. Fully Funded Cost Estimate: $25,523,755

8. Expenditures: $1,298,081.32

9. Unexpended Funds: $1,127,915.68

10. Estimate of anticipated funding increase, including O&M: No funding increases anticipated.

11. Potential changes to project benefits: None.

12. Brief chronology of project development and issues affecting implementation:

2010– 2014	The project was approved for Phase I funding at the January 2010 Task Force meeting. NRCS has completed initial surveys, but geotechnical investigation of the project area and borrow site have not been completed. Additionally, a wave analysis model will be completed once the borrow site is finalized. NRCS and ExxonMobile (landowner) are investigating contaminant testing protocol to ensure that borrow material is safe to use for marsh creation. That protocol was accepted on April 28th, 2014 and implementation of testing is expected to begin this summer/fall.
2015	Contaminant investigation completed. No further issues pending. Design has resumed.

13. Current milestones/remaining issues:
No pending issues, 30% meeting anticipated for May 2016.

14. Projected schedule:
Request Phase II funding in Winter 2016, advertise construction contract in Spring 2017.

15. Preparer: Updated (6/17/14): Troy Mallach, NRCS, (337) 291-3064, John Jurgensen, NRCS, (318) 473-7694
Updated (6/22/15): John Jurgensen, NRCS, (318) 473-7694

Status Review - Unconstructed CWPPRA Projects
Jun 19, 2015

1. **Project Name (and number):** LaBranche East Project (PO-75)

2. **SOUP Category:** On Schedule

3. **PPL:** 19

4. **Federal Agency:** NRCS

5. **Date of Construction Approval / Phase Two Approval:** n/a

6. **Approved Total Budget:** $2,571,273

7. **Fully Funded Cost Estimate:** $32,323.291

8. **Expenditures:** $2,228,311.24

9. **Unexpended Funds:** $342,961.76

10. **Estimate of anticipated funding increases, including O&M:** None at this time.

11. **Potential changes to project benefits:** None at this time.

12. **Brief chronology of project development and issues affecting implementation:**

2010	Approved (Phase I)
2010 – 2011	Planning and Design began in August 2010 after CSA signed. Geotechnical Investigation of Marsh Creation Areas completed in January 2011. Results indicated areas with high organic content resulting in decision to analyze various methods of containment and dredge material placement to verify the proposed design.
2012	A pilot study was developed to analyze design alternatives. Permit for pilot study was drafted and submitted.
2013	USACE issued permit for pilot study. Work began on June 1, 2013.
2014	Pilot Study completed in April 2014. Project Team will monitor results through August 2014 and develop report with findings and recommend preferred alternative for design.
2015	Project Team is actively pursuing design of preferred alternative.

13. **Current status/remaining issues:** Planning and Design of preferred alternative is ongoing.

14. **Projected schedule:** Design of preferred alternative is anticipated to be completed by Winter 2016.

15. **Preparer:** Updated (6/18/14): John Jurgensen, NRCS (318) 473-7694
Updated (6/19/15): John Jurgensen, NRCS (318) 473-7694

Status Review - Unconstructed CWPPRA Projects
July 21, 2015

1. Project Name (and number): Lost Lake Marsh Creation and Hydrologic Restoration (TE-72)

2. SOUP Category: On Schedule

3. PPL: 19

4. Federal Agency: USFWS

5. Date of Construction Approval / Phase Two Approval: January 2013

6. Approved Total Budget: $34,626,728

7. Fully-Funded Cost: $34,626,728

8. Expenditures: $765,116

9. Unexpended Funds: $33,861,612

10. Estimate of anticipated funding increases, including O&M: Unknown.

11. Potential changes to project benefits: None.

12. Brief chronology of project development and issues affecting implementation:

January 2013	Phase II Approval
February 2014	Section 404 permit granted
February 2015	Final landrights executed with all landowners
March 2015	Permit modification submitted

13. Current status/remaining issues:
A bid package has been prepared and is under internal CPRA review. A 404 permit modification was submitted to the COE in March 2015. The project team is still waiting for permit review by the COE. A permit analyst was not assigned until July 2015.

14. Projected schedule:
January 2016 - Bid advertisement April 2016 – Begin Construction

15. Preparer: Kevin Roy, USFWS (337-291-3120) Kevin_Roy@fws.gov

Status Review - Unconstructed CWPPRA Projects
May 19, 2015

1. Project Name (and number): Cameron Creole Watershed Grand Bayou Marsh Creation Project (CS-54)

2. SOUP Category: On Schedule

3. PPL: 20

4. Federal Agency: FWS

5. Date of Construction Approval / Phase Two Approval: January 2015

6. Approved Total Budget: $28,707,688

7. Fully-Funded Cost: $28,707,688

8. Expenditures: $454,702

9. Unexpended Funds: $28,252,986

10. Estimate of anticipated funding increases, including O&M: Unknown.

11. Potential changes to project benefits: None.

12. Brief chronology of project development and issues affecting implementation:

January 2011	Phase I Approval
January 2015	Phase II Approval
March 2015	Section 404 JPA submitted
May 2015	Coastal Zone Consistency Approved

Issues affecting implementation: None at this time.

13. Current status/remaining issues:
Awaiting Corps' CWA 404 permit review process.

14. Projected schedule:

January 2016	Bid advertisement

15. Preparer: Angela Trahan, FWS (337-291-3137) Angela_Trahan@fws.gov

Status Review - Unconstructed CWPPRA Projects
June 2015

1. Project Name (and number): Rockefeller Refuge Gulf Shoreline Stabilization (ME-18)

2. SOUP Category: Waiting for Phase 2 Approval

3. PPL: 10 - Phase 1 was authorized in January 10, 2001

4. Federal Agency: NMFS

5. Date of Construction Approval / Phase Two Approval: NA

6. Approved Total Budget: $2,408,478

7. Fully Funded Estimate: $28,082,507

8. Expenditures: $1,595,269

9. Unexpended Funds: $677,921

10. Estimate of anticipated funding increases, including O&M: NA

11. Potential changes to project benefits: 327 net acres at year 20 (updated at change in scope last year

12. Brief chronology of project development and issues affecting implementation:

- January 2001 – Phase 1 Approval
- September 23, 2004 – 30% E&D review. Over 80 alternatives were considered based on their ability to meet project goals and objectives.
- February 17, 2005 – Task Force request for a change in scope to pursue the development of test sections approved. Four final alternatives were selected for consideration in a prototype test program at the Refuge that would help predict their potential for success if installed for the full 9.2-mile project.
- September 20, 2005 – 95% E&D review of four design alternatives.
- December 7, 2005 –NMFS/DNR sought Phase 2 funding for construction.
- December 5, 2006 – NMFS/DNR sought Phase 2 funding for construction.
- November 29, 2007 – The Coastal Impact Assistance Program (CIAP) adopted the project for construction.
- December 4, 2009 – CIAP completed construction on three shoreline protection test sections.
- August 30, 2011 – CIAP final monitoring report submitted.
- June 4, 2013 – Task Force approves project scope change from 9.2 miles to 2.0 miles.
- May 15, 2014 – 30% Design review.
- September 29, 2014 – 95% Design review.
- October 2014 – Phase 2 Submission
- January 2015 – Unsuccessful at getting phase 2 support (placed 4th out of 5).

13. Current status/remaining issues: No current issues identified, updating costs for resubmitting for Phase 2 request for December 2015 Technical Committee meeting.

14. Projected schedule and milestones: Late Fall 2015 - Engineering Work Group review of any updated costs for cost estimate. Request Phase 2 at December 2015 Technical Committee meeting.

15. Preparer: John D. Foret, Ph.D., NOAA Fisheries Service, john.foret@noaa.gov

Revised June 2015 (JDF)

Status Review - Unconstructed CWPPRA Projects
July 22, 2015

1. Project Name (and number): North Lake Boudreaux Basin Freshwater Intro. (TE-32a)

2. SOUP Category: Project Issue Delays

3. PPL: 6

4. Federal Agency: USFWS

5. Date of Construction Approval / Phase Two Approval: October 2010

6. Approved Total Budget: $20,048,152

7. Fully-Funded Cost: $25,766,765

8. Expenditures: $3,108,603

9. Unexpended Funds: $16,939,549

10. Estimate of anticipated funding increases, including O&M: none anticipated

11. Potential changes to project benefits: none anticipated

12. Brief chronology of project development and issues affecting implementation:

- Jun 2007 – all landrights obtained for construction of the conveyance channel
- Aug 2009 – 30% design meeting conducted
- Jun 2010 – 95% design meeting conducted
- Oct 2010 – Task Force approved Phase II request
- April 2011 – Corps stated that fiscal law issue resolved
- Aug 2012 – Applied for DNR/Corps permits
- Nov 2012 – Received a Coastal Zone Consistency determination from the LDNR
- Aug 2014 – Final Design documents completed

13. Current status/remaining issues: The Section10/404 permit has not yet been issued. Issuance is dependent upon issuance of a 404 permit for the Parish's forced drainage systems adjacent to the conveyance channel. Mitigation for the Parish forced drainage systems has been agreed to, and issuance of the associated 10/404 permit is waiting for mitigation payments to be made. Landrights agreements with landowners around Bayou Pelton are complete. Landrights for the Bayou Butler water control structure could not be obtained. Consequently, this project feature will not be constructed.

The CPRA voided the previously executed landrights agreements for properties to be affected by the proposed conveyance channel because the CPRA found those previous agreements did not meet requirements under the federal Uniform Relocation Assistance and Real Property

Acquisition Policies Act. The CPRA has reappraised affected properties and offered those landowners revised landrights agreements that are in compliance with federal law. The updated property value appraisals (required by State law) have determined that property values have decreased and associated payments for construction impacts have decreased, relative to the payments stipulated in the previously executed agreements. Some landowners are now refusing to sign the new landrights agreements because they will no longer receive the larger payments as previously agreed to. Some properties have been sold and the new owners are not inclined to accept the revised landrights agreements.

The FWS has been asked to approve use of state or parish expropriation authorities to obtain landrights. FWS and DOI leadership are still considering this request (but had previously rejected use of expropriation for obtaining landrights for CWPPRA projects). Additionally, Terrebonne Parish has requested the opportunity to be engaged in acquiring voluntary landrights agreements. The FWS does not want to expropriate property and prefers to obtain landrights voluntarily. FWS would like to conduct further work, with Parish assistance, to obtain landrights voluntarily.

14. Projected schedule:

DNR/Corps Permit issuance	- Aug 2015
Land Rights Complete	- Jan 2016
Bid Advertisement	- Jan 2016
Construction start	- Apr 2016
Construction completion	- May 2017

15. Preparer: Ronny Paille USFWS (337-291-3117) Ronald_Paille@FWS.GOV

Status Review - Unconstructed CWPPRA Projects
June 19, 2015

1. **Project Name (and number):** Central Terrebonne Freshwater Enhancement Project (TE-66)

2. **SOUP Category:** Project Delayed by Project Team Delivery Issues

3. **PPL:** 18

4. **Federal Agency:** NRCS

5. **Date of Construction Approval / Phase Two Approval:** N/A

6. **Approved Total Budget:** $2,326,289

7. **Fully Funded Cost Estimate:** $16,640,120

8. **Expenditures:** $1,211,158.85

9. **Unexpended Funds:** $1,115,130.15

10. **Estimate of anticipated funding increases, including O&M:** N/A at this time

11. **Potential changes to project benefits:** N/A at this time

12. **Brief chronology of project development and issues affecting implementation:**

2009	Approved (Phase I)
2010	Initiation of hydrodynamic model
2011	Hydrodynamic model surveys and monitoring
2012	Hydrodyamic model calibration and initial scenarios
2013	Hydrodynamic model draft report (March 2013) and design scenario model runs. Initiation of Design/Geotechnical/Surveys
2014	Modeling Phase completed. Design Phase was scheduled to begin but CPRA halted all work on project pending decision to move project to a state only project under a different program. Project Team decision is pending.
2015	Team agreed to pursue geotechnical investigation and revise Phase I estimate for remaining planning and design tasks.

13. **Current status/remaining issues:** Project Team will develop revised cost and benefits after geotechnical investigation is completed, and make decision whether cost and benefits are feasible.

14. **Projected schedule:** Project Team decision will be made by Winter 2015 Technical Committee meeting.

15. **Preparer:** Updated (4/3/13): Ron Boustany, NRCS, (337) 291-3067
Updated (6/21/13): John Jurgensen, NRCS (318) 473-7694
Updated (6/17/14): John Jurgensen, NRCS, (318) 473-7694

Updated (6/19/15): John Jurgensen, NRCS, (318) 473-7694

Status Review - Unconstructed CWPPRA Projects
May 19, 2015

1. Project Name (and number): Bayou Bonfouca Marsh Creation (PO-104)

2. SOUP Category: Project Issue Delays

3. PPL: 20

4. Federal Agency: FWS

5. Date of Construction Approval / Phase Two Approval: January 2013

6. Approved Total Budget (Current): $25,456,740 (cost share agreement)

7. Fully-Funded Cost: $27,408,107

8. Expenditures: $521,876

9. Unexpended Funds: $23,031,320

10. Estimate of anticipated funding increases, including O&M: Unknown.

11. Potential changes to project benefits: None.

12. Brief chronology of project development and issues affecting implementation:

	Phase I E & D Task Force approval
4/25/2012	Successful 30% Design Review Meeting
10/31/2012	Successful 95% Design Review meeting
1/2013	Initial Phase II construction funding approval
9/2012	All landrights secured for the project
12/5/2012	Submitted 404 Joint Permit Application
6/20/2013	Scenic Rivers Permit Exemption Secured
	Cultural Resource Phase I Survey Report Completed
10/1/2014	SHPO Cultural Resource Consistency Letter
	Underwater Archeology Survey Report Completed
1/28/2015	SHPO Underwater Archeology Consistency Letter
4/2015	Biological Evaluation Sent to USACE and NOAA Fisheries

Issues affecting implementation: Atlantic sturgeon critical habitat

13. Current status/remaining issues:

- Complete the Environmental Assessment and FONSI
- Awaiting a Not Likely to Adversely Affect determination from NOAA Fisheries

- Awaiting a 404 permit determination from USACE. The project is on schedule for construction in April 2016.

14. Projected schedule:

7/2015	Informal Consultation NOAA Fisheries - Atlantic sturgeon (Not Likely to Adversely Affect)
9/2015	Receive 404 Permit from USACE
12/2015	Construction Bid Advertisement
4/2016	Begin construction

15. Preparer: Robert Dubois, FWS (337-291-3127)

Status Review - Unconstructed CWPPRA Projects
May 19, 2015

1. Project Name (and number): Terrebonne Bay Marsh Creation – Nourishment (TE-83)

2. SOUP Category: Project Issue Delays

3. PPL: 20

4. Federal Agency: FWS

5. Date of Construction Approval / Phase Two Approval: NA

6. Approved Total Budget (Current): $2,901,750

7. Fully-Funded Cost: $27,414,401

8. Expenditures: $536,321

9. Unexpended Funds: $2,365,429

10. Estimate of anticipated funding increases, including O&M: Unknown.

11. Potential changes to project benefits: None.

12. Brief chronology of project development and issues affecting implementation:

1/19/2011	Phase I E & D Task Force approval
4/2012	Geotechnical Report Completed
3/2014	Expanded Geotechnical Report Completed

Issues affecting implementation:

The project area has poor geotechnical conditions which makes designing, constructing, and funding a project in this area challenging.

13. Current status/remaining issues:

Engineering and design was put on hold for an entire year while CPRA investigated what their role would be in a NRDA-funded Terrebonne Bay Rim Restoration and Marsh Creation project. A decision has been made and we are currently looking at geotech reports so that an informed decision can be made on the best path forward for this project.

14. Projected schedule:

11/2015	30% Design Meeting
7/2016	95% Design Meeting
1/2017	Phase II Request
9/2017	Begin construction

15. Preparer: Robert Dubois, FWS (337-291-3127)

Status Review - Unconstructed CWPPRA Projects
June 16, 2015

1. Project Name: Kelso Bayou Marsh Creation (CS-53)

2. SOUP Category: Recommended for Deauthorization

3. PPL: 20

4. Federal Agency: NRCS

5. Date of Construction Approval / Phase Two Approval:

6. Approved Total Budget: $2,360,609

7. Fully Funded Cost Estimate: $16,632,765

8. Expenditures: $1,148,109.68

9. Unexpended Funds: $1,212,499.32

10. Potential changes to project benefits: No funding increase anticipated.

11. Estimate of anticipated funding increases, including O&M: None

12. Brief chronology of project development and issues affecting implementation:

2010– 2013	The project was approved for Phase I funding at the January 2011 Task Force meeting. NRCS has completed initial surveys, but Geotech of the project area and borrow site have not been completed.
2014	A tax assessor's report was prepared for the project. Estimated land acquisition costs for Tract I, J, F-2 & F-3 (shoreline protection) is $250,000 - $300,000 mostly due to the numerous undivided interests and poor and/or absent property descriptions in Tract I. To do land acquisition for the whole project for all of the fill sites as originally designed is estimated to be $3,000,000.00 due to the complexity of the land title. As noted in the abstractor's notes title has never been cleared on Lots 5-9 of the Doiron Subdivision. Over the years abstracts have been ordered by local banks and have been sent back being declared title is inconclusive. Due to the gaping holes in title chain, the absence of precise legal descriptions over the last 150 years and the confusing tract lines depicted on various maps and plats due to the irregular sections and also the way in which the land has been assessed, it will be almost impossible to determine surface ownership.

2015	Efforts are being made to reduce the cost of securing landrights and removal of tracts with complex ownership is being considered with CPRA Land Managers. A number of tracts appear to have less complicated land ownership concerns and NRCS and CPRA is investigating potential changes to the project marsh creation sites.

13. Current status/remaining issues: Project team is investigating whether alternative marsh creation placement areas can be found. Project team decision will be made by Fall 2015. If no suitable alternatives are found by Fall 2015, project will move to deauthorization.

14. Projected schedule:

No schedule projected past Fall 2015, pending decision to deauthorize or revise project features.

15. Preparer: Troy Mallach, NRCS, (337) 291-3064, John Jurgensen, NRCS, (318) 473-7694

Status Review - Unconstructed CWPPRA Projects
June 2015

1. Project Name (and number): Madison Bay Marsh Creation and Terracing (TE-51)

2. SOUP Category: Recommend Inactivation.

3. PPL: 16

4. Federal Agency: NMFS

5. Date of Construction Approval / Phase Two Approval: NA

6. Approved Total Budget: $3,002,171

7. Fully Funded Estimate: $38,798,788

8. Expenditures: $1,738, 344

9. Unexpended Funds: $1,263,773

10. Estimate of anticipated funding increases, including O&M: NA

11. Potential changes to project benefits: NA

12. Brief chronology of project development and issues affecting implementation:

- October 2006 – Phase 1 Approval
- March 7, 2007 – Project Kick off meeting.
- October 2008 – Landowner meeting (Oyster lease coordination initiated)
- April 2009 – Survey and Geotechnical Investigations initiated.
- January 2010 – Survey, magnetometer survey, and landrights results began discussion of project boundary shift.
- May 2010 – Field investigation conducted to evaluate alternative project locations.
- April 2011 –Technical Committee presentation to request permission to expend project funds outside of the approved project area for geotechnical investigation of an alternative project site.
- November 19, 2011 – Geotechnical report delivered, results show Wonder Lake area most appropriate for construction consideration.
- April 19, 2012 – Technical Committee approves project scope change; i.e. 32% reduction in constructed acres, 29% reduction in TY20 acres, and 19% increase to the Full-Funded costs; and approved the relocation of the project boundary to the Wonder Lake area.
- June 5, 2012 – Task Force approved Technical Committee recommendation.
- July 23, 2013 – 30% Design Review Meeting
- October 24, 2013 – 95% Design Review Meeting
- December 12, 2013 – Phase 2 Request
- Summer 2014 – Additional geotech and engineering work was done to resolve design questions.
- December 2014 – Second Phase 2 Request to Technical Committee unsuccessful (ranked 5th of 5).

13. Current status/remaining issues: NMFS and CPRA representatives met with parish to explain concerns chances of success going forward. Indicated plan to request inactivation.

14. Projected schedule and milestones: Submit agenda item for project inactivation for September 2015 Technical Committee meeting.

Preparer: John D. Foret, Ph.D., NOAA Fisheries Service, john.foret@noaa.gov
Revised June 2015 (JDF)

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

STATUS OF THE 2015 REPORT TO CONGRESS

For Report:

Mr. Darryl Clark will provide a status update on the 2015 Report to Congress. The FWS-USGS-CPRA Report to Congress Work Group presents the semi-final edited draft 2015 Report to Congress (RTC) to the CWPPRA Technical Committee for approval. The CWPPRA agencies reviewed the first and second drafts; the final draft was edited by USGS editors in August. After Technical Committee approval, the editors will prepare the final formatted draft, including tables, figures, and photos, for Task Force approval at their October 15, 2015 meeting.

2015 Edited Semi-final Draft Report to Congress Status Report and Technical Committee Request

For the September 10, 2015, Technical Committee Meeting

The FWS-USGS-CPRA Report to Congress Work Group present the semi-final edited draft 2015 Report to Congress (RTC) to the CWPPRA Technical Committee and Task Force for approval. The CWPPRA agencies reviewed the first and second drafts; the final draft was prepared by the Work Group and edited by USGS editors in August. After Technical Committee approval, the editors will prepare the final formatted draft, including tables, figures and photos, for Task Force approval at their October 15, 2015 meeting (see schedule).

The 2015 Report to Congress keeps the general 2012 RTC format, includes new sections, such as How CWPPRA Fits, CWPPRA's Fish and Wildlife Benefits, the RESTORE Act, Infographics, and updates 2013 to 2015 program and project information. Current contents include the following:

1. Executive Summary – The Executive Summary was made bolder and more interesting by adding call-out boxes and graphics.
2. Introduction - Coastal LA land loss & other issues.
3. CWPPRA Overview - CWPPRA as an Incubator, Project Expansions and Partnerships, How CWPPRA Fits into the Current LA Restoration Landscape, Current Program Developments, CWPPRA's Benefits to Fish and Wildlife, and LA Coastal Restoration Techniques.
4. CWPPRA Project Planning & Implementation - CWPPRA Project Selection Process, Approved 2013-2015 projects and Examples of Recently Constructed Significant and Strategic Projects.
5. Evaluating the CWPPRA Program with Monitoring Data – CRMS Program and Evaluation Summaries of Selected CWPPRA Projects.
6. Conclusions – Major Program Accomplishments
7. References and Appendices

2015 Report to Congress Remaining Schedule

Technical Committee Approval – September 10, 2015

Semi-final Formatted Version for Task Force Review – October 1, 2015

Task Force Approval – October 15, 2015

Printing and Publishing – January 2016 (60 to 70 days are needed for printing)

The Report to Congress Work Group would like to thank the following CWPPRA Staff who contributed to the report.

CPRA – Evaluation Summaries of Selected CWPPRA Projects – Dona Weifenbach, Tommy McGinnis, Mark Mouledous, Leigh Anne Sharp, Bill Boshart, Danielle Richardi, Todd Hubbell, Todd Folse, Elaine Lear, and Bryan Gossman.

USGS, National Wetlands Research Center – Editing, report guidance, graphics, and mapping - Sijan Sapkota, Scott Wilson, Victoria Chachere, Natalie Trahan, Nikki Cavalier, Kelia Bingham, Michelle Fisher, Sarai Piazza, and Brady Couvillion.

FWS, Louisiana Ecological Services Office – Report guidance and reviews - Jeff Weller and Kevin Roy.

We also thank the CWPPRA agency staff who reviewed the first and second drafts and provided valuable comments that improved the report.

Darryl Clark
FWS

dc 8-31-2015

Final Edited Draft Report to Congress after Editor's Review

(Narrative-only - without call-out boxes, figures & tables, except for Executive Summary)

CWPPRA Agency Comments Incorporated by RTC Committee

For the September 11, 2015, Technical Committee Meeting

8-27-2015

Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA)

The 2015 Evaluation Report to the U.S. Congress on the Effectiveness of Coastal Wetlands Planning, Protection and Restoration Act Projects

Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA)

The 2015 Evaluation Report to the U.S. Congress on the Effectiveness of Coastal Wetlands Planning, Protection and Restoration Act Projects

Suggested Citation
Louisiana Coastal Wetlands Conservation and Restoration Task Force. 2015. The 2015 Evaluation Report to the U.S. Congress on the Effectiveness of Coastal Wetlands Planning, Protection and Restoration Act Projects.

Map images provided by the U.S. Geological Survey National Wetlands Research Center. Document direction and review provided by the 2015 CWPPRA Report to Congress Workgroup.

CWPPRA Mission Statement

Louisiana continues to face an unprecedented collapse of its entire coastal ecosystem and the vital economic activity and unique culture that it supports.

Over the past 25 years, the Louisiana Coastal Wetlands Conservation and Restoration Task Force (Task Force) has fulfilled its role under the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) by implementing a science- and engineering-based program that extensively engages stakeholders and the public and serves as the Nation's model for effective and efficient coastal restoration. In order to secure the future of Louisiana's coast, the Task Force and stakeholders must share a common vision, one that aligns with State and national priorities.

Documentation

This report is submitted by the Task Force in accordance with CWPPRA, Title III of Public Law 101–646. This report fulfills the CWPPRA mandate, which requires a report to the U.S. Congress every 3 years on the effectiveness of Louisiana's coastal wetland restoration projects.

Task Force Member Agencies

- U.S. Army Corps of Engineers (represented by the New Orleans District): contact 504–862–2204 or at http://www.mvn.usace.army.mil/missions/environmental/cwppra.aspx.
- U.S. Department of the Interior (represented by the U.S. Fish and Wildlife Service): contact 337–291–3100 or at http://www.fws.gov/lafayette; www.fws.gov/coastal/CoastalGrants/.
    - U.S. Department of Agriculture (represented by the Natural Resources Conservation Service): contact 318–473–7751 or at

http://www.nrcs.usda.gov/wps/portal/nrcs/detail/la/programs/easements/acep/?cid=nrcs141p2_015685.

  - U.S. Department of Commerce (represented by the National Oceanic and Atmospheric Administration National Marine Fisheries Service): contact 225–389–0508 or at http://habitat.noaa.gov/restoration/index.html.
- U.S. Environmental Protection Agency (represented by the Water Quality Protection Division of EPA Region 6): contact 214–665–7275 or at http://www.epa.gov/region06/6wq/at/cwppra.htm.
- Louisiana's Governor's Office (represented by the Coastal Protection and Restoration Authority chairman): contact 225–342–3968 or at http://www.coastal.la.gov/.

Web Sites

LaCoast, the official CWPPRA Web site, has a complete project listing and technical documents at http://lacoast.gov.

The CWPPRA program is administered through the U.S. Army Corps of Engineers. The CWPPRA organizational chart, standard operating procedures, annual Priority Project List (PPL) reports, and administrative proceedings documentation are publicly available on the Mississippi Valley New Orleans District Web site at http://www.mvn.usace.army.mil/missions/environmental/cwppra.aspx.

Acknowledgments

The Louisiana CWPPRA Task Force wishes to thank Governor of Louisiana Bobby Jindal, the Louisiana Legislature, the Federal Louisiana Delegation, and the U.S. Congress for their support of this crucial program.

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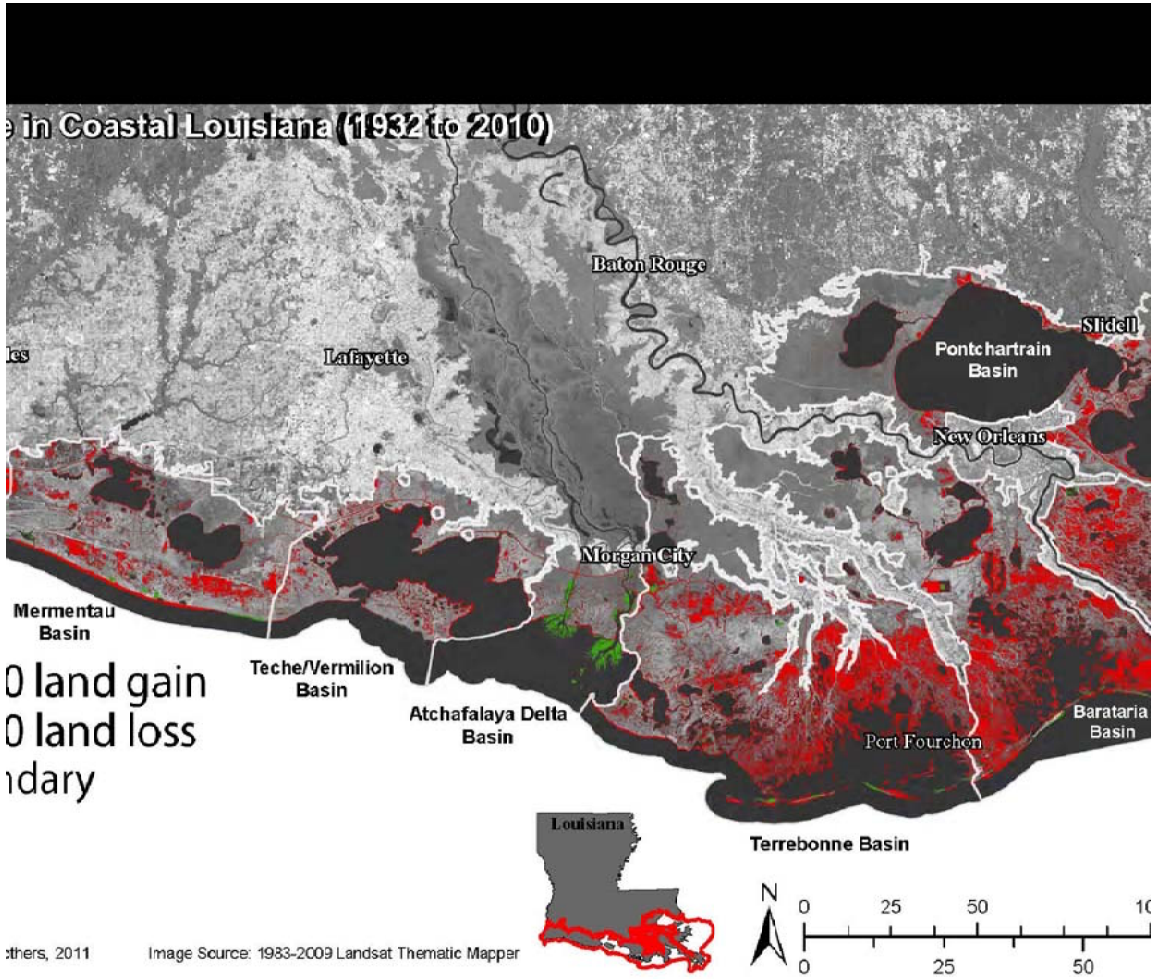
in Coastal Louisiana (1932 to 2010)
Baton Rouge
Lafayette
Slidell
Pontchartrain Basin
New Orleans
Morgan City
Mermentau Basin
Teche/Vermilion Basin
Atchafalaya Delta Basin
Barataria Basin
Port Fourchon
Terrebonne Basin
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thers, 2011
Image Source: 1983-2009 Landsat Thematic Mapper

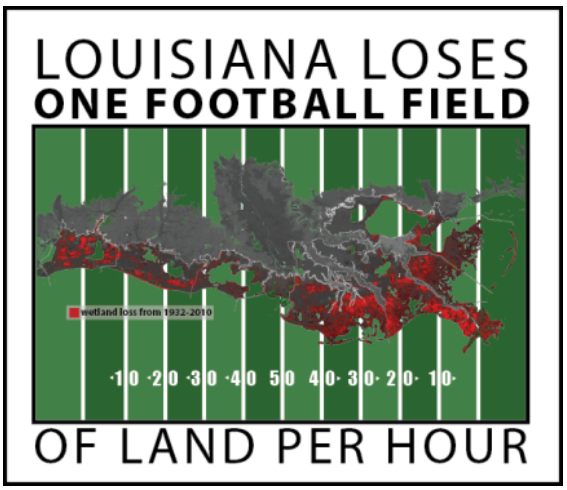
Executive Summary: The 2015 Evaluation Report to the U.S. Congress on the Effectiveness of Coastal Wetlands Planning, Protection and Restoration Act Projects

Louisiana wetlands host a diverse and vibrant ecosystem that serves as a vital environmental, economic, and cultural asset for the United States. Wetlands act as a buffer against hurricanes and storms. They also store excess floodwater during high rainfall. Wetlands replenish aquifers, and they purify water by filtering out pollutants and absorbing nutrients.

Louisiana Coastal Wetland Loss Facts

- LA lost more coastal wetlands than all other lower 48 States combined
- LA loses 1 football field per hour
- LA lost more than 1,883 square miles (1.2 M acres) - equal to size of Delaware
- LA may lose 0.5 to 1.1 M acres in next 50 years

Approximately 37 percent of all coastal marshes of the lower 48 States are located in Louisiana (Couvillion and others, 2011; NOAA, 2006). Unfortunately, this fragile environment is disappearing at an alarming rate. Between 1996 and 2010, Louisiana underwent more coastal wetland loss than all other States in the lower 48 combined (NOAA, 2010). A USGS report (Couvillion and others, 2011) estimates the 1984 to 2010 Louisiana coastal average land loss rate at approximately 16.6 square miles per year. Louisiana's average coastal

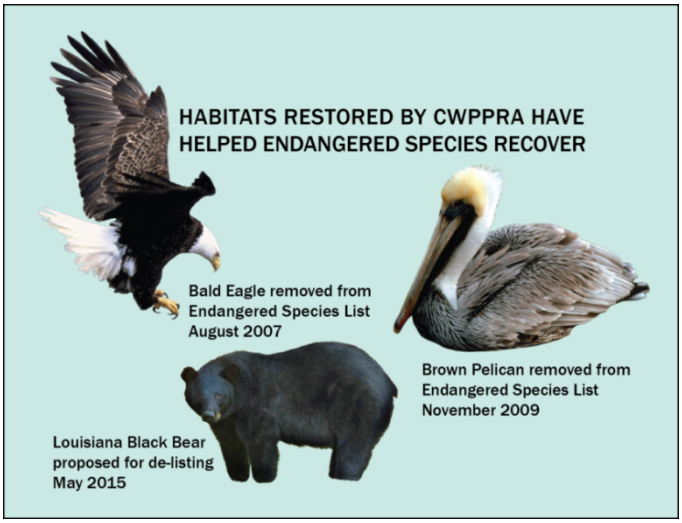


land loss rate equates to the disappearance of an area equivalent to a football field every hour. Louisiana has already lost more than 1,883 square miles (1.2 million acres) of land over the last 80 years, an area equal to the size of the State of Delaware. Modeled projections show that, without increased restoration efforts, an additional 811 square miles (519,000 acres) to 1,739 square miles (1.1 million acres) may be at risk of loss by the year 2060 (Couvillion and others, 2013).

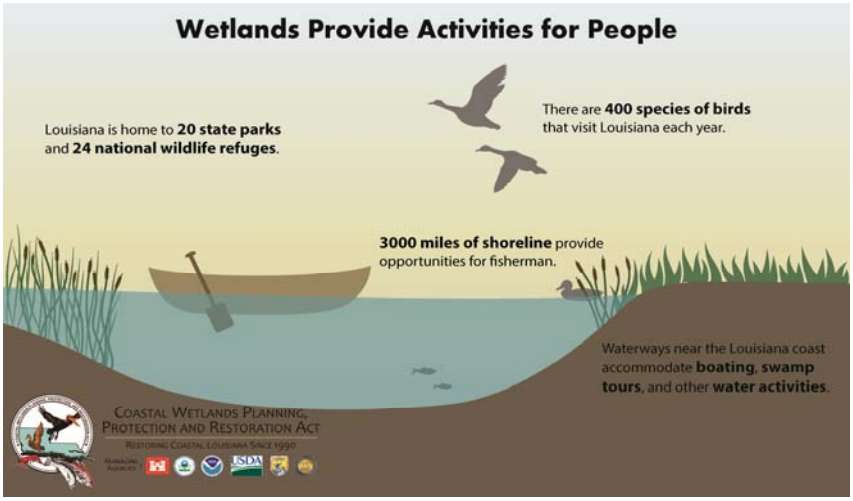
Wetlands provide habitat for a variety of wildlife. Louisiana coastal wetlands are the breeding grounds and nurseries for thousands of species of aquatic and terrestrial life, as well as many species of birds including our Nation's symbol, the bald eagle. It is estimated that more than five million waterfowl migrate to coastal Louisiana each year. Because of the abundant wildlife and wetlands to hunt and fish, Louisiana is referred to as the "*Sportsman's Paradise*." Today many of these wetlands are being lost.

Congress recognized the ongoing severe coastal wetland losses in Louisiana and the increasing impacts on locally, regionally, and nationally important resources when it established the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) in 1990 (Public Law 101–646, Title III). Since its inception, CWPPRA has constructed, or funded for construction, projects to protect and restore more than 88,000 net acres (138 square miles) of Louisiana's coastal wetlands in its first 25 years (1990 to 2015). The purpose of this report is to fulfill the requirement by Congress for the Task Force to provide a scientific evaluation every 3

years on the effectiveness of the projects (Section 303 (b) (7) of CWPPRA). These restored wetlands and associated open-water habitats provide foraging, escape cover, nesting, breeding, and nursery habitat for a myriad of coastal fish and wildlife, including threatened and endangered, at-risk, and rare species, as well as commercially and recreationally valuable species. Additionally, a variety of freshwater and estuarine-dependent fish and shellfish are residents of Louisiana's coastal wetlands.



Our national economy also benefits from Louisiana's coastal wetlands. Economic activity in Louisiana's coastal zone includes oil and gas production, shipping commerce, commercial fisheries, oyster production, and fur harvesting. This activity accounts for more than 450,000 jobs and billions of dollars in revenues (CPRA, 2011; Batker and others, 2012). Additionally, wetlands are wonderful recreational resources and are part of Louisiana's growing ecotourism business.



CWPPRA has been essential to advancing the cause of coastal restoration in Louisiana. Nevertheless, it has long been recognized that no single restoration program alone is sufficient to address Louisiana's coastal crisis.

The Water Resources Development Act of 2007 established the Louisiana Coastal Area (LCA) program to address some restoration needs that were not included within the scope of CWPPRA. Currently, the LCA consists of 15 near-term projects, 3 programs, and 1 long-term study. The 2012 Louisiana Comprehensive Master Plan for a Sustainable Coast (Master Plan [CPRA, 2012]) also addresses restoration and protection needs beyond the authorization of CWPPRA.

In the wake of the BP Deepwater Horizon (DWH) oil spill, a number of complementary efforts have begun to restore Gulf of Mexico ecosystems. In July 2012, the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act (RESTORE Act) established the Gulf Coast Ecosystem Restoration Council. The enactment of the RESTORE Act established a structure and funding mechanism to complement CWPPRA and further enhance coastal restoration in Louisiana and the other Gulf Coast States. With 25 years of on-the-ground experience, CWPPRA is well poised to continue its role as a highly collaborative and expeditious program for implementing targeted coastal restoration projects. Additionally, CWPPRA has the experience necessary for success with broader and more ambitious restoration efforts. The CWPPRA project development and selection process generates more construction-ready projects than the program can afford to build. These "shovel-ready" projects are available to other programs for expedited implementation. Some CWPPRA projects (e.g., Chenier Ronquille Barrier Island Restoration, Scofield Island Restoration, and Lake Hermitage Marsh Creation) have already been targeted for implementation or expansion with DWH-related funds. Although Congress in 2004 reauthorized CWPPRA through 2019, the CWPPRA program is expected to reach its capacity for funding new projects before then.

If fully funded, CWPPRA could complement the aforementioned programs by quickly developing and implementing projects in high-priority areas while more comprehensive and complex coastal restoration measures are being developed. Thus, CWPPRA helps "hold the line" in critical parts of the landscape pending implementation of more systemic and large-scale solutions. CWPPRA serves as a model for interagency collaboration and decision making. The interagency decision making and public involvement processes established by CWPPRA could be utilized by other restoration programs. Moreover, the CWPPRA program could serve as a vehicle for advancing the Gulf Coast Ecosystem Restoration Council strategy and (or) for administering restoration funds from other sources.

CWPPRA has been and will continue to be the primary source of practical experience, learning, and agency expertise regarding coastal restoration in Louisiana. The monitoring data collected through the CWPPRA program since the 1990s are used to select, prioritize, and design nearly all coastal restoration. Since 2007, the Coastwide Reference Monitoring System (CRMS), funded by CWPPRA and the State of Louisiana, has been used to evaluate project effectiveness and has provided critical baseline ecological data to inform coastal restoration and disaster response. CWPPRA monitoring programs provide vital information to evaluate not only the CWPPRA program but also other restoration programs.

CWPPRA's Programmatic Benefits

- Proven Track Record of Project Construction – Over 25 years, 200 approved projects benefiting more than 1,344 square miles (860,000 acres); 101 constructed (20 under construction).
- Responsive – CWPPRA projects are constructed in 3 to 5 years.
- Interagency Approach – Cost-effective projects developed by an experienced interagency team (5 Federal, 2 State Agencies).
- Community Involvement – Local governments & citizens contribute to project nomination & development.
- Predictable Funding – Federal Sport Fish & Boating Safety Trust Fund funding to 2015 through fishing equipment taxes and small engine fuel taxes.
- Fiscally Responsible – CWPPRA projects are cost effective.
- Science Based – CWPPRA's monitoring program (Coastwide Referencing Monitoring System - CRMS). Demonstration projects "field-test" restoration techniques for future restoration project success.
- Complementary – CWPPRA projects complement other large-scale restoration efforts (i.e., Coastal Impact Assistance Program, State Master Plan, BP DWH Oil Spill Early Restoration and the RESTORE Act).

In addition to its ecosystem benefits, CWPPRA has provided hands-on experience with the practical challenges of bringing restoration projects from concept to reality. CWPPRA has been a "training academy" from which Federal and State personnel have gained invaluable experience in administering a coastal restoration program and implementing a range of different

types of projects. Much of the expertise needed to effectively implement other Gulf Coast restoration efforts comes directly or indirectly from CWPPRA. Thus, whether in its current form or in an expanded role, CWPPRA can be a cornerstone for the effort to restore sustainability to coastal Louisiana; however, without reauthorization by Congress, this will not be possible.

The CWPPRA Task Force authorized 12 new projects between 2013 and 2015 (Priority Project Lists [PPLs] 22–24) for Phase 1—Engineering and Design. If constructed, those projects would result in a benefit of approximately 3,813 net acres of wetlands. During the same period, the Task Force also authorized Phase 2—Construction, of five projects that are expected to result in an estimated net benefit of approximately 2,309 acres of wetlands. These approved construction projects are all marsh creation projects, including one with hydrologic restoration features.

Region 1 (Pontchartrain basin)

- New Orleans Landbridge Shoreline Stabilization and Marsh Creation
- Shell Beach South Marsh Creation

Total benefit - 511 net acres

Region 2 (Breton, Barataria and Mississippi River Delta basins)

- Bayou Dupont Sediment Delivery Marsh Creation
- Terracing and Marsh Creation South of Big Mar
- Caminada Headlands Back Barrier Marsh Creation
- Bayou Grande Cheniere Marsh and Ridge Restoration

Total benefit - 1131 net acres

Region 3 (Atchafalaya, Terrebonne, and Teche/Vermilion hydrologic basins)

- North Catfish Lake Marsh Creation
- Island Road Marsh Creation and Nourishment
- West Fourchon Marsh Creation and Nourishment

Total benefit - 1017 net acres

Region 4 (Calcasieu/Sabine and Mermentau hydrologic basins)

- Cameron Meadows Marsh Creation and Terracing
- South Grand Chenier Marsh Creation – Baker Tract
- No Name Bayou Marsh Creation and Nourishment

Total benefit - 1154 net acres

The Louisiana coast is separated into four ecologic regions that cover nine hydrologic basins. Projects that were authorized to begin Phase 1—Engineering and Design during this reporting period (2013–2015) are highlighted above. From 2013 to 2015, the Task Force authorized two projects in Region 1, four projects in Region 2, three in Region 3, and three in

Region 4. A map illustrating Louisiana's coastal regions with CWPPRA projects from 1990 to 2015 (PPL 1–24) can be found at http://lacoast.gov/maps/allregions_ppl1-24_2015-03_lowres_web.pdf.

Although projects are authorized and constructed individually, the ones that work synergistically are often given greater consideration for selection. For example, CWPPRA barrier island restoration projects are collectively rebuilding Louisiana's first line of defense that can extend ecosystem benefits beyond the sum of their individual projects. This type of synergy is also seen within the Barataria Basin, where constructed projects are working together to restore the structural integrity of the Barataria Basin Landbridge, a critical platform that is undergoing high land loss rates. These projects are demonstrating how small- to mid-scale projects are working collectively to generate large-scale results.

After the historic Hurricanes Katrina and Rita in 2005, other restoration programs were developed. Although coastal land loss and hurricane threats continue, some future restoration will be provided by DWH funding. Contingent upon continued authorization and appropriation, the CWPPRA Task Force will continue to fulfill its role by implementing a science- and engineering-based program that extensively engages the public and serves as the Nation's model for effective and efficient coastal restoration.

1. CWPPRA will continue to design and construct coastal restoration projects in coordination with other Louisiana coastal restoration programs guided by public input.
2. CWPPRA will continue to be an "incubator" of projects for other programs to construct, if CWPPRA lacks construction funding.
3. The CWPPRA Task Force stands ready to increase its coastal restoration effort to reestablishing a sustainable coastal Louisiana ecosystem with additional funding.

4. CWPPRA will continue designing and constructing demonstration restoration projects to test innovative ideas and construction techniques to be used in larger projects.
5. CWPPRA will continue to provide the appropriate level of project monitoring. The CRMS and project-specific monitoring programs increase the body of scientific data to evaluate the effectiveness of constructed projects and inform how we plan and design future restoration projects.

Introduction

The traditional image of Louisiana's wetlands depicts a grassy expanse of vegetation with shrimp boats and sea birds dotting the horizon. Louisiana's coastal zone contains approximately 37 percent of all coastal marshes and 45 percent of all intertidal coastal marshes in the lower 48 States, but annually Louisiana is losing 80 percent of the entire Nation's coastal wetlands. Since the 1930s, coastal Louisiana has lost more than 1,883 square miles (1.2 million acres), an area more than 25 times larger than Washington, D.C. Couvillion and others (2011) estimated the average annual Louisiana coastal land loss rate from 1985 to 2010 to be approximately 16.6 square miles. Louisiana's coastal wetlands are rapidly converting to open water.

