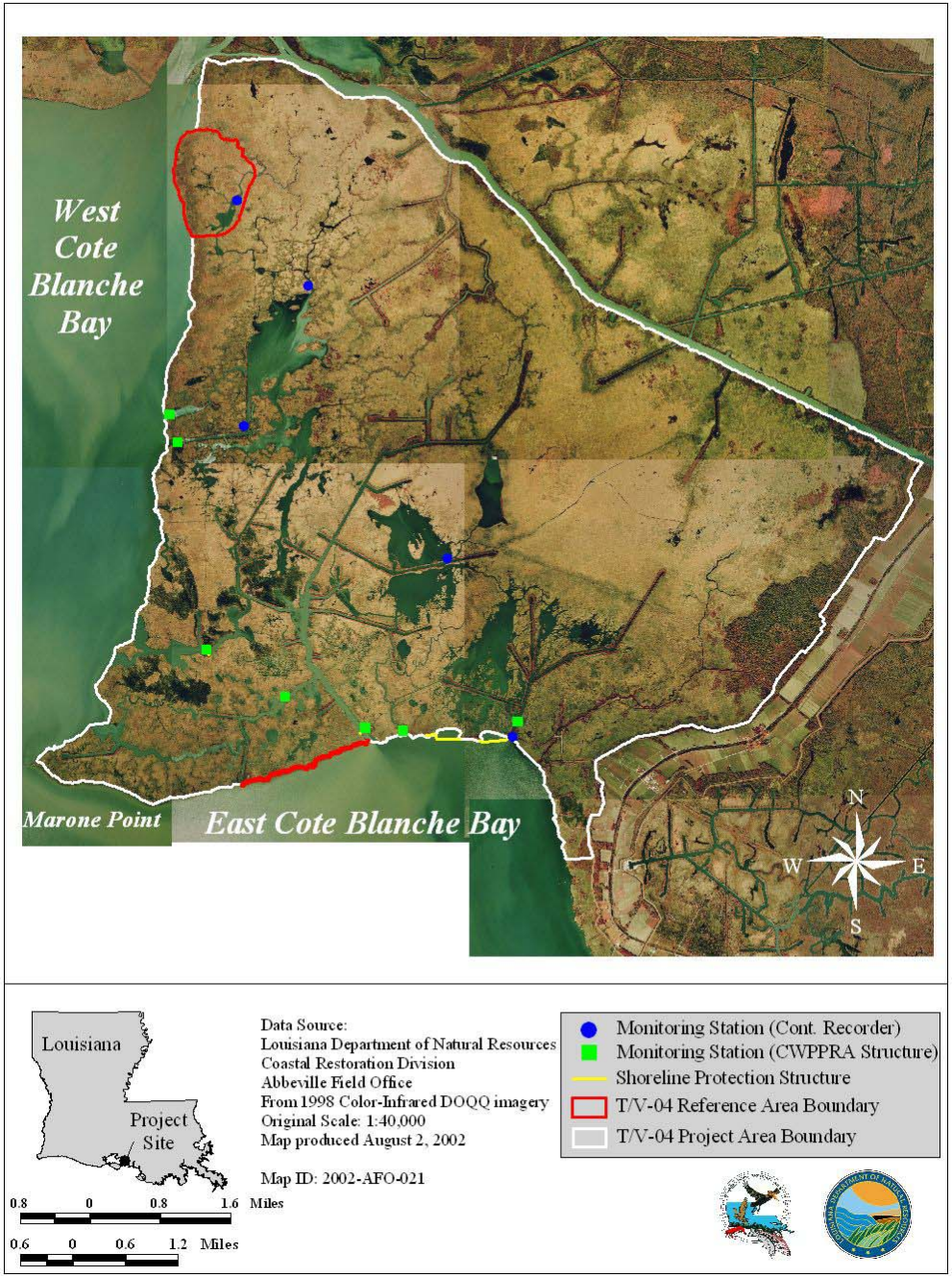
Cote Blanche Hydrologic Restoration Shoreline Protection Component