Congress recognized the ongoing severe coastal wetland losses in Louisiana and the increasing impacts on locally, regionally, and nationally important resources when it established the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) in 1990 (Public Law 101–646, Title III). Since its inception, CWPPRA has protected and restored almost 90,000 acres (138 square miles) of Louisiana's coastal wetlands in its first 25 years (1990 to 2015).

Over the last three decades, it has been clearly established that there is an imminent need to restore and protect Louisiana's coastal wetlands in order to sustain the ecological and

economic health of the Louisiana coastal zone. Louisiana's wetlands provide a variety of benefits that serve the Nation across an array of economic sectors. Because of these benefits, the coastal wetland loss crisis in Louisiana is considered a matter of national concern.

The Gulf of Mexico is a natural resource of vital importance that provides immeasurable benefits and services to citizens throughout the United States. The Gulf Coast has been and continues to be subject to a number of ongoing environmental challenges that have attracted significant attention from State and Federal natural resource managers and conservation interests (Gulf Coast Ecosystem Restoration Task Force, 2010). These challenges were further compounded in 2010 by the Deepwater Horizon (DWH) oil spill, which released more than 4.9 million barrels (270 million gallons) of oil into the gulf, affecting thousands of miles of shoreline, bayous, and bays (NOAA, 2015; Achenbach and Fahrenthold, 2010). Coastal Louisiana received the majority of the ecological impacts from that spill. Efforts to assess natural resource injuries resulting from the spill are ongoing and will continue until the full extent of damages is determined, restoration plans are designed and implemented, and the environment and public are made whole for injuries to natural resources and services resulting from the DWH oil spill. Even when the impacts of the oil spill are addressed, the work to save these vital coastal wetlands will not end. Ongoing issues include the following:

- The loss of coastal wetlands, barrier islands, and other habitats of the Mississippi River Delta and Chenier Plain—This loss is due to a combination of both naturally occurring and human induced factors including storms (annual and tropical), subsidence (land sinking), construction of navigation and oil and gas channels, and leveeing the Mississippi River for flood protection. Climate change (particularly sea-level rise) threatens to accelerate the loss of these habitats.

- Erosion of barrier islands and barrier shorelines—The continued erosion of the coastal barrier island and barrier shorelines system undermines storm protection for coastal communities, threatens the beaches that support the local tourism economy, and affects numerous threatened, endangered, and rare species that rely on these barrier islands for habitat.
- Loss and degradation of estuarine habitat—Estuaries of Louisiana's coast (such as Breton Sound, Barataria Bay, and many others) provide nursery habitat for most of the fishery resources and support a nationally important oyster industry. These estuaries are impacted by a variety of stressors, including pollution, coastal development, energy development, erosion, water flow (hydrologic) alteration, and reductions in freshwater inflow.
- Imperiled fisheries—Several major commercially and recreationally important fish species are currently experiencing overfishing pressures or have been overfished. Additionally, contaminants such as methyl-mercury in fish, red tide organisms, and human pathogens in shellfish reduce fishery values and endanger human health.
- Hypoxia (low oxygen) in the Gulf of Mexico—Hypoxia occurs when the dissolved oxygen concentration in the water column decreases to a level that results in the death of fish and shellfish and or in their migration away from the hypoxic zone. The northern Gulf of Mexico adjacent to the Mississippi River is the site of the largest hypoxic zone in the United States (8.5 million acres) and the second largest hypoxic zone worldwide. This Gulf of Mexico "Dead Zone" is caused by input of excess nutrient pollution to the gulf from the Mississippi River. Freshwater and sediment diversions from the Mississippi and Atchafalaya Rivers may help reduce the hypoxic zone off Louisiana's coast by

channeling nutrient-rich waters into coastal wetlands, where the nutrients will be used by marsh and aquatic vegetation.

- Climate change—Our changing climate is already altering the physical, chemical, and biological characteristics of our oceans, coasts, and adjacent watersheds. Increasing air and water temperatures, changing precipitation patterns, rising sea level, and ocean acidification will increasingly complicate efforts to restore or sustain the Louisiana coastal ecosystem. Plausible sea-level rise may be between 0.78 and 4.2 feet (0.24 to 1.28 meters) in the next 100 years (CPRA, 2012).
- Vulnerability of communities—Loss of coastal habitats may also increase the vulnerability of communities that lie farther inland from flooding caused by storm surges and heavy rain. Barrier islands and coastal wetlands have the potential to reduce storm surge, but this reduction is dependent on landscape and storm characteristics (Suhayda, 1977; Wamsley and others, 2009). Without these coastal habitats, coastal communities are increasingly vulnerable to storms. This vulnerability will likely intensify in coming years, as storm events are predicted to become more frequent and intense.

As part of CWPPRA, Congress established and directed the Louisiana Coastal Wetlands Conservation and Restoration Task Force (Task Force) to prepare, annually update, and implement a list of coastal wetland restoration projects in Louisiana to provide for the long-term conservation of wetlands and dependent fish and wildlife populations. In addition, Congress directed the Task Force to provide a scientific evaluation every 3 years on the effectiveness of the projects as required by Section 303 (b) (7) of CWPPRA. The purpose of this report is to meet this requirement. The following sections summarize projects selected for implementation since

2013 and demonstrate the effectiveness and the relevancy of CWPPRA to address land loss in Louisiana's coastal wetlands.

CWPPRA Overview

CWPPRA was initially authorized by Congress in 1990. Three additional authorizations have extended the program until the year 2019. This act provides approximately 70 to 90 million in Federal dollars per year to restore coastal wetlands. Fiscal year 2015 funding decreased 7.3 percent because of sequestration. The fiscal year 2015 funding amount was $78.6 million. Total Federal funding since 1990 has been $1.6 billion.

The Sport Fish Restoration and Boating Safety Trust Fund (Trust Fund) is CWPPRA's funding source supported by excise taxes on fishing equipment and small engine and motorboat fuel taxes. Funding for Louisiana CWPPRA projects is cost shared: a split of 85 percent Federal and 15 percent State of Louisiana. Congress is currently considering Trust Fund reauthorization. The Trust Fund contributes 18.5 percent of its annual revenues to CWPPRA appropriations; that amount is divided as follows:

- 70 percent Louisiana CWPPRA program
- 15 percent Coastal Wetlands Conservation Grants
- 15 percent North American Wetlands Conservation Act (to coastal States only)

Five Federal agencies work with the State of Louisiana in planning and implementing CWPPRA restoration projects. The Federal agencies are Department of the Army—Army Corps of Engineers (USACE), Department of Interior—U.S. Fish and Wildlife Service (USFWS), Department of Agriculture—Natural Resources Conservation Services (NRCS), Department of

Commerce—National Oceanic and Atmospheric Administration—National Marine Fisheries Service (NOAA-NMFS), and the U.S. Environmental Protection Agency (EPA)—Region 6.

CWPPRA annually identifies and selects projects for engineering and design through the Priority Project List (PPL) process. Project concepts are developed by Federal, State, and local government representatives and public stakeholders. All proposed projects have a designated Federal and local sponsor (Louisiana Coastal Protection and Restoration Authority [CPRA]). After initial planning meetings, the five Federal agencies, the State, and local parishes select the top 22 projects for preliminary evaluation; the CWPPRA Technical Committee (the committee that advises the Task Force) then selects 10 projects for more detailed evaluation. After this review, the Task Force typically approves four projects for detailed Phase 1—Engineering and Design.

Upon completion of Phase 1—Engineering and Design, projects are selected for Phase 2—Construction funding by the Task Force; the number of projects recommended to be funded for Phase 2—Construction is based upon the annual availability of construction funds.

CWPPRA as a Project Incubator for Other Restoration Programs

To capitalize on alternative funding streams, some projects conceptualized and designed by the CWPPRA program may be transferred to other restoration programs if CWPPRA lacks sufficient funding for construction. Examples of projects designed by CWPPRA that have been transferred to other programs include the Grand Lake Shoreline Protection (ME-21) project (transferred to the Coastal Impact Assistance Program [CIAP]) and the Chenier Ronquille Barrier Island Restoration (BA-76) project (transferred to Phase III of the DWH Early Restoration Plan).

Grand Lake Shoreline Protection (ME-21) Project

CWPPRA designed the Grand Lake Shoreline Protection (ME-21) project (fig. 1), but funds were not immediately available for construction. The project consists of a 38,700-linear-foot segmented rock breakwater along the southern Grand Lake shoreline and a 5,700-foot breakwater at Tebo Point, La. CWPPRA transferred the 38,700-foot rock dike segment feature to the State, which constructed that portion with CIAP program funds. CWPPRA will construct the remaining 5,700-foot rock dike at Tebo Point and maintain the entire project. Dredged material from access canal dredging was placed between the rock and shoreline restoring marsh. Shoreline loss (11 to 32 feet per year) would be prevented, and marsh would be restored to benefit 495 acres of fresh and intermediate marsh.

Figure 1. Grand Lake Shoreline Protection (ME-21) project features.

Chenier Ronquille Barrier Island Restoration (BA-76) Project

CWPPRA transferred the fully designed Chenier Ronquille Barrier Island Restoration (BA-76) project (fig. 2) to Phase III of the DWH Early Restoration Plan in 2015 as a "shovel-ready" project ideally situated to address injuries caused by the DWH spill. This project could restore and revegetate approximately 127 acres of beach/dune fill and approximately 259 acres of marsh creation/nourishment (total 386 acres).

Figure 2. Chenier Ronquille Barrier Island Restoration (BA-76) project features.

CWPPRA Project Expansions and Partnerships

Projects constructed under CWPPRA may be expanded through the use of CWPPRA or other funding sources. These efforts result in expanded benefits and reduced costs to all parties by utilizing already in-place project infrastructure. Examples of expanded CWPPRA projects

include Lake Hermitage Marsh Creation (BA-42) project (expanded by Phase I of the DWH Early Restoration Program and by surplus project funds). The Bayou Dupont Marsh and Ridge Creation (BA-48) project is being constructed ***in partnership*** with Louisiana's Long Distance Sediment Pipeline Project.

In general, projects are authorized and constructed individually, but they often work synergistically with one another. For example, the barrier island projects are collectively rebuilding Louisiana's first line of defense that can extend ecosystem benefits beyond the sum of their individual projects. This type of synergy is also seen within the Barataria Basin, where constructed projects work together to restore the structural integrity of the critical Barataria Basin Landbridge landform (which is undergoing high land loss), as well as protect strategic marshes south of New Orleans (fig. 3). These projects are demonstrating how small- to mid-scale projects are working collectively to generate large-scale results.

Figure 3. Barataria Basin Landbridge projects work synergistically to restore a larger area.

How CWPPRA Fits Into the Current Coastal Louisiana Restoration Landscape

Louisiana's coastal restoration landscape is very different from that in 2006. After the historic Hurricanes Katrina and Rita in 2005, other restoration programs such as the CIAP, Louisiana Coastal Area (LCA), and Louisiana Coastal Protection and Restoration (LaCPR) programs were being developed and implemented (fig. 4). Although, these programs have either ended, had programmatic challenges that prevented them from being fully developed, or lacked sufficient funding to continue significant restoration efforts; nevertheless, CWPPRA has remained a consistent and indispensable source of restoration funding.

DWH coastal restoration funding programs include DWH Natural Resource Damage Assessment (NRDA), National Fish and Wildlife Foundation (NFWF) Gulf Environmental Benefit Fund, and the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act (RESTORE Act).

Other current non-CWPPRA coastal restoration programs in Louisiana include the Gulf of Mexico Energy Security Act (GOMESA) of 2006, the CIAP, and State-only restoration. The comprehensive LaCPR program was superseded by the joint Federal-State LCA program. Currently, the LCA program consists of 15 near-term projects, 3 programs, and 1 long-term study. Since other Louisiana coastal restoration programs exist, the Task Force approved the following CWPPRA roles in working with those programs for the protection and restoration of Louisiana's coast.

1. As the only joint Federal-State restoration program with a regular recurring funding stream, CWPPRA will continue to design and construct coastal restoration projects in coordination with other Louisiana coastal restoration programs. CWPPRA will examine the near-term plans of other programs and channel projects to areas of need, consistent with the current State Master Plan (CPRA, 2012).
2. CWPPRA will continue to be an "incubator" of projects to be transferred to other coastal restoration programs for construction. Some CWPPRA projects have been transferred to other programs, and some of the 22 projects currently in Phase 1—Engineering and Design are candidates for future transfer if not constructed by CWPPRA.
3. The Task Force stands ready and has a vision to increase its coastal restoration contribution to reestablishing a sustainable coastal Louisiana ecosystem with increased funding resources. CWPPRA has 25 years of restoration experience in designing and

constructing more than 100 coastal restoration projects approved by a multiagency Task Force.

4. CWPPRA will continue to evaluate innovative technologies and techniques and test their applicability in coastal Louisiana by designing and constructing demonstration restoration projects.
5. CWPPRA will continue to provide the appropriate level of project monitoring. The Coastwide Reference Monitoring System (CRMS) and project-specific monitoring programs increase the body of scientific data, allow us to evaluate constructed projects, and inform how we plan and design future restoration projects.

Figure 4. Louisiana coastal restoration program projects.

Current CWPPRA Program Developments

Louisiana State 2012 Coastal Protection and Restoration Master Plan

The 2012 Louisiana Comprehensive Master Plan for a Sustainable Coast (Master Plan) (CPRA, 2012) was unanimously approved by the State Legislature on May 22, 2012. The Master Plan charts Louisiana's coastal restoration and protection course for the next 50 years. The Master Plan includes many large Mississippi River sediment diversions (up to 250,000 cubic feet per second) and large marsh creation projects (over 20,000 acres each). The Master Plan was developed in coordination with a Master Plan Framework Development Team (FDT) that consisted of Federal, State, and local agencies, stakeholders, and nongovernmental organization (NGO) representatives. The Task Force, at its June 5, 2012, meeting, modified the PPL process by requiring that future CWPPRA projects nominated be consistent with the Master Plan. The

State and FDT are currently developing the 2017 Louisiana Comprehensive Master Plan, which will be completed in spring 2017.

CWPPRA Projects Reaching Their 20-Year Life

Current CWPPRA standard operating procedures provide for a 20-year life for all projects, after which time the project would be closed and all funding would end. This was decided because it was recognized that the amount of funding received would not allow the program to maintain projects indefinitely. Two of the 101 constructed projects will reach their 20-year lives in 2015, one in 2016, and six in 2017. The Task Force is currently reviewing projects nearing their 20-year lives to provide recommendations for closeout or continuance. The four possible future path scenarios established by the Task Force for projects reaching their 20-year lives are: (1) close out, (2) close out and remove features, (3) transfer the project to another entity, or (4) extend the project life with or without operations and maintenance.

Sport Fish Restoration and Boating Safety Trust Fund

The Louisiana CWPPRA program currently receives approximately 13 percent (70 percent of 18.5 percent) of annual revenues from the Trust Fund, currently $78.6 million (fiscal year 2015). The remaining 30 percent of CWPPRA appropriations is divided evenly between the Fish and Wildlife Service Coastal Wetlands Conservation Grant Program and the North American Wetlands Conservation Act (NAWCA). The Trust Fund was part of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) that was enacted August 10, 2005, which authorized Federal surface transportation and other programs for the 5-year period of 2005 to 2009 that has been continued by Congress to 2015.

Coastal Wetlands Planning, Protection and Restoration Act Reauthorization

CWPPRA is currently authorized until 2019. It was reauthorized in 2004 from 2009 to 2019 through amendment to the Dingell-Johnson Sport Fish Restoration Act (16 U.S.C. 777c[a]). Reauthorization will be necessary to continue the program beyond 2019.

RESTORE Act

In July 2012, in response to the DWH oil spill and other environmental challenges in the Gulf Coast region, Congress passed the RESTORE Act, which (1) establishes the Gulf Coast Restoration Trust Fund (Gulf Coast Trust Fund), (2) outlines a Gulf Coast Trust Fund use structure, and (3) establishes the Gulf Coast Ecosystem Restoration Council (Council). Figure 5 depicts the Gulf Coast Trust Fund's funding allocations (Gulf Coast Ecosystem Restoration Council, 2014).

Figure 5. Allocation of Gulf Coast Restoration Trust Fund. (Source: http://www.restorethegulf.gov/sites/default/files/About%20the%20Council%20Fact%20Sheet%20Oct%202014_1.pdf)

CWPPRA's Benefits to Fish and Wildlife

CWPPRA has protected and restored approximately 88,400 acres of Louisiana's vanishing coastal wetlands in its first 25 years. Those restored swamps, marshes, and barrier islands/headlands and associated open-water habitats provide foraging, nesting, breeding, wintering, escape cover, and nursery habitat for a myriad of coastal fish and wildlife, including threatened and endangered, at-risk, and rare species, as well as commercially and recreationally valuable species and State and national fish and wildlife trust resources.

Louisiana's coastal wetlands provide habitat for hundreds of species of birds, mammals, and reptiles and a variety of freshwater and estuarine-dependent fish and shellfish. Habitats restored through CWPPRA have aided in the delisting of our national symbol, the bald eagle, and the Louisiana State bird, the brown pelican, from the endangered species list. These coastal wetlands contain some of the most biologically diverse wildlife habitats in the Nation. Located at the termini of the Mississippi and Central Flyways, south Louisiana provides annual wintering habitat for more than 5 million waterfowl and habitat for Neotropical migrant birds. Table 1 lists some of the threatened and endangered and at-risk/rare species found in the Louisiana's coastal zone.

Table 1. Threatened, endangered, and rare species of the Louisiana coastal zone.

Louisiana's protected and restored coastal wetlands also provide habitat that benefits dabbling and diving ducks, geese, other migratory and resident birds, and mammals, reptiles, and amphibians (table 2).

Table 2. Louisiana waterfowl, other migratory and resident birds, mammals, reptiles, and amphibians benefitted by CWPPRA projects.

Most of the economically important saltwater fishes and crustaceans harvested in Louisiana spawn offshore, and then the larvae and juveniles forage in highly productive estuarine areas in or adjacent to restored marshes that provide nursery habitat by accessing the estuaries during incoming tides. Those estuarine-dependent smaller and juvenile fisheries species (e.g., red drum, spotted sea trout, and Atlantic croaker) contribute to the estuarine food web by serving as prey for predators and highly migratory species (e.g., billfishes and sharks) (table 3).

Table 3. Commercially and recreationally important fisheries species benefited by CWPPRA projects.

Louisiana's coastal wetlands provide habitat for the commercial trapping of the American alligator and furbearers (e.g., muskrat, mink, and otter) and natural areas for tourist activities such as bird watching, boating, swimming, and hiking.

Louisiana Coastal Restoration Techniques

The techniques used in various projects depend on the problems being addressed and other site-specific factors, including project area landscape, substrate, wave climate, habitat type, and proximity to sediment and freshwater resources, major waterways, and open water. Most projects employ one or more of the following restoration techniques:

Barrier Island Restoration

Barrier island restoration projects are designed to protect and restore the features unique to Louisiana's barrier island chains. This type of project may incorporate a variety of restoration techniques, such as the placement of dredged material to increase island height and width, the placement of structures to protect the island from erosive forces, and the placement of sand-trapping fences, used in conjunction with vegetative plantings to build and stabilize sand dunes.

Marsh Creation

Marsh creation uses dredged material from dedicated dredging (via hydraulic dredge) from bays, rivers, or the gulf to restore or nourish existing marsh. The dredged material slurry is placed in a deteriorated wetland at specific elevations so that desired marsh plants will colonize and grow to form new marsh. For projects that are long distances from available sediment sources, the dredging technique involves the use of booster pumps to transport sediment greater distances. The technique also includes "marsh nourishment," in which dredged material is placed

over existing deteriorated marsh. The technique referred to as "beneficial use of dredged material" uses maintenance-dredged material from navigation channels "beneficially" to restore wetlands.

Freshwater and Sediment Diversions

Freshwater diversions use water control structures, gates, or siphons to regulate the flow of water. Freshwater is channeled from a nearby river or water body into surrounding wetlands. This infusion of water and its associated sediment and nutrients helps slow saltwater intrusion, slows or reverses the loss of marsh, and promotes the growth of new marsh. For sediment diversions, a gap (called a "crevasse") is cut into a river levee, allowing river water and sediment to flow into nearby wetlands to mimic the river's natural wetland-building processes. Sediment diversions promote the creation of new marsh in shallow open-water areas.

Shoreline Protection

Shoreline protection projects involve various techniques designed to decrease or halt shoreline erosion. Some techniques, such as foreshore rock dikes or revetments, are applied adjacent to or directly on the eroding shoreline. Other techniques, such as segmented rock breakwaters and wave-damping fences, are placed in the adjacent open water in order to decrease wave energy before it hits the shoreline and to promote the buildup of sediment.

Hydrologic Restoration

Hydrologic restoration projects involve restoring natural drainage patterns in an attempt to address problems associated with artificially altered salinity or water levels. On a larger scale, this technique may involve locks or gates on major navigation channels; on a smaller scale, it

may involve blocking canals, cutting gaps in spoil banks that were created by canal dredging, or installing water control structures to control water levels and salinities. Other hydrologic restoration techniques maximize the benefits of freshwater diversions to ensure that water and sediment reach needed areas. These techniques can involve regulating water levels and direction of water flow to increase the dispersion and retention time of freshwater, nutrients, and sediment in the marsh.

Sediment and Nutrient Trapping

Sediment and nutrient trapping projects create new land and protect nearby marshes by means of structures that are designed to slow water flow and promote the buildup of sediment. For example, shallow bay terraces involve dredging sediment from a shallow bay and constructing low ridges in patterns with gaps in shallow open-water areas to slow water flow and help trap sediment to rebuild and protect marsh.

Vegetative Planting

Vegetative planting projects are used both alone and in conjunction with barrier island restoration, marsh creation, shoreline protection, and sediment and nutrient trapping restoration techniques. This technique involves the use of flood- and salt-tolerant native marsh plants that will hold sediments together and stabilize the soil with their roots as they become established in a new area.

CWPPRA Project Selection Process

On average, a CWPPRA project can go from concept to construction in 3 to 5 years. This ability is a result of the congressional authority delegated to the Task Force to both authorize and

fund restoration projects without having to seek additional authorization, which would delay project construction for many years. As a result, the project selection process quickly selects projects that have the highest construction feasibility and public support, thereby streamlining project implementation. The interagency CWPPRA model enables multiple agencies to distribute the project load, leading to faster and more efficient construction.

Given CWPPRA's limited funding, the project selection process also generates more construction-ready projects than the program can afford to build. The Task Force adopted the Cash Flow funding program in 1998 that involves a two-step funding process: Phase 1—Engineering and Design and Phase 2—Construction. Projects must thus compete for funding twice. There are currently 22 projects in Phase 1—Engineering and Design. Although Congress, in 2004, reauthorized CWPPRA through 2019, the program will reach its capacity to authorize new projects within the next few years without reauthorization. This lack of capacity is due to the current commitment of future funding needed to construct existing authorized projects and to fund operations, maintenance, and monitoring for most constructed projects. The backlog of construction-ready CWPPRA projects has provided opportunities to transfer some projects to other funding authorities for rapid implementation. The synergy thus created between authorities stretches restoration dollars, reduces redundancy, and implements projects faster since CWPPRA has already designed, prioritized, and publicly vetted all of its projects. CWPPRA, therefore, becomes an "incubator" for some projects transferred to other programs.

Significant ecologic, economic, and political changes have occurred in south Louisiana since Hurricanes Katrina and Rita (2005) and Gustav and Ike (2008), the DWH oil spill (2010), and more recently Hurricane Isaac (2012). Despite those changes, CWPPRA has continued to stay the course and effectively serve as the largest coastal wetlands restoration program in the

State's history in terms of total projects constructed and environmental benefits accomplished. The present-day relevance of CWPPRA lies in its unique ability to construct near-term, small- to mid-scale projects that meet local immediate restoration needs and its ability to work seamlessly with other authorities to implement ecosystem-level restoration. Projects constructed through CWPPRA either complement projects being planned through other authorities or address land loss in critical areas that have no other resources for restoration.

CWPPRA Project Planning and Implementation

In 1990, the U.S. Congress enacted CWPPRA in response to the growing awareness of Louisiana's land loss crisis. CWPPRA was the first Federal, statutorily mandated program with a stable source of funds dedicated exclusively to the short- and long-term restoration of the coastal wetlands of Louisiana. Between 1990 and 2015, 121 restoration projects have been constructed or are under construction in the CWPPRA program. Additionally, there are 22 projects currently undergoing engineering and design (Phase 1). These projects include diversions of freshwater and sediment to improve marsh vegetation; dredged material placement for marsh and ridge restoration; shoreline protection; sediment and nutrient trapping; hydrologic restoration through outfall, marsh, and delta management; and vegetative plantings.

The Task Force authorizes projects by using a systematic approach that starts with an annual planning cycle to select new projects. All projects undergo detailed engineering and design before they get final approval to proceed to construction and long-term operations, maintenance, and monitoring.

The Task Force authorized 12 new projects between 2013 (PPL 22) and 2015 (PPL 24) for Phase 1—Engineering and Design, which if constructed could result in an estimated net benefit of approximately 3,813 acres of wetlands (table 4).

Table 4. CWPPRA projects authorized from 2013 to 2015 (PPL 22–PPL 24) for Phase 1—Engineering and Design.

In this 2013–2015 period, the Task Force also authorized five projects for Phase 2—Construction that are expected to result in an estimated net benefit of approximately 2,309 acres of wetlands (table 5). These five authorized construction projects are all marsh creation projects, one with a hydrologic restoration feature.

Table 5. CWPPRA projects authorized from 2013 to 2015 (PPL 22–PPL 24) for Phase 2—Construction.

During project planning, projects are placed in one of the four ecologic regions or in a coastwide category if the project affects multiple ecoregions. These ecoregions are Region 1 (Pontchartrain Basin), Region 2 (Breton Sound, Mississippi River, and Barataria Basins), Region 3 (Terrebonne, Atchafalaya and Teche/Vermilion Basins), and Region 4 (Mermentau and Calcasieu-Sabine Basins). Tables 4 and 5 exhibit all 17 projects (12 in Phase 1 and 5 in Phase 2) authorized during this 2013–2015 reporting period. A map that illustrates these coastal regions with PPL 1–24 projects can be found at http://lacoast.gov/maps/allregions_ppl1-24_2015-03_lowres_web.pdf.

Examples of Recently Constructed Significant and Strategic Projects

The following three projects represent examples of significant and strategic marsh restoration through CWPPRA.

Lake Hermitage Marsh Creation (BA-42) Project

URL: http://lacoast.gov/reports/gpfs/BA-42.pdf

Restoration Strategy: The original project goal was to restore 549 acres, but additional CWPPRA funding allowed the Lake Hermitage project to construct the West Pointe a la Hache Marsh Creation (BA-47) project—an additional 246 acres for a total of 795 acres to be restored through the CWPPRA program. An additional 104 acres was created by DWH Early Restoration Natural Resource Damage Assessment (NRDA) program funding, and another 111 acres of marsh creation was constructed by State-only funds, bringing the total area restored to 1,007 acres (fig. 6). The marsh creation and 6,300-linear-feet of Lake Hermitage shoreline restoration were accomplished by using material dredged from a Mississippi River borrow area. The project is a good example of a multiprogram partnership among CWPPRA, DWH NRDA, and the State of Louisiana.

Figure 6. Lake Hermitage Marsh Creation (BA-42) project map.

Sabine Refuge Marsh Creation Cycles 4 and 5 (CS-28-4-5) Project

URL: http://lacoast.gov/reports/gpfs/CS-28-4-5.pdf

Restoration Strategy: The revised project (fig. 7) restored an estimated 1,000 acres of brackish marsh on Sabine National Wildlife Refuge north of Brown Lake and in Unit 1A south of Hackberry, La. The original project goal was to restore approximately 462 acres of marsh in Cycles 4 and 5 (north of Brown Lake) through the beneficial use of dredged material from USACE Calcasieu Ship Channel maintenance dredging. An additional 412 acres of marsh creation was constructed in Sabine National Wildlife Refuge Unit 1A with funds from the Port of Lake Charles and surplus CWPPRA project funds, restoring a total of 874 acres. Another 200 or

more acres of marsh are expected to develop on project-constructed mud flats that have formed adjacent to the marsh creation cells by sediment flowing over retention dikes, resulting in more than 1,000 acres restored. Sediment from the ship channel was hydraulically pumped to the project site through the CWPPRA-funded permanent pipeline south of Hackberry to construct the marsh features in four cells.

Figure 7. Sabine Refuge Marsh Creation (CS-28) cycles 1 through 5 project map. Note cycles 4 and 5 (CS-28-4-5).

West Belle Pass Barrier Headland Restoration (TE-52) Project

URL: http://lacoast.gov/reports/gpfs/TE-52.pdf

Restoration Strategy: The project restored an estimated 183 acres of beach and dune and another 227 acres of back barrier marsh (total 410 acres) with dredged material from the Gulf of Mexico (fig. 8). The headland was undergoing shoreline erosion rates of more than 100 feet per year. This project helped reestablish the West Belle Pass headland by rebuilding a large portion of the beach, dune, and back barrier marsh. Approximately 10,000 feet of beach and dune was restored by using 2.8 million cubic yards of dredged sand, and 227 acres of marsh habitat was rebuilt by using 1.4 million cubic yards of dredged material. This project protects both West Belle Pass and Port Fourchon from erosion. Port Fourchon is an important oil and gas port for servicing Gulf of Mexico exploration and production rigs and platforms.

Figure 8. West Belle Pass Barrier Headland Restoration (TE-52) project map.

Evaluating the CWPPRA Program with Monitoring Data

CWPPRA legislation contained two monitoring mandates: to evaluate the effectiveness of individual restoration projects and to evaluate the effectiveness of the restoration program.

From 1990 to 2003, CWPPRA projects and nearby reference areas were monitored to assess project effects versus reference conditions. Although this approach worked well initially, finding appropriate paired project and reference sites became increasingly difficult. Additionally, the introduction of large-scale restoration efforts reemphasized the need for a coastwide monitoring approach**.** The current CWPPRA monitoring program consists of project-specific and coastwide monitoring.

Coastwide Reference Monitoring System (CRMS)

In 2003, CPRA and the U.S. Geological Survey (USGS) received approval from the CWPPRA Task Force to implement CRMS as a mechanism to monitor and evaluate the effectiveness of CWPPRA efforts at the project, basin, regional, and coastwide scales. The CRMS network is currently funded through CWPPRA with additional funding provided by the State of Louisiana in excess of their standard 15% matching funds required by law. CRMS provides data for a variety of user groups, including resource managers, academics, landowners, and decision makers. Project-specific monitoring is continued outside of CRMS at a smaller, project-level scale.

Approach and Design of CRMS

The CRMS approach gathers information from a suite of 391 sites that encompass a range of ecological conditions throughout the coastal area. Resource managers can compare the trajectories of changing conditions within both CRMS reference sites and CWPPRA project sites to better understand the performance of their projects and response to disturbance. The CRMS design not only allows for monitoring and evaluating project-specific effectiveness but also

supports large-scale evaluation of the cumulative effects of all CWPPRA projects throughout the coastal ecosystems of Louisiana.

Peer-reviewed standard operating procedures for data collection and data quality assurance guarantee consistency of CRMS data across habitat types. The CRMS network monitors all coastal habitats except barrier islands, which are monitored on a project-specific basis. CRMS monitoring parameters include salinity, water level, emergent and forested vegetation, surface elevation and vertical accretion, soil characteristics, and land-to-water ratios. Data collection intervals range from hourly for hydrologic data to every 3 years for landscape assessments of land-to-water ratios. Site construction and data collection began in 2005, with the entire network operational by 2007. The active CRMS sites generate large amounts of data which, in turn, are used by the CRMS program to develop assessment tools and products for project evaluation and development, model improvement, scientific research, and adaptive management.

The CRMS Web Site

To efficiently deliver the large number and diverse sets of data-driven products developed by the CRMS program, a Web site (http://lacoast.gov/crms) was designed as the "one-stop shop" for CRMS informational products, assessment tools, and data. Through a data-sharing partnership with the CPRA, all raw ecological data are available for download from the official CPRA online database, the Coastal Information Management System (CIMS) (http://cims.coastal.louisiana.gov), and may be categorized by project name, CRMS site, or station number.

The CRMS Web site mapping interface allows the user to visualize changes in the Louisiana coastal zone from the small CRMS site scale, to the larger CWPPRA project scale,

basin, and regional scales. This user-friendly interface allows for easy viewing of information including photographs and data summaries, along with the ability to download data or request graphics for each data type collected, and includes a report card.

The CRMS report card uses data-derived ecological indices to determine the direction of change in the landscape, both positive and negative, for CRMS sites compared to other sites within the same marsh type (from fresh to salt marsh). Four primary indices are used in the report cards: hydrologic (water level and salinity), floristic quality (vegetation), submergence vulnerability (elevation change), and landscape (land loss). The CRMS report card features allow CWPPRA project managers to determine if specific projects are meeting their goals and how they respond to environmental and man-made disturbance. Given the substantial monetary investments in restoration and protection by the CWPPRA program, CRMS provides a robust monitoring system that enables multiple scale evaluations for a variety of user groups.

Evaluation Summaries of Selected CWPPRA Projects

To ascertain the science behind the CRMS monitoring data and the overall effectiveness of the restoration program, scientific evaluations of the following six CWPPRA projects (table 6) were chosen to be presented in this report.

Table 6. Selected CWPPRA projects highlighted in this report.

East Mud Lake Marsh Management (CS-20) Project (CWPPRA PPL 2)

Project Description and Goals

The East Mud Lake Marsh Management (CS-20) project, completed in June 1996, is designed to reduce fluctuations in salinity and water level while providing adequate water flow

from adjacent marshes to create a water regime conducive to the establishment and persistence of marsh vegetation in a 7,207-acre project area north of Holly Beach, La. The Calcasieu Ship Channel allows large volumes of high-salinity water to infiltrate marshes in the Calcasieu/Sabine Basin. The combination of increased salinity and high water-level fluctuations in the project area stressed the vegetation and led to interior marsh ponding and loss of sediment. The NRCS and CPRA are the Federal and State sponsors for this project, respectively. Project features included 18 water-control structures and repairs to 40,600 feet of levee and 5,000 linear feet of Mud Lake shoreline. Two conservation treatment units (CTUs) were established. CTU 1 contains Mud Lake and is managed passively; CTU 2 is a large marsh area, northeast of Mud Lake, actively managed to encourage shallow open-water areas to convert to emergent vegetation (fig. 9). Managed drawdowns of water levels were conducted in CTU 2 for the first 2 years of the project life to promote vegetation expansion in open water areas of broken marsh and along shorelines (fig. 10). The goal of the project is to reduce wetland degradation by stabilizing hydrologic conditions to reduce vegetative stress caused by increased salinities and water levels. The objectives are to increase vegetative growth along shorelines and shallow open-water areas to decrease the rate of marsh loss, reduce water level and salinity fluctuations to within acceptable target ranges for the establishment of brackish vegetation, increase soil accretion in CTU 2, and maintain fisheries abundance.

Figure 9. Map of the East Mud Lake Marsh Management (CS-20) project, completed in June 1996.

Figure 10. Structure No. 5 in the northwest corner of CTU 2 provides managed hydrologic connectivity between the East Mud Lake Marsh Management (CS-20) project area and Calcasieu Lake (background), which is connected to the higher salinities and water-level fluctuations of the Gulf of Mexico via the

Calcasieu Ship Channel. This view is looking at the interior “marsh side” stop log header that controls water levels within the managed area.

Figure 11. Land-water change analysis for East Mud Lake Marsh Management (CS-20) project from 1994 to 2000. Note marsh gains (green) within broken marsh and along larger ponds in CTU 2. The large swath of marsh loss (red) in CTU 1 was caused by a marsh fire that mostly recovered by 2006.

Figure 12. Photograph depicting healthy marshhay cordgrass marsh and a CRMS vegetative sampling site in the East Mud Lake Marsh Management (CS-20) project area.

Project Assessment

The East Mud Lake (CS-20) project has been effective at decreasing the rate of marsh loss. Land loss rates decreased substantially after construction in CTU 2, decreasing from having the highest rate of land loss (-1.0 % per year) among project and reference areas to being the only area to gain land through 10 years after construction (+0.2% per year), which included marsh loss from Hurricane Rita in 2005. The CS-20 project has been effective at increasing emergent vegetation in shallow open-water areas in CTU 2 (fig. 11). Dominant plant species composition changed over time to more salt-tolerant plants, especially in the project areas, from the brackish marshhay cordgrass (fig. 12) and three-corner bulrush to the more saline seashore saltgrass and leafy three-square bulrush.

The East Mud Lake (CS-20) project has been sustaining its hydrologic objective of reducing high water-level fluctuations and maintaining salinity within acceptable target ranges for brackish marsh relative to reference areas. This water level control has led to more consistent conditions for vegetative growth and surface accretion. The hydrologic modifications did not negatively affect fisheries, as the project achieved its objective to maintain fisheries abundance.

Resident fishes (e.g., red drum) and crustaceans (e.g., grass shrimp) were generally more abundant in the project area, and transient fishes (e.g., speckled trout, Gulf menhaden, bay anchovy) and crustaceans (e.g., white shrimp, brown shrimp, blue crab) were generally more abundant in the reference area prior to and 5 years after project construction.

Accretion (soil elevation increase) in CTU 2 has increased since the beginning of the project, thereby achieving the project's surface elevation objective. The protected water conditions within the project area allow sediment to settle on the marsh surface rather than being exported by the strong outgoing tides. Thus, surface elevation increase in CTU 2 has outpaced relative sea-level rise (RSLR), whereas surface elevation change in Reference Area 2 (REF 2) is less than RSLR.

The project has achieved the main goal of preventing wetland degradation by reducing vegetative stress, thereby improving the abundance of emergent and submerged vegetation. This improvement has been achieved through water management structures to reduce water levels and salinities and through adaptive management to allow for the flushing of water after major climatic events such as droughts and storm surges when salinities greater than acceptable levels occur outside of the project area. Large ecological changes over time are driven by climatic conditions (droughts, flooding, hurricanes) occurring on a regional scale; during "calmer times" between regional-scale events, differences among project and reference areas are more distinctive, as the project areas typically have more moderate (less fluctuations) water levels and lower salinity, thereby providing conditions that reduce vegetative stress.

The East Mud Lake project restores and protects habitat for rare and at-risk species (e.g., glossy ibis, black rail, Louisiana eyed silkmoth, and diamondback terrapin) and Gulf Coast Joint Venture priority species (seaside sparrow and king rail), as well as wading birds and other marsh

birds. The project also provides habitat for muskrat, raccoon, coyote, white-tailed deer, and the American alligator.

Bioengineered Oyster Reef Demonstration (LA-08) Project (CWPPRA PPL 17)

Project Description and Goals

The Bioengineered Oyster Reef Demonstration (LA-08) project, federally sponsored by the NOAA-NMFS, is testing the Oysterbreak™ system patented by Oyster Restoration Advancement Technologies, LLC, as an alternative to rock breakwaters to prevent shoreline erosion. Weak soils along the Louisiana coastline are a prominent problem as the Gulf of Mexico and bays erode marshes. The 17-mile-long Rockefeller Wildlife Refuge shoreline (fig. 13) undergoes among the highest rate of erosion, 40 feet per year, along the northern Gulf of Mexico. The diminished shell hash beach is reworked by waves and rolled onto the marsh where it smothers and kills the vegetation, which then easily erodes into the gulf when the shell hash is rolled back by each successive winter storm. Subsequently, the water bottoms along the shoreline are old marsh platforms classified as very soft clay with a weight-bearing capacity too weak to hold the weight of rock used in traditional breakwaters.

Oysterbreak, an artificial reef composed of interlocking concrete rings designed to break waves and provide habitat for oyster colonization, is less dense than traditional rock breakwaters. Two 215-foot-long by 40-foot-wide Oysterbreak reefs separated by a 130-foot-wide gap were installed at the Rockefeller Wildlife Refuge southwest shoreline near St. Josephs Harbor Canal in February 2012 (fig. 14*A*). The project goal is to reduce shoreline erosion, and its objectives are to (1) reduce wave energy reaching the shoreline by 50% during average conditions and (2) provide habitat for oyster colonization (fig. 14*B*). Each reef is composed of a different type of concrete to

assess oyster colonization preference. Standard weight concrete, used for Oysterbreak–East, is being compared to OysterKrete©, a darker, more porous concrete designed to enhance oyster colonization, used for Oysterbreak–West.

Figure 13. Bioengineered Oyster Reef Demonstration (LA-08) project map.

Figure 14. *A*, Oblique aerial photograph taken during low water about a year after construction of the Oysterbreak reefs at the Bioengineered Oyster Reef Demonstration (LA-08) project. Note the elevation difference (based on water inundation) between Oysterbreak–West composed of OysterKrete (lower) and Oysterbreak–East composed of standard weight concrete (taller). Also, note the new land that formed behind Oysterbreak–East that formed after construction. *B*, Stacked, interlocking rings shown from behind Oysterbreak–East; note the waves crashing on the front of the reef and the calm water behind the reef.

Figure 15. Soil elevation changes in the Oysterbreak and reference areas of the Bioengineered Oyster Reef Demonstration (LA-08) project from October 2011 to July 2013. Note the loss along the reference shoreline and behind the ends of and between the Oysterbreak reefs.

Figure 16. Colonization of oysters on east end of Oysterbreak–East 20 months (1.7 years) after construction.

Project Assessment

Oyster settlement on the Oysterbreak structures was negligible a year and a half after construction. The designed elevation of the reefs was intended to match the average Gulf of Mexico sea level in this area; however, Oysterbreak–East was constructed 0.4 foot higher than Oysterbreak–West because of natural gulf water bottom variability. Differences between the Oysterbreak reefs for shoreline change and wave attenuation are attributable to the elevation

differences, as Oysterbreak–West is submerged 33% more often than is Oysterbreak–East, as determined by water levels measured at a nearby CRMS site (2012–2013).

The shoreline erosion rate along the entire Oysterbreak protected area was 69% less than along the unprotected reference area through 1.5 years after construction. Within the Oysterbreak area, land formed behind the Oysterbreak reefs, while erosion continued around the ends and between the reef structures (fig. 15).

Wave transmission was monitored behind each Oysterbreak reef and along the reference area 6 months after construction. The objective of reducing wave heights reaching the shoreline by 50% was met by both Oysterbreak reefs. Waves were reduced 66% by Oysterbreak–West, 72% by Oysterbreak–East, and 36% as they approached the reference/unprotected shore due its natural slope.

Both Oysterbreak reefs are providing habitat for oyster colonization. Twenty months after construction, oysters are growing at a healthy rate (fig. 16). At the demonstration project midpoint, no significant differences in oyster productivity have been observed between the standard weight concrete and OysterKrete Oysterbreak reefs.

The Bioengineered Oyster Reef project protects the gulf shoreline to benefit the threatened piping plover and red knot, at-risk species (diamondback terrapin, snowy plover, Wilson's plover, and brown pelican), and Gulf Coast Joint Venture priority species (seaside sparrow, glossy ibis, and king rail). The project benefits shoreline and marsh habitat for other wading birds, shorebirds, and important higher salinity estuarine fisheries species (e.g., spotted sea trout, red drum, and Gulf menhaden), as well as blue crab and the American oyster.

East Marsh Island Marsh Creation (TV-21) Project (CWPPRA PPL 14)

Project Description and Goals

In December 2010, the East Marsh Island Marsh Creation (TV-21) project, sponsored by the NRCS, EPA, and CPRA, was constructed to fill 1,159 acres of shallow open water with material dredged from the adjacent East Cote Blanche Bay. Located in southeast Iberia Parish on the eastern end of the Marsh Island Wildlife Refuge, the project area (fig. 17) was historically relatively stable with a low land loss rate of -0.29% per year. Hurricane Lili (2002) caused these marshes to destabilize through erosion, which progresses by removing the marsh substrate. The marsh was restored by filling the shallow open water of previously eroded marsh areas with new sediment. The project objectives were to (1) create approximately 362 acres of emergent marsh in contained shallow open water and mud flats, (2) create/nourish an additional 797 acres of brackish marsh with unconfined dredged sediment, and (3) reduce the loss rate of new and existing marsh in the project area by 50%.

Figure 17. Map of the East Marsh Island Marsh Creation (TV-21) project, constructed in December 2010.

Figure 18. Aerial view of the eastern half of the East Marsh Island Marsh Creation (TV-21) project, June 2011. The areas in the foreground are the containment area portions of the project in which dredged material was contained by earthen retention dikes.

Figure 19. View of healthy marshhay cordgrass and chairmaker's bulrush thriving within the nourishment area of the East Marsh Island Marsh Creation (TV-21) project in September 2013.

Figure 20. Vegetative cover of the East Marsh Island Marsh Creation (TV-21) project. Note the impact of and recovery from nutria herbivory damage in 2012.

Project Assessment

Analysis of high-resolution 2012 aerial photography shows that the project has successfully met its marsh creation and nourishment goals. Before the project was constructed, <1% of the project area was classified as land. One year after project construction, 85% to 90% of the project area was classified as land (fig. 18). Surveys conducted 1 year after construction indicated that the marsh is settling as expected and is near the target elevation for healthy brackish marshes of +1.7 feet (referenced to the North American Vertical Datum 1988 [NAVD 88]).

Coverage of emergent vegetation has increased over time in both the containment and nourishment areas (fig. 19). Heavy nutria herbivory damage caused a drastic decline in vegetative cover in 2012, especially in the nourishment areas (fig. 20). Analysis of vegetation data collected from CRMS reference sites on Marsh Island confirmed that nutria were prolific across Marsh Island in 2012, causing widespread damage. A combination of nutria control by the Louisiana Department of Wildlife and Fisheries and a harsh winter, which impacted nutria populations, probably contributed to vegetative recovery.

Project area vegetation dominated by marshhay cordgrass and Olney's three square bulrush recovered quickly by the following year and has increased in coverage since that time.

Shoreline protection on the eastern edge of the project was implemented to prevent erosion from the Gulf of Mexico. Additionally, the containment dikes were gapped in several locations to allow natural tidal exchange and thereby increase vegetative cover after construction.

North Lake Mechant Landbridge Restoration (TE-44) Project (CWPPRA PPL 10)

Project Description and Goals

The North Lake Mechant Landbridge Restoration (TE-44) project, completed in 2009, is located in Terrebonne Parish approximately 15 miles southwest of Theriot, La. (fig. 21). The project, sponsored by USFWS and CPRA, is intended to protect and restore the North Lake Mechant Landbridge and Small Bayou La Pointe Ridge, which have been threatened by continued shoreline erosion from Lakes Mechant and Pagie and by subsidence of interior marshes. These marshes, which undergo high subsidence rates estimated at 0.25–0.42 inches per year, form a critical landbridge barrier separating the fresh and intermediate marshes north of Bayou De Cade from the brackish waters and tidally dominated Lake Mechant system to the south (fig. 22). The project goals are to create 790 acres of intertidal marsh habitat in shallow open water suitable for intermediate marsh, nourish 40 acres of existing marsh, and maintain intermediate interior marsh vegetation for the project life. Project features include several earthen, rock, and sheet pile plugs; 1 sheet pile weir; 1 rock-armored earthen dike; 11 dredged material fill areas; and vegetative plantings of smooth cordgrass (fig. 21).

Figure 21. Map of the North Lake Mechant Landbridge Restoration (TE-44) project, completed in 2009.

Figure 22. Land-water classification for the North Lake Mechant Landbridge Restoration (TE-44) project area in 2002, prior to construction of project features.

Figure 23. Land-water classification for the North Lake Mechant Landbridge Restoration (TE-44) project area in 2012. The marsh fill area outlined in red resulted in 850 acres of land gain, and the nourishment areas outlined in black resulted in 40 acres of land gain.

Figure 24. Vegetation in the North Lake Mechant Landbridge Restoration (TE-44) project fill area showing healthy stands of seashore saltgrass, marshhay cordgrass, common reed, and goldenrod growing on the restored marsh.

Project Assessment

The North Lake Mechant Landbridge Restoration (TE-44) project nourished more than 40 acres of existing marsh and exceeded its acreage goal with the creation of 850 acres within and surrounding the project's boundaries (fig. 22). The goal to maintain intermediate marsh vegetation in the interior marsh has not yet been met. Although vegetative cover has increased from a broken natural marsh prior to construction to a solid created marsh postconstruction (fig. 23), the dominant species are seashore saltgrass (fig. 24) and smooth cordgrass, which are saline (salt) marsh species. This may be due to the higher salinity of the Lake Mechant dredged soil or the expansion of the planted salt-tolerant marsh vegetation. The project area is in a transitional zone where freshwater influences from the north may affect the vegetation along the project landbridge over time. The degree of influence can vary from year to year depending on environmental conditions. Reference Area 1 lost 7 acres (-13.5%) and Reference Area 2 gained 6 acres (+1.9%) from 2002 to 2012, whereas the project areas gained 890 acres of land (+64%) during that same time period (figs. 22 and 23).

Bayou La Branche Wetland Creation (PO-17) Project (CWPPRA PPL 1)

Project Description and Goals

The Bayou La Branche Wetland Creation (PO-17) project is a 436-acre marsh creation project that is located in St. Charles Parish, immediately south of Lake Pontchartrain (fig. 25). Federally sponsored by the USACE, it was the first restoration project constructed through

CWPPRA in 1994 and was the first project to complete its 20-year monitoring lifespan in 2014. The marsh was created by using sediment that was hydraulically dredged from Lake Pontchartrain and pumped to the site via pipeline. The CWPPRA program recognized a need for this project because of the degradation of the Bayou La Branche wetlands, which has resulted from hydrologic alteration due to farming, Interstate 10, railroad construction, hurricanes, subsidence, saltwater intrusion, and shoreline erosion. The purpose of this project was to create marsh habitat in an area that had largely converted from marsh to open water and had become increasingly susceptible to shoreline breaching, increased wave energy, and higher salinity inflow from the lake. The goals of the project were to (1) create 305 acres of habitat in shallow water conducive to the natural establishment of emergent wetland vegetation and (2) increase the ratio of marsh to open water in the project area to a minimum of 70% emergent marsh to 30% open water 5 years following project completion.

Figure 25. Map of Bayou La Branche Wetland Creation (PO-17) project. Begun in 1994, this was the first restoration project constructed through CWPPRA.

Figure 26. The Bayou La Branche Wetland Creation (PO-17) project area (2013) continues to support vigorous marsh vegetation more than 20 years after project construction.

Figure 27. Land-water classification of the Bayou La Branche Wetland Creation (PO-17) project and reference areas. The 1993 aerial photography was taken prior to project construction in 1994.

Figure 28. Habitat classification of the Bayou La Branche Wetland Creation (PO-17) project and reference areas using 2012 CRMS aerial photography. By 2012, the project area had transitioned to primarily marsh, with some scrub-shrub habitat remaining at higher elevations in the north and on spoil banks.

Project Assessment

The Bayou La Branche Wetland Creation project has demonstrated that using dredged sediment to create marsh is an effective restoration strategy that can provide benefit beyond the 20-year CWPPRA project lifespan (fig. 26). Prior to construction, the project area contained 81 acres of land and 355 acres of water, while the reference area immediately east of the project area contained 12 acres of land and 504 acres of water (fig. 27). Postconstruction analysis of the project area has revealed that the amount of land created has not only been sustained over years but also has increased from 356 acres in 1997 to 408 acres in 2012 (fig. 27), while the reference area has shown no significant change in the ratio of land to water over time. The land area increased by 327 acres, which is five times the amount of marsh present prior to project construction in 1994.

The goal of achieving a minimum of 70% emergent marsh was surpassed by 2012; however, it took longer than 5 years to attain. Habitat analysis conducted in 1997 indicated that only 51% of the project area was emergent marsh, while 29% was scrub-shrub habitat.

During construction, sediment discharge was concentrated in the northern project area because of concerns over compromising the foundation of Interstate 10. This sediment discharge resulted in a higher localized elevation in the north that fostered the early development of scrub-shrub habitat. As the sediment settled and the land received greater inundation, much of this habitat transitioned to marsh. By 2012, emergent marsh had increased to 82%, while scrub-shrub habitat had declined to 10% (fig. 28). The dominant marsh species in the project area since 2004 have been smooth cordgrass, saltmeadow cordgrass, and sturdy bulrush.

As of 2013, the created marsh had settled to a mean elevation of 1.2 feet NAVD 88, with the highest elevation still in the north and the lowest elevation in the central project area. This

elevation is similar to the average marsh elevation of 1.3 feet NAVD 88 that was surveyed in natural marsh surrounding the project area.

Mississippi River Sediment Delivery System−Bayou Dupont (BA-39) Project (CWPPRA PPL 12)

Project Description and Goals

The Mississippi River Sediment Delivery System−Bayou Dupont (BA-39) project, completed in May 2010, was the first CWPPRA restoration project that used sediment hydraulically dredged from the Mississippi River and delivered through pipeline to restore marsh (figs. 29 and 30). The EPA and CPRA are the project's Federal and State sponsors, respectively. The BA-39 project area is located within an eroding and subsiding section of the Barataria Basin Landbridge on the west bank of the Mississippi River (fig. 29) near the town of Myrtle Grove, La. Marsh and ridge habitat in this region has been hydrologically altered by the dredging of oil and gas canals and leveeing of the Mississippi River, which disconnected the area from riverine freshwater and sediment input. Construction of the Naomi Siphon in 1992 restored some flow of river water into the Barataria Basin and, as a result, has helped to moderate saltwater intrusion in the project area. The goals of the Bayou Dupont (BA-39) project are to restore/create 372 acres and nourish 99 acres of emergent marsh in an area that had converted to primarily open water (fig. 30).

Figure 29. Project map of the Mississippi River Sediment Delivery System−Bayou Dupont (BA-39) project, completed in May 2010. This was the first CWPPRA restoration project that used sediment hydraulically dredged from the Mississippi River.

Figure 30. The Mississippi River Sediment Delivery System−Bayou Dupont (BA-39) project area in 2013, looking west from the Plaquemines Parish flood protection levee, 3 years postconstruction.

Figure 31. Land-water classification of the Mississippi River Sediment Delivery System−Bayou Dupont (BA-39) project area. The 2012 CRMS aerial photography shows 458 acres of land within an area that contained primarily open water before project construction.

Figure 32. Annual mean cover (%) for each species of vegetation surveyed at Mississippi River Sediment Delivery System−Bayou Dupont (BA-39) project stations. While total cover is based on 100%, the sum of each species' cover can be greater than 100% because of overlap.

Project Assessment

The first postconstruction land-water analysis was completed in 2012 by using CRMS aerial photography. Of the 495 acres included in the analysis, 458 acres (93%) were classified as marsh and 37 acres (7%) as water (fig. 31). The water areas are largely due to ponding at lower elevations, primarily in Marsh Creation Area 2. Although not intended as part of the project design, these ponds provide waterfowl habitat.

Vegetation surveys indicate that the project area has increased in mean total marsh cover from 42% in 2010 to 71% in 2014, with seashore paspalum, herb of grace, cattails, and saltgrass all being abundant species. Saltmeadow (marshhay) cordgrass is the dominant species in the adjacent natural marsh. Target marsh elevation (1.3 feet NAVD 88 at year 10) was based on the average elevation of saltmeadow (marshhay) cordgrass marsh in the area. This species has expanded in the project area in both cover and range, increasing from less than 1% cover in 2010 to 8% cover in 2014 (fig. 32) and expanding from occurrence at 3% of stations in 2010 to 37% in 2014.

Firsthand observations and data collected from vegetation and elevation surveys indicate that more than 50% of the project area is at an elevation that is supporting or can support marsh

habitat. Elevation survey data collected during October 2011–January 2012 indicated that approximately 48% of the project area had settled to an elevation between 1.5 and 2.0 feet NAVD 88. About 27% of the project area, however, was still at a higher elevation between 2.0 and 2.5 feet NAVD 88. The Mississippi River Sediment Delivery System−Bayou Dupont project is only 5 years old. As the project area continues to settle and approach the targeted elevation of 1.3 feet NAVD 88, it is expected that water exchange will increase and the marsh will continue to transition towards a stable, productive, robust marsh community that more closely resembles the local natural marsh, containing tidal creeks, ponds, and healthy marsh.

Fish and Wildlife Benefits of Selected CWPPRA Projects

The East Marsh Island, North Lake Mechant, Bayou LaBranche, and Bayou Dupont projects protect and restore brackish marshes which provide fish and wildlife habitat for rare and at-risk species, Gulf Coast Joint Venture priority species, wading birds, and other marsh birds. They also provide habitat for mammals and the American alligator. Estuarine fisheries benefiting from those restored brackish marsh habitats include important recreational (e.g., spotted sea trout, red drum, and Atlantic croaker) and commercial species (e.g., Gulf menhaden and brown and white shrimp).

Conclusion

The CWPPRA program has been actively rebuilding wetlands and helping to turn the tide on land loss for 25 years. Projects that have restored barrier islands, interior marshes, and swamps have all left a noticeable mark on the coastal landscape. A foundation has been laid with the implementation of CWPPRA, upon which subsequent restoration initiatives have been built. Several comprehensive restoration plans have capitalized upon CWPPRA's public planning

process, benefitting from the generation and wide acceptance of such plans through practice of a public involvement policy and interagency cooperation. Various government planning documents and feasibility studies have often capitalized on CWPPRA-generated project concepts. Some projects that have been designed through CWPPRA have been adopted and constructed through other authorities. This type of synergy between funding vehicles is efficient and expedites project implementation. CWPPRA has constructed, or funded for construction, 121 of 200 authorized projects that are protecting and restoring more than 88,000 acres of coastal wetlands and ultimately benefiting 860,000 acres over a 25-year period. The CWPPRA program remains uniquely committed to the understanding and promotion of restoration science. CWPPRA is responsive in constructing projects relatively quickly, within 3 to 5 years. CWPPRA builds cost-effective projects developed by an experienced interagency team of coastal scientists and engineers along with local government and citizen contribution to project nomination and development. CWPPRA has predictable funding through the Trust Fund.

The CWPPRA program is science-based on the CRMS and project-specific monitoring program. Together with a rich brain trust of local academia, program scientists collect and analyze data from CWPPRA projects to evaluate their environmental benefits and gauge project success. This scientific analysis helps guide managers to develop projects by using the cutting edge science to support successful restoration.

CWPPRA constructs lower cost demonstration projects that "field-test" restoration techniques for future application in restoration projects. CWPPRA projects complement other large-scale restoration efforts (e.g., CIAP, Master Plan, DWH Early Restoration Plan, and the RESTORE Act).

CWPPRA is meeting an otherwise unfilled niche by building near-term projects in acute, and often highly strategic, areas of need. This continues to be CWPPRA's greatest asset and contribution to turning the tide on Louisiana land loss.

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Abbreviations

- BICM – Barrier Island Comprehensive Monitoring Program
- CPRA – Coastal Protection and Restoration Authority representing the State of Louisiana Office of the Governor–Coastal Activities
- CWPPRA – Coastal Wetlands Planning, Protection and Restoration Act
- CRMS – Coastwide Reference Monitoring System
- EPA – U.S. Environmental Protection Agency
- FDT – (Master Plan) Framework Development Team
- GCERC (Council) – Gulf Coast Ecosystem Restoration Council
- LCA – Louisiana Coastal Area
- NAVD 88 – North American Vertical Datum of 1988
- NAWCA – North American Wetlands Conservation Act
- NGO – Nongovernmental organization
- NMFS – National Marine Fisheries Service
- NOAA – National Oceanic and Atmospheric Administration
- NRCS – Natural Resources Conservation Service
- NWRC – (USGS) National Wetlands Research Center
- PPL – Priority Project List
- USACE – U.S. Army Corps of Engineers
- USFWS – U.S. Fish and Wildlife Service
- USGS – U.S. Geological Survey

Appendix 1. Complete List of Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Projects Authorized Since 1990

The following Web site provides a complete list of authorized projects under the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) since its implementation in 1990: http://www.lacoast.gov/new/Projects/List.aspx.

Appendix 2. Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) Educational Videos

The CWPPRA Public Outreach Committee is composed of members from the participating Federal agencies, the State of Louisiana, other coastal programs, and nonprofit organizations. The committee is currently responsible for

- formulating information strategies and public and formal education initiatives,
- maintaining a Web site of complex technical and educational materials,
- developing audiovisual presentations,
- organizing exhibits,
- disseminating publications and news releases, and
- conducting special events such as project dedications.

The outreach coordinator manages the educational program by providing information and materials for classroom and other use throughout the State. The Chairman and outreach coordinator serve on local and regional planning efforts and act as the liaisons between the public, parish governments, and the various Federal agencies involved in CWPPRA. To address the need for immediate action of wetland loss and educating the public, the CWPPRA Public

Outreach Committee, in collaboration with Federal, State, local, and private stakeholders, has developed various outreach videos (http://www.lacoast.gov/new/Pubs/videos.aspx).

- Returning Marshlands to Magnificent Life - Hydrologic restoration techniques.
- CWPPRA - Rebuilding Coastal Louisiana - What is the Coastal Wetlands Planning, Protection and Restoration Act?
- Marsh Creation - Step by Step - CWPPRA's efforts to save Marsh Island.
- Meet the CWPPRA Task Force - Task Force members explain why restoration is essential to Louisiana.
- Louisiana Coastal Land Loss Simulation 1932-through 2010 - This USGS-NWRC video captures Louisiana coastal land loss issues via animation.
- Coastal Louisiana: Impacts of Hurricanes on Salt Marsh and Mangrove Wetlands.
- Effects of Sea-Level Rise on Coastal Wetlands in the Mississippi Delta - The effects of sea-level rise and other global change factors on coastal wetlands in the delta.
- The Floating Marshes of Louisiana: A Unique Ecosystem - Mississippi River Delta Plain floating marshes.
- What Lies Beneath: Using Mangrove Peat To Study Ancient Coastal Environments and Sea-Level Rise.

Appendix 3. Louisiana Coastal Threatened and Endangered Species, Fisheries, and Common Marsh Plants

<Cut-in: infographic Coastal LA Threatened and Endangered Species>

<Cut-in: infographic LA Fisheries Use Coastal Wetlands during their Life Cycles>

<Cut-in: infographic Common Marsh Plants of Louisiana>

Table 1. Threatened, endangered, and rare species of the Louisiana coastal zone.

Coastal habitat	Threatened/endangered species	Rare species
Barrier islands/barrier headlands	piping plover, red knot, Kemp's ridley sea turtle, loggerhead sea turtle	*, ** - snowy plover, Wilson's plover, reddish egret, and gull billed tern * - American oystercatcher, Caspian tern, sooty tern, and brown pelican **- black skimmer, long-billed curlew, Hudsonian godwit, western sandpiper, stilt sandpiper, buff-breasted sandpiper, and short-billed dowitcher
Brackish or saline marshes	Louisiana eyed silkmoth (petitioned for listing)	* diamondback terrapin ** seaside sparrow saltmarsh topminnow (NOAA/FWS species of concern)
Fresh-intermediate marshes - swamps		* bald eagle ** wood stork, little blue heron, mottled duck
Coastal marshes	black rail (petitioned for listing)	* Peregrine falcon, sand hill crane, glossy ibis ** king rail
Coastal bays/rivers	West Indian manatee	osprey
	Atlantic sturgeon (Lake Pontchartrain - Breton Sound)	* American swallow-tailed kite

* Louisiana Department of Wildlife and Fisheries (2015).

** U.S. Fish and Wildlife Service, Gulf Coast Joint Venture (2012). "The Gulf Coast Joint Venture (GCJV) is a bird habitat conservation partnership that spans the coastal portions of Alabama, Mississippi, Louisiana, and Texas. The GCJV mission is to advance conservation of important bird habitats through biological planning, implementation of habitat conservation activities, and evaluating the planning and implementation process through monitoring and research" (U.S. Fish and Wildlife Service, 2012).

Table 2. Louisiana waterfowl, other migratory and resident birds, and mammals, reptiles, and amphibians benefitted by CWPPRA projects.

Dabbling ducks	**Diving ducks**	**Geese**	**Other migratory and resident birds**	**Mammals, reptiles, and amphibians**
mallard, mottled duck, gadwall, American widgeon, pintail, northern shoveler, green-winged teal, and blue-winged teal	lesser scaup, ring-necked duck, and several merganser species	white-fronted geese, Canada geese, and snow geese	brown and white pelicans cormorants and anhingas Herons: great blue heron, little blue heron, bitterns, green-backed heron, yellow-crowned night heron, black-crowned night heron, great egret, snowy egret, glossy ibis, white-faced ibis, and white ibis Others: American coots, rails, gallinules, shorebirds, terns, boat-tailed grackle, red-winged blackbird, eastern kingbird, northern harrier, belted kingfisher, and songbirds	Mammals: Louisiana black bear, nutria, muskrat, mink, river otter, raccoon, swamp rabbit, coyote, and white-tailed deer Reptiles: American alligator, western cottonmouth, red-eared turtle, common snapping turtle, and soft-shell turtle Amphibians: tree frogs, bullfrog, pig frog, leopard frogs, and salamanders

Table 3. Commercially and recreationally important fisheries species benefited by CWPPRA projects.

Freshwater fisheries	**Commercially important fisheries**	**Recreationally important estuarine species**
largemouth bass, crappie, bluegill, gar, blue catfish, and shad crawfish and river and grass shrimp	Gulf menhaden, striped mullet, catfishes, gars, and freshwater drum brown and white shrimp, blue crab, Gulf stone crab, and the American oyster	spotted sea trout, white trout, red drum, black drum, Atlantic croaker, spot, southern flounder, snappers, mackerel, groupers, and sharks

Table 4. CWPPRA projects authorized from 2013 to 2015 (PPL 22–PPL 24) for Phase 1—Engineering and Design.

Name	Project Number	Project Priority List (PPL)	Date Authorized	Total Net Acres (Reestablished & protected)	Marsh Benefitted	Ecologic Region
Bayou Dupont Sediment Delivery Marsh Creation No. 3	BA-164	22	24-Jan-13	383	Brackish	2
Terracing & Marsh Creation South of Big Mar	BS-24	22	24-Jan-13	303	Fresh to Intermediate	2
North Catfish Lake Marsh Creation	TE-112	22	24-Jan-13	401	Brackish	3
Cameron Meadows Marsh Creation & Terracing	CS-66	22	24-Jan-13	264	Brackish to Intermediate	4
Caminada Headlands Back Barrier Marsh Creation	BA-171	23	16-Jan-14	181	Saline	2
Bayou Grande Cheniere Marsh & Ridge Restoration	BA-173	23	16-Jan-14	264	Brackish	2
South Grand Chenier Marsh Creation – Baker Tract	ME-32	23	16-Jan-14	393	Brackish	4
Island Road Marsh Creation & Nourishment	TE-117	23	16-Jan-14	312	Brackish	3
Shoreline Stabilization and Marsh Creation	PO-169	24	22-Jan-15	167	Brackish	1
Shell Beach South Marsh Creation	PO-168	24	22-Jan-15	344	Brackish	1
West Fourchon Marsh Creation & Nourishment	TE-134	24	22-Jan-15	304	Saline	3
No Name Bayou Marsh Creation & Nourishment	CS-78	24	22-Jan-15	497	Saline	4
Total = 12 projects			**Total Net Acres = 3,813**			

Table 5. CWPPRA projects authorized from 2013 to 2015 (PPL 22–PPL 24) for Phase 2—Construction.

Name	Project Number	Project Priority List (PPL)	Date Authorized	Total Net Acres (Reestablished & protected)	Marsh Benefitted	Ecologic Region
Bayou Bonfouca Marsh Creation	PO-104	20	24-Jan-13	478	Brackish	1
Lost Lake Marsh Creation and Hydrologic Restoration	TE-72	19	24-Jan-13	452	Brackish & Intermediate	3
South Grand Chenier Marsh Creation	ME-20	11	16-Jan-14	414	Brackish & Intermediate	4
Cameron Creole Watershed Grand Bayou Marsh Creation	CS-54	20	22-Jan-15	476	Saline	4
Oyster Bayou Marsh Restoration	CS-59	21	22-Jan-15	489	Saline	4
Total = 5 projects			**Total Net Acres = 2,309**			

Table 6. Selected CWPPRA projects highlighted in this report.

Name	Project Number	Federal Sponsor	Project Type	Location	Construction Date
East Mud Lake Marsh Management	CS-20	NRCS	Marsh management	Calcasieu Lake	1996
Bioengineered Oyster Reef Demonstration	LA-08	NMFS	Shoreline protection, oyster reef	Rockefeller Wildlife Refuge	2012
East Marsh Island Marsh Creation	TV-21	NRCS - EPA	Marsh creation	Vermilion Bay	2010
North Lake Mechant Landbridge Restoration	TE-44	USFWS	Marsh creation and shoreline protection	Lake Mechant	2008
Bayou LaBranche Wetland Creation	PO-17	USACE	Marsh creation	Lake Pontchartrain	1994
Mississippi River Sediment Delivery System−Bayou Dupont Marsh Creation	BA-39	EPA	Marsh creation	Barataria Bay	2009

Please note that these are not the final versions of the figures. These are PDFs of your originally submitted figures, renumbered and included here in the editorial review package for your reference.

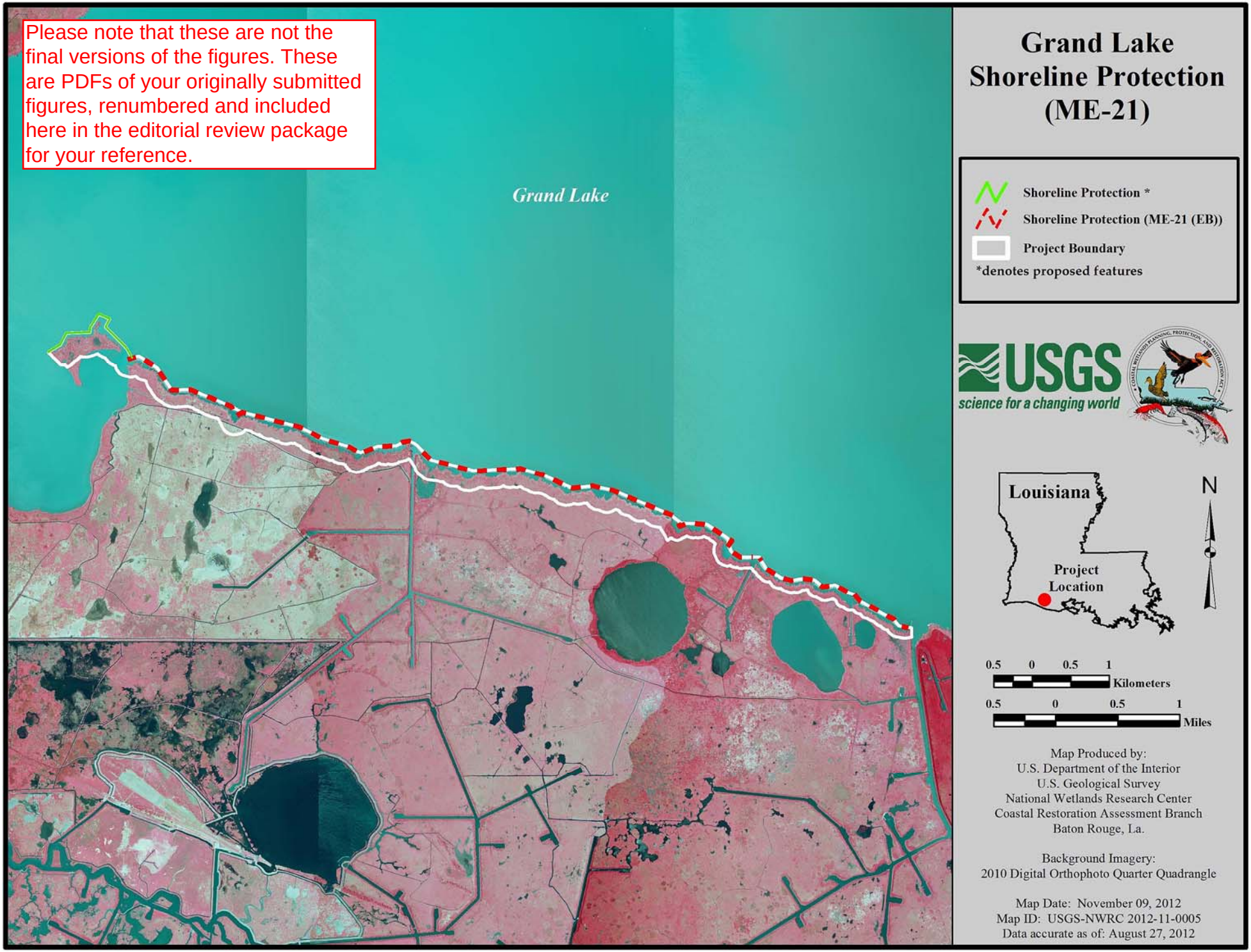
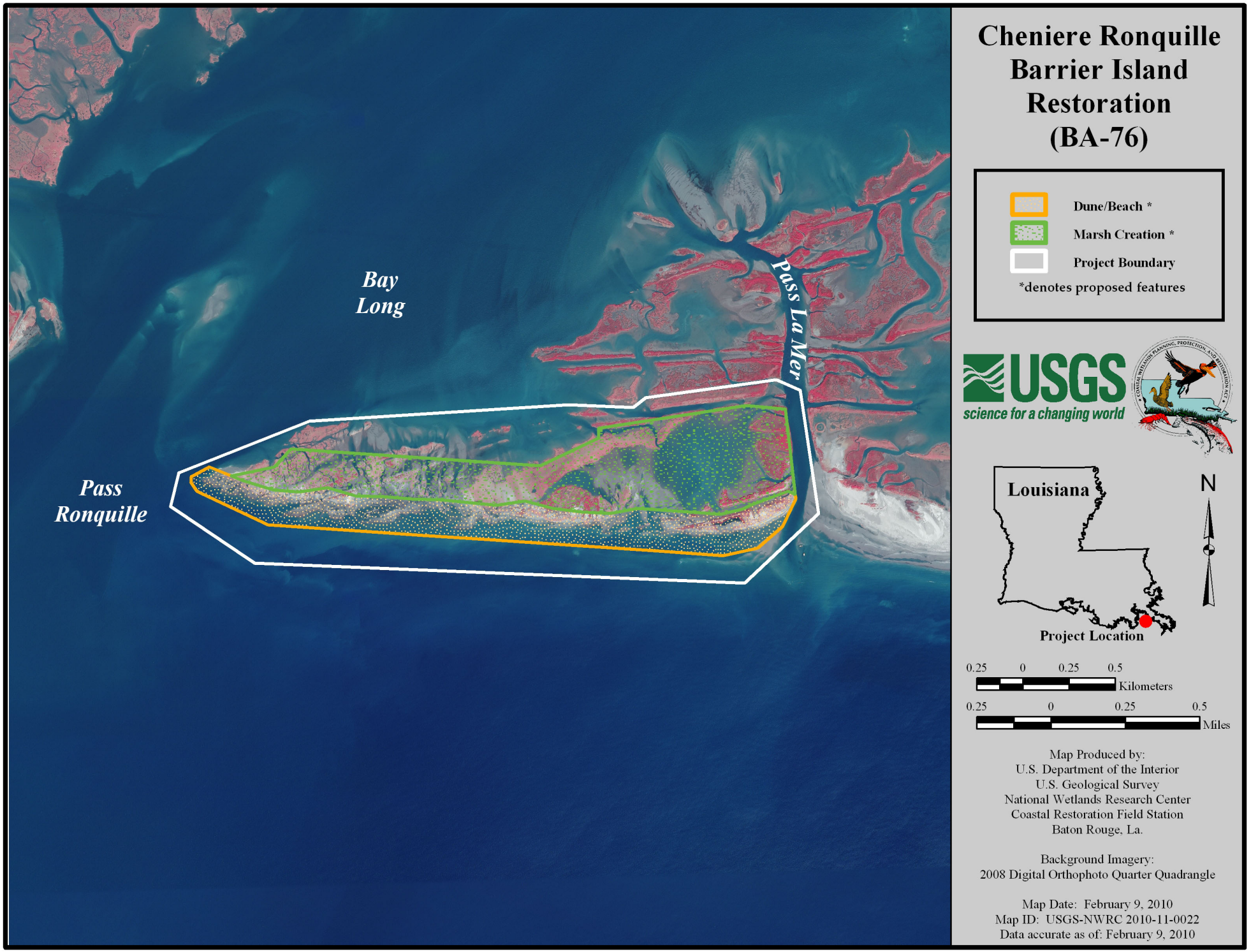


Figure 1.



Cheniere Ronquille Barrier Island Restoration (BA-76)

Dune/Beach *

Marsh Creek *

Project Boundary

*denotes proposed features

USGS science for a changing world

Louisiana

N

Project Location

0.25 0 0.25 0.5 Kilometers

0.25 0 0.25 0.5 Miles

Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La.

Background Imagery:
2008 Digital Orthophoto Quarter Quadrangle

Map Date: February 9, 2010
Map ID: USGS-NWRC 2010-11-0022
Data accurate as of: February 9, 2010

Figure 2.

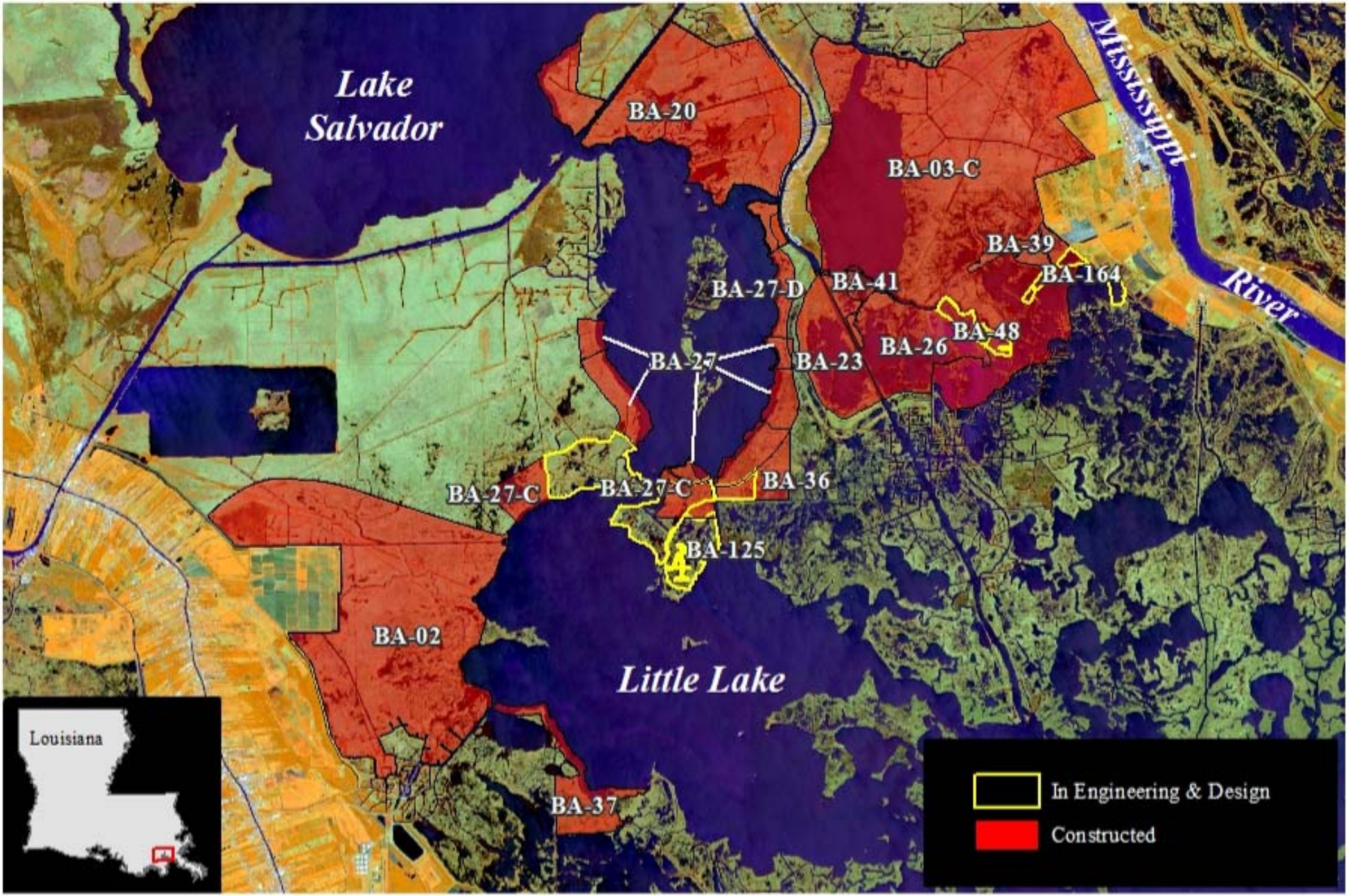
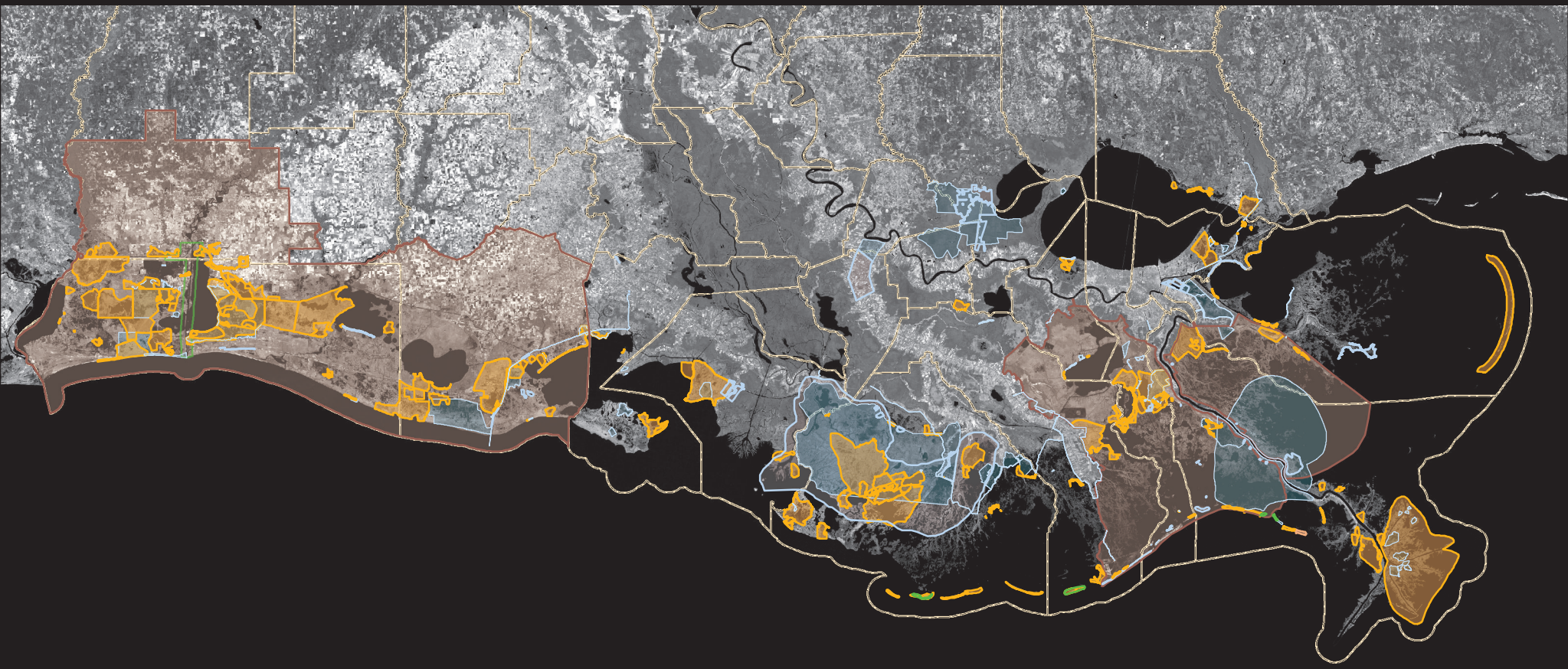

Lake
Salvador
BA-20
BA-03-C
Mississippi
River
BA-39
BA-164
BA-41
BA-27-D
BA-48
BA-26
BA-23
BA-27
BA-27-C
BA-27-C
BA-36
BA-125
BA-02
Little Lake
BA-37
Louisiana
In Engineering & Design
Constructed

Figure 3.

Selected Restoration Projects in Louisiana



The Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA)

The State of Louisiana Wetland Conservation and Restoration Program (Solely State Funded)

Berm to Barrier projects

Deep Water Horizon Oil Spill Project

The Coastal Impact Assistance Program (CIAP)

The Louisiana Coastal Area Program (LCA)

The Water Resources Development Act (WRDA)

0 10 20 30 40 Kilometers

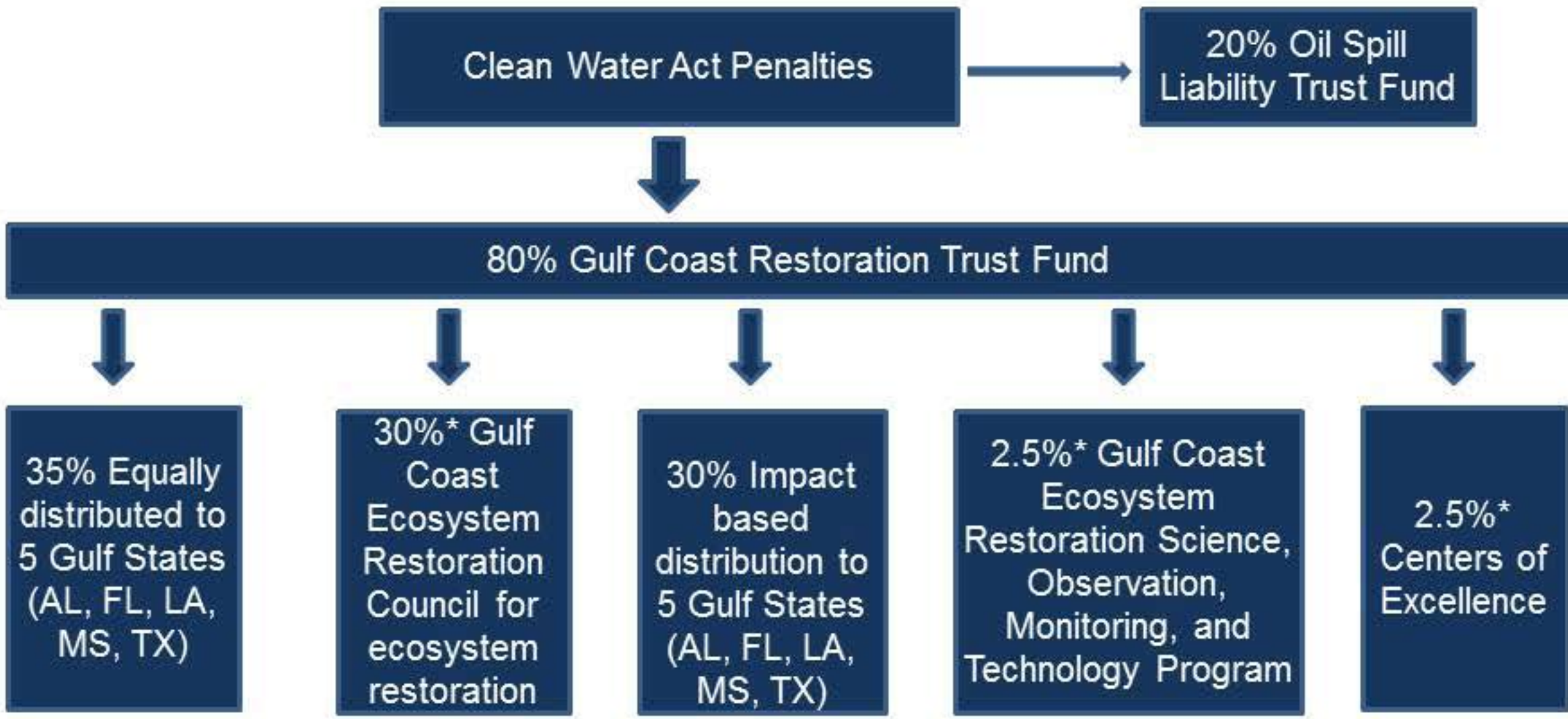
0 10 20 30 40 Miles

N

Data Source:
Louisiana Coastal Protection and Restoration Authority
Background Imagery:
2010 Landsat Thematic Mapper 5 Mosaic, Band 5
Map Date: April 2, 2015
Data accurate as of: March 20, 2015

Figure 4.

Allocation of Gulf Coast Restoration Trust Fund



***Supplemented by interest generated by the Trust Fund (50% to Gulf Coast Ecosystem Restoration Council, 25% to Science Program, 25% to Centers of Excellence)**

Figure 5.

Figure 6.

Lake Hermitage Marsh Creation (BA-42)

BA-42 Shoreline Protection
BA-42 Marsh Creation
BA-42 Borrow Area
BA-42 Project Boundary
NRDA Marsh Creation
LOSCO Marsh Creation
OCM Marsh Creation

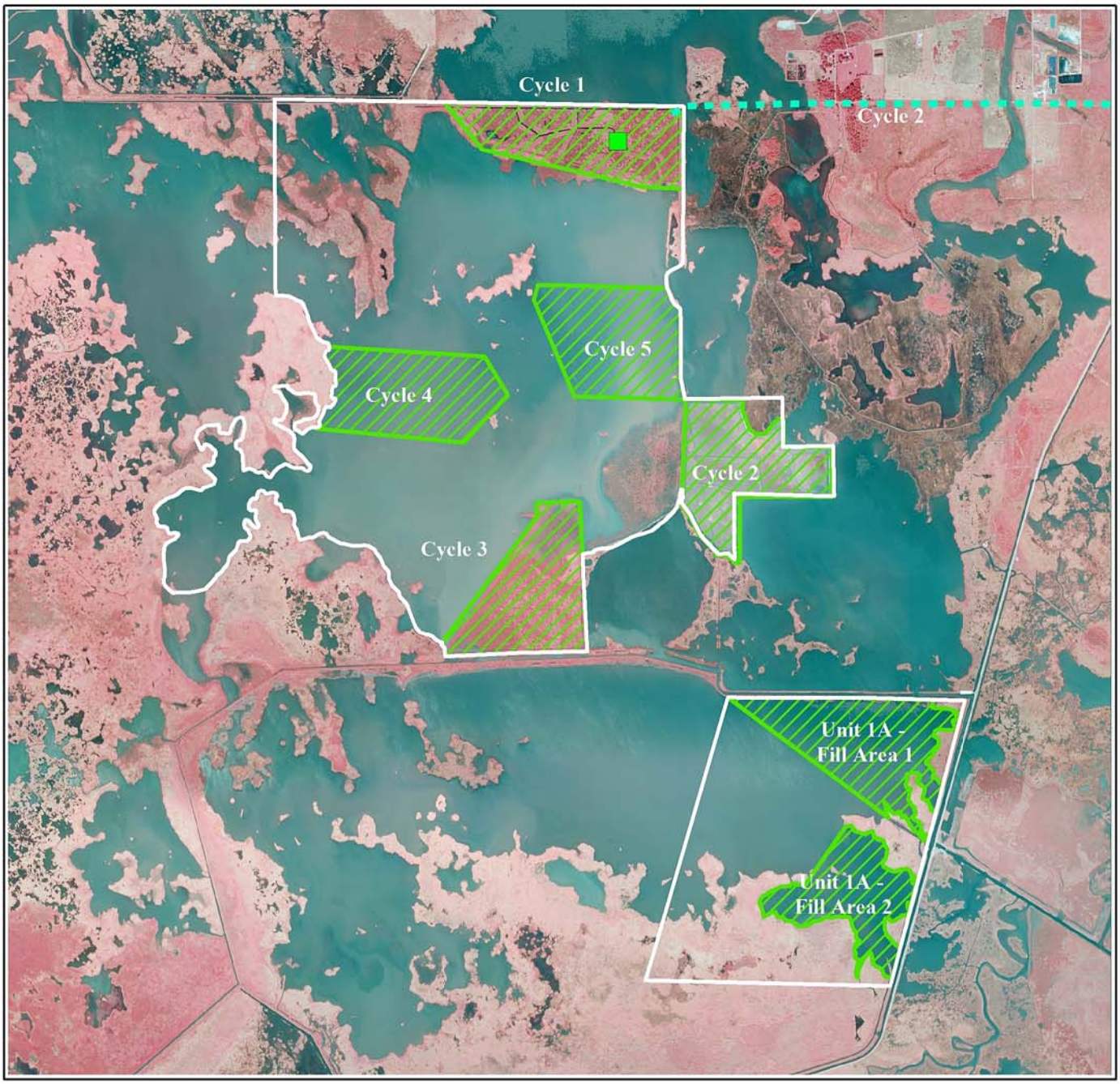
0.5 0 0.5 Kilometers
0.5 0 0.5 Miles

Scale 1:150,000

Data Accurate as of May 29, 2015
Map Date: June 08, 2015

Image Source:
2012 DOQQ Photography

Figure 7.



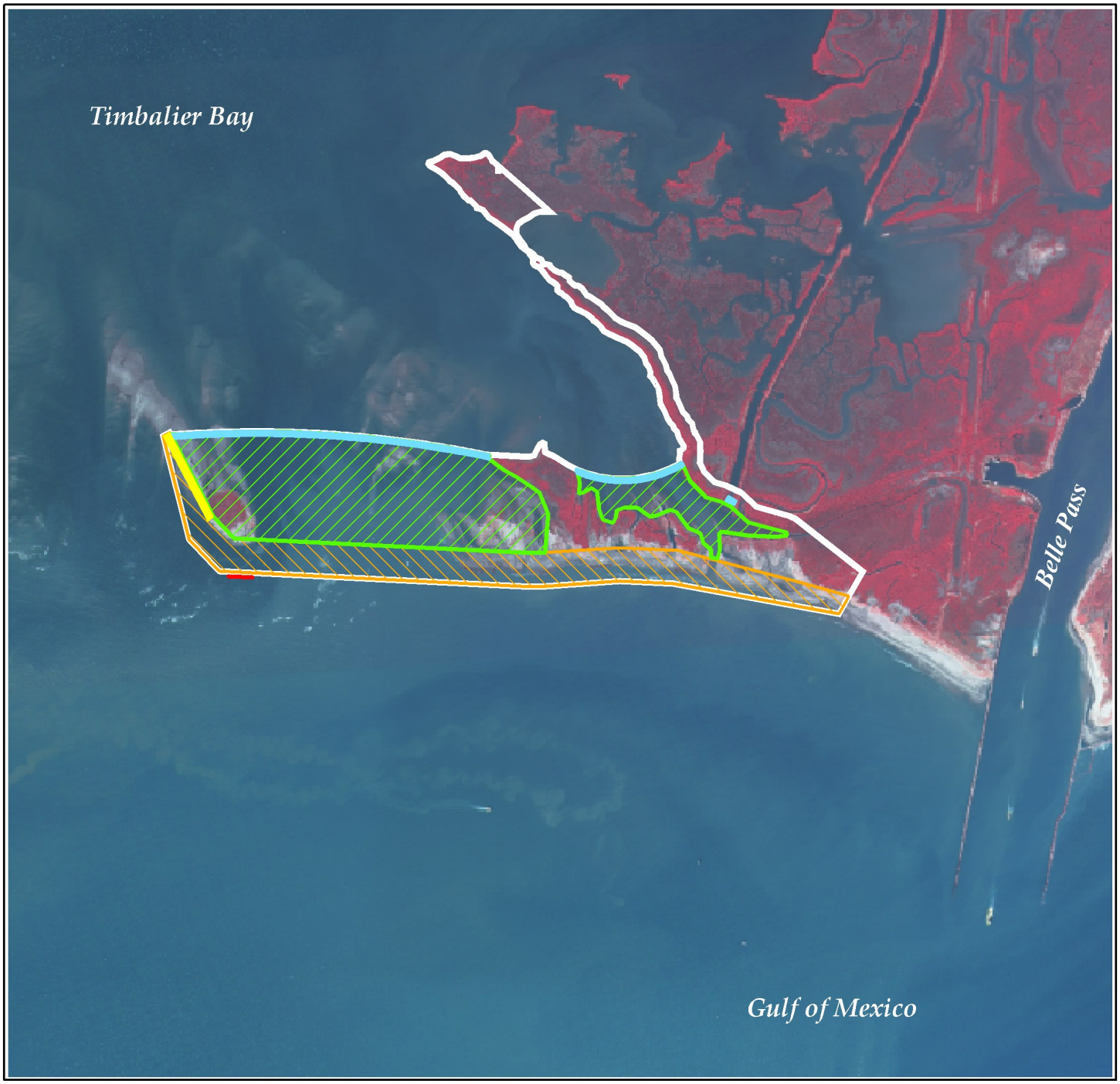
Sabine Refuge Marsh Creation
(CS-28)

CRMS Site
Pipeline Corridor
Marsh Creation
Project Boundary

0.5 0 0.5
Kilometers
0.5 0 0.5
Miles
Scale 1:50,000

Data Accurate as of May 29, 2015
Map Date: June 08, 2015

Image Source:
2012 DOQQ Photography



West Belle Pass Barrier Headland Restoration Project

USGS science for a changing world

Project Location

- Crested Dune *
- Containment *
- Breakwater *
- Marsh Creation *
- Dune/Beach Fill *
- Project Boundary *

* denotes proposed features

0.25 0 0.25 0.5 Kilometers

0.25 0 0.25 0.5 Miles

Scale 1:25,000

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, LA

Image Source:
2005 Digital Orthophoto Quarter Quadrangle

Map ID: USGS-NWRC 2006-11-0485
Map Date: July 19, 2006

Figure 8.

East Mud Lake Marsh Management
(CS-20)

- CRMS Site
- Culverts w/ flagates
- Gated Culvert
- Variable crest box structure
- Variable crest culverts w/ flagates
- Variable crest culverts w/ slots
- Weir
- Reference Area
- CTU Boundary

1 0 1 Kilometers

1 0 1 Miles

Scale 1:75,000

Data Accurate as of March 25, 2015
Map Date: April 09, 2015

Image Source:
2012 DOQQ Photography

Figure 9.

Figure 10.

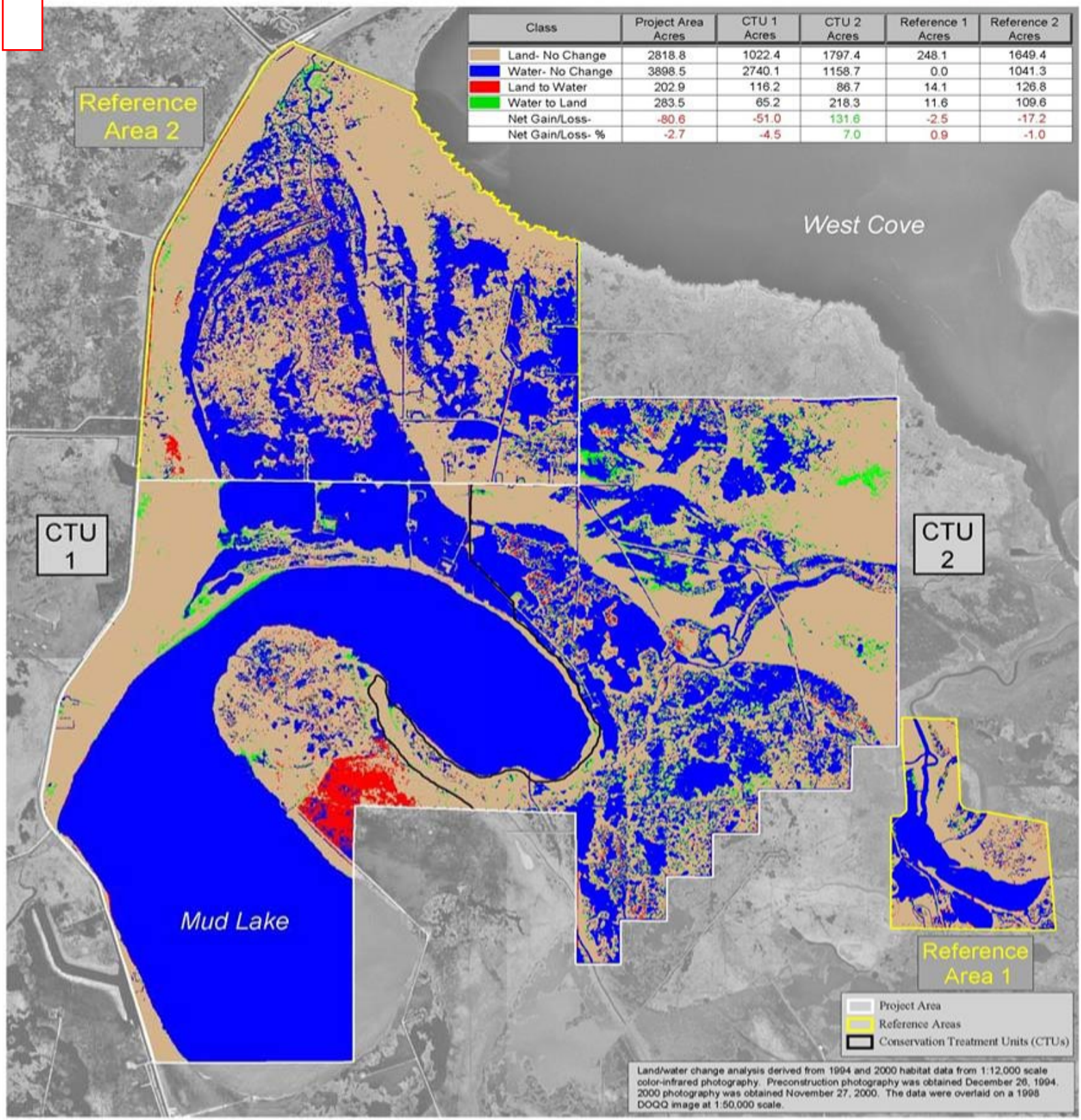
Figure 11.

East Mud Lake (CS-20) Marsh Management

Coastal Wetlands Planning, Protection and Restoration Act

1994-2000 Land/Water Change Analysis

Class	Project Area Acres	CTU 1 Acres	CTU 2 Acres	Reference 1 Acres	Reference 2 Acres
Land- No Change	2818.8	1022.4	1797.4	248.1	1649.4
Water- No Change	3898.5	2740.1	1158.7	0.0	1041.3
Land to Water	202.9	116.2	86.7	14.1	126.8
Water to Land	283.5	65.2	218.3	11.6	109.6
Net Gain/Loss-	-80.6	-51.0	131.6	-2.5	-17.2
Net Gain/Loss- %	-2.7	-4.5	7.0	0.9	-1.0



Land/water change analysis derived from 1994 and 2000 habitat data from 1:12,000 scale color-infrared photography. Preconstruction photography was obtained December 26, 1994. 2000 photography was obtained November 27, 2000. The data were overlaid on a 1998 DOQQ image at 1:50,000 scale.

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

Project Location:

Scale = 1: 50,000

0.5 0 0.5 1 Miles

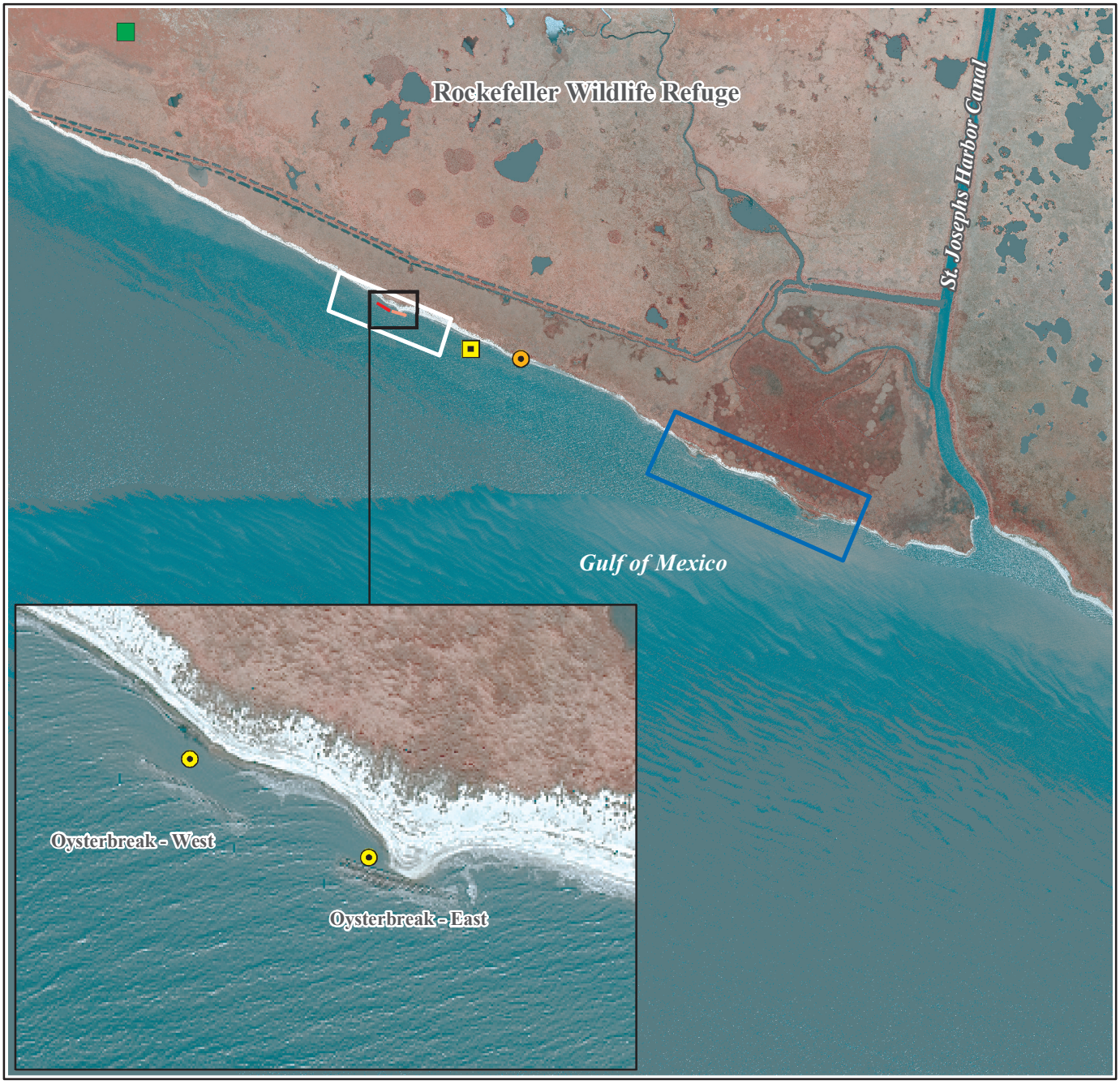
1 0 1 Kilometers

N

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

Map ID: USGS-NWRC 2003-02-008

Figure 12.



Bio-Engineered Oyster Reef Demonstration (LA-08)

Project Wave Station
Incoming Wave Station
Reference Wave Station
Oysterbreak - East
Oysterbreak - West
LA-08 Project Boundary
ME-18 Test Section

1 0 1 Kilometers

1 0 1 Miles

Scale 1:45,000

Data Accurate as of March 25, 2015

Image Source: 2012 DOQQ Photography

Figure 13.

Figure 14*A*.

Figure 14*B*.

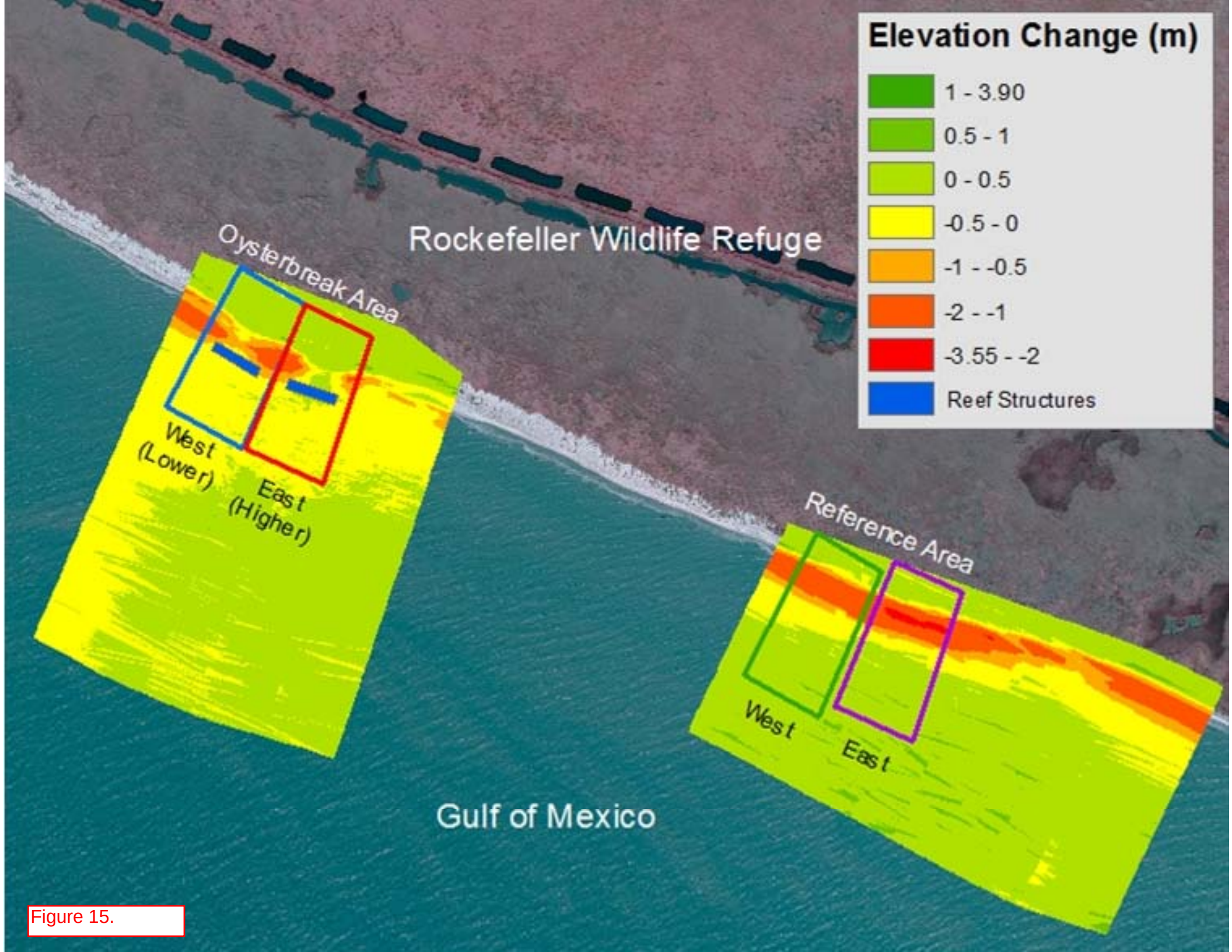
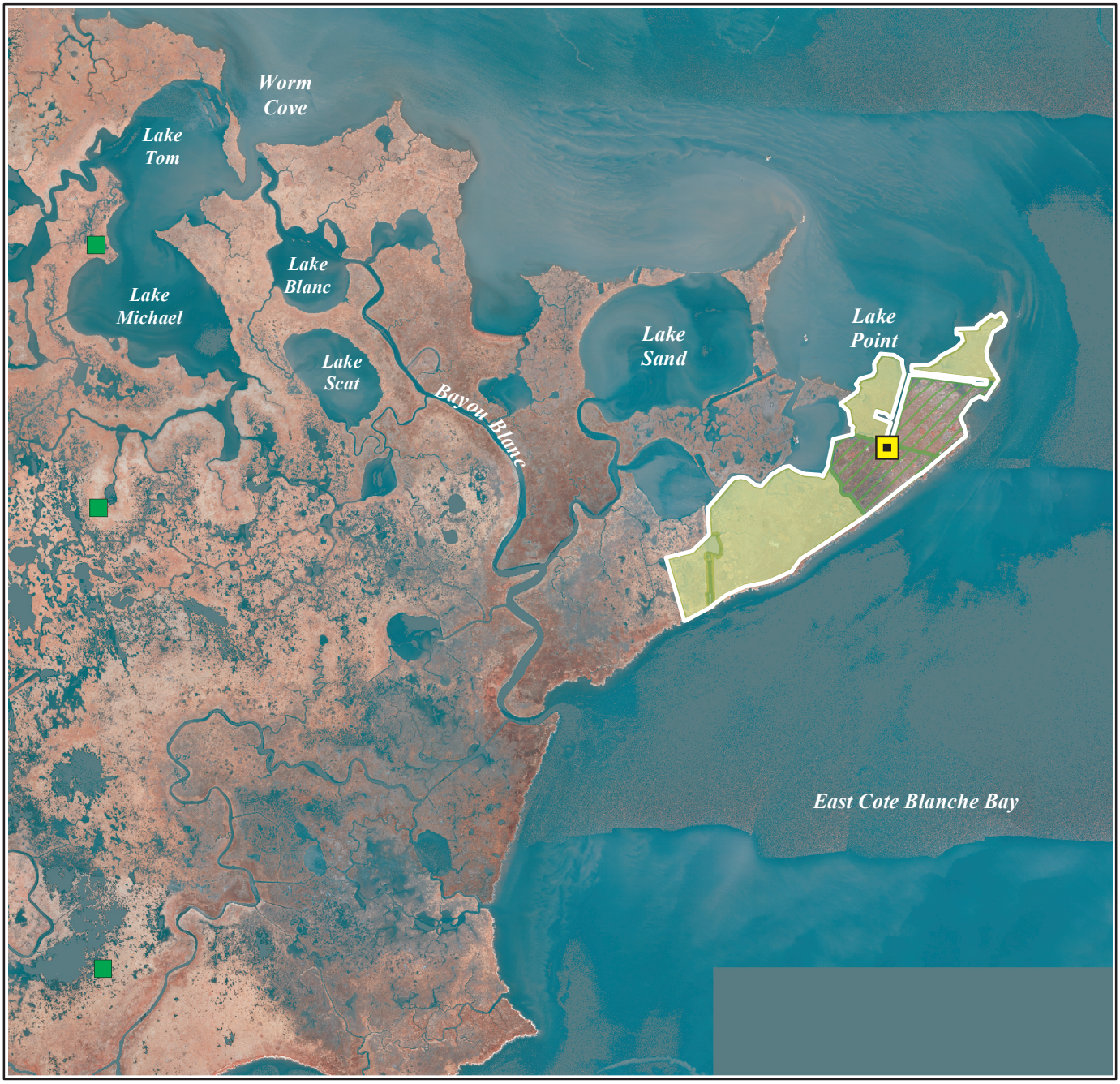

Elevation Change (m)
1 - 3.90
0.5 - 1
0 - 0.5
-0.5 - 0
-1 - -0.5
-2 - -1
-3.55 - -2
Reef Structures
Rockefeller Wildlife Refuge
Oysterbreak Area
West (Lower)
East (Higher)
Reference Area
West
East
Gulf of Mexico

Figure 15.

Figure 16.



East Marsh Island Marsh Creation
(TV-21)

CRMS Site
Plug
Marsh Creation
Marsh Nourishment
Project Boundary

1 0 1 Kilometers
1 0 1 Miles
Scale 1:75,000

Image Source:
2012 DOQQ Photography

Figure 17.

Figure 18.

Figure 19.

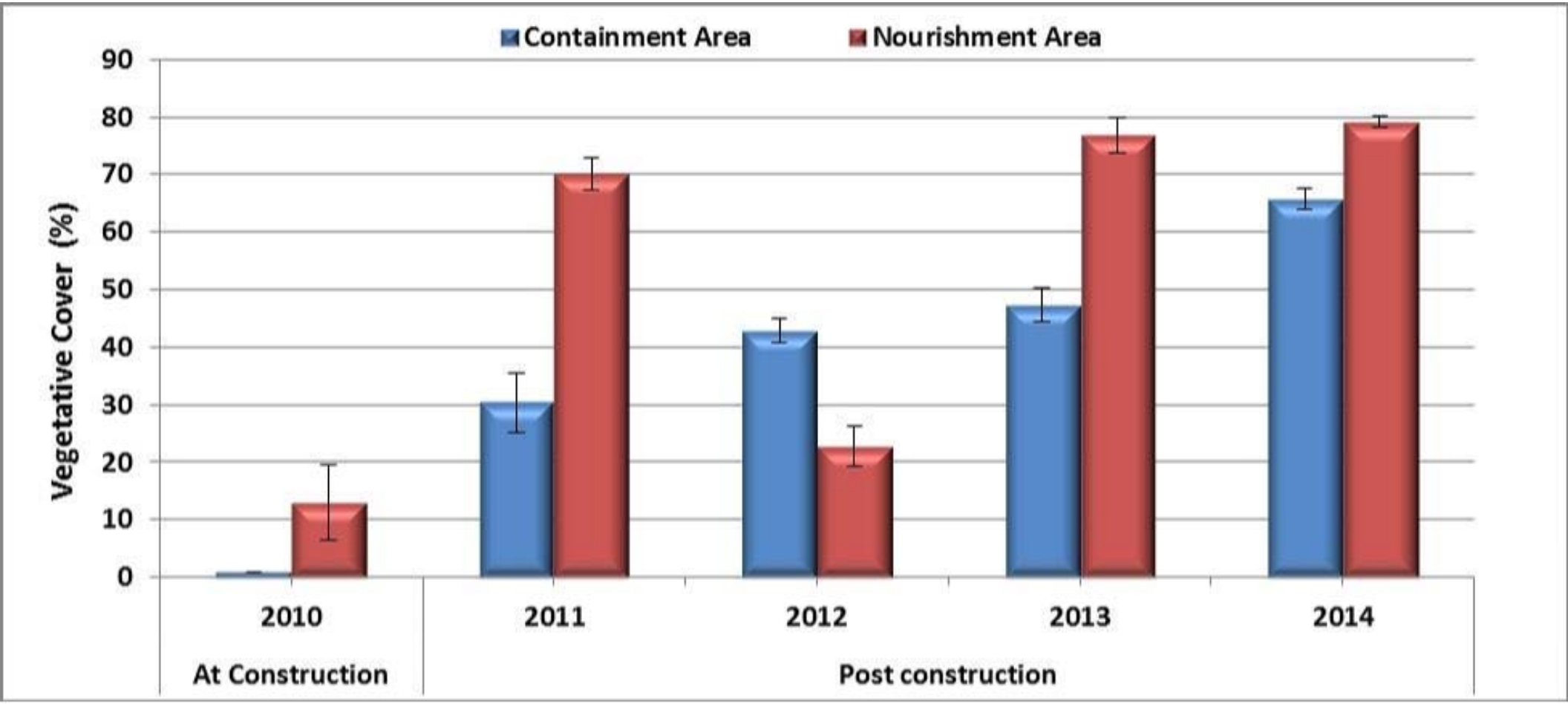
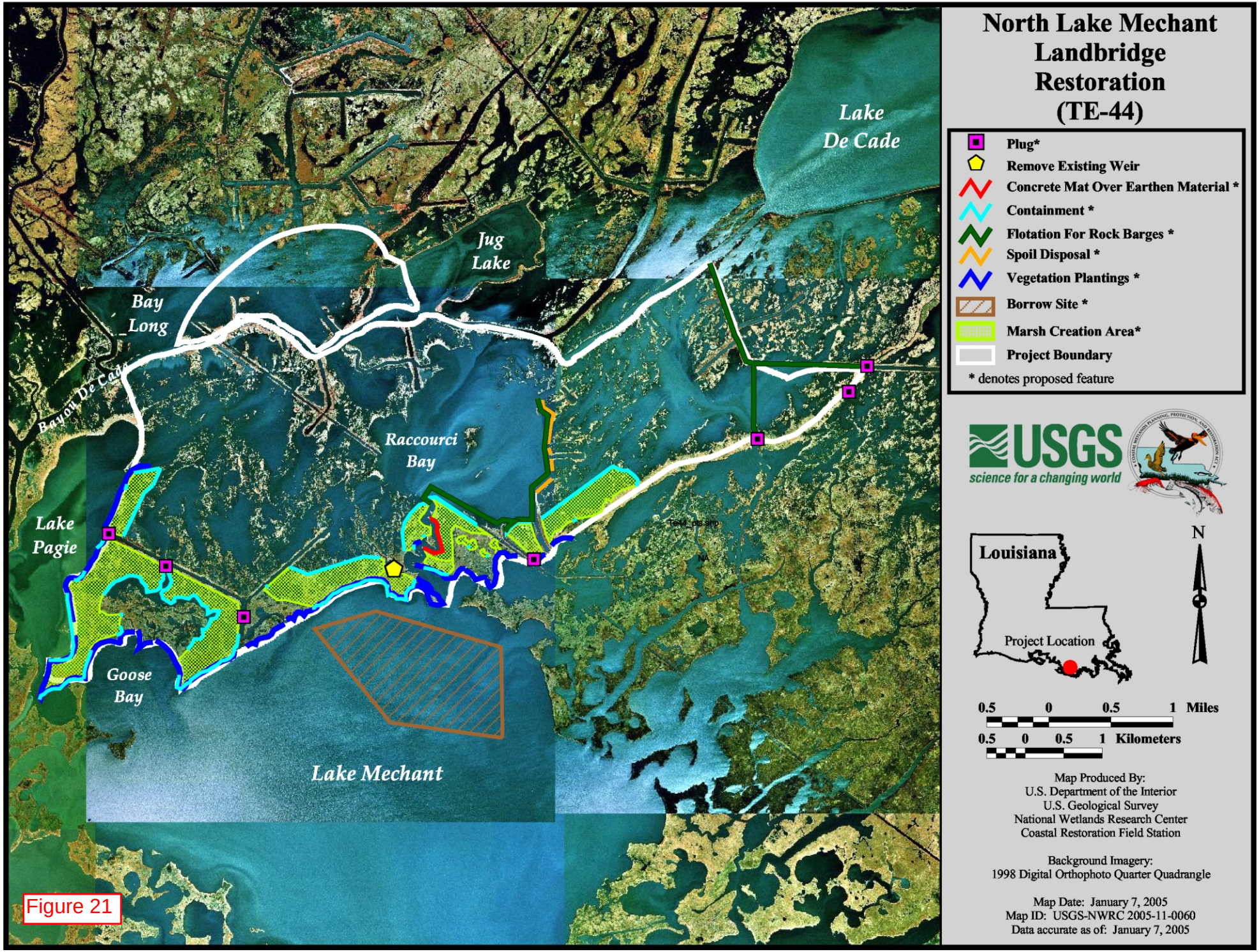

Containment Area
Nourishment Area
Vegetative Cover (%)
90
80
70
60
50
40
30
20
10
0
2010
2011
2012
2013
2014
At Construction
Post construction

Figure 20.



North Lake Mechant Landbridge Restoration (TE-44)

- Plug*
- Remove Existing Weir
- Concrete Mat Over Earthen Material *
- Containment *
- Flotation For Rock Barges *
- Spoil Disposal *
- Vegetation Plantings *
- Borrow Site *
- Marsh Creation Area*
- Project Boundary

* denotes proposed feature

USGS science for a changing world

Louisiana

Project Location

N

0.5 0 0.5 1 Miles

0.5 0 0.5 1 Kilometers

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

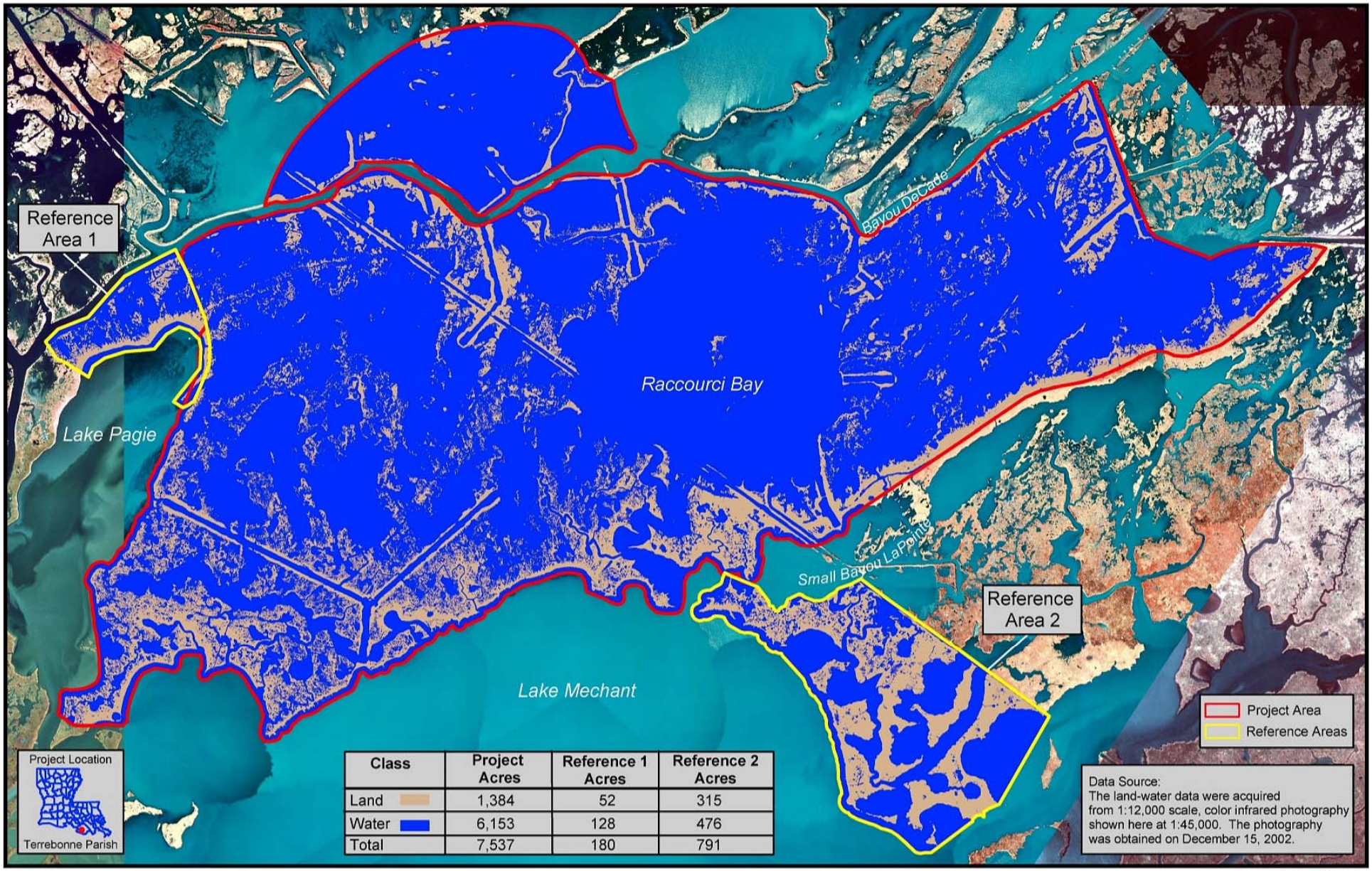
Background Imagery:
1998 Digital Orthophoto Quarter Quadrangle

Map Date: January 7, 2005
Map ID: USGS-NWRC 2005-11-0060
Data accurate as of: January 7, 2005

North Lake Mechant Landbridge Restoration (TE-44)

Coastal Wetlands Planning, Protection and Restoration Act

2002 Land-Water Analysis



Class	Project Acres	Reference 1 Acres	Reference 2 Acres
Land	1,384	52	315
Water	6,153	128	476
Total	7,537	180	791

Data Source:
The land-water data were acquired from 1:12,000 scale, color infrared photography shown here at 1:45,000. The photography was obtained on December 15, 2002.

Prepared by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Lafayette, Louisiana
and
Louisiana Department of Natural Resources

Scale = 1:45,000

1 0 1 2 Miles

1 0 1 2 Kilometers

N

Federal Sponsor:
U.S. Fish and Wildlife Service

Map ID: USGS-NWRC 2005-02-0025

Figure 22.

North Lake Mechant Landbridge Restoration (TE-44)

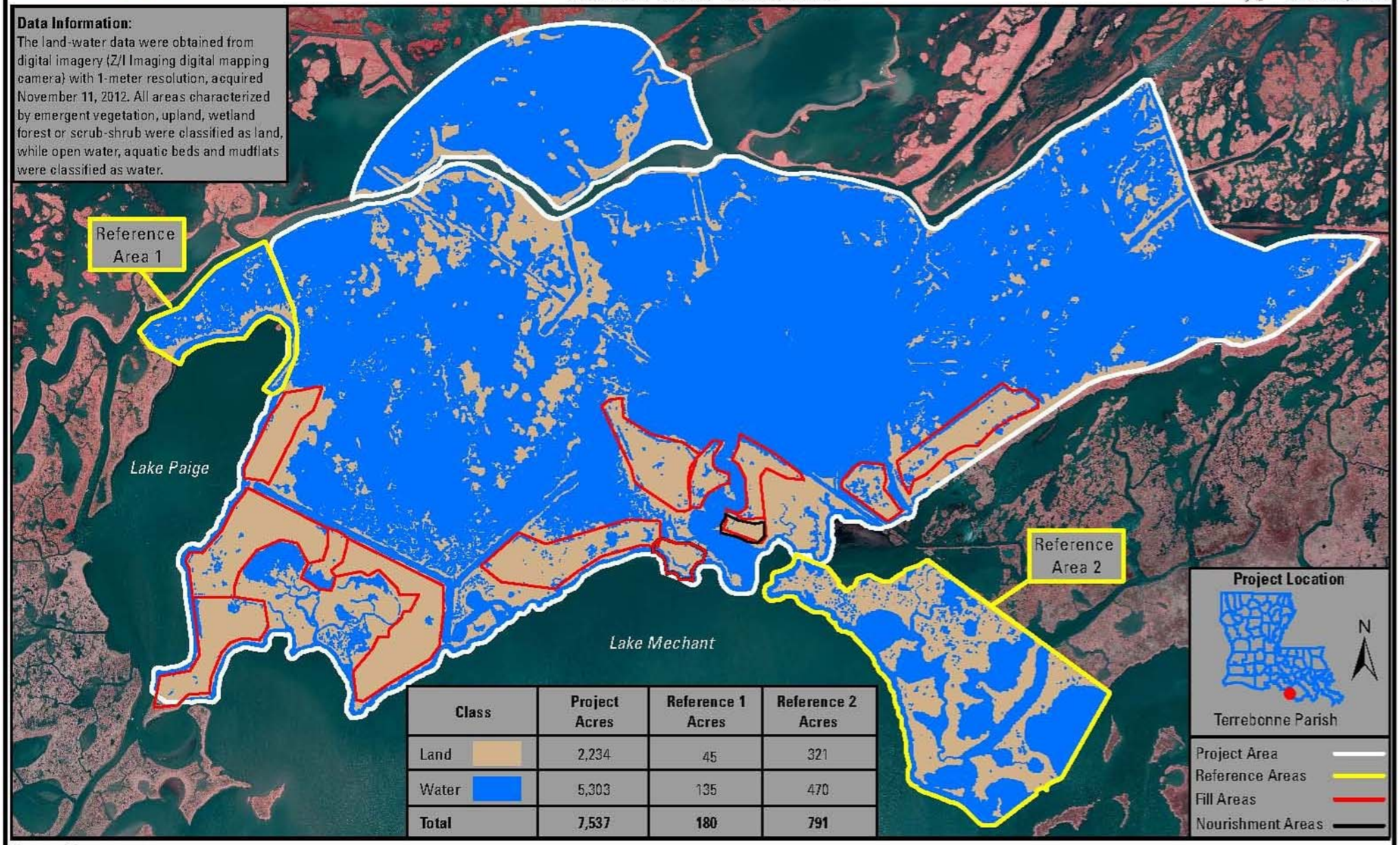
Coastal Wetlands Planning, Protection and Restoration Act

2012 Land-Water Classification

USGS science for a changing world

CPRA Coastal Protection and Restoration Authority of Louisiana

Data Information:
The land-water data were obtained from digital imagery (Z/I Imaging digital mapping camera) with 1-meter resolution, acquired November 11, 2012. All areas characterized by emergent vegetation, upland, wetland forest or scrub-shrub were classified as land, while open water, aquatic beds and mudflats were classified as water.



Class	Project Acres	Reference 1 Acres	Reference 2 Acres
Land	2,234	45	321
Water	5,303	135	470
Total	**7,537**	**180**	**791**

Scale = 1:45,000

0 0.5 1 1.5 2 Miles

0 0.5 1 1.5 2 Kilometers

Prepared by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Lafayette, Louisiana
and
Louisiana Coastal Protection and Restoration Authority

Federal Sponsor:
U.S. Fish and Wildlife Service

Map ID: USGS-NWRC 2013-02-0067

Figure 23.

Figure 24.

Bayou LaBranche Wetland Creation (PO-17)

CRMS Site
Culvert
Weir
Z-wall Bulkhead
Marsh Creation
Reference Area
Project Boundary

0.5 0 0.5 Kilometers

0.5 0 0.5 Miles

Scale 1:30,000

Image Source: 2012 DOQQ Photography

Figure 25.

Figure 26.

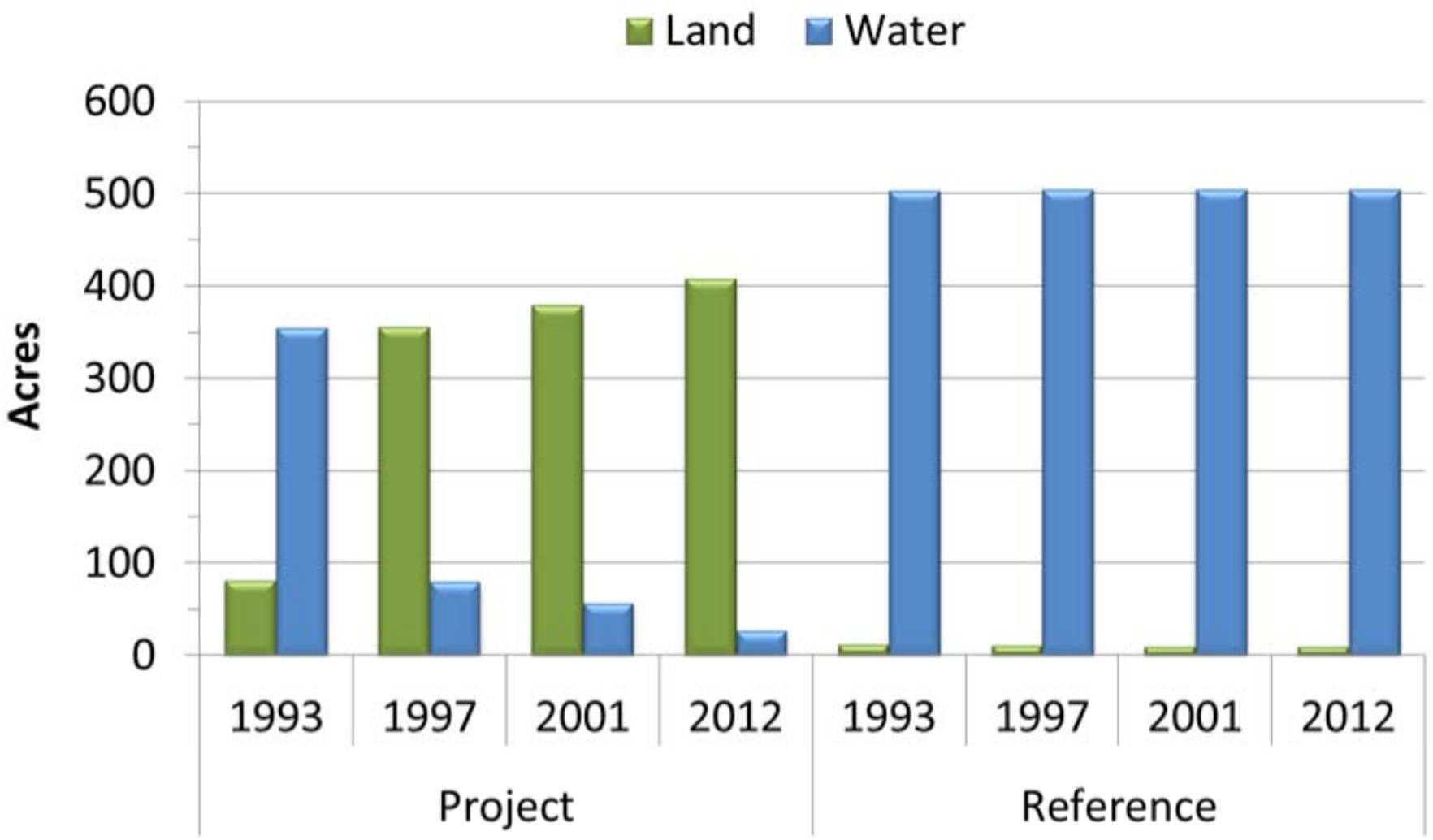

Land
Water
600
500
400
300
200
100
0
Acres
1993
1997
2001
2012
1993
1997
2001
2012
Project
Reference

Figure 27.

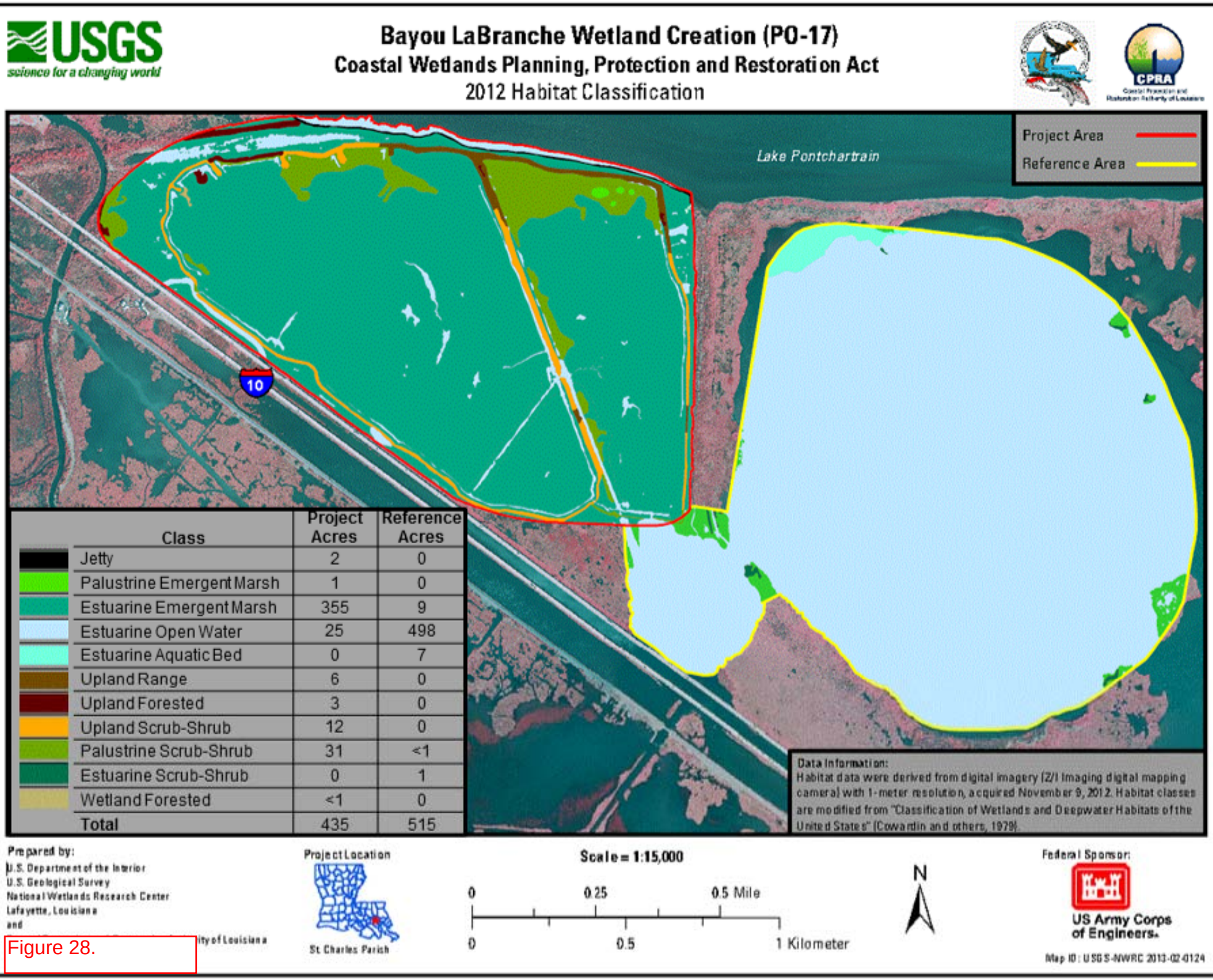

USGS
science for a changing world
Bayou LaBranche Wetland Creation (PO-17)
Coastal Wetlands Planning, Protection and Restoration Act
2012 Habitat Classification
CPRA
Project Area
Reference Area
Lake Pontchartrain
10
Class | Project Acres | Reference Acres
Jetty | 2 | 0
Palustrine Emergent Marsh | 1 | 0
Estuarine Emergent Marsh | 355 | 9
Estuarine Open Water | 25 | 498
Estuarine Aquatic Bed | 0 | 7
Upland Range | 6 | 0
Upland Forested | 3 | 0
Upland Scrub-Shrub | 12 | 0
Palustrine Scrub-Shrub | 31 | <1
Estuarine Scrub-Shrub | 0 | 1
Wetland Forested | <1 | 0
Total | 435 | 515
Data Information:
Habitat data were derived from digital imagery (Z/I Imaging digital mapping camera) with 1-meter resolution, acquired November 9, 2012. Habitat classes are modified from "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin and others, 1979).
Prepared by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Lafayette, Louisiana
and
Project Location
St Charles Parish
Scale = 1:15,000
0 0.25 0.5 Mile
0 0.5 1 Kilometer
N
Federal Sponsor:
US Army Corps of Engineers
Map ID: USGS-NWRC 2013-02-0124

Figure 28.

Mississippi River Sediment Delivery System - Bayou Dupont (BA-39)

- CRMS Site
- Naomi Siphon (BA-03)
- BA-39 Marsh Creation
- BA-39 Borrow Area
- BA-39 Project Boundary
- BA-03c Project Boundary
- Long Distance Sediment Pipeline (BA-43-EB) Project Boundary

2 0 2 Kilometers

2 0 2 Miles

Scale 1:150,000

Image Source: 2012 DOQQ Photography

Figure 29.

Figure 30.

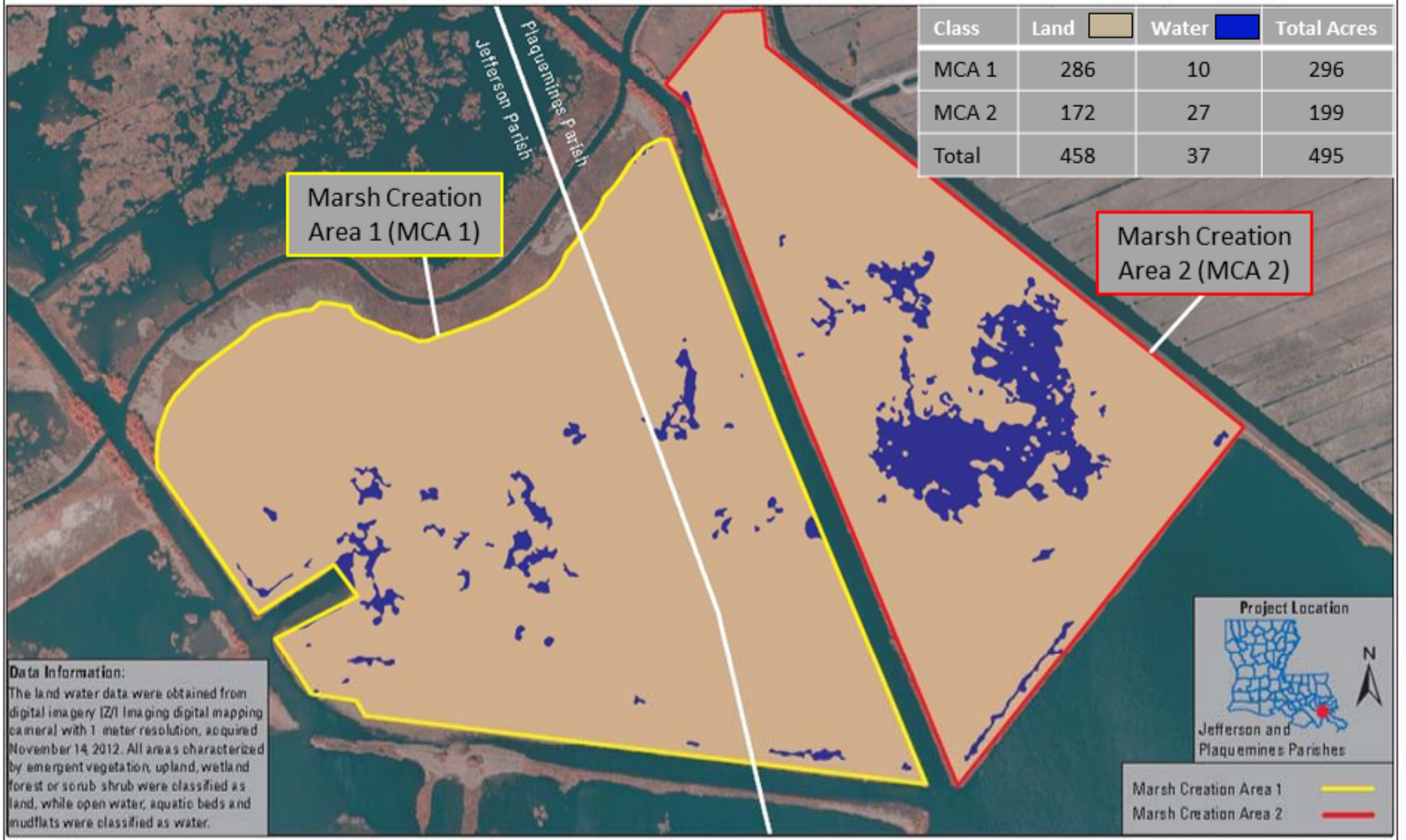
Mississippi River Sediment Delivery System- Bayou Dupont (BA-39)

Coastal Wetlands Planning, Protection and Restoration Act

2012 Land-Water Classification

USGS science for a changing world

Class	Land	Water	Total Acres
MCA 1	286	10	296
MCA 2	172	27	199
Total	458	37	495



Data Information:
The land water data were obtained from digital imagery (Z/I Imaging digital mapping camera) with 1 meter resolution, acquired November 14, 2012. All areas characterized by emergent vegetation, upland, wetland forest or scrub shrub were classified as land, while open water, aquatic beds and mudflats were classified as water.

Scale ~ 1:11,000

0 1 2 3 4 Miles

0 1 2 3 4 Kilometers

Prepared by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Lafayette, Louisiana
and
Restoration Authority

Federal Sponsor:
U.S. Environmental Protection Agency

Map ID: USGS NWRC 2013 02 0000

Figure 31.

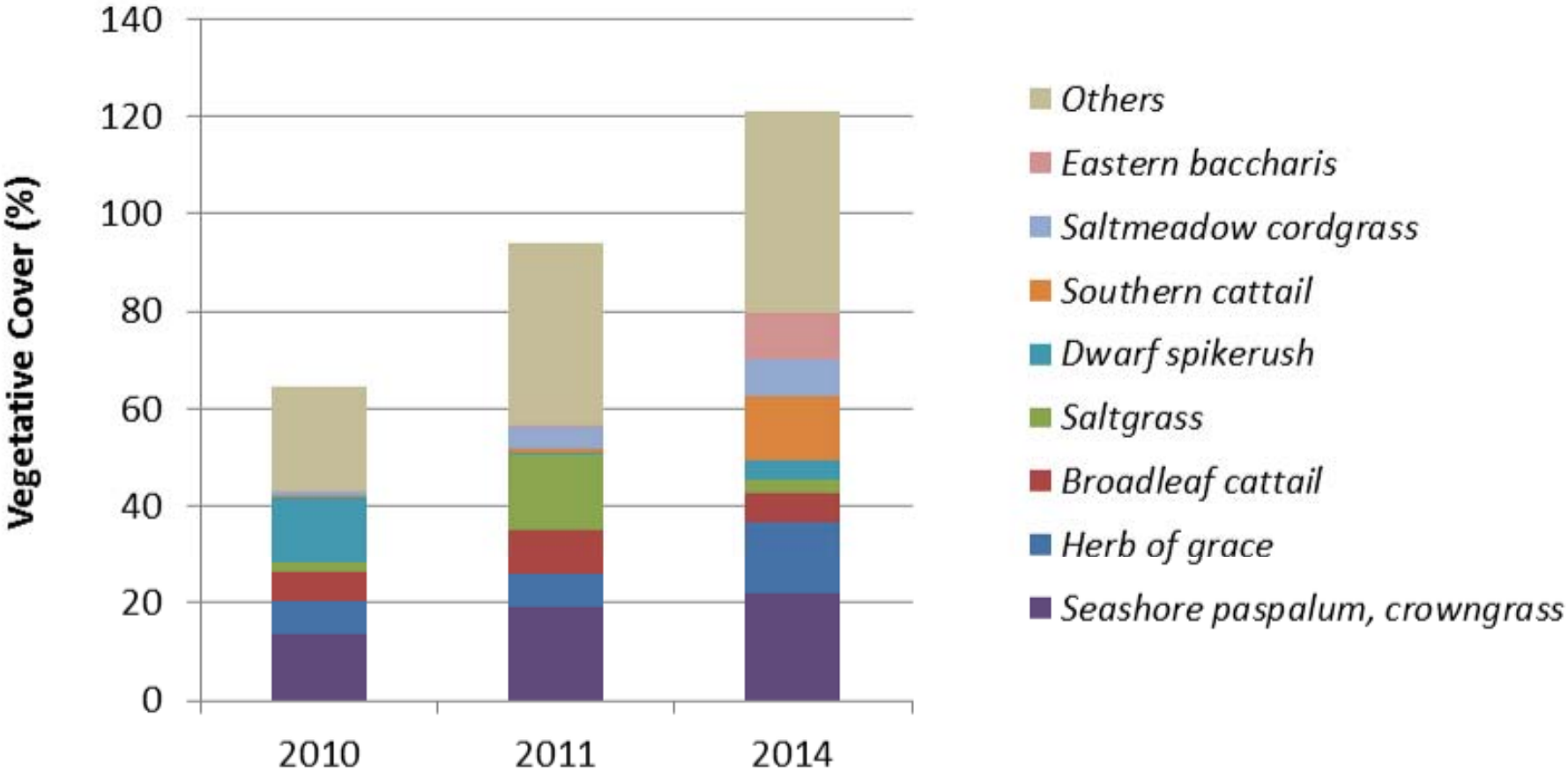

Vegetative Cover (%)
140
120
100
80
60
40
20
0
2010
2011
2014
Others
Eastern baccharis
Saltmeadow cordgrass
Southern cattail
Dwarf spikerush
Saltgrass
Broadleaf cattail
Herb of grace
Seashore paspalum, crowngrass

Figure 32.

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

ANNUAL REQUEST FOR INCREMENTAL FUNDING FOR FY18 ADMINISTRATIVE COSTS FOR CASH FLOW PROJECTS

For Decision:

The U.S. Army Corps of Engineers will request funding approval in the amount of $24,641 for administrative costs for cash flow projects beyond Increment 1.

The Technical Committee will consider and vote to make a recommendation to the Task Force on the request for funds.

ANNUAL REQUEST FOR INCREMENTAL FUNDING FOR FY18 ADMINISTRATIVE COSTS FOR CASH FLOW PROJECTS

For Decision:

The U.S. Army Corps of Engineers will request funding approval in the amount of $24,641 for administrative costs for cash flow projects beyond Increment 1. The Technical Committee will consider and vote to make a recommendation to the Task Force on the request for funds for the following projects:

- Barataria Basin Landbridge Shoreline Protection (BA27c), PPL-9, NRCS
  Incremental funding amount: $1,091

- Delta Management at Fort St. Philip (BS-11), PPL-10, FWS
  Incremental funding amount: $1,136

- Raccoon Island Shoreline Protection/Marsh Creation (TE-48), PPL-11, NRCS
  Incremental funding amount: $921

- Coastwide Nutria Control Program (LA-03b) PPL-11 NRCS
  Incremental funding amount: $1,169

- Coastwide Vegetative Planting (LA-39), PPL-20, NRCS
  Incremental Funding amount: $1,409

- Coastwide Reference Monitoring System (CRMS)
  Incremental Funding amount: $2,000

- GIWW - Perry Ridge West Bank Stabilization (CS-30), PPL9, NRCS
  Incremental funding amount: $1,127

- Freshwater Introduction South of Highway 82 (ME-16), PPL-9, FWS
  Incremental Funding amount: $889

- North Lake Mechant Landbridge Restoration, (TE-44), PPL-10, FWS
  Incremental Funding amount: $854

- Little Lake Shoreline Protection/ Dedicated Dredging (BA-37), PPL-11, NMFS
  Incremental Funding amount: $1,245

- West Lake Boudreaux Shoreline Protection & Marsh Creation (TE-46), PPL11, FWS
  Incremental Funding amount: $947

- Mississippi River Sediment Delivery System - Bayou Dupont (BA-39), PPL12, EPA
  Incremental Funding amount: $921

- West Belle Pass Barrier Headland Restoration, (TE-52), PPL-16, NMFS
  Incremental Funding amount: $1,373

- GIWW to Clovelly Hydrologic Restoration (BA-02), PPL-1, NRCS
  Incremental Funding amount: $2,329

- Point au Fer Canal Plugs (TE-22), PPL-2, NMFS
  Incremental Funding amount: $2,288

- Sabine Refuge Structures (CS-23), PPL-3, FWS
  Incremental Funding amount: $2,000

- Lake Chapeau Sediment Input & Hydrologic Restoration (TE-26), PPL-3, NMFS
  Incremental Funding amount: $1,544

- Brady Canal Hydrologic Rest, (TE-28), PPL-3, NRCS
  Incremental Funding amount: $1,398

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

REQUEST FOR FUNDING FOR CWPPRA PROGRAM'S TECHNICAL SERVICES

For Decision:

The U.S. Geological Survey (USGS) and CPRA are requesting a budget increase for technical services for the CWPPRA program in the amount of $171,410.

The Technical Committee will consider and vote to make a recommendation to the Task Force to approve the request for a budget increase for technical services in the amount of $171,410.

United States Department of the Interior

U.S. GEOLOGICAL SURVEY
BIOLOGICAL RESOURCES DIVISION

National Wetlands Research Center

April 10, 2015

Scope of Work

Technical Services to the CWPPRA Program

Accurate and timely information is critical to large, interagency programs such as CWPPRA for project planning and interacting with the general public. Due to the spatial extent of the CWPPRA program, the number of stakeholders involved, and the amount of Federal and State dollars associated with the program, the continued maintenance of project, GIS, and website data are necessary to ensure the most up to date and accurate data are available. It is the goal of USGS to provide the CWPPRA partners and the public with timely and accurate information about the program and the constructed projects, as well as, aid project managers during project reevaluation.

Project Information Database Maintenance Task Description:

NWRC has created and maintains a real-time, interactive, internet-based data management system, which provides consistent, current programmatic information. This system comprised of several synchronized database components deployed in various locations which serve specific tasks at their respective location ranging from tracking project costs to progress milestones. This information system is currently working with several CWPPRA databases including: Outreach Committee's standardized public project fact sheets, CWPPRA budget analyst reports and databases, the WVA working group spreadsheets, and the USGS CWPPRA project mapping effort. Additionally, the presence of this system allows staff to "database enable" the CWPPRA fact sheets thus allowing the inclusion of real-time information which directly addresses the conflicting information problem.

As security requirements governing federal systems change, there is a need to ensure that the CWPPRA project information database complies with current with information exchange policies wherever a database component is deployed.

As the primary mechanism for integrating databases across the five Task Force agencies and the State of Louisiana, this system is critical to ensure consistent, accurate information exchange and dissemination between the many moving parts of CWPPRA and ensures resources are available to address any problems or user needs in a timely manner.

CWPPRA Website (www.LACoast.gov) Maintenance Task Description:

The CWPPRA website currently provides a continuous online presence for federal/state partners and the general public to access the latest information on CWPPRA, its projects, partners, and other pertinent information related to Louisiana's coastal wetlands conservation and restoration. The LaCoast.gov website is an interface between the public and the program. NWRC utilizes web server hardware and software, and performs system management, backup and recovery

maintenance, and programming efforts for the www.LaCoast.gov website. This task includes storing and distributing WaterMarks, fact sheets, videos, legislative links, and educational materials, as well as, daily maintenance and update of text and links.

GIS Task Description:

During Phase I of a CWPPRA project it may be necessary to reevaluate that project to facilitate a scope change. NWRC provides the project manager with GIS support that consists of spatial data analyses, maps, graphics, and technical support utilizing the most recent spatial data sets available. Providing these products and services to CWPPRA agencies requires a standardized GIS data management environment and a good deal of coordination with those project managers.

Technical Services for FY16

Description	Cost
Project Information Database Maintenance - USGS	$41,710
CWPPRA Website (www.LACoast.gov) Maintenance	$55,000
GIS Support for CWPPRA Constructed Project Activities	$74,700
TOTAL	$171,410

Deliverables:

Project Information Database Maintenance Task

- Programming and database administration
- Data enabling fact sheets
- Federal security review

CWPPRA Website Maintenance Task

- Active and updated CWPPRA website maintained on daily basis
- Summary of CWPPRA website activities (Three times per year at Task Force meetings)

GIS Task

- Updated WVA analysis for In Phase projects
- Fact Sheet maps for In Phase and newly selected PPL projects
- Miscellaneous requests for CWPPRA agencies

Points of Contact:

Craig Conzelamnn, Physical Scientist
USGS - National Wetlands Research Center
700 Cajundome Blvd
Lafayette, LA 70506
work: 337-266-8842
mobile: 337-356-6510
Email: conzelmannc@usgs.gov

Michelle Fischer, Geographer
USGS - National Wetlands Research Center, Coastal Restoration Assessment Branch
c/o Livestock Show Office, Parker Coliseum, LSU
Baton Rouge, LA 70803
Ph: 225-578-7483
Email: fischerm@usgs.gov

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

REQUEST FOR A PHASE I BUDGET INCREASE FOR CAMERON CREOLE FRESHWATER INTRODUCTION PROJECT (CS-49)

For Decision:

CPRA has overspent CPRA Administration funds by $4,572 and proposes to increase funding for Phase I CPRA Administration by $64,572 to cover over expenditure and allow CPRA enough funds to perform Administration duties through Engineering and Design of the project.

The Technical Committee will consider and vote to make a recommendation to the Task Force to approve requests for an increase in Phase I funding by the amount of $64,572.

September 2009
Cost figures as of: July 2015

Cameron-Creole Freshwater Introduction (CS-49)

Project Status

Approved Date: 2009 **Project Area:** 22,247 acres
Approved Funds: $2.54 M **Total Est. Cost:** $12.7 M
Net Benefit After 20 Years: 473 acres
Status: Planning and Design
Project Type: Freshwater Diversion
PPL #: 18

Location

The project area is located on the east side of Calcasieu Lake and west of Gibbstown Bridge and Highway 27.

Problems

Virtually all of the project area marshes have experienced increased tidal exchange, saltwater intrusion, and reduced freshwater retention resulting from hydrologic changes associated with the Calcasieu Ship Channel and the GIWW. In addition, thousands of acres of marsh were damaged by Hurricane Rita and again, more recently, by Hurricane Ike. Because of man-made alterations to the hydrology, it is unlikely that those marshes will recover without comprehensive restoration efforts. The Cameron-Creole Watershed Project has successfully reduced salinities and increased marsh productivity. However, the area remains disconnected from freshwater, sediments, and nutrients available from the GIWW.

Hurricane damaged marsh in the project area to be benefitted by the proposed features.

Restoration Strategy

The freshwater introduction project would restore the function, value, and sustainability to approximately 22,247 acres of marsh and open water by improving hydrologic conditions via freshwater input and increasing organic productivity.

Progress to Date

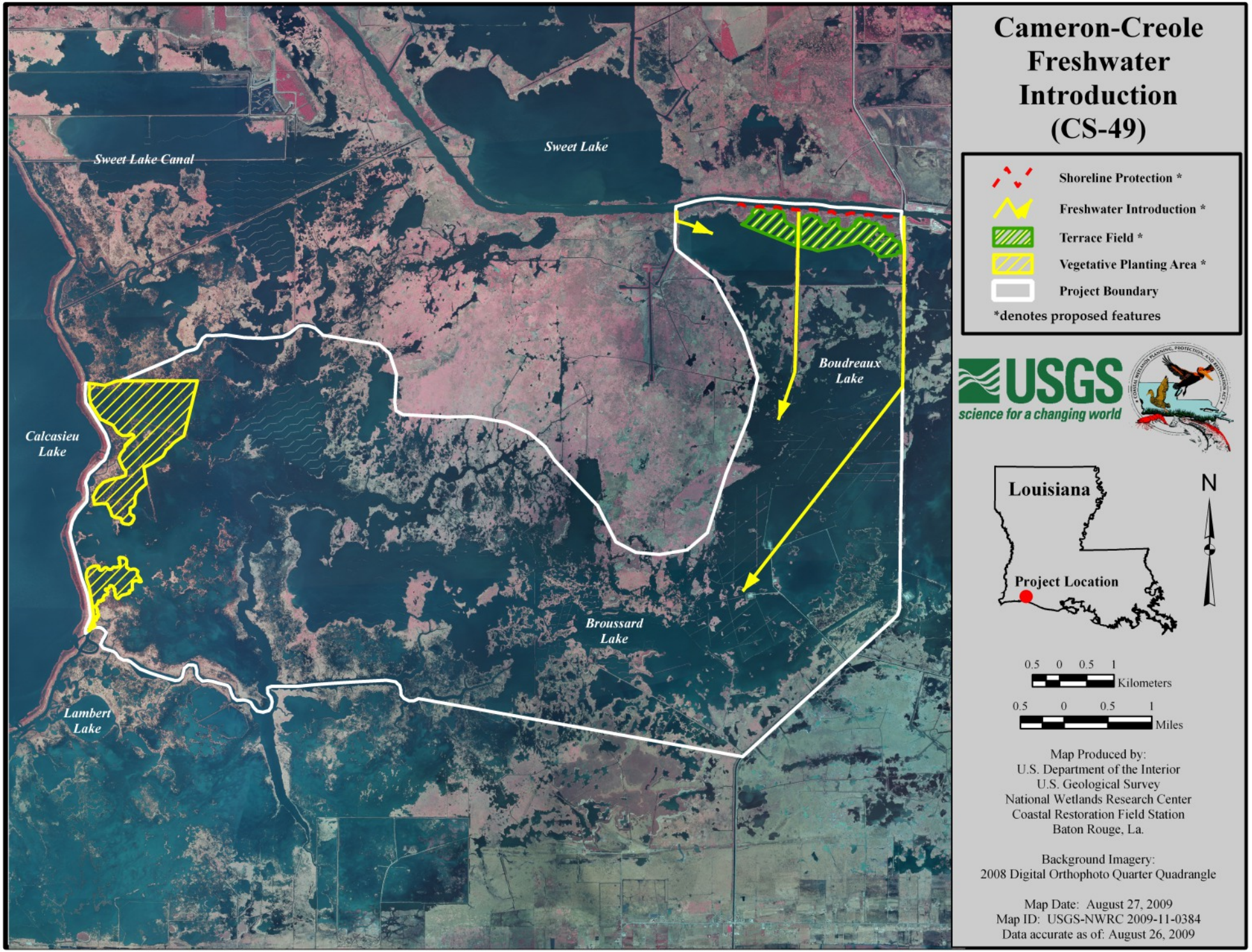
Project is currently in the Planning and Design Phase. Project Team is developing surveying, geotechnical investigations, and modeling requirements necessary to proceed to 30% design review. The planting portion of the project is scheduled to request Phase II funding at the January 2010 Task Force Meeting. Phase II funding for the remaining project features will be requested at the January 2012 Task Force meeting.

This project is on Priority Project List 18.

For more project information, please contact:

Federal Sponsor:
Natural Resources Conservation Service
Alexandria, LA
(318) 473-7756

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



Cameron-Creole Freshwater Introduction (CS-49)

- Shoreline Protection *
- Freshwater Introduction *
- Terrace Field *
- Vegetative Planting Area *
- Project Boundary

*denotes proposed features

USGS science for a changing world

0.5 0 0.5 1 Kilometers

0.5 0 0.5 1 Miles

Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La.

Background Imagery:
2008 Digital Orthophoto Quarter Quadrangle

Map Date: August 27, 2009
Map ID: USGS-NWRC 2009-11-0384
Data accurate as of: August 26, 2009

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

REQUEST FOR A PHASE I BUDGET INCREASE FOR THE NON-ROCK ALTERNATIVES TO SHORELINE PROTECTION DEMONSTRATION PROJECT (LA-16)

For Decision:

CPRA has overspent CPRA Easements and Land Rights funds by $15,989.64 and has overspent total CPRA Supervision and Administration funds by $33,809.48. CPRA requests a budget increase in the amount of $55,140.28 to cover the over expenditures and to allow CPRA's Lafayette Regional Office Staff enough funds to perform Construction Administration duties through the Construction Phase of the project.

The Technical Committee will consider and vote to make a recommendation to the Task Force to approve the request for an increase in Phase I funding in the amount of $55,140.28.

October 2009
Cost figures as of: July 2015

Non-Rock Alternative to Shoreline Protection Demostration (LA-16)

Project Status

Approved Date: 2009 **Project Area:** N/A
Approved Funds: $6.10 M **Total Est. Cost:** $6.10 M
Net Benefit After 20 Years: N/A
Status: Planning and Design
Project Type: Demonstration: Shoreline Protection
PPL #: 18

Location

Applicable statewide

Problems

Several shoreline areas within coastal Louisiana consist of unstable soil conditions, subsurface obstructions, accessibility problems, etc., which severely limit the alternatives of shoreline protection. The adopted standard across the state, where conditions allow, is the use of rock aggregate in either a revetment or foreshore installation. The major advantages of using rock are durability, longevity, and effectiveness. However, in areas where rock is not conducive for use and site limitations exist, current "proven" alternatives that provide equivalent advantages are limited.

Restoration Strategy

Several "new" concepts of providing shoreline protection have surfaced in the last couple of years. These concepts however, have not been researched or installed due mainly to budget limitations or the apprehension of industry, landowners, and others to "try" an unproven product. The intent of this demonstration project is to provide a funding mechanism to research, install, and monitor various shoreline protection alternatives in an area(s) of the state where physical, logistical and environmental limitations preclude the use of current adopted methods.

Progress to Date

This demonstration project is currently in the planning phase. A solicitation package is being prepared.

This project is on Priority Project List 18.

For more project information, please contact:

Federal Sponsor:
Natural Resources Conservation Service
Alexandria, LA
(318) 473-7756

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

REQUEST FOR A TRANSFER OF FUNDS FROM PPL6 DELTA-WIDE CREVASSES (MR-09) OPERATIONS AND MAINTENANCE TO MONITORING AND LONG-TERM S&A

For Decision:

CPRA and NOAA Fisheries are proposing the repurposing of authorized funding from Operations and Maintenance (O&M) to Monitoring in the amount of $241,500, and from the O&M activity to NOAA Long-term S&A in the amount of $40,000 via Memorandum of Agreement between the two agencies. These adjustments do not cause the total project estimates to exceed the maximum total project cost as currently authorized by the CWPPRA Task Force.

The Technical Committee will consider and vote to make a recommendation to the Task Force on the requested transfer of funds.

June 2004 (rev.)
Cost figures as of: July 2015

Delta Wide Crevasses (MR-09)

Project Status

Approved Date: 1997 **Project Area:** 5,210 acres
Approved Funds: $4.72 M **Total Est. Cost:** $4.72 M
Net Benefit After 20 Years: 2,386 acres
Status: Completed 1999
Project Type: Water Diversion
PPL #: 6

Location

The project is located in Plaquemines Parish, Louisiana, within the Pass a Loutre Wildlife Management Area (Louisiana Department of Wildlife and Fisheries) and the Delta National Wildlife Refuge (U.S. Fish and Wildlife Service).

Problems

The Mississippi River Delta is one of the hallmark symbols of Louisiana's rich natural heritage. Unfortunately, natural and man-made alterations to the Mississippi River have changed the hydrology of the river and impeded the natural wetland building processes in the delta. Levees constructed for navigation maintenance and flood control have reduced natural sedimentation and freshwater flow, causing deterioration of wetlands and saltwater intrusion. Crevasses are breaks in the levees that allow the river to deposit sediments into adjacent shallow bays. The wetlands formed from the deposition of these sediments are called crevasse splays. This restoration project mimics the natural process of crevasse formation that was responsible for building much of the Mississippi River Delta.

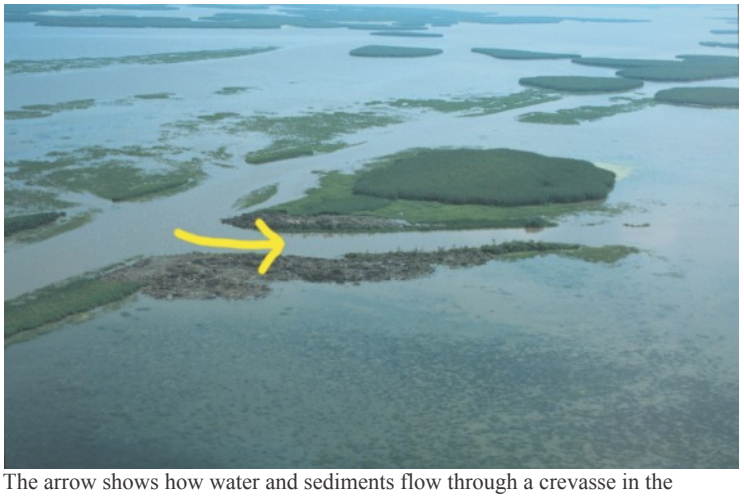
Restoration Strategy

The project consists of maintaining presently existing crevasse splays, the construction of new crevasse splays and plugs, and future maintenance of selected crevasse splays in both the Pass a Loutre Wildlife Management Area and the Delta National Wildlife Refuge. The objective is to promote the formation of emergent freshwater and intermediate marsh.

Progress to Date

The first dredging cycle of construction was completed in 1999; three dredging cycles are scheduled in the future. The second cycle is scheduled for early summer 2004.

This project is listed on Priority Project List 6.



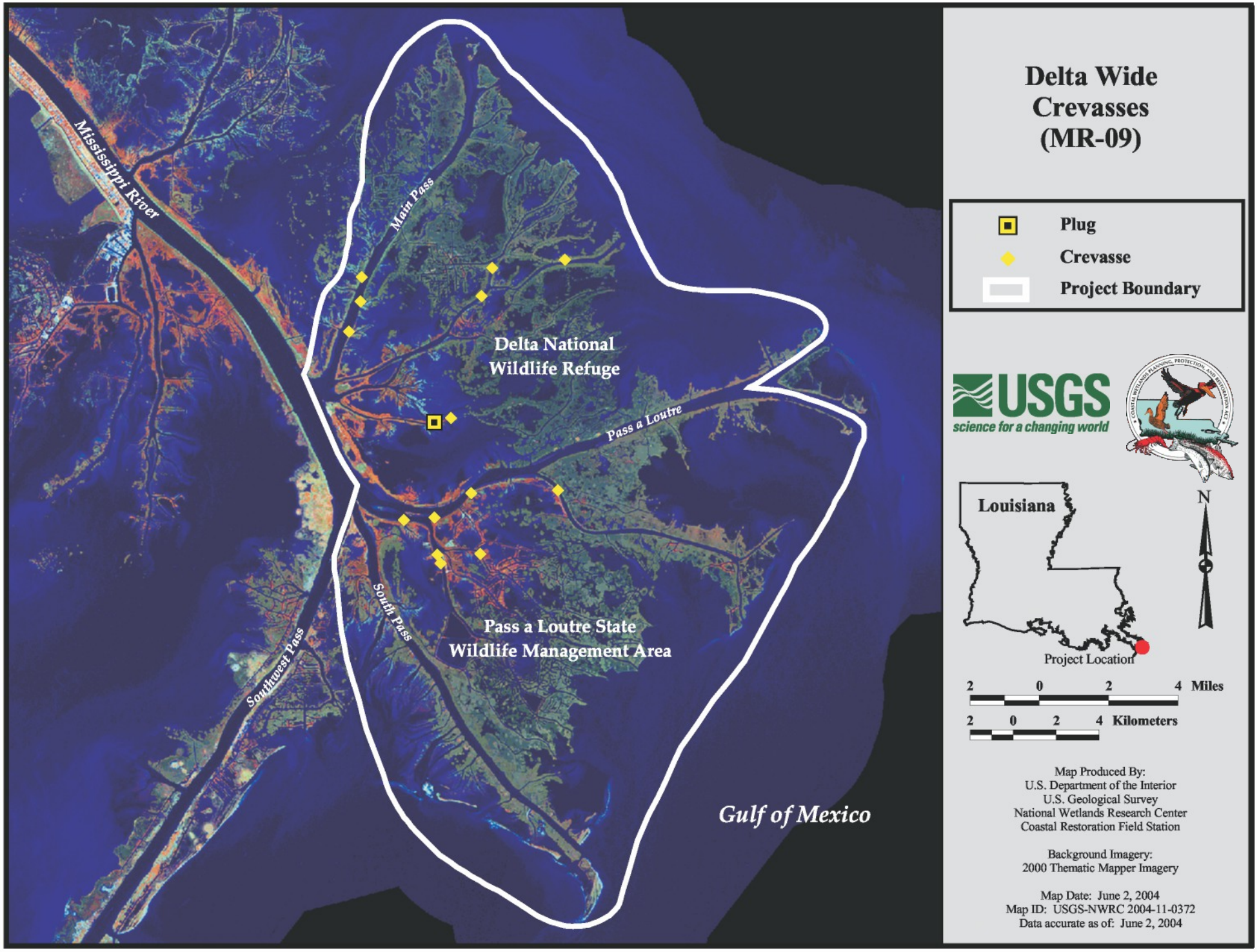
The arrow shows how water and sediments flow through a crevasse in the Mississippi River.

This image shows a crevasse being plugged in 1999 in order to maximize the effectiveness of crevasses downstream. As this project contains several building cycles, project components are adjusted over time to achieve optimal performance as new features are constructed.

For more project information, please contact:

Federal Sponsor:
National Marine Fisheries Service
Baton Rouge, LA
(225) 389-0508

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



Delta Wide Crevasses (MR-09)

Plug

Crevasse

Project Boundary

USGS science for a changing world

Louisiana

Project Location

N

2 0 2 4 Miles

2 0 2 4 Kilometers

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
2000 Thematic Mapper Imagery

Map Date: June 2, 2004
Map ID: USGS-NWRC 2004-11-0372
Data accurate as of: June 2, 2004

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

REQUEST FOR A TRANSFER OF FUNDS FROM PPL 2 – CLEAR MARAIS BANK PROTECTION (CS-22) OPERATIONS AND MAINTENANCE TO MONITORING

For Decision:

The CS-22 project does not have sufficient funds to complete remaining monitoring tasks which include final shoreline data collection and composition of the final OM&M Report. There are sufficient O&M funds available to complete remaining O&M inspections and fund monitoring tasks through the end of the project in 2017 at an amount of $47,100.

The Technical Committee will consider and vote to make a recommendation to the Task Force on the requested transfer of funds.

Request for Transfer of Funds from the PPL2 – Clear Marais Bank Protection Project (CS-22) Operations & Maintenance to Monitoring
Fact Sheet
August 26, 2015

Project Name: Clear Marais Bank Protection (CS-22)
PPL: 02
Federal Sponsor: U.S. Army Corps of Engineers
Construction Completion Date: 03 Mar 1997
Project Close-out Date: 03 Mar 2017

Project Description: The Clear Marais shoreline protection project area is located along the north bank of the Gulf Intracoastal Waterway (GIWW) in Cameron Parish between the Alkali ditch and Goose Lake. The project is designed to protect 4,637 ac (1,876 ha) of freshwater marsh that are threatened by saltwater intrusion and marsh loss from breaches in the GIWW shoreline. Breaches in the GIWW have led to marsh loss in the Clear Marais area because of its increased exposure to saltwater intrusion, boat wakes, and tidal scour. As a result, erosion of the north bank of the GIWW threatens not only the water management levee to its north, but also the marshes protected by the levees. The project design included a 35,000 ft (10,668 m) rock dike along the north shore of the GIWW to protect the integrity of the Clear Marais freshwater wetlands north of the GIWW.

Monitoring changes from the approved project: 1) Monitoring of shoreline markers was increased to five times post construction. 2) The 2006 and 2015 aerial photography was eliminated due to reallocation of CWPPRA monitoring funds for the Coast-wide Reference Monitoring System (CRMS*)*.

Explain why a monitoring funding increase is needed: Additional funding is needed to assess shoreline movement at 35 shoreline marker stations adjacent to the rock breakwater. Currently, funding is not available to complete the final shoreline change sampling which will be used to support the success of the project in the final OM&M report. Prior shoreline change data was collected in 1997, 2000, 2003, 2006, and 2010 and is scheduled to be collected in 2015. Currently, the monitoring fund has been expended and has a balance of **$-4,868.** It has been determined that **$47,100** is needed for the 2015 shoreline change data collection and the 2016 OM&M report. It is proposed that $47,100 is transferred from the available Operations and Maintenance (O&M) fund of $316,464, leaving $269,364 in the O&M fund which CPRA has determined at this time would be sufficient to meet the future O&M activities scheduled through the end of project life (in 2017). No increase in the approved fully funded project cost estimate is sought – only a transfer of available funds from O&M to Monitoring.

	Operations and Maintenance	Monitoring
Current Available Funding:	$ 316,464	$ -4,868
Funding if Transfer Approved:	$ 269,364	$ 47,100

October 2002
Cost figures as of: July 2015

Clear Marais Bank Protection (CS-22)

Project Status

Approved Date: 1992 **Project Area:** 4,637 acres
Approved Funds: $3.69 M **Total Est. Cost:** $3.69 M
Net Benefit After 20 Years: 1,067 acres
Status: Completed March 1997
Project Type: Shoreline Protection
PPL #: 2

Location

The project is located north of the Gulf Intracoastal Waterway (GIWW), approximately 10 miles northwest of Hackberry in Calcasieu Parish, Louisiana. It encompasses 4,637 acres of fresh marsh and open water.

Problems

Breaches in the GIWW have led to marsh loss in the Clear Marais area because of its increased exposure to saltwater intrusion, boat wakes, and tidal scour. As a result, erosion of the north bank of the GIWW threatens not only the water management levee to its north, but also the marshes protected by the levees.

Restoration Strategy

This project plan consisted of placing 6.7 miles of limestone riprap shoreline protection on the north bank of the GIWW to reduce erosion and fill the breaches. The project provides levee protection by placing stone riprap along the waterway and planting vegetation in the sheltered area between the riprap and the levee.

Pictured above is the GIWW at Clear Marais, with the rock riprap running along the right bank. To the immediate right of the riprap is the sheltered area that was the focus of the planting effort, with the management levee forming a boundary between it and the project area's marsh, which is visible on the far right.

Rock riprap provides shoreline protection from wave energy produced by shipping vessels on the GIWW.

Progress to Date

In March 1997, a 35,000-foot limestone breakwater was completed along the GIWW's norther n bank. It was designed to prevent the continued erosion of the management levee and the encroachment of the GIWW into the project area.

Shoreline gains have occurred at 24 of the 34 sampling sites established behind the breakwater, but shoreline losses have occurred at all of the project's unprotected reference sites. Overall, the project has produced an average land gain of 4.85 feet per year as opposed to the loss of 15.87 feet per year observed in the reference areas.

The construction phase of the project is complete. The monitoring plan has been completed and monitoring initiated. Operation and maintenance is scheduled for the future.

This project is on Priority Project List 2.

For more project information, please contact:

Federal Sponsor:
U.S. Army Corps of Engineers
New Orleans, LA
(504) 862-1597

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736

Clear Marais Bank Protection (CS-22)

Shoreline Protection

Project Boundary

USGS science for a changing world

N

0.5 0 0.5 1 Miles

0.5 0 0.5 1 Kilometers

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
1998 Digital Orthophoto Quarter Quadrangle

Map Date: August 20, 2002
Map ID: 2002-11-699
Data accurate as of: August 20, 2002

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

REQUEST FOR OPERATION AND MAINTENANCE (O&M) INCREMENTAL FUNDING AND BUDGET INCREASES

For Decision:

The Technical Committee will consider and vote to make a recommendation to the Task Force to approve requests for total FY18 incremental funding in the amount of $8,999,435 and O&M budget increases totaling $3,048,600.

a. PPL 9+ Projects requesting approval for FY18 incremental funding in the total amount of $5,959,556 for the following projects:

- GIWW - Perry Ridge West Bank Stabilization (CS-30), PPL9, NRCS
  Incremental funding amount: $6,539
- Freshwater Introduction South of Highway 82 (ME-16), PPL-9, USFWS
  Incremental Funding amount: $120,478
- North Lake Mechant Landbridge Restoration, (TE-44), PPL-10, USFWS
  Incremental Funding amount: $400,000
- Little Lake Shoreline Protection/ Dedicated Dredging Near Round Lake, (BA-37), PPL-11, NMFS
  Incremental Funding amount: $600,000
- West Lake Boudreaux Shoreline Protection and Marsh Creation (TE-46), PPL11, USFWS
  Incremental Funding amount: $1,489,805
- Coastwide Nutria Control Program (LA-03b), PPL-11, NRCS
  Incremental funding amount (FY16): $2,086,556
- Mississippi River Sediment Delivery System - Bayou Dupont (BA-39), PPL12, EPA
  Incremental Funding amount: $7,200
- South White Lake Shoreline Protection (ME-22), PPL12, COE
  Incremental funding amount: $8,315
- West Belle Pass Barrier Headland Restoration, (TE-52), PPL-16, NMFS
  Incremental Funding amount: $7,259
- Coastwide Vegetative Planting (LA-39), PPL-20, NRCS
  Incremental Funding amount: $1,188,080
- Four Mile Canal Terracing and Sediment Trapping (TV-18), PPL 9, NMFS
  Incremental funding amount: $6,267

- Barataria Barrier Island Complex: Pelican Island and Pass La Mer to Chaland Pass Restoration (BA-38), PPL 11, NMFS
  Incremental Funding amount: $12,428
- Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration (BA-35, PPL 11, NMFS
  Incremental Funding amount: $9,653
- Bayou Dupont Marsh and Ridge Creation (BA-48), PPL-17, NMFS
  Incremental funding amount: $10,218
- Grand Liard Marsh and Ridge Restoration (BA-68), PPL-18, NMFS
  Incremental funding amount: $6,758

b. PPL 1-8 Project requesting approval for FY18 incremental funding in the total amount of $227,361:

- GIWW to Clovelly Hydrologic Restoration (BA-02), PPL-1, NRCS
  Incremental Funding amount: $28,751
- Highway 384 Hydrologic Restoration (CS-21), PPL2, NRCS
  Incremental Funding amount: $23,867
- Sabine Refuge Structures (CS-23), PPL-3, USFWS
  Incremental Funding amount: $ 43,709
- Lake Chapeau Sediment Input and Hydrologic Restoration, Point Au Fer Island (TE-26), PPL-3, NMFS
  Incremental Funding amount: $10,094
- Brady Canal Hydrologic Rest, (TE-28), PPL-3, NRCS
  Incremental Funding amount: $ 103,716
- Black Bayou Hydrologic Restoration (CS-27), PPL-6, NMFS
  Incremental Funding amount: $17,224

c. PPL 9+ Projects requesting approval for a budget increase in the amount of $3,048,600 and FY18 incremental funding in the amount of $2,812,518 for the following projects:

- Raccoon Island Shoreline Protection/Marsh Creation, (TE-48), PPL-11, NRCS
  Budget increase amount: $3,048,600
  Incremental Funding amount: $2,812,518

rev. September 2010
Cost figures as of: July 2015

Coastwide Nutria Control Program (LA-03b)

Project Status

Approved Date: 2002 **Project Area:** Coastwide
Approved Funds: $34.6 M **Total Est. Cost:** $68.0 M
Net Benefit After 20 Years: N/A
Status: Implementation
Project Type: Herbivory Control
PPL #: 11

Location

This project is located throughout the coastal zone of Louisiana. The program area includes all basins and coastal parishes located south of Interstates 10 and 12.

Problems

Prior to implementation of the Coastwide Nutria Control Program in 2002, fur trapping activity had declined drastically for over 10 years because of weak market demand and low prices. In coastal Louisiana, this decline has resulted in overpopulation of nutria and serious damage to coastal wetlands from nutria herbivory. Annual aerial surveys from 1993 to 2001 have indicated that approximately 100,000 acres have been impacted coastwide.

Restoration Strategy

This project's objective is to significantly reduce the damage nutria herbivory causes to coastal wetlands.

The Coastwide Nutria Control Program is designed to remove about 400,000 nutria annually. The control program consists of an incentive payment program to encourage nutria harvesting. The program is implemented by the Louisiana Department of Wildlife and Fisheries.

Nutria harvest locations are recorded in an effort to compare harvest levels and occurrence of herbivory damage.

Mature nutria are very prolific, leading to a high population. Without significant annual harvest, nutria can cause significant damage to marshes and swamps in coastal Louisiana.

Progress to Date

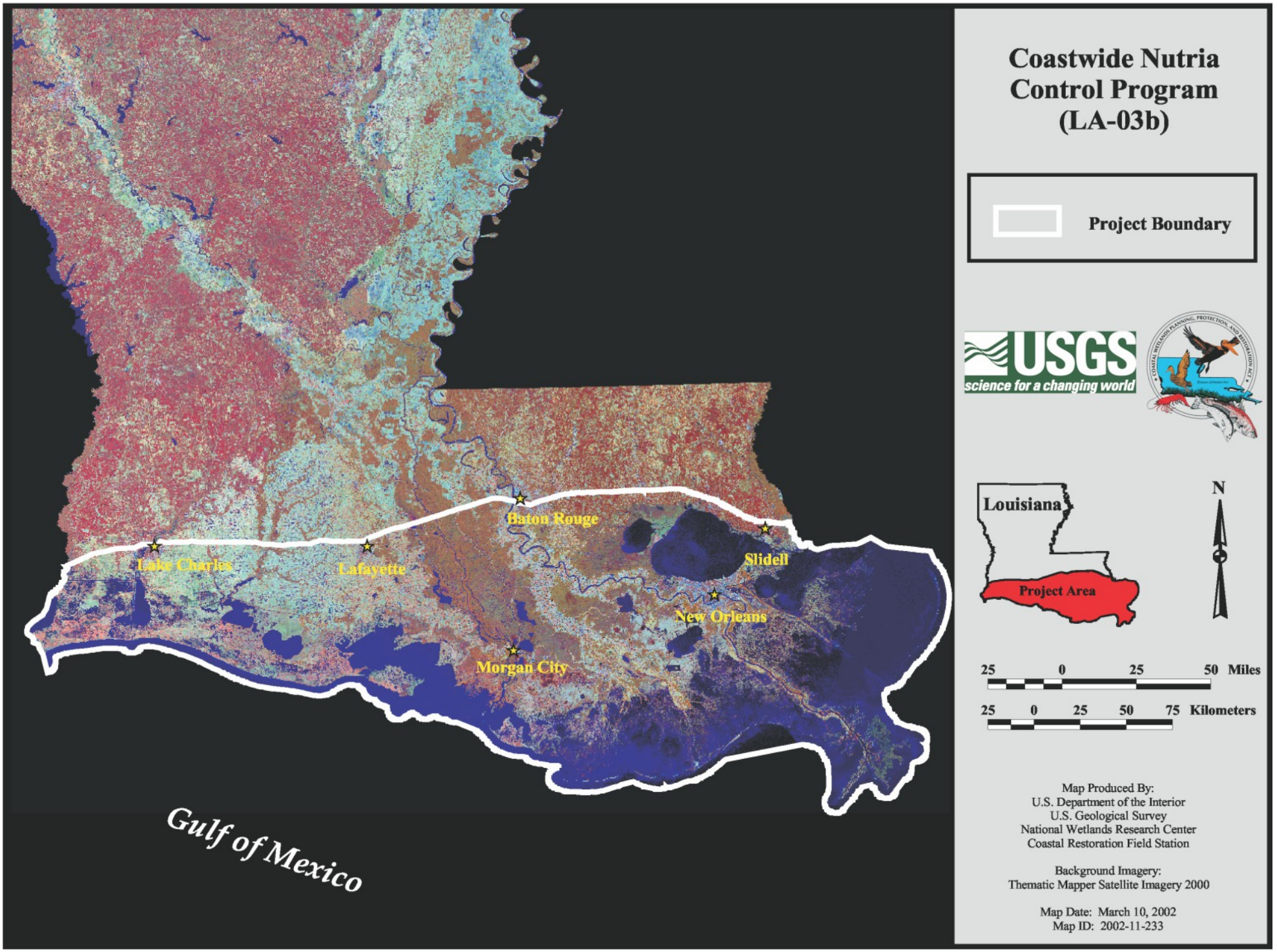
This project was selected for Phase 1 (engineering and design) funding at the January 2002 Louisiana Coastal Wetlands Conservation and Restoration Task Force meeting (Priority List 11). Phase 2 (implementation) was approved during the April 2002 Task Force meeting and began in November 2002 with the 2002-03 Louisiana trapping season. Over the first eight years of program implementation, nutria harvest has averaged 321,354 per year. Acres damaged by herbivory has decreased from about 100,000 acres to about 8,500 acres since the program began.

This project is on Priority Project List 11.

For more project information, please contact:

Federal Sponsor:
Natural Resources Conservation Service
Alexandria, LA
(318) 473-7816

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736


Coastwide Nutria Control Program (LA-03b)
Project Boundary
USGS
science for a changing world
Louisiana
Project Area
N
Baton Rouge
Lake Charles
Lafayette
Slidell
New Orleans
Morgan City
Gulf of Mexico
25 0 25 50 Miles
25 0 25 50 75 Kilometers
Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Background Imagery:
Thematic Mapper Satellite Imagery 2000
Map Date: March 10, 2002
Map ID: 2002-11-233

rev. September 2013
Cost figures as of: July 2015

Coastwide Vegetative Planting (LA-39)

Project Status

Approved Date: 2011 **Project Area:** 4,903 acres
Approved Funds: $8.25 M **Total Est. Cost:** $12.6 M
Net Benefit After 20 Years: 779 acres
Status: Operation and Maintenance
Project Type: Vegetative Planting
PPL #: 20

Location

The project features are located in the coastal zone of Louisiana.

Problems

The coastal restoration community has long recognized the benefits of vegetative plantings in restoration. Many marsh creation and most terracing projects require plantings to insure success. Coastal shoreline plantings have also proven to be very effective and some have demonstrated the ability to not only stop shoreline erosion but to facilitate accretion, the process of increasing sediments. Recent hurricane events have exposed a need to have a mechanism in place where large-scale planting efforts can be deployed in a timely manner to specifically targeted areas of need, anywhere along the coast.
Although the CWPPRA program can fund specific large-scale planting projects, the normal program cycle for individual projects can delay needed restoration plantings for a number of years.

Restoration Strategy

The goals of this project are to facilitate a consistent and responsive planting effort in coastal Louisiana that is flexible enough to routinely plant on a large scale and be able to rapidly respond to critical areas of need following storm or other damaging events. This project set up an advisory panel consisting of representatives from various state and federal agencies who would assist in the selection of projects for funding. The project also set up a mechanism by which project nominations would be submitted for consideration.

The equivalent of 90 acres of interior marsh and 40,000 linear feet of coastal shoreline will be planted per year over a 10 year period to effectively create/protect a total of 779 net acres of marsh over the 20-year project life.

Progress to Date

This project is on Priority Project List 20. Three sites have been planted with Year One funding, and three sites are scheduled to be planted in 2014 with Year Two funding.

Recently planted vegetation at the LA-39 project site at Marsh Island.

An example of vegetative plantings in interior marsh areas.

For more project information, please contact:

Federal Sponsor:
Natural Resources Conservation Service
Alexandria, LA
(318) 473-7756

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736

Coastwide Vegetative Planting (LA-39)

Project Boundary

USGS science for a changing world

Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La.

Background Imagery:
2009 Landsat Thematic Mapper 5 Mosiac

Map Date: February 8, 2011
Map ID: USGS-NWRC 2011-11-0016
Data accurate as of: January 3, 2011

TE-48 Raccoon Island Shoreline Protection and Marsh Creation Project

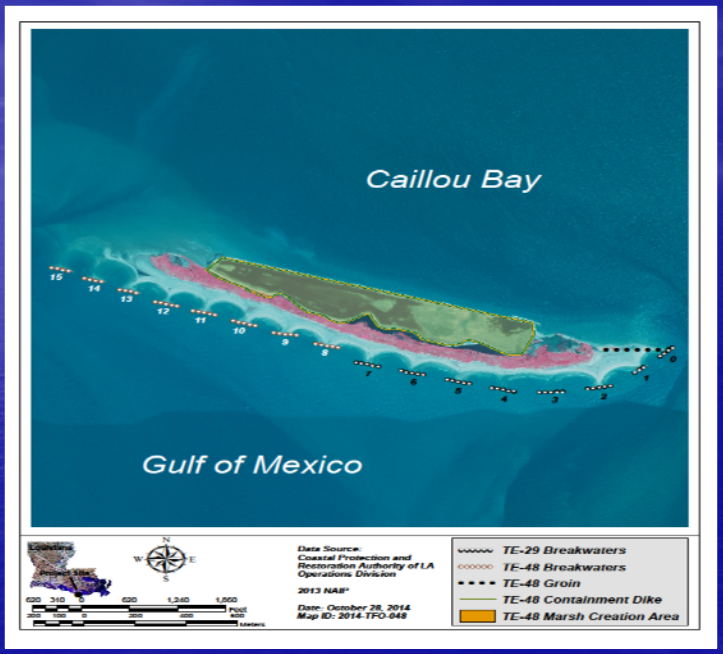
TE-48 Raccoon Island

PROJECT SPONSORS

- **Federal Sponsor:** National Resource Conservation Service (NRCS)
- **Local Sponsor:** Coastal Protection and Restoration Authority (CPRA)

HISTORICAL INFORMATION

- TE-29 Raccoon Island Breakwater Demonstration Project was completed in 1997 and consisted of eight (8) segmented breakwaters gulf-ward of the island.
- TE-48 – Phase A was completed in 2007 and included eight (8) additional breakwaters gulf-ward of the island and an eastern groin connecting Breakwater 0 to the island.
- TE-48 – Phase B was completed in 2013 and consisted of the construction of approximately 58 acres of marsh creation and nourishment, containment dikes, geotextile tubes, and geotextile protected containment dikes.
- CWPPRA task force approved combining the Operations and Maintenance of the Raccoon Island (TE-29) Demonstration project and the TE-48 Raccoon Island Shore Protection and Marsh Creation Project January 2015.



ADDITIONAL CONSTRUCTION DETAILS

Raccoon Island Breakwater Demonstration (TE-29) Project

- Eight (8) rock riprap breakwaters – Breakwaters range in length from 280 to 320 ft. long with a 10 ft. top width and 3:1 side slopes. The breakwaters were constructed above a plastic filter cloth to an elevation between 6.0' and 8.0' NGVD.
- **Construction Cost: $1,061,400**

Raccoon Island Shoreline Protection/Marsh Creation (TE-48) Project – Phase A

- Eight (8) rock riprap breakwaters - Breakwaters are 300 ft. long with a 10 ft. wide top width and 3:1 side slopes. The breakwaters were constructed above a geotextile fabric to an elevation of +4.5' NAVD 88.
- 926 ft. long eastern groin connecting breakwater 0 to the island to stabilize the eastern end of the island. The groin consisted of a 10 ft. wide top width, 3:1 side slopes and was constructed to a =4.5' NAVD 88 elevation.
- **Construction Cost: $4,101,193**

Raccoon Island Shoreline Protection/Marsh Creation (TE-48) Project – Phase B

- Approximately 58 acres of marsh creation and nourishment was constructed to a minimum finished elevation +4.5' NAVD 88.
- 9,769 liner feet of earthen containment dikes with 4,620 linear feet of the containment dike protected by a geotextile cover.
- 400 linear ft. of geotextile tubes.
- **Construction Cost: $10,291,678**

TE-29 Raccoon Island Segmented Breakwater

TE-48 Raccoon Island Segmented Breakwater

TE-48 – Protected Containment Dike/Geotextile Tubes

View of geotextile fabric material covering the earthen containment dike on the bay side of the island. This material was installed during construction activities as a temporary measure to prevent damage and breaching of the dikes while the disposal area was being filled.

Since completion of the back barrier marsh in 2013, the geotextile material has become degraded and most of the seams have begun to tear. Under the proposed Maintenance Project No. 1, all of the geotextile material will be removed while it is still recoverable.

PROPOSED MAINTENANCE EVENT No.1 - DETAILS

- Proposed Maintenance Event No. 1 includes a lift on the rock breakwaters that have settled since the TE-29 and TE-48 were completed and the removal of geotextile fabric cover and tubes placed during construction to stabilize the containment dikes on the bay side of the island.
- CWPPRA Task Force has approved combining Operations and Maintenance funds for the TE-29 and TE-48 projects.
- CPRA would be the lead agency for implementing Maintenance Event No. 1.
- Engineering and Design could begin in the fall of 2015.
- Construction could be completed by end of 2016.

PROPOSED MAINTENANCE EVENT No. 1 – Estimated Project Budget

Proposed Maintenance Event No. 1 consist of raising breakwaters that have settled to its original design elevation and removal of geotextile fabric cover above the containment dikes and geotextile tubes on the bay side of the island. The overall projected project budget to complete this work is outlined below:

Estimated Construction Cost:	$1,989,375
Engineering and Design:	$ 129,309
Surveying:	$ 31,500
Permitting:	$ 5,000
Construction Inspection:	$ 48,000
Construction Administration:	$ 20,000
CPRA Administration:	$ 89,854
Total Overall Estimated Project Budget:	$2,308,538

ADDITIONAL FUTURE MAINTENANCE – Annual Inspections for years 2016-2018, vegetative plantings in 2016 and 2018, settlement plate surveys in 2020, 2025, and 2028, and two (2) post tropical storm surveys.

TE-48 INCREMENTAL FUNDING REQUEST – (FY16 TO FY18)

Incremental Funding (Years 3 through 5)	FY 16 through FY18
Total Funded O&M Budget	$86,582*
Estimated O&M Expenditures thru 8/2015	$94,890
Estimated O&M Funds Remaining	($8,308)
Projected O&M Budget (FY16 – FY 18)	$2,804,210
Incremental Request (FY-16 to FY18)	**$2,812,518**

*Funded O&M budget from latest Lana Report.

TE-48 OPERATION AND MAINTENANCE PROJECT LIFE INCREASE

Current Approved O&M Budget	$443,453
Estimated O&M Expenditures thru 8/2015	$94,890
Estimated O&M Funds Remaining	$348,563
Funds Need for 2016-2032	$3,397,163
O&M Budget Increase Request	**$3,048,600**

Request for CWPPRA Project O&M Funding Increase
Project Costs and Benefits Reevaluation
Fact Sheet
August 17, 2015

Project Name: Raccoon Island Shoreline Protection and Marsh Creation (TE-48) Project – Phase A & B
PPL: 11
Federal Sponsor: NRCS
Construction Completion Date: Phase A – September 2007; Phase B – April 2013
Projected Project Close-out Date: Phase A – July 2008; Phase B – June 2013

Project Description: The Raccoon Island Breakwaters (TE-29) Demonstration project was a five (5) year demonstration project completed in 1997 that did not include operations and maintenance funding for the life of the project. It was determined by NRCS and CPRA that the demonstration project was having a positive effect on reducing erosion on the shore face of the island and that maintaining the integrity of the breakwaters would benefit the island as a whole. In October 2014, the CWPPRA Task Force approved the request made by NRCS to include provisions for maintenance of the TE- 29 demonstration project in the operations and maintenance plan for the Raccoon Island Shore Protection and Marsh Creation (TE-48) project.

The Raccoon Island Shoreline Protection / Marsh Creation (TE-48) project is essentially an extension of the Raccoon Island Breakwaters Demonstration Project (TE-29). The TE-29 project was built to demonstrate the effectiveness of segmented breakwater construction along the gulf side shoreline of Raccoon Island. A total of eight (8) segmented breakwaters approximately 300' long, 10' top width and 10' high were constructed along the east end of the island extending westward.

Phase A of the Raccoon Island Shoreline Protection and Marsh Creation Project (TE-48) was completed on September 16, 2007 and consisted of the construction of an additional eight (8) breakwaters along the gulf side of Raccoon Island and an eastern terminal groin extending to the existing breakwater 0 of the demonstration project.

Phase B of the Raccoon Island Shoreline Protection and Marsh Creation Project (TE-48) was completed on April 27, 2013 and consisted of the construction of approximately 58 acres of marsh creation and a herbaceous vegetative planting.

Construction changes from the approved project: No change in constructed features; however, approval has been given to include the eight (8) breakwaters constructed under the demonstration project (TE-29) into the maintenance plan for the TE-48 project.

Explain why O&M funding increase is needed: O&M funding increase is needed in year 2016 to refurbish the breakwaters along the shoreline of Raccoon Island to original design elevation, remove approximately 9,000 linear feet of geotextile fabric covering the containment dikes on the north side of the island, removal of 400 linear feet of geotubes, and plant marsh vegetation to enhance the 58 acre marsh platform.

Detail O&M work conducted to date: To date, no O&M work has been performed.

Detail and date of next O&M work to be completed: We anticipate that engineering and design of the first maintenance event mentioned above will begin around November 2015 and construction to begin in the fall of 2016.

Detail of future O&M work to be completed: The remaining years beginning in year FY19 through FY 32 shall include annual inspections, vegetative plantings in FY16 and FY18, settlement plate surveys in years 5, 10 and 15, and two (2) post tropical storm surveys.

Originally approved fully funded project cost estimate: $17,050,747

Originally approved O&M budget: $443,453

Approved O&M Budget Increases: $0

Total O&M obligations to date: $94,890

Remaining available O&M budget funds: $348,563

Current Incremental Funding Request: $2,812,518

Revised fully funded cost estimate $23,163,393

Total Project Life Budget Increase: $3,048,600

Requested Revised fully funded O&M estimate $3,492,053

Percent total project cost increase of proposed revised budget over original budget: 35.85 %

Percent total project cost increase of proposed revised budget over original budget plus net budget changes: 15.16%

Original net benefits based on WVA prepared when project was approved: 71 acres

Estimate of cumulative project wetland acres to date (from quantitative and/or qualitative analysis):

Revised estimate of project benefits in net acres through 20 year project life based on the project with and without continued O&M (include description of method used to determine estimate): No anticipated change in estimated net benefits, project is performing as expected.

Original and revised cost effectiveness (cost/net acre) and percent change:

Original CE = $240,151/acre
Revised CE = $326,245/acre 35.85%

Original plus net budget changes and revised cost effectiveness (cost/acre) and percent change:

Original CE = $283,307/acre
Revised CE = $326,245/acre 15.16%

Request for CWPPRA Project O&M Funding Increase
Project Performance Synopsis
August 2015

Raccoon Island Breakwater Demonstration (TE-29) Project
Raccoon Island Shoreline Protection and Marsh Creation (TE-48) Project

Introduction

The Raccoon Island Breakwater (TE-29) Demo project was completed in 1997 and consisted of eight (8) segmented breakwaters (#0 to #7) gulf-ward of the island. This project was constructed to demonstrate the effectiveness of rock breakwaters in protecting the island beach from erosion by reducing wave energy and producing an environment that promotes accretion along the beach. A discussion of the data and findings will be presented further along in this synopsis.

The Raccoon Island Shoreline Protection/Marsh Creation (TE-48) project was originally conceived as a single restoration project. However, TE-48 was divided into two phases to facilitate the construction of the shoreline protection part of the project (Phase A). The shoreline protection phase of the TE-48 project extended the TE-29 breakwater field 4,000 feet to the west by constructing eight (8) additional rock breakwaters (#8 to -#15) and constructed a rock groin on the eastern edge of Raccoon Island. Phase A was constructed in 2007 while Phase B, the back barrier marsh creation part of the TE-48 project, was completed in 2013. Phase B created approximately 58 acres of back barrier marsh beginning on the eastern terminus of Raccoon Island and extended westward. This project was also constructed to protect the island from beach erosion and to create intertidal and supratidal marsh habitat to sustain Raccoon Island rookery and sea bird colonies.

As with most demonstration projects, there were no maintenance funds allocated to the Raccoon Island Breakwater (TE-29) project to maintain the breakwaters that have settled since 1997. Since no funds were available, the Natural Resource Conservation Service (NRCS) made a request to the CWWPRA Task Force in May 2015 that would incorporate the project features constructed under the TE-29 demonstration project into the operations and maintenance plan of the Raccoon Island Shoreline Protection and Marsh Creation (TE-48) Project. The task force subsequently approved NRCS's request and a follow-up request for additional funding will be made during the September 2015 funding cycle to proceed with maintenance of the TE-29 and TE-48 breakwaters.

Performance Synopsis

The Raccoon Island Breakwater (TE-29) Demo project showed persistent salient growth during the initial 12 months after construction due to the presence of a large shoal directly south of these structures. Over the remaining four (4) years of monitoring some erosion did occur behind the TE-29 structures. Part of the erosion was caused by T. S. Isidore and Hurricane Lilli in 2002 and the configuration of breakwaters 0-2 induced channel formation in the lee of these structures. While volumetric transgressions did occur, the project was successful in achieving its goals, to slow beach erosion, enhance sediment deposition, and protect the back barrier marshes.

Phase A of the Raccoon Island Shoreline Protection/Marsh Creation (TE-48) project enhanced the sediment volume behind its structures, advanced the shoreline position, and aggraded the channel that formed behind breakwaters 0 and 1. The TE-48 groin expanded the shoreline and gained considerable volume. The large volume increase surrounding this structure initiated salient formation behind TE-29 breakwaters 1 and 2 and closed a channel that developed behind TE-29 breakwaters 0 and 1. As a result, the placement of the groin in its current location has increased volumes and extended shoreline positions in the lee of TE-29 breakwaters 0-2 stabilizing the eastern margin of the Raccoon Island. The TE-48 breakwaters all showed volume gains and breakwaters 8 through 12 displayed tombolo or salient formations while TE-29 breakwaters 3 through 6 have recorded sediment volume reductions in recent years. TE-29 breakwaters 3 and 4 have settled and should be repaired. These structures have recessed and are only partially exposed during higher tides affecting the shoreline response in the lee of these structures. As a result, the TE-48 goal to reduce shoreline erosion to protect habitats sustaining the Raccoon Island rookery and sea bird colonies was attained because all TE-48 structures gained sediment volume and advanced the shoreline positions in their lee.

Phase B of the Raccoon Island Shoreline Protection/Marsh Creation (TE-48) project was recently constructed and no assessment of this second phase has been undertaken to date. The marsh creation area was too recently constructed to make any conclusions. The area is filled and looks suitable for habitat development.

January 2008 (rev)
Cost figures as of: July 2015

Raccoon Island Breakwaters Demonstration (TE-29)

Project Status

Approved Date: 1996 **Project Area:** N/A
Approved Funds: $1.75 M **Total Est. Cost:** $1.75 M
Net Benefit After 20 Years: N/A
Status: Completed July 1997
Project Type: Demonstration: Barrier Island Restoration
PPL #: 5

Location

The project is located approximately 21 miles southwest of Cocodrie, Louisiana, in Terrebonne Parish.

Problems

Raccoon Island, like all of Louisiana's barrier islands, is narrowing and losing land because of the combined effects of sea-level rise, subsidence, storm activity, inadequate sediment supply, and significant human-related disturbances.

Segmented rock breakwaters function as effective barriers against perpetual wave erosion and act as sand traps. Newly formed "tombolos," or sandbars, can be seen behind the breakwaters.

Restoration Strategy

Eight segmented breakwaters were constructed along the eastern end of the island to reduce the rate of shoreline retreat, promote sediment deposition along the beach, and protect seabird habitat.

Project effectiveness will be determined by monitoring changes in the shoreline, wave energy, and elevations along the beach, and by surveys of the gulf floor between the shoreline and the breakwaters.

Progress to Date

Based on wave data collected through September 1998, the segmented breakwaters have significantly reduced wave energy landward of the structures and are providing protection to the adjacent shoreline.

The breakwaters have reversed the long-term shoreline retreat rate of 36.4 feet per year along most of the project area, but shoreline retreat continues to persist along the eastern end of the project due to the orientation of the breakwaters.

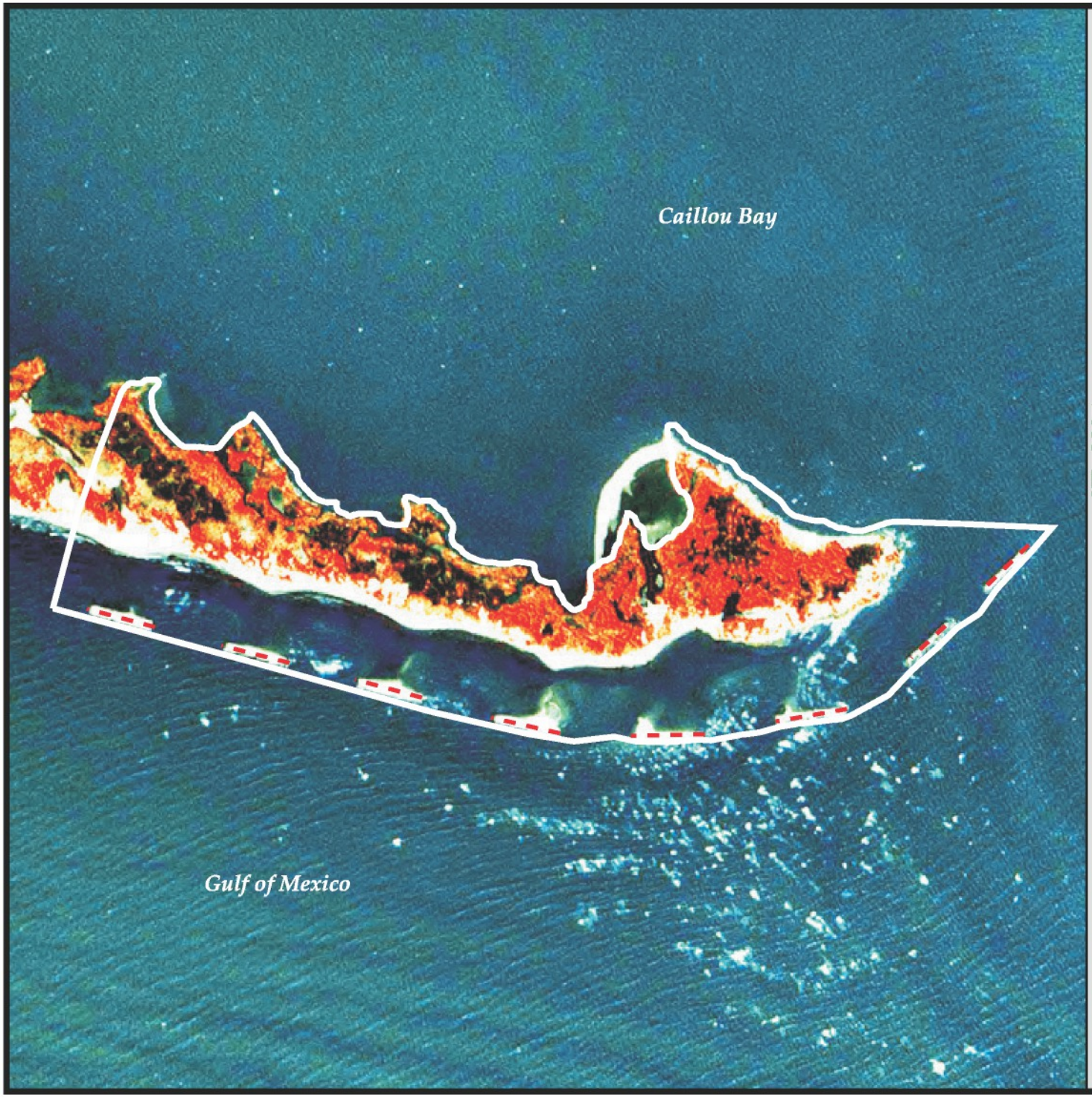
From an engineering perspective, an unanticipated positive response has occurred along the western flank of the breakwater system, resulting in the deposition of more than 41,000 cubic yards of sediment. Deposition has occurred on both the gulf and shore sides of the breakwaters. An ebb-shoal complex, upon which the breakwaters were constructed, appears to be supplying sand to the breakwater system. This process could continue for as long as the source remains viable or until the breakwater compartments are filled. This project is on Priority Project List 5.

Another project that will continue the work begun with this one (Raccoon Island Shoreline Protection/Marsh Creation [TE-48]) was approved by the Louisiana Coastal Wetlands Conservation and Restoration Task Force in January 2002.

For more project information, please contact:

Federal Sponsor:
Natural Resources Conservation Service
Alexandria, LA
(318) 473-7756

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



Raccoon Island Breakwaters Demonstration (TE-29)

Shoreline Protection

Project Boundary

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400 0 400 Feet

100 0 100 Meters

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
1998 Digital Orthophoto Quarter Quadrangle

Map Date: August 13, 2002
Map ID: 2002-11-672
Data accurate as of: August 13, 2002

October 2007 (rev.)
Cost figures as of: July 2015

Raccoon Island Shoreline Protection/ Marsh Creation (TE-48)

Project Status

Approved Date: 2002 **Project Area:** 502 acres
Approved Funds: $19.6 M **Total Est. Cost:** $20.1 M
Net Benefit After 20 Years: 71 acres
Status: Construction
Project Type: Shoreline Protection and Marsh Creation
PPL #: 11

Location

The project is located in the Terrebonne Basin on the western-most island of the Isles Dernieres barrier island chain in Terrebonne Parish, Louisiana.

Rock breakwater construction for the prior demonstration phase of this project was completed on the east end of the island in June 1997. Taken immediately after construction was complete, this 1997 photograph shows no sand behind the breakwaters.

Sand deposits or "tombolos" have developed behind the breakwaters that protect and enhance the island. A less dramatic, however still positive effect, is expected to occur behind the 8 additional breakwaters being constructed to the west of the existing breakwaters.

Problems

The Isles Dernieres barrier island chain is experiencing some of the highest erosion rates of any coastal region in the world. Raccoon Island is experiencing shoreline retreat both gulfward and bayward, threatening one of the most productive wading bird nesting areas and shorebird habitats along the gulf coast.

Restoration Strategy

An existing demonstration project on the eastern end of the island, Raccoon Island Breakwaters Demonstration project (TE-29), has proven that segmented breakwaters can significantly reduce, and perhaps even reverse, shoreline erosion rates. The primary goal of this project is to protect the Raccoon Island rookery and seabird colonies from the encroaching shoreline by: 1) reducing the rate of shoreline erosion along the western, gulfward side and 2) extending the longevity of northern backbay areas by creating 60 acres of intertidal wetlands that will serve as bird habitat.

This project has been separated into two construction phases, Phase A and Phase B. Phase A includes the construction of eight additional segmented breakwaters gulfward of the island and immediately west of the existing breakwaters demonstration project and an eastern groin that will connect existing Breakwater No. 0 to the island. Phase B involves the construction of a retention dike along the northern shore to create a back bay enclosure that will be filled with sediments dredged from the bay and/or gulf, followed by vegetative plantings.

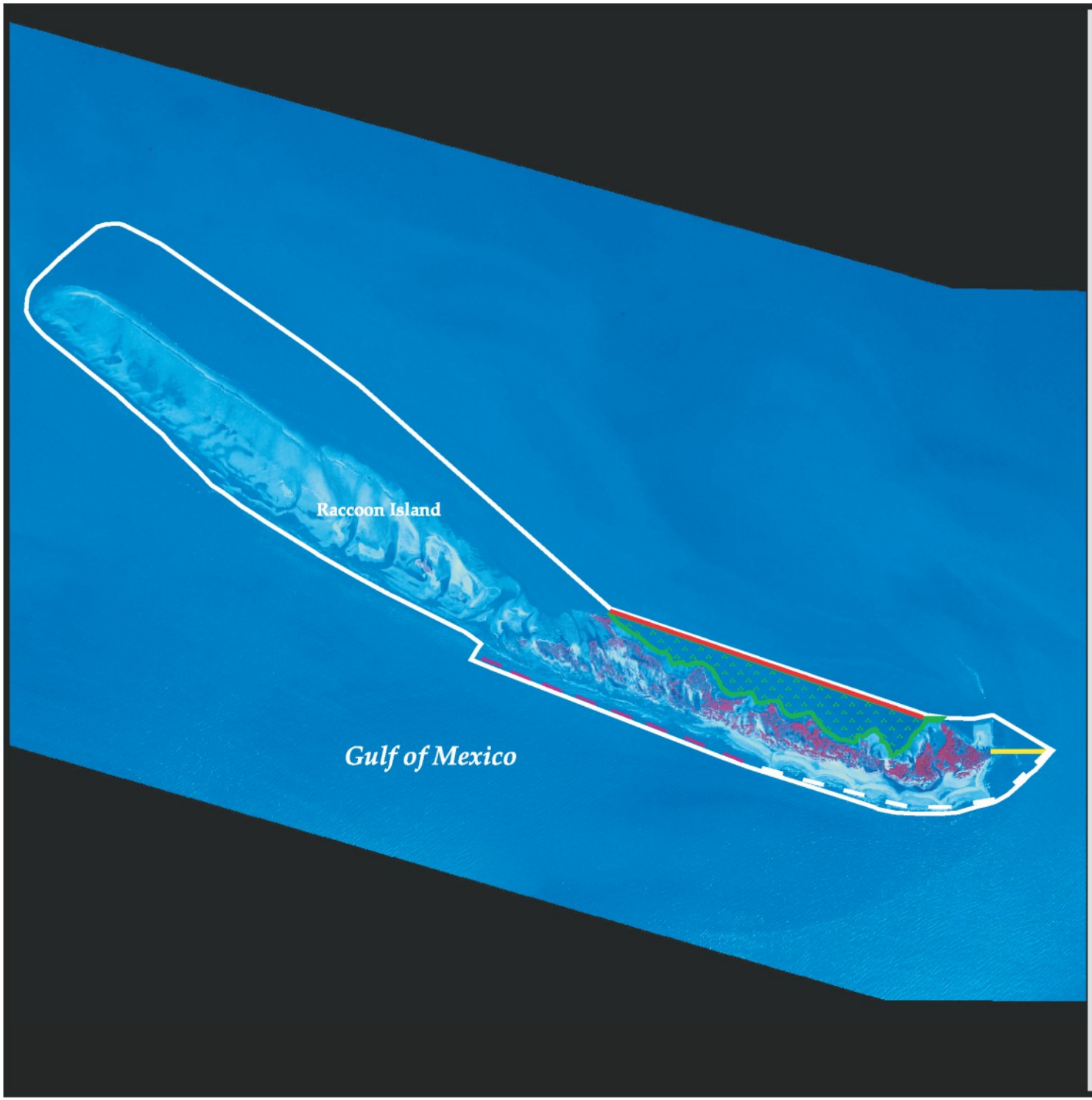
Progress to Date

This project was selected for engineering and design funding at the January 2002 Breaux Act Task Force meeting. Construction funding for Phase A was approved in October 2004. Request for Phase B construction funding is anticipated to occur in January 2008. This project is on Priority Project List 11.

For more project information, please contact:

Federal Sponsor:
Natural Resources Conservation Service
Alexandria, LA
(318) 473-7756

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



Raccoon Island Shoreline Protection/ Marsh Creation (TE-48)

Existing Breakwater

Project Boundary

Phase A

Breakwater *

Groin *

Phase B

Retention Dike *

Vegetative Plantings and Dredged Backfill *

* denotes proposed features

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N

0.2 0 0.2 0.4 Miles

0.2 0 0.2 0.4 Kilometers

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
2002 Aerial Photography

Map Date: January 5, 2005
Map ID: USGS-NWRC 2005-11-0059
Data accurate as of: January 5, 2005

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

REQUEST FOR MONITORING INCREMENTAL FUNDING AND BUDGET INCREASES

For Decision:

The Technical Committee will consider and vote to make a recommendation to the Task Force to approve requests for total FY18 incremental funding in the amount of $1,783,381 and monitoring budget increases totaling $11,454,315.

a. PPL 9+ Projects requesting approval for FY18 incremental funding in the total amount of $337,671 for the following projects:
   - Barataria Basin Landbridge Shoreline Protection (BA27c), PPL-9, NRCS
     Incremental funding amount: $4,689
   - Delta Management at Fort St. Philip (BS-11), PPL-10, USFWS
     Incremental funding amount: $55,201
   - Raccoon Island Shoreline Protection/Marsh Creation (TE-48), PPL-11, NRCS.
     Incremental funding amount: $44,353
   - Coastwide Nutria Control Program (LA-03b) PPL-11 NRCS
     Incremental funding amount: $ 96,695
   - West Belle Pass Barrier Headland Restoration (TE-52), PPL-16, NMFS
     Incremental funding Request: $57,262
   - Coastwide Vegetative Planting (LA-39), PPL-20, NRCS
     Incremental Funding amount: $ 79,471

b. PPL 1-8 Project requesting approval for FY18 incremental funding in the total amount of $153,898:
   - Sabine Refuge Marsh Creation, Increment 3 (CS-28-3), PPL-8 USACE/USFWS
     Incremental funding request: $90,000
   - Clear Marais Bank Protection (CS-22), PPL-2, USACE
     Incremental funding request: $47,100
   - Naomi Outfall Project (BA-03c), PPL-5, NRCS
     Incremental Funding amount: $ 16,798

c. Coastwide Reference Monitoring System (CRMS) requesting approval for FY18 incremental funding in the total amount of $10,197,109:
   - Incremental funding (FY18): $10,197,109

d. PPL 9+ Projects requesting approval for a budget increase in the amount of $1,246,966 and FY18 incremental funding in the amount of $592,219 for the following project:
    - Timbalier Island Dune and Marsh Creation (TE-40), PPL-9, EPA
      Budget increase amount: $55,889
      Incremental Funding amount: $41,250
    - Lake Hermitage Marsh Creation (BA-42), PPL-15, USFWS
      Budget increase amount: $240,354
      Incremental Funding amount: $120,418
    - Bayou Dupont Marsh and Ridge Creation (BA-48), PPL-17, NMFS
      Budget increase amount: $445,577
      Incremental Funding amount: $73,326
    - South Lake Leary Shoreline and Marsh Restoration (BS-16), PPL17, USFWS
      Budget increase amount: $ 196,816
      Incremental Funding amount: $ 48,265
    - Non-Rock Alternatives to Shoreline Protection Demonstration (LA-16), PPL18, NRCS
      Budget increase amount: $ 308,960
      Incremental Funding amount: $ 308,960
e. PPL 1-8 Projects requesting approval for budget increases in the total amount of $536,418 and FY18 incremental funding in the total amount of $173,418 for the following projects:
    - Sabine Refuge Marsh Creation, Increments 4 and 5 (CS-28), PPL8, USFWS
      Budget increase amount: $455,015
      Incremental Funding amount: $48,458
    - Channel Armor Gap Crevasse (MR-06), PPL3, USACE
      Budget increase amount: $81,400
      Incremental Funding amount: $124,960

Update to the CWPPRA Technical Committee
Coastwide Reference Monitoring System
September 10, 2015

Implementation Milestones

- 10 OM&M Reports in progress for 2015
    - BA-35 Pass Chaland to Grand Bayou Pass Barrier Shoreline Restoration (NMFS)
    - CS-20 East Mud Lake Marsh Management (NRCS)
    - CS-27 Black Bayou Hydrologic Restoration (NMFS)
    - CS-32 East Sabine Refuge Hydrologic Restoration (USFWS)
    - ME-16 Freshwater Introduction South of Highway 82 (USFWS)
    - ME-19 Grand-Lake White Lakes Landbridge (USFWS)
    - PO-22 Bayou Chevee Shoreline Protection (USACE)
    - TE-52 West Belle Pass Barrier Headland Restoration (USACE)
    - TE-45 Terrebone Bay Shore Projection Demonstration – closeout (USFWS)
    - TV-03 Vermilion River Cutoff Bank Stabilization (COE)

- CRMS Website, indices and summary graphics (http://www.lacoast.gov/crms2)
    - Separate surface elevation and accretion charts have been released
    - New updates are coming online prior to the Task Force meeting
    - Fall website training will be done by WebEx to reach a broader audience
    - Forested Floristic Quality Index publication at USGS editorial and report card graphics are being developed
    - Vegetative Volume Index publication is due for release before October 1 and report card graphics are being developed
    - CRMS Landscape Index paper is in review at Landscape Ecology

- CRMS 2015 Coastwide Aerial Photography will commence in October 2015
    - Data to be delivered to USGS by August 2016
    - Draft land/water products will be available June 2017
- Annual summer agency reviews with CPRA staff to determine sufficiency of current monitoring efforts are complete
- Participated in production of the 2015 Report to Congress lead by USFWS
- Participated in monitoring workshop with National Academy of Sciences in August
- Ongoing participation with SWAMP (Systemwide Assessment Monitoring Program) team and development of the Barataria Basin pilot monitoring plan
- Coast-wide Elevation Survey of all 390 CRMS sites were surveyed in 2014
    - New data will be uploaded to the website in the new Geoid in September 2015
    - Data from October 1, 2013 to present will be in the latest geoid
- New 3-year CRMS contract began August 1, 2015

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Coastwide Reference Monitoring System (CRMS)

Overview

In 1990, the U.S. Congress enacted the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) in response to the growing awareness of Louisiana's land loss crisis. The CWPPRA was the first Federal, statutorily mandated program with a stable source of funds dedicated exclusively to the short- and long-term restoration of the coastal wetlands of Louisiana. Between 1990 and 2008, 77 restoration projects have been constructed through the CWPPRA program. These projects include diversions of freshwater and sediments to improve marsh vegetation; dredged material placement for marsh creation; shoreline protection; sediment and nutrient trapping; hydrologic restoration through outfall, marsh, and delta management; and vegetation planting on barrier islands.

Figure 1. The Coastwide Reference Monitoring System logo was developed so that the program can be easily and consistently identified because CRMS data and information are widely used by agencies, researchers, modelers, landowners, and consulting firms.

Need for a Monitoring System

The coastal protection and restoration efforts implemented through numerous CWPPRA projects require monitoring and evaluation of project effectiveness. There is also a need to assess the cumulative effects of all projects to achieve a sustainable coastal environment. In 2003, the Louisiana Office of Coastal Protection and Restoration (OCPR) and the U.S. Geological Survey (USGS) received approval from the CWPPRA Task Force to implement the Coastwide Reference Monitoring System (CRMS) (fig. 1) as a mechanism to monitor and evaluate the effectiveness of CWPPRA projects at the project, region, and coastwide levels (fig. 2) (Steyer and others, 2003). The CRMS network is currently funded through CWPPRA and provides data for a variety of user groups, including resource managers, academics, landowners, and researchers.

Approach and Design of the CRMS

The effectiveness of a traditional monitoring approach using paired treatment and reference sites is limited in coastal Louisiana because of difficulty in finding comparable test sites; therefore, a multiple reference approach using aspects of hydrogeomorphic functional assessments and probabilistic sampling was adapted into the CRMS design.

The CRMS approach gathers information from a suite of sites (fig. 3) that encompass a range of ecological conditions

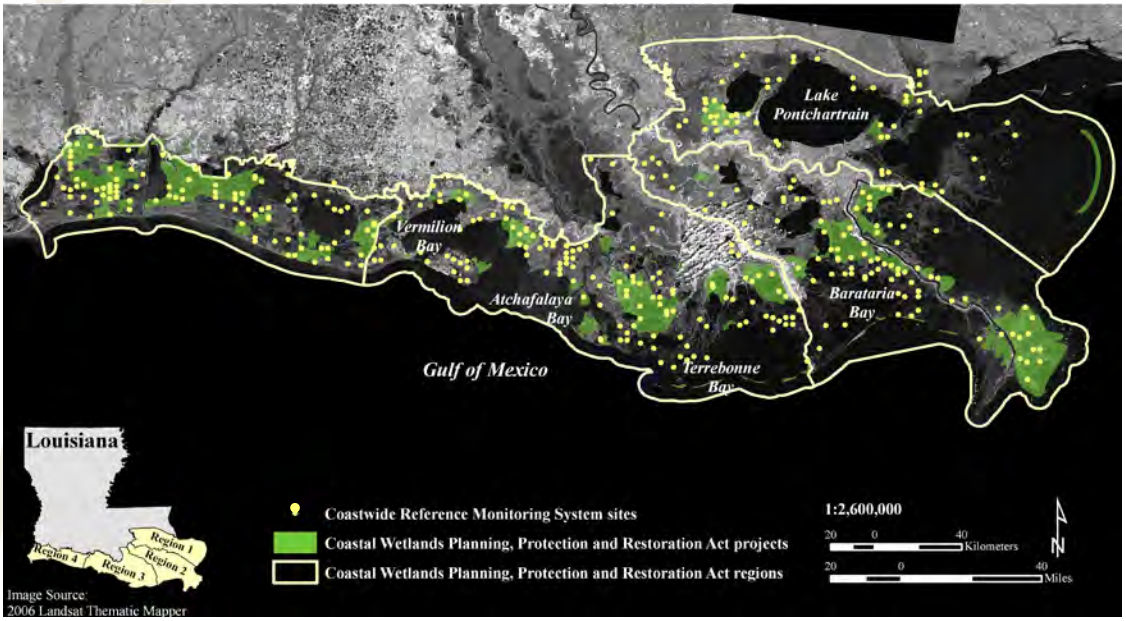


Figure 2. Map of Coastwide Reference Monitoring System (CRMS) sites throughout coastal Louisiana in relation to four regions defined by the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) and CWPPRA projects coastwide.

Figure 3. Examples of sites within the Coastwide Reference Monitoring System. *A*, Typical site located in attached marsh. *B*, Typical site located in swamp.

across the coast. Trajectories of changing conditions within the reference sites can then be compared with trajectories of change within project sites. The CRMS design not only allows for monitoring and evaluating the effectiveness of each project but will also support ongoing evaluation of the cumulative effects of all CWPPRA projects throughout the coastal ecosystems of Louisiana.

Simulations made by using the resampling methodology described in Steyer and others (2003) indicated that 100 randomly selected reference sites would accurately represent the true composition of coastwide vegetation at a 95 percent confidence level. However, in order to detect a 20 percent change in coastal marsh vegetation between two time periods, at least 80 percent of the time, approximately 400 reference sites were needed. Because of land rights and other technical issues, 390 sites with a fixed annual sampling design were approved and secured for CRMS data collection. These 390 CRMS sites are located within nine coastal basins and four CWPPRA regions, covering the entire Louisiana coast. Site construction and data collection began in 2005.

The CRMS Web Site

Because of the quantity of products and data that will be produced over the lifetime of the CRMS project, a Web site (http://www.lacoast.gov/crms) was designed to be a one-stop shop for CRMS information, products, and data. The ecological data available through the Web site are linked to the official Louisiana OCPR database, which houses all CWPPRA monitoring data, on topics such as the following: hydrology, herbaceous marsh vegetation, forested swamp vegetation, soil properties, soil accretion, and surface elevation. Data provided by the Louisiana OCPR are available for downloading at http://dnr.louisiana.gov/crm/coastres/monitoring.asp and can be selected by project name, CRMS site, or station number.

The basic viewer (under Mapping) on the CRMS Web site provides a user-friendly interface for viewing information on specific sampling sites, including photos, data summaries, and report cards (fig. 4). Analytical teams are developing mechanisms by which individual sampling sites can be assessed in relation to other sites within the same marsh type, hydrologic basin, and CWPPRA project. These multiscale evaluations will be presented on a "Report Card" tab within the basic viewer.

The CRMS program is as dynamic as the coastal habitats it monitors. The program continues to develop new products and analysis tools while providing data for model improvement and scientific research. The CRMS Web site is the current dissemination mechanism for all activities related to the program.

Figure 4. Example of information provided in the basic viewer of the Web site for the Coastwide Reference Monitoring System (http://www.lacoast.gov/crms).

Reference

Steyer, G.D., Sasser, C.E., Visser, J.M., Swensen, E.M., Nyman, J.A., and Raynie, R.C., 2003, A proposed coast-wide reference monitoring system for evaluating wetland restoration trajectories in Louisiana: Environmental Monitoring and Assessment, v. 81, p. 107–117.

For more information, please contact:

Gregory D. Steyer, Ph.D.
USGS National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, LA 70803
Email: steyerg@usgs.gov

Monitoring Budget Increase Request Fact Sheet
September 10, 2015

Project Name: Timbalier Island Dune and Marsh Restoration Project (TE-40)

PPL: 9

Project Construction End Date: December 27, 2004

Total Approved Monitoring Budget: $179,030

Approved Monitoring Budget to Date: $138,703

Projected Monitoring Expenditures (through FY15): $144,978.81

Monitoring Budget Increase Need - We request an additional $55,889 in funding over the existing Monitoring budget balance of $40,307 to cover planned monitoring activities, the project close out report, and State and Federal administration, plus a $6,276 shortfall in State expenditures through FY15.

Estimated State Funding:
Monitoring (FY16-Closeout): $79,920.

Estimated EPA Funding:
S&A/Oversight (FY16-Closeout): $10,000

$40,307	Current Monitoring balance
($6,276)	FY04 through FY15 Shortfall
($89,920)	Total State and EPA Funding for next 9 years
$55,889	Budget increase request

2015 TC/TF Incremental Funding Request:

Cost Request	Reason
$ 6,276	To cover projected overages through FY15
$ 4,682	FY16 project admin
$20,610	FY17 vegetation data collection and project admin
$ 4,682	FY18 project admin
$36,250	**Total State Incremental funding request**
$ 5,000	Federal S&A Incremental Funding request
$41,250	**Total incremental funding request**

Reasons why we need the monitoring budget increase.

1. See attached document for previous and planned monitoring activities.
2. There was no funding previously set aside for the Federal sponsor. Funding is needed to provide federal oversight for monitoring activities and expenditures.

Request for CWPPRA Project Monitoring Funding Increase Project Performance Synopsis

August 2015

Timbalier Island Marsh/Dune Restoration (TE-40)

The monitoring objectives of the Timbalier Island Marsh/Dune Restoration (TE-40) project are to (1) Determine the area, average width, length, and position of Timbalier Island and the project area over time; (2) to determine the effectiveness of project features in reducing the rate of erosion as compared to historical rates of erosion and maintaining the littoral transport of the shoreline; (3) to determine sediment characteristics and their change over time; (4) to determine the evolution of tidal channel development; and (5) to determine elevation and habitat classes in the project area. The goals which contribute to the evaluation of these objectives are to (1) re-build and stabilize a primary dune platform and back-swale using dredged material and sand fencing, (2) to contribute to the restoration of the littoral drift of Timbalier Island, (3) to determine how the habitat characteristics of the eastern area of Timbalier Island change over time, and (4) to determine how the sediment properties of the eastern portion of Timbalier Island change over time.

Overall the fill area continues to show erosion, particularly on the east end due to long-shore transport, pass migration, and tropical cyclone impacts. The fill area has had impacts from at least 5 hurricanes since construction, and Tropical Storm Lee in September 2011 made landfall on the Louisiana shoreline west of Timbalier Island, placing the project area on the worst side of the storm.

Past inspections show high erosion rates for the gulf shoreline. No breaches have been observed and the dune feature did roll back in most instances where marshes were in place to capture the sediment. The eastern end was overwashed in 2005 due to Hurricane Rita, and again was the only area that showed severe overwash in 2008 due to Hurricane Gustave. Thus, the Timbalier Island Dune/Marsh Restoration (TE-40) project continues to contribute to the prolonged lifespan of this ephemeral system, despite impacts by numerous hurricanes.

Collecting and analyzing vegetation data will allow us to determine goal number 3. The closeout Operations Maintenance and Monitoring Report will detail how the project goals have or have not been met over the course of the project.

Post-construction data collected thus far includes topographic and LiDAR surveys in 2011, with 2016 and 2021 planned through the BICM (Barrier Island Comprehensive Monitoring program). Micro-topographic surveys were completed in 2007 and 2009 using monitoring project funds to capture tidal creek formation. BICM collected bathymetry data in 2006 and is planned for 2016 and2021.Aerial photography obtained in January 2005 was analyzed using the project's monitoring funds as well as the 2008 photography acquired for the CRMS program. BICM is scheduled to analyze future acquisitions. Sediment samples were obtained in 2007, 2009 and 2011 and are planned for 2016 and 2021 through the BICM program.

The project funds being requested would be used specifically for the vegetation sampling that would occur in 2016 to enhance the previously collected data and to include the vegetation data along with all data collected through the BICM program in the closeout Operations Maintenance and Monitoring Report.

rev. June 2006
Cost figures as of: July 2015

Timbalier Island Dune and Marsh Restoration (TE-40)

Project Status

Approved Date: 2000 **Project Area:** 663 acres
Approved Funds: $15.1 M **Total Est. Cost:** $15.2 M
Net Benefit After 20 Years: 273 acres
Status: Construction
Project Type: Barrier Island Restoration
PPL #: 9

Location

Timbalier Island is located south of Terrebonne Bay and west of East Timbalier Island in Terrebonne Parish, Louisiana.

Problems

Timbalier Island is migrating rapidly to the west/northwest, which is a clear indication of the dominant influence of longshore sediment transport processes (the movement of beach material by waves and currents) along the island. Thus, the western end of Timbalier Island is undergoing lateral migration by spit-building processes, at the expense of erosion along the eastern end, while the island overall is shortening and narrowing. This loss can be attributed to an inadequate sediment supply, relative sea-level rise, and the passage of storms. Without mitigating efforts, Timbalier Island was projected to disappear by the year 2050.

Restoration Strategy

The objective of this project is to restore the eastern end of Timbalier Island through the direct creation of dune and marsh habitat. The project boundary is divided into Areas A and B. Area A was restored through direct creation of dune and marsh on the east end of Timbalier Island. Area B will be enhanced through addition of sediment into the nearshore system, maintaining the west/northwest migration of the island and attenuation of wave energy.

Specifically, the project introduced sediment from the Gulf of Mexico to restore 2.2 miles of the beach rim and dune system and create a marsh platform on the bay side of the island. The marsh platform was built around existing marsh with minimal impact. Approximately 4.6 million cubic yards of material was dredged from the Little Pass borrow area about 14,000 feet away from the project and 22,750 linear feet of sand fencing was placed. Over 110,000 container grown plants consisting of eight species were initially planted. This is the most diverse plantings to date for a CWPPRA barrier island project. The sand fencing and vegetative plants help capture and retain wind-blown sand.

The plants and sand fencing shown above will help to maintain the integrity of Timbalier Island by capturing and retaining wind-blown sand.

Progress to Date

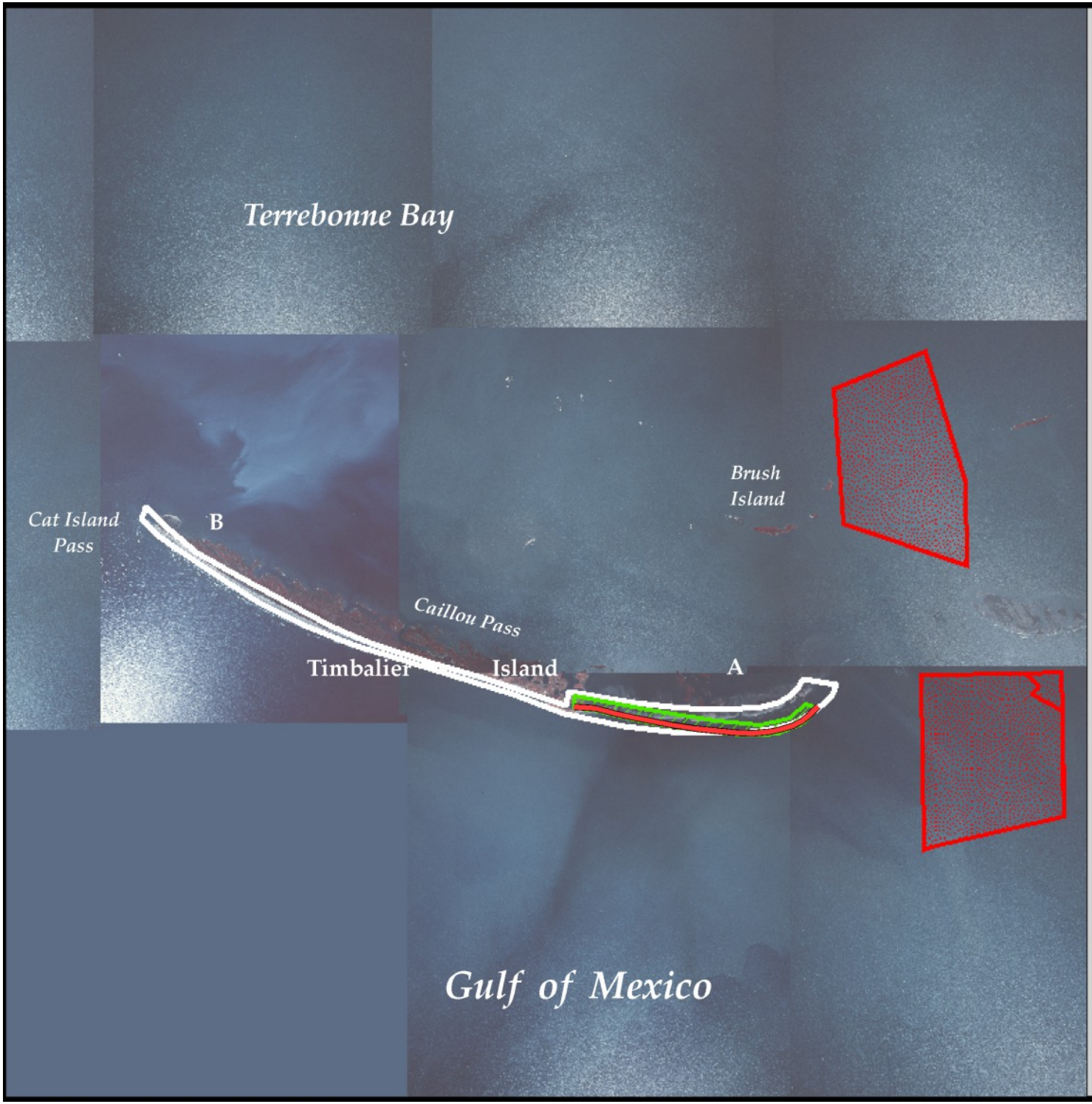
Construction funding was approved by the Louisiana Coastal Wetlands Conservation and Restoration Task Force in January 2003. Construction began June 2004 and dredging from the borrow site was completed in December 2004. This portion of the project was accepted in January 2005. The initial vegetative planting component began March 2005 and was completed in June 2005. The total cost of construction was $13,761,336. An additional row of sand fencing will be installed in spring 2006 along with an additional 40,000 plugs of smooth cord grass and 2,000 bitter panicum container plants.

This project is on Priority Project List 9.

For more project information, please contact:

Federal Sponsor:
U.S. Environmental Protection Agency
Dallas, TX
(214) 665-7255

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



Timbalier Island Dune and Marsh Creation (TE-40)

- Sediment Fence *
- Borrow Site *
- Marsh Creation *
- Project Boundary

* denotes propsed feature

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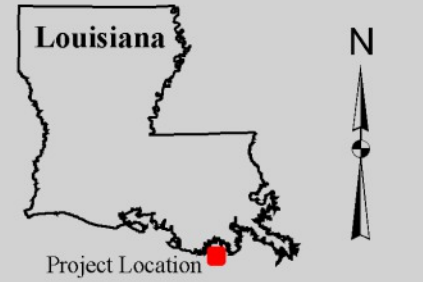

1 0 1 2 Kilometers

1 0 1 2 Miles

Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
2004 Digital Orthophoto Quarter Quadrangle

Map Date: March 31, 2006
Map ID: USGS-NWRC 2006-11-0268
Data accurate as of: March 31, 2006

April 2006
Cost figures as of: July 2015

Lake Hermitage Marsh Creation (BA-42)

Project Status

Approved Date: 2006 **Project Area:** 1,600 acres
Approved Funds: $37.9 M **Total Est. Cost:** $38.3 M
Net Benefit After 20 Years: 447 acres
Status: Engineering and Design
Project Type: Marsh Creation
PPL #: 15

Location

The project area is located in the Barataria Basin in an area referred to as the "West Pointe a la Hache Mapping Unit," which is south and east of Lake Hermitage in Plaquemines Parish, Louisiana.

Problems

The West Pointe a la Hache Mapping Unit lost 38 percent of its marsh from 1932 to 1990. By the year 2050, 28 percent of the 1990 marsh acreage is expected to be lost. That loss is expected to occur even with operation of the West Pointe a la Hache Siphon (State project BA-04) and implementation of the West Pointe a la Hache Outfall Management Project (CWPPRA project BA-04c). Significant marsh loss has occurred south and east of Lake Hermitage and along the eastern lake shoreline. Deterioration of the lake rim will expose interior marshes to the wave energy of Lake Hermitage and increase tidal exchange.

The battered eastern Lake Hermitage shoreline following Hurricane Katrina. Flooded fastlands can be seen in the background.

Restoration Strategy

The goals of this project are to create approximately 593 acres of wetlands, reduce tidal exchange in marshes surrounding Lake Hermitage, and reduce fetch and turbidity to promote submerged aquatic vegetation.

Several restoration techniques will be utilized to accomplish these goals. Riverine sediments will be hydraulically dredged and pumped via pipeline to create approximately 593 acres of marsh in the project area. Approximately 25,000 linear feet of terraces (16 acres) will also be constructed to reduce fetch and turbidity and promote submerged aquatic vegetation. In addition, approximately 6,000 linear feet of rock dike will be constructed along the eastern Lake Hermitage shoreline. An earthen plug will also be constructed in an oil and gas canal to return tidal exchange to natural waterways within the project area.

Progress to Date

The Louisiana Coastal Wetlands Conservation and Restoration Task Force approved funding for engineering and design at their February 2006 meeting.

This project is on Priority Project List 15.

For more project information, please contact:

Federal Sponsor:
U.S. Fish and Wildlife Service
Lafayette, LA
(337) 291-3100

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736

Lake Hermitage Marsh Creation (BA-42)

Containment Dike *

Marsh Creation *

Terracing *

Project Boundary

Shoreline Restoration *

*denotes proposed features

0.25 0 0.25 0.5
Kilometers
0.25 0 0.25 0.5
Miles

Scale: 1:30,000

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Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, LA

Image Source:
2005 Digital Orthophoto Quarter Quadrangle

Map ID: USGS-NWRC 2009-11-0009
Map Date: October 24, 2008

BAYOU DUPONT MARSH AND RIDGE CREATION (BA-48)

MONITORING FUNDING INCREASE REQUEST BEYOND THE APPROVED 20-YEAR BUDGET

1. Project History

a. Description

The Bayou Dupont Marsh and Ridge Creation project (BA-48) utilized sediment hydraulically dredged and pumped from the Mississippi River to redefine a maritime ridge and create a marsh platform along the southwestern shore of Bayou Dupont. The Long Distance Sediment Pipeline (BA-43 EB) was used to transfer the sediment from the river to the BA-48 project area. The BA-48 project, along with Grand Liard Marsh and Ridge Restoration (BA-68), is the first project funded through CWPPRA to incorporate ridge restoration into its goals; therefore, monitoring is particularly important to gauge project success and inform future ridge restoration projects.

The BA-48 project area is located in the Barataria Basin, on the west bank of the Mississippi River in Jefferson Parish, approximately 5.5 miles southeast of the town of Lafitte, Louisiana. The approximate 390-acre project area is just southeast of The Pen and extends diagonally from northwest to southeast along Bayou Dupont for approximately 1.3 miles.

b. Current Status

As of August 2015, project construction is substantially complete. A few remaining items should result in an early winter 2015 completion. Monitoring is slated to begin fall 2015, with the collection of CRMS aerial photography for land-water analysis.

c. Original Project Budget

No funding has been allocated for monitoring. $28,714 was originally listed in the monitoring budget, but it was dedicated to O&M.

d. Previous Monitoring Funding Increases

There have been no previous monitoring funding increases.

2. Increase Request:

a. Monitoring Increment Increase Being Requested

Total increase over 20 years: $445,578.

3-year incremental request (FY16–FY18): $73,326

b. New Fully-Funded Cost Estimate

$445,577

c. Description of Proposed Monitoring Events to Be Accomplished With the Requested Funding

- 6 ridge vegetation surveys: The surveys will document the survivorship and growth of the planted seedlings and assess the natural recruitment and growth of the herbaceous, understory (shrubs and saplings) and overstory vegetation throughout the life of the project. Since this is CWPPRA's first ridge restoration project (along with BA-68), data collected on the success of the seven planted species, along with an assessment of natural recruitment, will provide valuable data for both BA-48 and future ridge restoration projects.

- 5 marsh vegetation surveys: Since BA-48 includes marsh creation, an assessment of vegeation on the platform is imperative to determine if marsh habitat has been created and to evaluate its species composition and cover.

- 5 sediment analyses (5 of ridge, 4 of marsh): Sediment analysis will provide valuable data about the sediment characteristics of the marsh and ridge, including salinity, pH and bulk density. The collection of these data is particularly important prior to the ridge plantings to confirm that sediment conditions are conducive to survival of the seedlings.

- 3 land-water analyses: Land-water analysis will be used to assess the sustainability of the created marsh and ridge through-out the project's 20-year monitoring lifespan.

- 3 OM&M reports: OM&M reports summarize all monitoring data that have been collected for a project up until the year the report is written. Data are presented and analyzed, and an assessment of the project is provided. Suggestions are made to improve project performance, if applicable.

- Funding was added for monitoring administration, which includes data management and analysis, managing monitoring contracts, financial accounting, site visits, project meetings, internal review of OM&M reports, etc.

3. Monitoring Funding Increase Justification

a. Summary of Project Performance

N/A, newly constructed project

b. Summary of Project Deficiency

N/A, newly constructed project

c. Reasons for Requested Increase

- Funding for monitoring of the ridge plantings was not included in the original budget.

- Funding for land-water analysis was not included in the original budget.

- Funding for OM&M report writing was not included in the original budget.

- Funding for monitoring administration was not included in the original budget.

- Funding for 7 marsh vegetation surveys was included in the original budget for a total of $25,641. This monitoring was significantly underfunded. The number of marsh vegetation surveys has been reduced to 5 and appropriate funding has been added to the budget.

- Funding for 2 sediment analyses was included in the original budget for a total of $3073. This monitoring was significantly underfunded. The number of sediment analyses has been increased to 5 (only 4 in marsh) and appropriate funding has been added to the budget.

- A total of $28,714 (marsh vegetation surveys and sediment analyses) was included for monitoring in the original budget. In addition to this being inadequate to fund the scheduled monitoring, the money was allocated to the O&M budget, rather than the monitoring budget. This has resulted in no funding for monitoring for this project. The proposed budget will cover all anticipated costs for monitoring of BA-48 , allowing for the collection, analysis and presentation of data for this important marsh and ridge restoration project.

rev. August 2013
Cost figures as of: July 2015

Bayou Dupont Ridge Creation and Marsh Restoration (BA-48)

Project Status

Approved Date: 2007 **Project Area:** 309 acres
Approved Funds: $37.9 M **Total Est. Cost:** $38.5 M
Net Benefit After 20 Years: 186 acres
Status: Engineering and Design
Project Type: Marsh Creation
PPL #: 17

Location

This project is located within the Barataria Basin in Jefferson Parish. It is specifically located along Bayou Dupont southeast of the enclosure known as the Pen.

Problems

There is widespread historic and continued rapid land loss within the project site and surrounding areas resulting from subsidence, wind erosion, storms, and altered hydrology. Land loss data provided by the U.S. Geological Survey indicates that loss is occurring at a rate of 1.7% per year, which is significant within any watershed. Furthermore, the natural limits of Bayou Dupont are difficult to determine in some areas because land loss is causing the coalescence of the bayou with adjacent water bodies. Natural tidal flow and drainage patterns that once existed through the bayou are currently circumvented by the increasing area of open water.

Aerial View of Bayou Dupont Project Area

Restoration Strategy

Project goals include 1) creating and nourishing approximately 300 acres of marsh through pipeline sediment delivery from the Mississippi River, and 2) creating a ridge along a portion of the southwestern shoreline of Bayou Dupont. Sediment from the river will be hydraulically pumped to the project site to construct both the marsh and ridge features. The ridge is being designed to mimic the configuration of other natural ridges within the watershed, which will include a constructed elevation conducive for the growth of native vegetation such as live oak, hackberry, and yaupon. The ridge will help redefine the limits of Bayou Dupont and reestablish the natural bank that once flanked the bayou and protected adjacent marshes.

Progress to Date

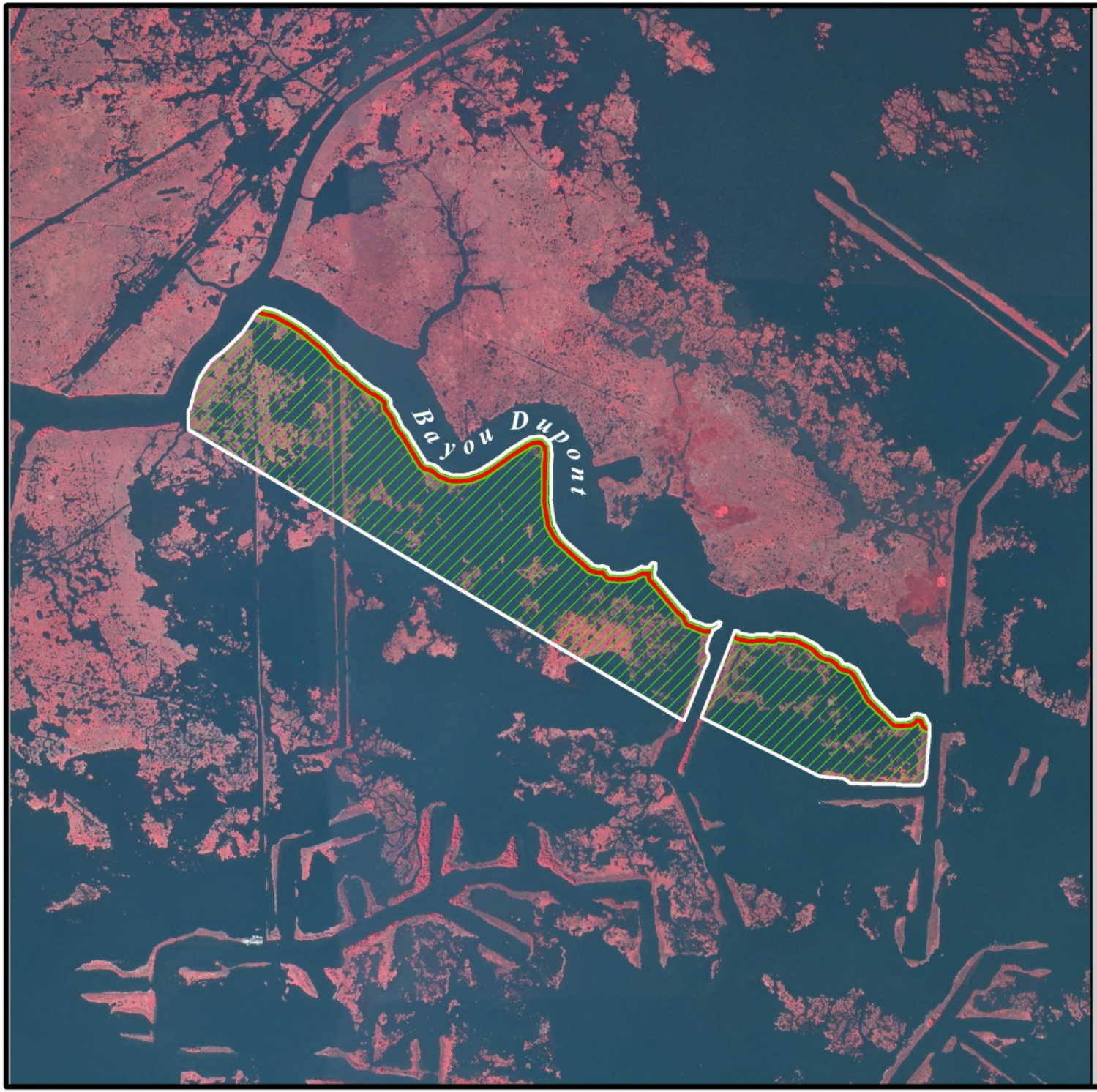
Construction is scheduled to begin in Fall 2013.

This project is on Priority Project List 17.

For more project information, please contact:

Federal Sponsor:
National Marine Fisheries Service
Baton Rouge, LA
(225) 389-0508

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



Bayou Dupont Marsh and Ridge Creation (BA-48)

Ridge Creation *

Marsh Creation *

Project Boundary

*denotes proposed features

USGS science for a changing world

Louisiana

Project Location

N

0.1 0 0.1 0.2 Kilometers

0.1 0 0.1 0.2 Miles

Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La.

Background Imagery:
2005 Digital Orthophoto Quarter Quadrangle

Map Date: November 08, 2007
Map ID: USGS-NWRC 2008-11-0059
Data accurate as of: August 23, 2007

Monitoring Funding Increase Request Beyond the Approved 20-Year Budget
for
BS-16 South Shore Lake Lery Shoreline and Marsh Restoration

1) Project History

a. Description

The Lake Lery Shoreline Restoration and Marsh Creation project is located within the Breton Sound hydrologic basin in Plaquemines Parish, Louisiana, southeast of New Orleans and northwest of the community of Delacroix. Its purpose is to restore historic marsh conditions by re-establishing the shoreline of Lake Lery and by creating new emergent wetlands.

The project includes the restoration of 35,723 linear feet of the southern and western Lake Lery shoreline. Material excavated by bucket dredge will be used to construct an earthen embankment along the shoreline to support coastal wetland plantings and provide a stable platform along the shoreline. Additionally, 647.5 acres of interior marsh will be created in five marsh creation cells adjacent to the southern and western Lake Lery shoreline. Fill material hydraulically dredged from the borrow areas will be pumped into these cells and contained by 58,795 linear feet of containment dikes. Project construction is underway and is anticipated to be complete in the spring of 2016.

b. Monitoring Completed to Date

Project is currently under construction. No monitoring has taken place to date.

c. Original Project Budget

The original approved monitoring budget was $89,030.

d. Previous Monitoring Funding Increases

There have been no previous monitoring funding increases.

2) Increase Request

a. Monitoring Increment Increase Being Requested

Total Increase for 20-year Project Life
$196,816

3-year Incremental Request
$48,265

b. Fully Funded Cost Estimate

$285,846

c. Description of Proposed Monitoring Events to Be Accomplished With the Requested Funding

The requested funding would be used to fund the following items

- Vegetation Surveys
- Shoreline Position Surveys
- Monitoring Reports

3) Monitoring Fund Increase Justification

a. Summary of Project Performance

The project is still under construction.

b. Summary of Project Deficiency

The currently funded monitoring plan includes only land/water analysis. This plan was found to be deficient in analyzing the project goals

c. Reasons for Requested Increase

- The addition of shoreline position surveys will address the project goal of shoreline restoration. Shoreline position surveys will aid in assessing the integrity of the restored shoreline and in determining the rate of shoreline change.
- The addition of vegetation surveys will address the project goal of marsh creation. Vegetation surveys will be useful in tracking the development of the marsh vegetation community in the fill areas and along the shoreline berm.
- The original monitoring budget did not account for the cost of Operations, Maintenance and Monitoring Reports.

rev. May 2012
Cost figures as of: July 2015

South Lake Lery Shoreline and Marsh Restoration (BS-16)

Project Status

Approved Date: 2007 **Project Area:** 551 acres
Approved Funds: $32.2 M **Total Est. Cost:** $32.4 M
Net Benefit After 20 Years: 409 acres
Status: Engineering and Design
Project Type: Marsh Creation and Shoreline Restoration
PPL #: 17

Location

The project area is located in Region 2, within the Breton Sound Basin portion of Plaquemines Parish. The project is specifically located south of the Caernarvon Freshwater Diversion Structure and west of the town of Delacroix, southeast of New Orleans.

Problems

According to USGS-land loss analysis, much of the southern and western shorelines of Lake Lery and the surrounding wetlands were heavily damaged in 2005 by Hurricane Katrina. In the years following this storm, wind induced waves within the lake have begun to cause further damage to the lake's shorelines. Currently the shorelines have become so damaged that the interior emergent marshes that are still intact are being exposed to the damaging waves. This has caused an increased loss of emergent marsh habitat. Even with the benefits of the Caernarvon Diversion Structure, without some type of restoration in this area, these marshes may not be able to fully recover.

Restoration Strategy

This is a marsh creation and shoreline restoration project. The marsh creation aspect of the project would utilize a hydraulic dredge to extract material from Lake Lery water bottoms and pump that material into contained marsh creation cells which are located south of Lake Lery. This will initially create and/or nourish approximately 496 acres of marsh (356 Net Acres at Target Year 20). The shoreline restoration project component would have a barge-mounted dragline excavating material from the bottom of Lake Lery and placing that material along 35,831 ft. of the southern and western Lake Lery shorelines. This restored shoreline would have a 50 foot crown width and be built to a height considered high intertidal marsh.

Aerial photo taken looking south at the southern shoreline of Lake Lery with Grand Lake in the background

The lake side shoreline would have a 5:1 side slope which would be planted with smooth cordgrass and bullwhip. This would initially create 55 acres of marsh (50 Net Acres at Target Year 20) along the Lake Lery shoreline. Total created/restored marsh acreage for this project is 551 acres (406 Total Net Acres at Target Year 20).

Progress to Date

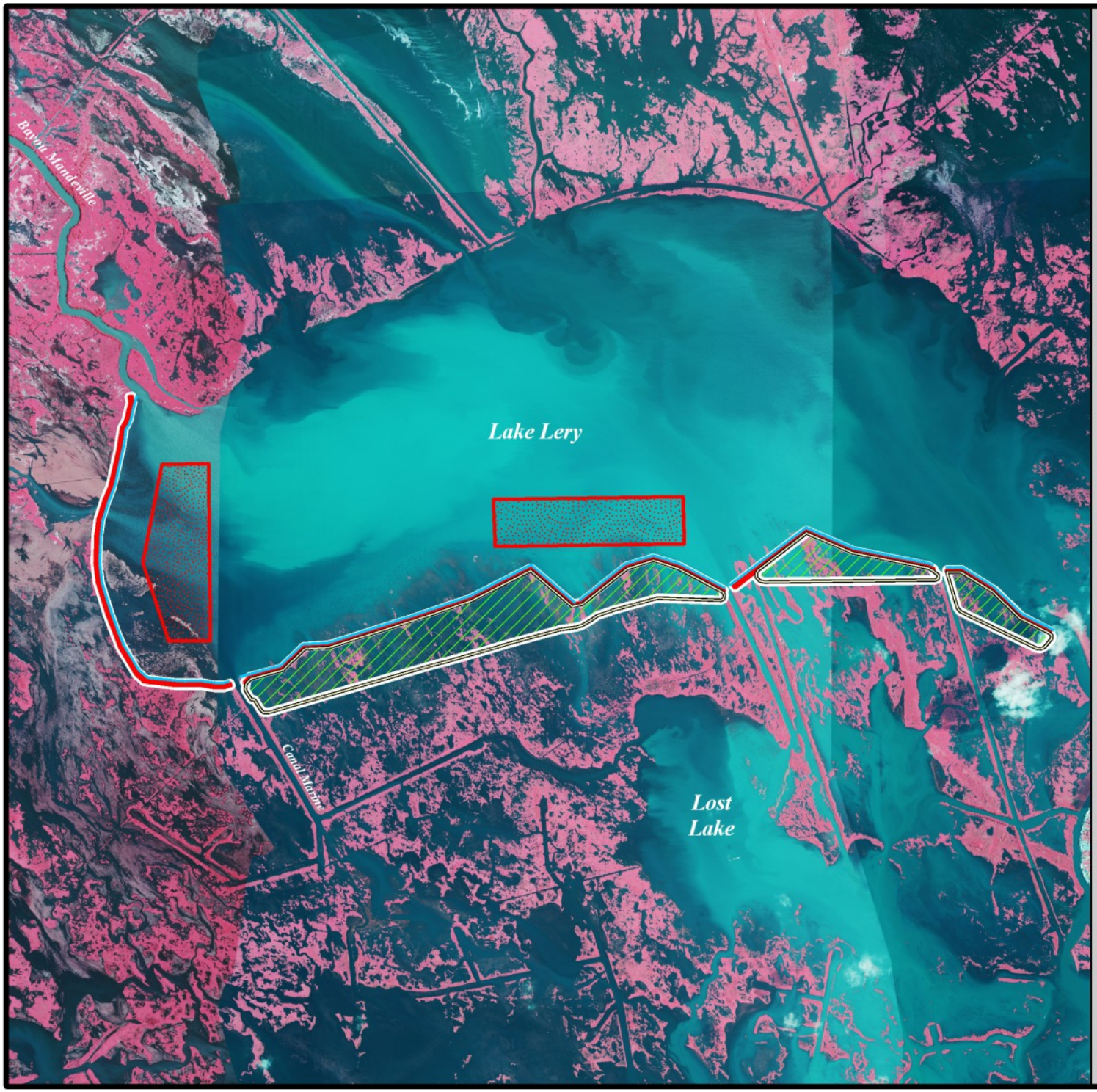
This project has received Phase II funding. Currently, there are just two outstanding items; 1) Landrights in which the State is actively pursuing landright agreements with the landowners; 2) 404 Permit in which the Corps has all documentation- awaiting approval. Construction will hopefully start in the spring of 2013.

This project is on Priority Project List 17.

For more project information, please contact:

Federal Sponsor:
U.S. Fish and Wildlife Service
Lafayette, LA
(337) 291-3100

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



South Lake Lery Shoreline and Marsh Restoration (BS-16)

- Containment Dike *
- Borrow/Access Channel *
- Shoreline Berm *
- Borrow *
- Marsh Creation *
- Project Boundary

*denotes proposed features

USGS science for a changing world

0.3 0 0.3 0.6 Kilometers

0.3 0 0.3 0.6 Miles

Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La.

Background Imagery:
2010 National Agriculture Inventroy Program (NAIP) Photography

Map Date: December 14, 2011
Map ID: USGS-NWRC 2012-11-0005
Data accurate as of: December 14, 2011

Non-rock Alternatives to Shoreline Protection Demo (LA-16)

Monitoring Budget Adjustment

CPRA: Tommy McGinnis

NRCS: Loland Broussard, Quin Kinler

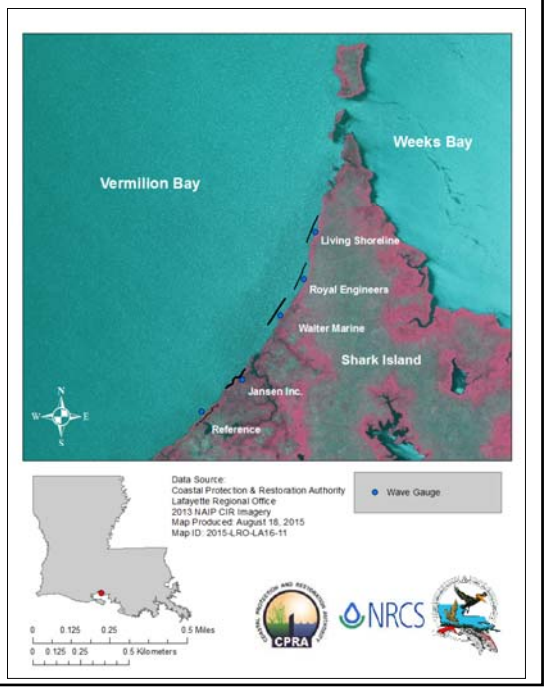
LA-16 Non-rock Alternatives to Shoreline Protection

Goal: Assess shoreline protecting performance of 4 products selected from a request of proprietary sources conducted by NRCS designed for low weight bearing soil conditions.

Shark Island, Iberia Parish has 40-60 ft/y shoreline erosion rate and fragile soil.

Monitoring Elements:

- **Shoreline Change** every 6 months
- **Topo/Bathy Elevation Surveys** every 6 months
  - Structure Elevation Change
  - Soil Volume Change
- **Wave Attenuation** for 6 months near the end of the project to capture a wide variety of water level, weather, and wave conditions



Approved and Proposed Monitoring Budgets for LA-16

	Previously Approved	Proposed	Requested Increase
CPRA	$132,000	$400,860	$268,860
Monitoring Mangement	$18,000	$35,898	$17,898
Interim Shoreline Change		$31,216	$31,216
Wave Monitoring	$99,000	$283,800	$184,800
OM&M Report	$15,000	$49,946	$34,946
NRCS	$126,210	$166,310	$40,100
Interim Elevation Surveys	$126,210	$126,210	$0
Interim Survey Drawings		$40,100	$40,100
Total	$258,210	$567,170	$308,960

Approved and Proposed Monitoring Budgets for LA-16

	Previously Approved	Proposed
Wave Monitoring	Two, 1 month deployments compare alternatives over time.	One, 6 month deployment to assess each alternative in a wide variety of wave, wind, and water level conditions
Interim Analyses: Survey Drawings Shoreline Change	None	Survey drawings and GIS analysis of shoreline movement for each 6 month elevation survey to track changes over time rather than processing at the end of the project life.

Wave Attenuation Monitoring

Wave attenuation is the main mechanism by which the **alternatives protect the shoreline**. Measuring wave attenuation is key in **explaining how** wave-breaking alternatives affect shoreline change.

A **data gap** exists in our current understanding of the relationship between wave attenuation and shoreline change in along **marsh/water body interfaces**.

The wave monitoring within the **previously approved** budget was solely geared towards **comparing wave attenuation among the alternatives** at the beginning and end of the project which is why the deployments were only 1 month each.

The **proposed wave monitoring** is geared towards **assessing wave attenuation performance** of each alternative. Six months is recommended to observe a large variety of water level, wind speed, wind direction, and wave heights.

This approach should result in **less intensive planning (E&D) and monitoring efforts in future CWPPRA projects** that use these shoreline protection alternatives.

Review of Proposed Monitoring Budget over Fiscal Years for LA-16

	2014	2015	2016	2017	2018	Total
State						
Monitoring Mang	$7,804	$12,486	$7,804	$7804		$35,898
Shoreline Change		$12,486	$12,487	$6,243		$31,216
Wave Monitoring				$283,800		$283,800
OM&M				$32,964	$16,982	$49,946
Federal						
Elev Surveys		$42,070	$42,070	$42,070		$126,210
Survey Drawings		$13,367	$13,367	$13,366		$40,100
Total						$567,170

Thank You!

Any questions?

Tommy McGinnis: Tommy.McGinnis@la.gov
Loland Broussard: Loland.Broussard@la.usda.gov
Quin Kinler: Quin.Kinler@la.usda.gov

Request for CWPPRA Project Monitoring Funding Increase
Project Costs and Benefits Reevaluation
Fact Sheet

Project Name: Non-rock Alternatives to Shoreline Protection Demonstration (LA-16)

PPL: 18

Federal Sponsor: NRCS

Construction Completion Date: May 2014

Projected Project Close-out Date: December 2017

Project Description: Four non-rock alternatives to shoreline protection were selected from public submittals and constructed in Vermilion Bay along Shark Island in Iberia Parish. The four alternatives are foreshore; three products were installed by May 2014, and the fourth product is currently being constructed. Non-rock alternative are sought for a variety of reasons including low weight bearing soils and underground obstructions such as pipelines.

Monitoring changes from the approved project: 1) Change scope of wave attenuation monitoring to assess the performance of each alternative in addition to comparing the alternatives. 2) Process topographic/bathymetric survey data on a 6 month basis as collected to assist with adaptive management.

Explain why monitoring funding increase needed: 1) Changing the wave attenuation scope to assess the performance of each alternative requires a 6 month deployment for a comprehensive set of water level, wind direction, wave height conditions ($283K) rather than the two, 1 month deployments designed solely to compare the alternatives ($99K). Also, wave attenuation is a relatively new monitoring tool used by CPRA, and the original budget estimate was based on proposed costs for other projects for which actual costs have exceeded their task budgets. A logistical reason for the change is that the timing for installation of the fourth product disrupted the timing of the initial wave monitoring data collection under the original plan. The more intensive wave monitoring should result in less intensive monitoring and planning efforts in future CWPPRA projects that use these shoreline protection alternatives.

2) Additional time is required for survey drawings and shoreline movement analysis on a six month basis ($71.3K) than was accounted for in the original budget. Survey drawings were not accounted for in the original monitoring budget.

Previously approved Monitoring Plan: The non-rock alternatives area will contain four, 500 ln ft segments with a minimum of 300 ln ft gap between each segment. The control area will be 500 ln ft. The following monitoring elements will provide the information necessary to evaluate the project goals**.**

A. **Topographic and bathymetric surveys** intersecting the shoreline will track elevation changes of the altenative segments, marsh, and water bottoms both landward and bayward of the structure positions along with the horizontal position of the shoreline. Elevation data will be collected at a minimum of 10 ft intervals or closer if necessary to define distinct morphologic features such as steep changes in slope, shoreline face, sand bars, scour holes, and distinct changes in structure profile; in addition, the position of the end of continuous vegetation will be delineated on each transect. Surveys will be conducted

every 6 months following construction. Survey transects will begin at 100 ft landward from the averaged shoreline and extend 300 ft into Vermilion Bay from the center line (CL) alignment of each product:

- 36 transects total: each of the four (4) products and the reference area will have six (6) transects with 100 ft spacing between transects, and transect will be spaced approximately 150' from each end of a product (6 transects).
- Surveys along the center line alignments of the products extend 50' on each side to measure potential scour.

B. **Wave attenuation** will be monitored by strategically deploying high-frequency, water-level gages to assess differences in wave transmission (heights) between offshore and behind the alternative segments and control area. Six gages will be deployed on 2 occasions (early spring after construction in 2014 and 2016) for 1 month in early spring:

- bayward of the alternative sections to monitor wave potential (1 gage)
- between each alternative section and the shoreline (4 gages)
- in the control area at a similar depth as the gages behind the alternative sections (1 gage).

C. **Monitoring report** will be completed in summer 2017 as a final report for the demonstration project.

Detail of monitoring work to be completed per this monitoring request: The non-rock alternatives area will contain four, 500 ln ft segments with a minimum of 300 ln ft gap between each segment. The control area will be 500 ln ft. The following monitoring elements will provide the information necessary to evaluate the project goals**.**

A. **Topographic and bathymetric surveys** intersecting the shoreline will track elevation changes of the alternative segments, marsh, and water bottoms both landward and bayward of the structure positions along with the horizontal position of the shoreline. Elevation data will be collected at a minimum of 5 ft intervals or closer if necessary to define distinct morphologic features such as steep changes in slope, shoreline face, sand bars, scour holes, and distinct changes in structure profile; in addition, the position of the end of continuous vegetation and shoreline scarp (top and bottom) will be delineated on each transect. Surveys will be conducted every six (6) months following construction. Survey transects will begin at 100 ft landward from the averaged shoreline and extend 300 ft into Vermilion Bay from the center line (CL) alignment of the product:

- 37 transects total: each of the four (4) products and the reference area will have six (6) transects with 100 ft spacing between transects, and a transect will be spaced approximately 150' from each end of a product (7 transects).
- Surveys along the center line alignments of the products extend 50' on each side to measure potential scour.
- A continuous mapping of the vegetated shoreline will be in each area during each elevation survey to monitor shoreline change.
- An incremental data summary including survey drawings and shoreline change analyses will be produced for each product following the 6 month surveys.

B. **Wave attenuation** will be monitored by strategically deploying high-frequency, water-level gages to assess differences in wave transmission (heights) between offshore and behind the alternative segments and control area. Six gages will be deployed on 1 occasion for 6 months from November 2016 through April 2017:

- bayward of the alternative sections to monitor wave potential (1 gage)

- between each alternative section and the shoreline (4 gages)
- in the control area at a similar depth as the gages behind the product sections (1 gage).

C. **Monitoring report** will be completed by the end of FY2018 as a final report for the demonstration project.

Originally approved fully funded project cost estimate: $1,906,237

Current approved fully funded project cost estimate (as of CSA Amend 1): $6,108,699

Originally approved monitoring budget: $11,245

Approved monitoring budget increases: $247,536 (CSA Amend 1)

Currently approved monitoring budget: $258,210

Requested revised fully funded monitoring estimate: $567,170

Current incremental funding request: N/A for Demonstration Project

Requested funds to complete monitoring: $308,960

Percent cost increase of proposed monitoring budget over current project budget: 5.06 %

Percent of proposed monitoring budget relative to total project budget: 9.28 %

October 2009
Cost figures as of: July 2015

Non-Rock Alternative to Shoreline Protection Demostration (LA-16)

Project Status

Approved Date: 2009 **Project Area:** N/A
Approved Funds: $6.10 M **Total Est. Cost:** $6.10 M
Net Benefit After 20 Years: N/A
Status: Planning and Design
Project Type: Demonstration: Shoreline Protection
PPL #: 18

Location

Applicable statewide

Problems

Several shoreline areas within coastal Louisiana consist of unstable soil conditions, subsurface obstructions, accessibility problems, etc., which severely limit the alternatives of shoreline protection. The adopted standard across the state, where conditions allow, is the use of rock aggregate in either a revetment or foreshore installation. The major advantages of using rock are durability, longevity, and effectiveness. However, in areas where rock is not conducive for use and site limitations exist, current "proven" alternatives that provide equivalent advantages are limited.

Restoration Strategy

Several "new" concepts of providing shoreline protection have surfaced in the last couple of years. These concepts however, have not been researched or installed due mainly to budget limitations or the apprehension of industry, landowners, and others to "try" an unproven product. The intent of this demonstration project is to provide a funding mechanism to research, install, and monitor various shoreline protection alternatives in an area(s) of the state where physical, logistical and environmental limitations preclude the use of current adopted methods.

Progress to Date

This demonstration project is currently in the planning phase. A solicitation package is being prepared.

This project is on Priority Project List 18.

For more project information, please contact:

Federal Sponsor:
Natural Resources Conservation Service
Alexandria, LA
(318) 473-7756

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736

Monitoring Budget Funding Request
For the
Sabine Refuge Marsh Creation Cycles 4 & 5 Project (CS-28-4-5)

1) Project History

a. Description

The revised Sabine Refuge Marsh Creation Cycles 4 & 5 project, completed in June 2015, restored an estimated 1,000 acres of brackish marsh on Sabine National Wildlife Refuge north of Brown Lake and in Unit 1A south of Hackberry, La. The original project goal was to restore approximately 462 acres of marsh in Cycles 4 and 5 (north of Brown Lake) through the beneficial use of dredged material from USACE Calcasieu Ship Channel maintenance dredging.

An additional 412 acres of marsh creation was constructed in Sabine National Wildlife Refuge Unit 1A with funds from the Port of Lake Charles and surplus CWPPRA project funds, restoring a total of 874 acres. Another 200 or more acres of marsh are expected to develop on project-constructed mud flats that have formed adjacent to the marsh creation cells by sediment flowing over retention dikes, resulting in more than 1,000 acres restored. Sediment from the ship channel was hydraulically pumped to the project site through the CWPPRA-funded permanent pipeline south of Hackberry to construct the marsh features in four cells.

b. Monitoring Completed to Date

None, the project is currently completed construction in June 2015. The project currently does not have a monitoring budget. Monitoring was not included previously due to perceived construction budget constraints.

c. Original Project Budget

$ 0.0.

d. Previous Monitoring Funding Increases

There have been no previous monitoring funding increases.

2) Increase Request

a. Monitoring Increment Increase Being Requested

Total Increase for 20-year Project Life
$455,015

3-year Incremental Request
$48,548

b. Fully Funded Cost Estimate

$455,015

c. Description of Proposed Monitoring Events to Be Accomplished With the Requested Funding

The requested funding would be used to fund the following items

- Land-Water Analysis (3 years)
- 5 Vegetation Surveys
- 3 Marsh Elevation Surveys
- O&M & Monitoring Reports (2 summary and 3 full reports)

3) Monitoring Fund Increase Justification

a. Summary of Project Performance

The project completed construction in June 2015 and appears to be exceeding expectations for creating marsh.

b. Summary of Project Deficiency

Currently the project has no monitoring plan or monitoring budget.

c. Reasons for Requested Increase

- Land-Water analysis at three periods will determine how much marsh remains at years 5, 10 and 19 to determine project success.
- Vegetation surveys will address the project goal of marsh creation. Vegetation surveys will be useful in tracking the development of the marsh vegetation community in the marsh creation fill and "overflow" areas.
- Elevation surveys will determine project soil elevation over at Years 3, 10 and 19 to determine the degree of land subsidence and consolidation.

November 2013
Cost figures as of: July 2015

Sabine Refuge Marsh Creation, Cycles IV & V (CS-28-4&5)

Project Status

Approved Date: 2011 **Project Area:** 0 acres
Approved Funds: $10.3 M **Total Est. Cost:** $10.3 M
Net Benefit After 20 Years: 331 acres
Status: Engineering and Design/ Construction
Project Type: Marsh Creation
PPL #: 8

Location

This 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.

Problems

The project area is experiencing marsh degradation due to saltwater intrusion, subsidence, and wind-driven erosion. Salt water migrates into the region from the Calcasieu River Ship Channel through existing canals and bayous. Wind-driven waves cause further loss of the remaining marsh fringe. This has resulted in the conversion of vegetated intermediate marsh to large shallow open water areas.

Restoration Strategy

Cycles 4 & 5 consist of the creation of 230 and 232 acres (respectively) of brackish marsh platform using material dredged from the Calcasieu River Ship Channel. Approximately 1 million cubic yards of material will be placed within each of the two Sabine Refuge Cycle 4 & 5 marsh creation areas. The dredged material will be contained by earthen dikes. Low level earthen overflow weirs will be constructed to assist in the de-watering of the marsh creation disposal area and to create fringe marsh with the overflow. The dredged slurry will be placed between elevations 2.0 and 2.7 feet North American Vertical Datum 88.

Progress to Date

The Sabine Refuge Marsh Creation Project, originally sponsored by the U.S. Army Corps of Engineers, was approved in 1999 as part of the Project Priority List 8 and later broken into 5 cycles. In 2001, the 214 acre Cycle 1 was constructed and in 2007 the 232 acre Cycle III was constructed. Cycle II consisted of the construction of a permanent pipeline to promote the beneficial use of material removed from the Calcasieu River Ship Channel during maintenance dredging events. This permanent pipeline was constructed in 2010. In 2012 the Corps transferred lead Federal sponsorship to FWS, which in turn signed a Cost Share Agreement with CPRA.

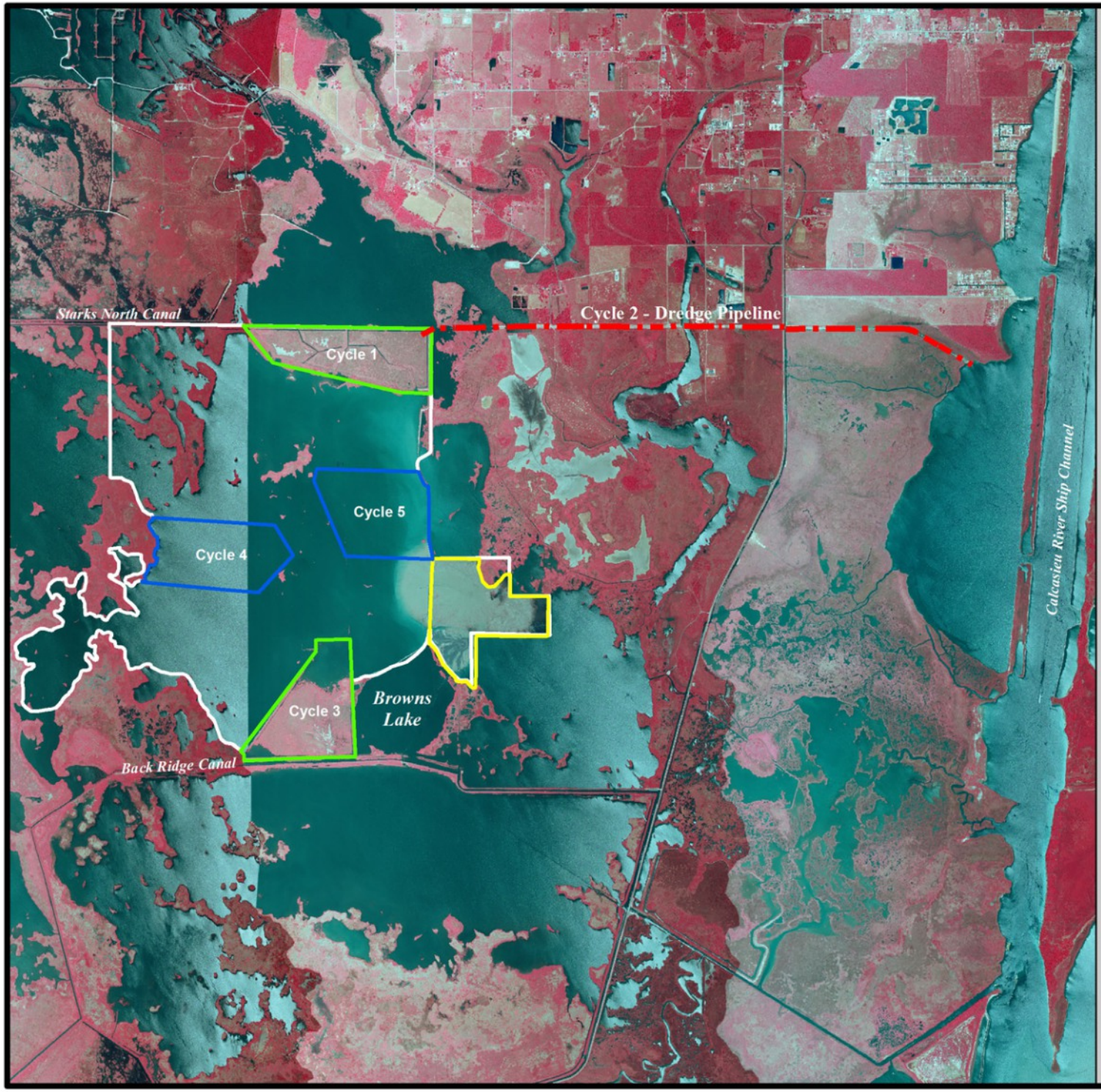
View of the State funded Cycle 2 Marsh Creation site on Sabine National Wildlife Refuge constructed in 2010.

View of the "overflow" area just outside of the Cycle 2 Marsh Creation Cell in which material was allowed to overflow the lower dike. Material was quickly colonized by Smooth cordgrass.

For more project information, please contact:

Federal Sponsor:
U.S. Fish and Wildlife Service
Lafayette, LA
(337) 291-3100

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



Sabine Refuge Marsh Creation, Cycles 4 & 5 (CS-28-4&5)

- Cycle 2 - Dredge Pipeline
- Project Boundary
- Completed Cycle
- Proposed Cycle
- State Project

USGS science for a changing world

Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Assessment Branch
Baton Rouge, La

Background Imagery:
2010 NAIP Photography

Map Date: June 19, 2013
Map ID: USGS-NWRC 2013-11-0031
Data accurate as of: March 15, 2012

Monitoring Funding Increase Request Beyond the Approved 20-Year Budget
for
MR-06 Channel Armor Gap Crevasse

1) **Project History**
   a. **Description**
   The project is located on the eastern side of the Mississippi River Delta in the Delta National Wildlife Refuge in Plaquemines Parish, Louisiana. It is west of the eastern delta's Main Pass and north of Pilottown. The project plan consisted of deepening an existing 200- foot wide gap in the Mississippi River channel bank armor. In addition, the existing channel from the gap to Mary Bowers Pond was enlarged. The intent of this project was to restore vegetated wetlands by increasing fresh water and sediment from the Mississippi River to the Delta National Wildlife Refuge area. This project promotes sediment accretion and marsh creation by increasing the introduction of sediment and fresh water into the project area. Construction was completed in October 1997.

   b. **Monitoring Completed to Date:**

   - Water Discharge/Suspended Sediment (1997, 1998)
   - Elevation Survey (1997, 2001, 2008)
   - Habitat Mapping (1996, 2001)
   - Land/Water Analysis (1996, 2001, 2007)
   - Vegetation (2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010)

   c. **Original Project Budget**
   $307,663

   d. **Previous Monitoring Funding Increases**
   There have been no previous monitoring funding increases.

2) **Increase Request**
   a. **Monitoring Increment Increase Being Requested**

   Total Increase for Remainder of 20-year Project Life
   $81,400

   3-year Incremental Request
   $81,400

   b. **Fully Funded Cost Estimate**
   $389,063

   c. **Description of Proposed Monitoring Events to Be Accomplished With the Requested Funding**
   The requested funding would be used to fund the following items

- Elevation Survey (2016)
- Final Operations, Maintenance and Monitoring Report (2017)

3) Increase Justification

a. Summary of Project Performance

The monitoring that has been performed to date indicates that the project is performing as designed. The diversion channel remains open. Land/water ratios and sediment elevation have increased with each successive survey.

b. Summary of Project Deficiency

The monitoring activity that has taken place to date has been adequate for assessing project performance, however additional monitoring data is necessary for the end of project life report.

c. Reason for Requested Increase

- Rates for elevation surveys have increased since the original budget was approved in 1997. A final elevation survey is necessary to determine the amount of infilling that has occurred within the crevasse receiving bay.
- The rate for producing reports has increased due to recent increases in CPRA's indirect costs. A final Operations, Maintenance and Monitoring Report will be necessary to assess project performance over the 20-year life.

October 2002
Cost figures as of: July 2015

Channel Armor Gap Crevasse (MR-06)

Project Status

Approved Date: 1993 **Project Area:** 2,097 acres
Approved Funds: $0.88 M **Total Est. Cost:** $0.88 M
Net Benefit After 20 Years: 936 acres
Status: Completed Dec. 1997
Project Type: Sediment Diversion
PPL #: 3

Location

The project is located on the eastern side of the Mississippi River Delta in the Delta National Wildlife Refuge in Plaquemines Parish, Louisiana. It is west of the eastern delta's Main Pass and north of Pilottown.

Problems

Because of the revetment that runs along the Mississippi River shoreline, the area adjacent to the river no longer receives marsh nourishing sediment, nutrients, or fresh water.

During levee construction, a shallow gap was created in the stone armor along the riverbank to allow overflow during high river stages. Inadequate width and depth in the original design led to an infrequent and ineffective amount of water entering the marsh. The emergent delta originally anticipated did not materialize.

Restoration Strategy

The project plan consisted of deepening an existing 200-foot wide gap in the Mississippi River channel bank armor. In addition, the existing channel from the gap to Mary Bowers Pond was enlarged.

The implementation of this project will restore vegetated wetlands by increasing fresh water and sediment from the Mississippi River to the Delta National Wildlife Refuge area.

This project promotes sediment accretion and marsh creation by increasing the introduction of sediment and fresh water into the project area. The average flow of water is approximately 2,500 cubic feet per second and is expected to create 936 acres of emergent marsh over the 20-year life span of the project.

A crevasse is shown providing the marsh nourishing sediment necessary for delta production. The crevasse is the channel-like feature intersecting with the Mississippi River, seen here with ship traffic at the top of the image. The Mary Bowers Pond, being fed by the crevasse, can be seen in the foreground.

Progress to Date

Surveys have identified a Shell pipeline in the crevasse area that would be negatively impacted. Shell is lowering it at their expense.

The construction phase of the project is complete. The Louisiana Department of Natural Resources is monitoring the project with further operation and maintenance scheduled for the future. This project is on Priority Project List 3.

For more project information, please contact:

US Army Corps of Engineers
New Orleans District

Federal Sponsor:
U.S. Army Corps of Engineers
New Orleans, LA
(504) 862-1597

CPRA

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736

Channel Armor Gap Crevasse (MR-06)

- Spoil Gap
- Dredge Channel
- Project Boundary

USGS science for a changing world

N

0.25 0 0.25 0.5 Miles

0.25 0 0.25 0.5 0.75 Kilometers

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
1998 Digital Orthophoto Quarter Quadrangle

Map Date: August 20, 2002
Map ID: 2002-11-443
Data accurate as of: August 20, 2002

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

REQUEST TO INCREASE OPERATION AND MAINTENANCE AND MONITORING BUDGETS FOR PPL 14 – EAST MARSH ISLAND MARSH CREATION (TV-21)

For Report/Decision:

CPRA and NRCS report that Phase I is being closed out with an actual and reconciled cost of $905,585.42. Construction is complete and Phase II first costs are being closed out with an actual and reconciled cost of $18,241,348.69.

CPRA and NRCS propose to increase the Operation and Maintenance budget by $515,342, increase the Monitoring budget by $272,274, and decrease the Corps Administration budget by the amount of $1,504, with incremental increases of $605,884 (O&M);$92,804 (Monitoring), and $5,131 (COE Admin).

The Technical Committee will consider and vote to make a recommendation to the Task Force on the requested budget increases.

TV-21 East Marsh Island Marsh Creation Project

E&D Completion Date – March 2010

Phase I Sponsor – EPA

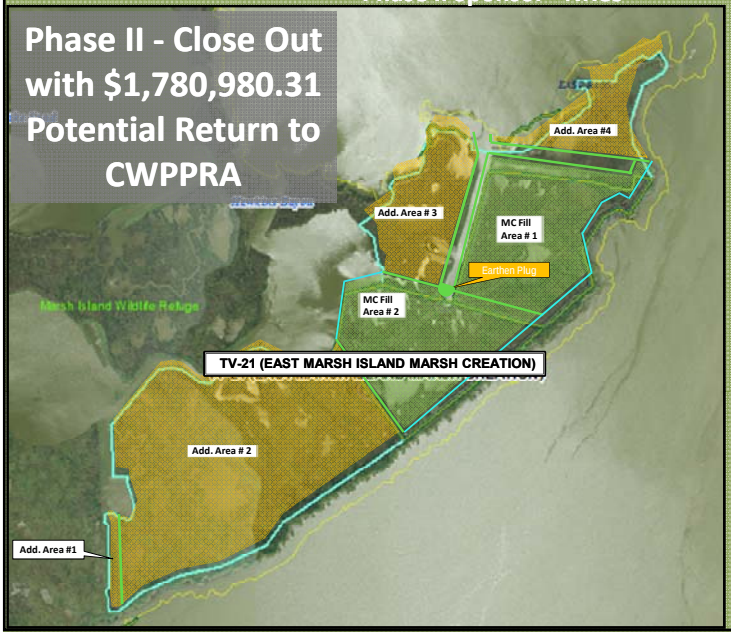
Phase I - Close Out with an Actual Cost of $905,585.42, and $288,020.58 of Phase I funds Returned to CWPPRA

TV-21 East Marsh Island Marsh Creation Project

Construction Completion Date – December 2010

Phase II Sponsor - NRCS

Phase II - Close Out with $1,780,980.31 Potential Return to CWPPRA



CONSTRUCTED FEATURES	
Project Feature	**Area (Acres)**
MC Fill Area #1	184
MC Fill Area #2	179
Total Marsh Creation 363 acres	

Project Feature	**Area (Acres)**
Add. Area #1	8
Add. Area #2	460
Add. Area #3	110
Add. Area #4	87
Total Nourished Area 665 acres	

TV-21 Year 1 Post Construction Maintenance Event
Shoreline Protection Component

Concern of Severing Nourished Area No. 4 from the remainder of the island.

TV-21 East Marsh Island Marsh Creation Project
Year 1 Post Construction Maintenance Event

Maintenance Event Construction Contract: ($1,260,374)

- Excavation of Four Interior Plugs *(remaining from original construction)*
- Removal and Excavation of the timber mat plug location remaining from original construction to create a new 100ft gap in the containment dike
- Excavation of an existing gap in the containment dike to below marsh elevation
- Repair and armoring of 890ft of containment dike near the East-West Pipeline Canal

Shoreline Protection was included in the Year 1 Maintenance to protect the prior investment made in the project.

TV-21 Year 1 Post Construction Maintenance Event Shoreline Protection Component

During Construction

Prior O&M Expenditures and the Maintenance Event have exceeded the budgeted O&M funds.

TV-21 East Marsh Island Marsh Creation Project Expenditures to Date

O&M Expenditures: ($1,734,541)

- Post Construction Surveys of the Marsh Creation Area, Remaining Containment Dikes & Gaps, Borrow Area, and CRMS like stations
- State Staff Time
- Federal Administration
- E&D, Construction Admin & Oversight for Year 1 Maintenance Event
- Construction Contract for Year 1 Maintenance Event

Monitoring Expenditures: ($49,944)

- Dissolved Oxygen Testing in Borrow Area
- CRMS like Monitoring Station Construction and Monitoring
- State Staff Time

TV-21 East Marsh Island Marsh Creation Project

CPRA and NRCS Propose to:

- Increase the Operations and Maintenance budget by **$515,342**
- Increase the Monitoring budget by **$272,274**
- Decrease the Corps Admin budget by **$1,504**

PHASE II	ORIGINAL FULLY FUNDED ESTIMATE	PROPOSED REVISED FULLY FUNDED ESTIMATE	ADJUSTMENT
O&M-STATE	$ 1,548,788.00	$ 2,021,872.00	$ 473,084.00
O&M-FED	$ 129,792.00	$ 172,050.00	$ 42,258.00
O&M - CORPS ADM	$ 33,235.00	$ 31,731.00	$ (1,504.00)
MONITORING	$ 97,700.00	$ 369,974.00	$ 272,274.00
TOTAL	**$ 1,809,515.00**	**$ 2,595,627.00**	**$ 786,112.00**

This would result in an additional $786,112.00 to account for both Expenditures to Date and funds for the Remainder of the Project Life.

TV-21 East Marsh Island Marsh Creation Project
Proposed O&M for Remainder of Project Life

Proposed State O&M: ($ 287,331)

- O&M Inspections (5)
- O&M Surveys of Marsh Creation (2)
- State Administrative

Proposed Fed O&M: ($172,050)

- EPA & NRCS Administrative
- O&M Inspections
- Project Closeout

The proposed State & Federal O&M tasks have been reduced from the original OM&M plan due to the budget deficit. In addition, Engineering Monitoring tasks previously categorized as O&M are now proposed under the Monitoring category.

TV-21 East Marsh Island Marsh Creation Project
Proposed Monitoring for Remainder of Project Life

Proposed Monitoring: ($320,030.00)

- DO Monitoring of Borrow and Reference Area
- OM&M Reports (3)
- Summary Report (2)
- Soil Samples/six locations (3)
- Aerial Photography (2)
- Reconstruction and Survey of CRMS like Stations
- CRMS-like Monitoring (6)

OM&M Plan Changes:
Removed SAV monitoring, Reduced OM&M reports, added one aerial photography

The proposed Monitoring tasks are in line with the original OM&M plan with a few minor changes. The increase in the Monitoring budget is due to reassignment of the proposed tasks from the O&M category to the Monitoring category.

TV-21 East Marsh Island Marsh Creation Project
Incremental Funding Request

CPRA and NRCS request the following Incremental Funding:

- Operations and Maintenance - **$605,884**
- Monitoring - **$92,804**
- Corps Admin - **$5,131**

	CURRENTLY APPROVED INCREMENTAL FUNDING	EXPENDITURES TO DATE	INCREMENTAL FUNDING DEFICIT	ADDITIONAL FUNDS 2016-2018	INCREMENTAL FUNDING REQUEST
O&M	$ 1,364,421	$ 1,734,541	$ 370,120	$ 235,764	$ 605,884
Monitoring	$ 27,307	$ 49,944	$ 22,637	$ 70,167	$ 92,804
COE Admin	$5,421(thru 2014)	$ 5,421	$ 0	$ 5,131	$ 5,131

TV-21 East Marsh Island Marsh Creation Project

If approved, the revised fully funded Phase II Cost would be $21,831,844, resulting in $994,868.31 of Phase II funds being returned to the CWPPRA program.

A total of $1,282,888.89 of Phase I and Phase II funds would be returned to CWPPRA program.

rev. September 2010
Cost figures as of: July 2015

East Marsh Island Marsh Creation (TV-21)

Project Status

Approved Date: 2005 **Project Area:** 362 acres
Approved Funds: $22.6 M **Total Est. Cost:** $23.0 M
Net Benefit After 20 Years: 169 acres
Status: Construction
Project Type: Marsh Creation
PPL #: 14

Location

The project is located in the Teche/Vermilion Basin at the east end of Marsh Island Wildlife Refuge southeast of Lake Sand in Iberia Parish, Louisiana.

Problems

Substantial areas of interior emergent marsh on Marsh Island have been converted to open water, primarily because of Hurricane Lili (2002). Areas targeted under this project are those with the greatest historical land loss and within close proximity to East Cote Blanche Bay.

Restoration Strategy

This project is designed to re-create brackish marsh habitat in the open water areas of the interior marsh primarily caused by hurricane damage. Based on 2007 aerial photography analysis, approximately 197 acres of marsh will be nourished and 165 acres of open water will be restored to interior emergent marsh habitat. The loss rates for the interior ponded areas are estimated to be reduced by 50 percent. This project provides a synergistic effect with CWPPRA's Marsh Island Hydrologic Restoration (TV-14), a project constructed in December 2001.

Aerial view of the east end of Marsh Island after commencement of construction activity.

Aerial view of the east end of Marsh Island where material dredged from East Cote Blanche Bay will be deposited to fill in open ponds and nourish marsh.

Progress to Date

The Louisiana Coastal Wetlands Conservation and Restoration Task Force approved funding for engineering and design at their February 2005 meeting. The U.S. Environmental Protection Agency and the Natural Resources Conservation Service, working through the Louisiana Department of Natural Resources, completed the engineering and design of the project and construction began in March 2010.

This project is on Priority Project List 14.

For more project information, please contact:

Federal Sponsors:
U.S. Environmental Protection Agency
Dallas, TX
(214) 665-7459

Natural Resources Conservation Service
Alexandria, LA
(318) 473-7756

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736

East Marsh Island Marsh Creation (TV-21)

Marsh Creation/Nourishment *

Project Boundary

*denotes proposed features

USGS science for a changing world

0.1 0 0.1 0.2 Kilometers

0.1 0 0.1 0.2 Miles

Map Produced by:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station
Baton Rouge, La.

Background Imagery:
2005 Digital Orthophoto Quarter Quadrangle

Map Date: June 20, 2008
Map ID: USGS-NWRC 2008-11-0289
Data accurate as of: June 11, 2008

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

REQUEST TO COMBINE BUDGETS AND REPORTS FOR CWPPRA PROJECTS: ISLES DERNIERES RESTORATION PHASE 0 EAST ISLAND (TE-20), ISLES DERNIERES RESTORATION PHASE 1 TRINITY ISLAND (TE-24), AND WHISKEY ISLAND RESTORATION (TE-27)

For Decision:

CPRA and EPA would like to combine Operations, Maintenance, and Monitoring Reports as well as project monitoring funds for the above projects rather than request an increase in funding.

The Technical Committee will consider and vote to make a recommendation to the Task Force on the request to combine the budget and funds for the above projects.

October 2002
Cost figures as of: July 2015

Isles Dernieres Restoration East Island (TE-20)

Project Status

Approved Date: 1991 **Project Area:** 449 acres
Approved Funds: $8.76 M **Total Est. Cost:** $8.76 M
Net Benefit After 20 Years: 9 acres
Status: Completed June 1999
Project Type: Barrier Island Restoration
PPL #: 1

Location

East Island, which is one of five islands that comprise the Isles Dernieres barrier island chain, is located approximately 13 miles south of Cocodrie, Louisiana, in Terrebonne Parish. It is bordered to the north by Lake Pelto and Terrebonne Bay, to the west by New Cut and Trinity Island, and to the south by the Gulf of Mexico.

Problems

The Isles Dernieres chain of barrier islands in Louisiana is experiencing land loss and fragmentation as a result of both natural processes and human activities. East Island was expected to be lost by the year 1998 if no restoration was completed. The entire Isles Dernieres chain was projected to be lost by the year 2010 without restoration.

Louisiana's barrier islands buffer coastal areas from the storm surges that accompany hurricanes and tropical storms. They also protect interior fringe wetlands along the bay's shoreline from waves coming from the open Gulf of Mexico. The island serves as a nursery area for waterfowl and migratory species.

Restoration Strategy

The project required restoration of approximately 7.5 miles of both Trinity and East islands. It involved the construction of temporary perimeter containment dikes behind considerable stretches of the islands.

Sediment was suction-dredged from previously defined borrow areas of Lake Pelto and used to hydraulically fill the areas within the retaining dunes and dike structures.

An elevated marsh platform sloping from the dunes to the back bay dikes was created. The dunes and filled marsh were also planted with various species of vegetation.

Aerial view of sand fencing and vegetative plantings on East Island.

Progress to Date

Construction of this Isles Dernieres project is complete. The dredging and shaping was completed in October 1998 and the vegetative planting was completed in June 1999.

Approximately 300 acres of island were created. The "net benefit after 20 years" figure listed above is the amount projected to remain of the created acreage at the end of the 20-year life of the project. Restoration of barrier islands also provides benefits to the inland marsh due to wave energy reduction, which is not included in the benefited acreage figure.

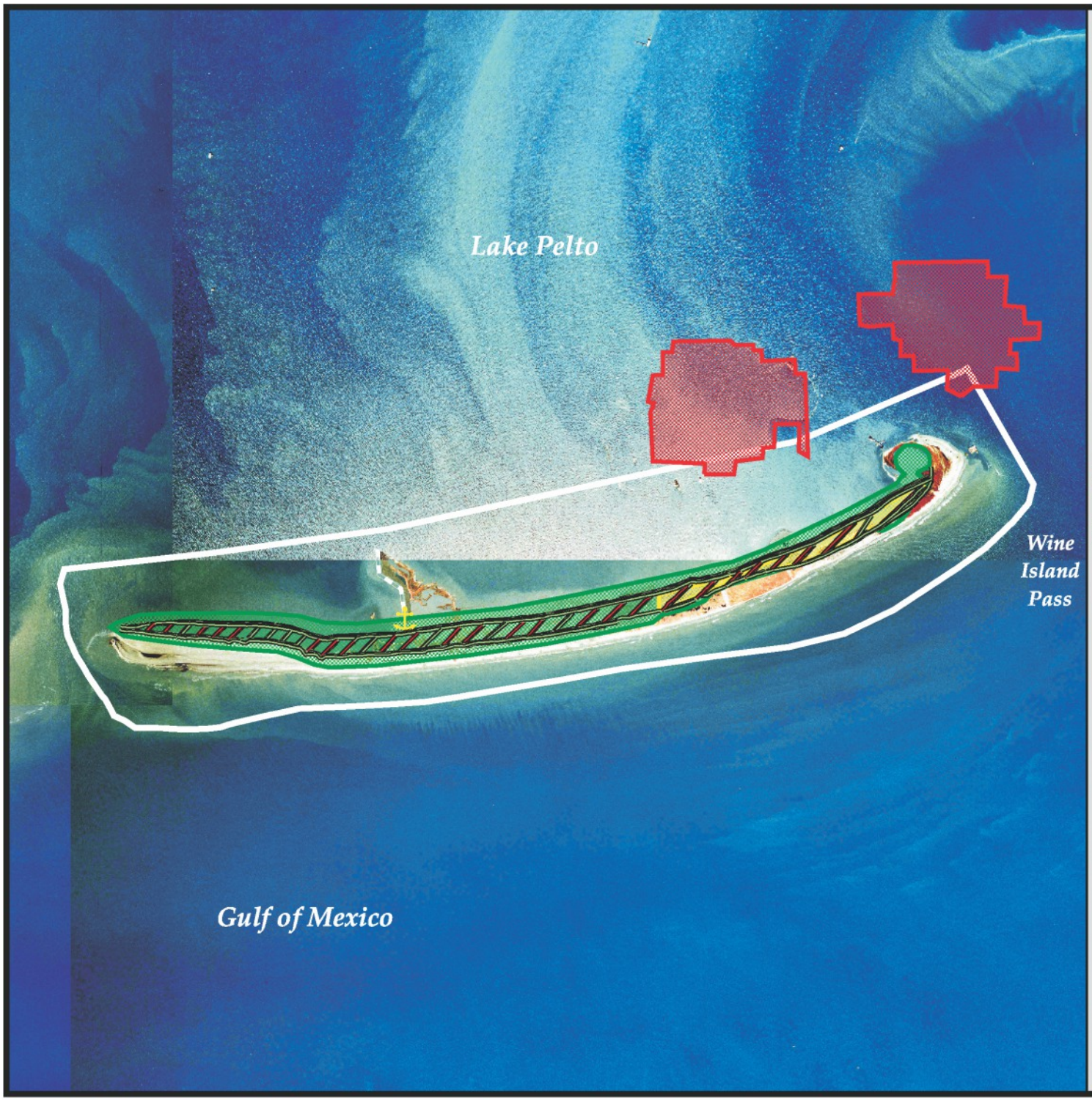
Dune elevation of 8 feet, along with sand fencing and vegetation, is enhancing the barrier island's capabilities to buffer storm surges to fringe marshes and coastal towns. The temporary containment dikes have degraded due to natural processes. Intertidal areas have developed naturally.

This project is on Priority Project List 1.

For more project information, please contact:

Federal Sponsor:
U.S. Environmental Protection Agency
Dallas, TX
(214) 665-7255

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



Isles Dernieres Restoration East Island (TE-20)

- Dock
- Dredge Channel
- Vegetative Planting
- Sediment Fences
- Borrow Site
- Marsh Creation Area
- Seed Area
- Project Boundary

USGS science for a changing world

0.5 0 0.5 Miles

0.5 0 0.5 Kilometers

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
1998 Digital Orthophoto Quarter Quadrangle

Map Date: June 10, 2002
Map ID: 2002-11-448
Data accurate as of: June 10, 2002

October 2002
Cost figures as of: July 2015

Isles Dernieres Restoration
Trinity Island (TE-24)

Project Status

Approved Date: 1992 **Project Area:** 776 acres
Approved Funds: $10.7 M **Total Est. Cost:** $10.7 M
Net Benefit After 20 Years: 109 acres
Status: Completed June 1999
Project Type: Barrier Island Restoration
PPL #: 2

Location

Trinity Island, which is one of five islands that make up the Isle Dernieres barrier island chain, is located approximately 13 miles south of Cocodrie, Louisiana, in Terrebonne Parish. It is bordered to the north by Lake Pelto and Terrebonne Bay, to the west by Whiskey Pass, to the south by the Gulf of Mexico, and to the east by New Cut and East Island.

Problems

The Isles Dernieres chain of barrier islands in Louisiana is experiencing land loss and fragmentation as a result of both natural processes and human activities. Trinity Island was expected to be lost by the year 2007 if no restoration was completed. The entire Isles Dernieres chain was projected to be lost by the year 2010 without restoration.

Louisiana's barrier islands buffer coastal areas from the storm surges that accompany hurricanes and tropical storms. They also protect interior fringe wetlands along the bay's shoreline from waves coming from the open Gulf of Mexico. Trinity Island serves as a nursery area for waterfowl and migratory species.

Restoration Strategy

The project required restoration of approximately 7.5 miles of both Trinity and East islands. It involved the construction of temporary perimeter containment dikes behind considerable stretches of the islands.

Sediment was suction-dredged from previously defined borrow areas of Lake Pelto and used to hydraulically fill the areas within the retaining dunes and dike structures.

An elevated marsh platform sloping from the dunes to the back bay dikes was created. The dunes and filled marsh were also planted with various species of vegetation.

Trinity Island sand fence and vegetative plantings.

Progress to Date

Construction of this Isles Dernieres project is complete. The dredging and shaping was completed in October 1998 and the vegetative planting was completed in June 1999.

Approximately 500 acres of island were created. The "net benefit after 20 years" figure listed above is the amount projected to remain of the created acreage at the end of the 20-year life of the project. Not included in the benefited acreage figure are benefits to the inland marsh because of reduced wave energy due to barrier island restoration.

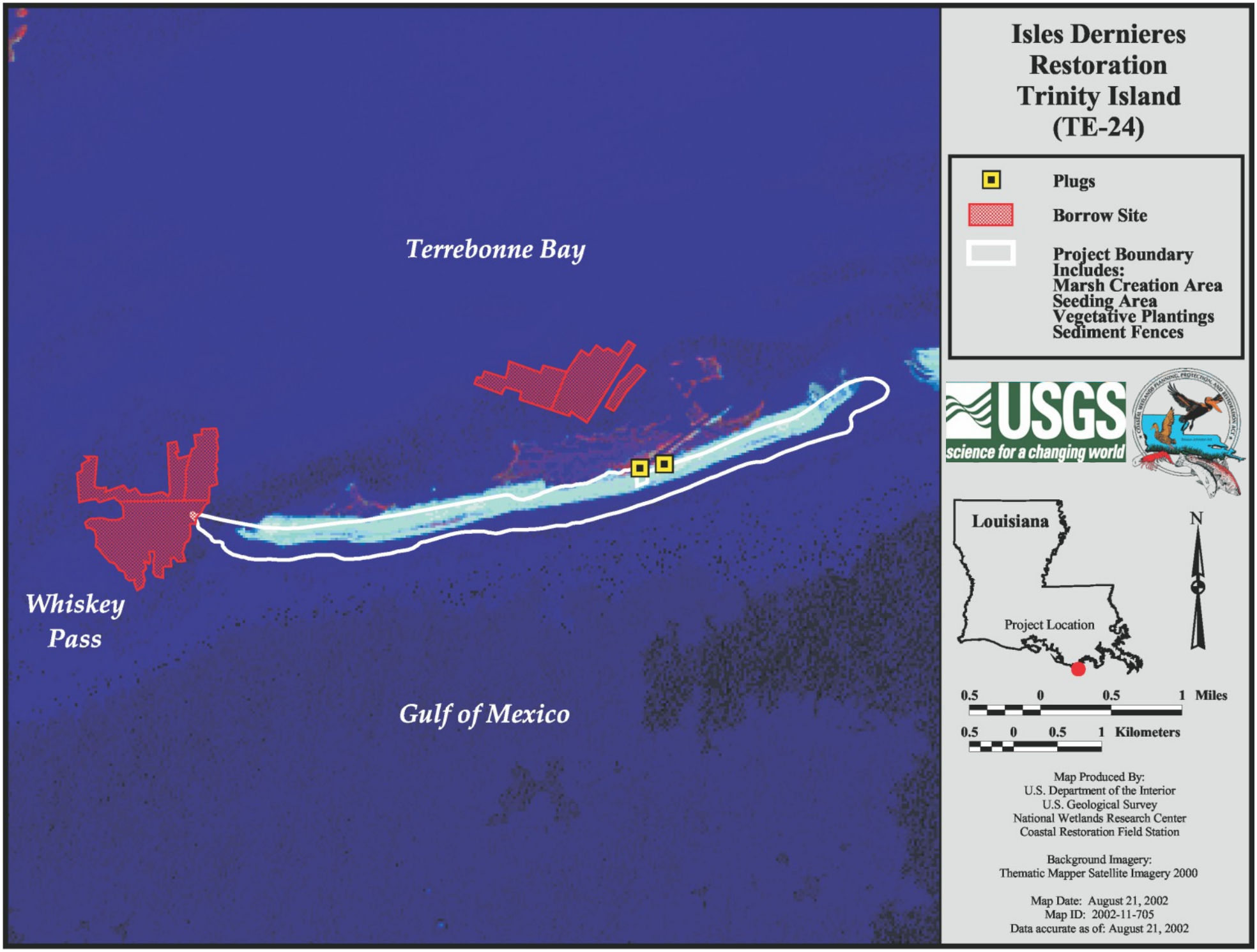
Dune elevation, along with sand fencing and vegetation, is enhancing the barrier island's capabilities to buffer storm surges to fringe marshes and coastal towns. The temporary containment dikes have degraded because of natural processes. Intertidal areas have developed naturally.

This project is on Priority Project List 2.

For more project information, please contact:

Federal Sponsor:
U.S. Environmental Protection Agency
Dallas, TX
(214) 665-7255

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



Isles Dernieres Restoration Trinity Island (TE-24)

- Plugs
- Borrow Site
- Project Boundary Includes:
  - Marsh Creation Area
  - Seeding Area
  - Vegetative Plantings
  - Sediment Fences

USGS science for a changing world

0.5 0 0.5 1 Miles

0.5 0 0.5 1 Kilometers

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
Thematic Mapper Satellite Imagery 2000

Map Date: August 21, 2002
Map ID: 2002-11-705
Data accurate as of: August 21, 2002

October 2002
Cost figures as of: July 2015

Whiskey Island Restoration (TE-27)

Project Status

Approved Date: 1993 **Project Area:** 4,926 acres
Approved Funds: $7.04 M **Total Est. Cost:** $7.04 M
Net Benefit After 20 Years: 1,239 acres
Status: Completed June 2000
Project Type: Barrier Island Restoration
PPL #: 3

Location

Whiskey Island, which is one of five islands that comprise the Isles Dernieres barrier island chain, is located 18 miles southwest of Cocodrie in Terrebonne Parish, Louisiana. It is bounded by Coupe Colin to the west, Whiskey Pass to the east, Lake Pelto, Caillou Boca, and Caillou Bay to the north, and the Gulf of Mexico to the south.

Problems

The Isles Dernieres chain of barrier islands in Louisiana is experiencing land loss and fragmentation as a result of both natural processes and human activities. Whiskey Island was expected to be lost by the year 2007 if no restoration was completed. The entire Isles Dernieres chain was projected to be lost by the year 2010 without restoration.

Restoration Strategy

The project plan consists of the creation of 657 acres of back island marsh, including breach closure of Coupe Nouvelle, using material dredged from the bay north of the island. Barrier island vegetation, including smooth cordgrass (*Spartina alterniflora)*, marshhay cordgrass (*Spartina patens)*, bitter panicum (*Panicum amarum)* and black mangrove (*Avicennia germinans)* was planted in the Coupe Nouvelle marsh restoration area and in the restored back bay marsh areas. Sand fencing was also placed on the dune to help capture and retain wind blown sand.

Sediment was pumped to restore 3.2 miles of the island, which was then revegetated. Sand fencing was later added to aid sediment retention.

Progress to Date

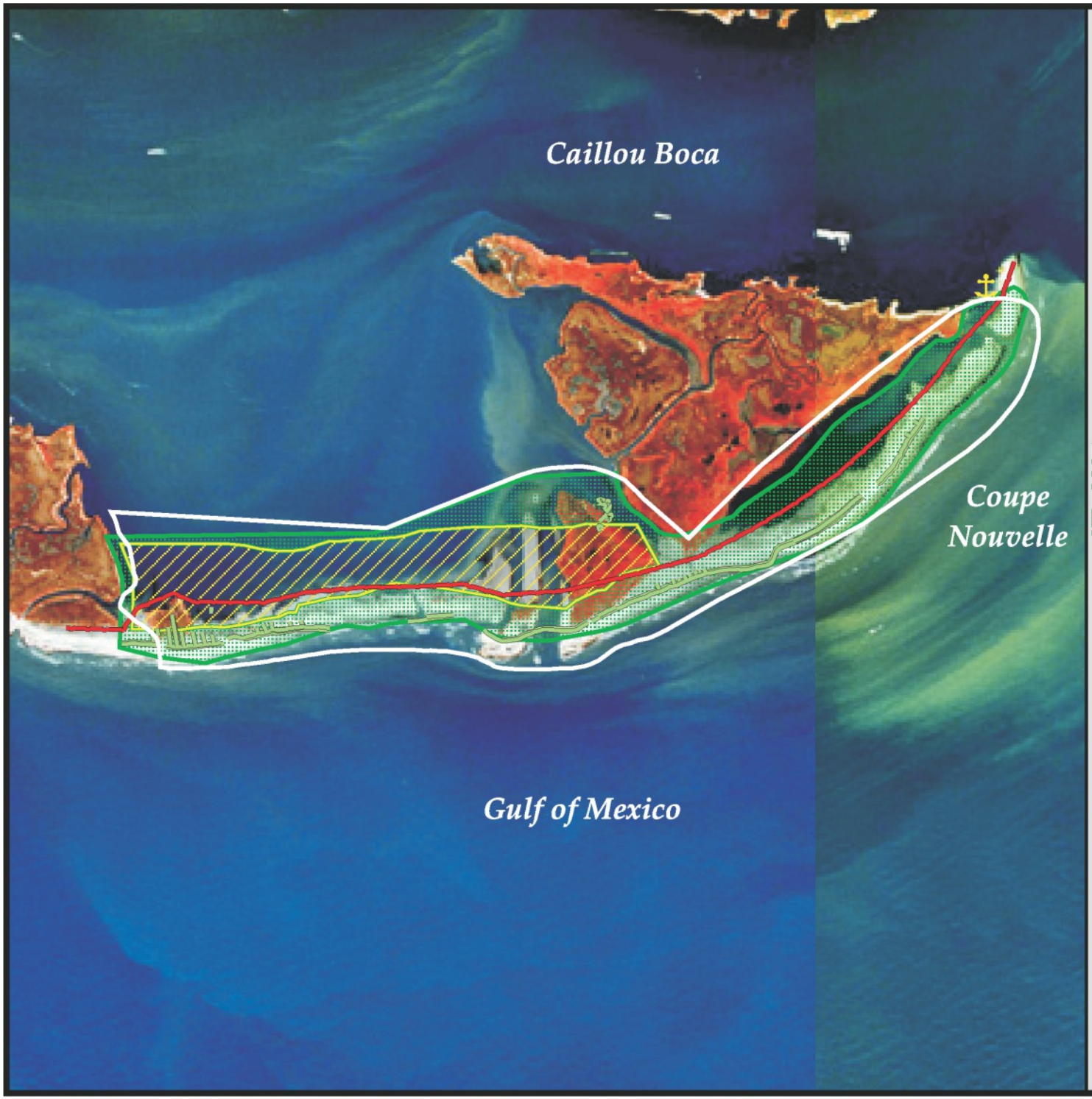
Dredging was initiated on February 13, 1998, and was completed in August 1998. Initial vegetation on the bay shore with the above listed plant species was also completed in July. More vegetation planting was carried out in May and June of 1999, and sand fencing construction was completed in June 2000.

This project is on Priority Project List 3.

For more project information, please contact:

Federal Sponsor:
U.S. Environmental Protection Agency
Dallas, TX
(214) 665-7255

Local Sponsor:
Coastal Protection and Restoration Authority
Baton Rouge, LA
(225) 342-4736



Whiskey Island Restoration (TE-27)

- Dock
- Sediment Fence
- Vegetative Planting
- Marsh Creation Area
- Seeding Area
- Project Boundary

USGS science for a changing world

0.25 0 0.25 Miles

0.25 0 0.25 0.5 Kilometers

Map Produced By:
U.S. Department of the Interior
U.S. Geological Survey
National Wetlands Research Center
Coastal Restoration Field Station

Background Imagery:
1998 Digital Orthophoto Quarter Quadrangle

Map Date: June 10, 2002
Map ID: 2002-11-451
Data accurate as of June 10, 2002

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

ADDITIONAL AGENDA ITEMS

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

REQUEST FOR PUBLIC COMMENTS

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

DATE OF UPCOMING CWPPRA 25TH ANNIVERSARY DEDICATION EVENT

For Announcement:

A dedication ceremony will be held on October 14, 2015 to celebrate the 25th anniversary of the CWPPRA program. The ceremony will begin at 10:00 a.m. at the Grand Isle State Park in Grand Isle, Louisiana. More details will be provided via the CWPPRA Newsflash.

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

DATE OF UPCOMING CWPPRA PROGRAM MEETING

For Announcement:

The Task Force Meeting will be held October 15, 2015 at 9:30 a.m. at the Grand Isle Multiplex, Highway 1 at Ludwig Lane, Grand Isle, Louisiana.

COASTAL WETLANDS PLANNING, PROTECTION AND RESTORATION ACT

TECHNICAL COMMITTEE MEETING

SEPTEMBER 10, 2015

SCHEDULED DATES OF FUTURE PROGRAM MEETINGS

For Announcement:

October 15, 2015	9:30 a.m.	Task Force	Grand Isle
December 10, 2015	9:30 a.m.	Technical Committee	Baton Rouge
January 13, 2016	9:30 a.m.	Task Force	New Orleans
January 26, 2016	11:00 a.m.	Region IV Planning Team	Lafayette
January 27, 2016	9:00 a.m.	Region III Planning Team	Gray
January 28, 2016	8:00 a.m.	Region I & II Planning Team	Lacombe