- Selected on Priority Project List 3
- Construction Completed January 1999
- Location: St. Mary Parish, LA

TV-04

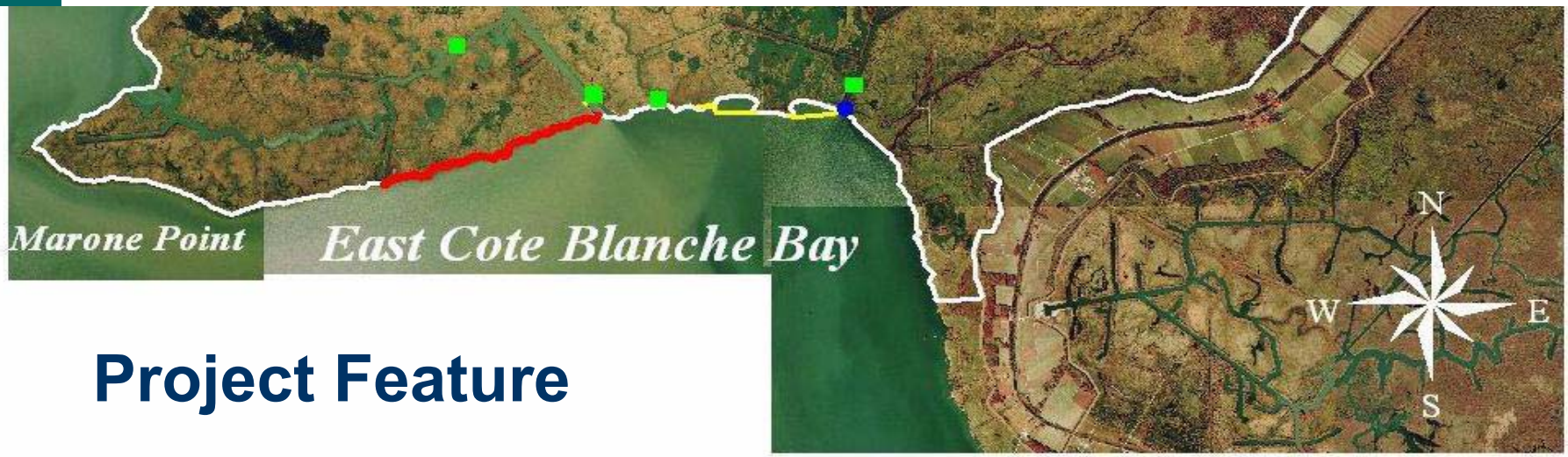
Project Location



Project Feature

Shoreline Protection Component Located Along the North Shoreline of East Cote Blanche Bay.

Project Location



Project Feature

- Foreshore PVC Sheet Piling Wall Structure Consisting of Two Sections
- Sections are Along the North Shoreline of East Cote Blanche Bay Between British-American Canal and Jackson Bayou.

Planning

Assumed Causes of Loss:

1. **Shoreline Erosion from Wave Energy Generated in East Cote Blanche Bay:**

   10 - 12 ft per year 1941 to 1978

   20 - 25 ft per year 1978 to 1983

1. **Interior Marsh Loss Due to Increased Tidal Exchange Facilitated by Breaches in Adjacent Canal Spoilbanks and Subsidence**

Goals and Objectives

- Reduce Shoreline Loss from Wave Erosion
- Prevent Hydrologic Connection or Coalescence of East Cote Blanche Bay with Eroding Interior Open Water Areas

Construction

Final Feature:

PVC Sheet Piling Foreshore Wall Structure in Two Sections Totaling 3,950 Linear Feet

Monitoring Variables

Shoreline Changes Documented Over Time:

Monitoring Data Collected - Continuous Differential GPS Data Recorded at Mean High Water Behind the Structure Sections Every 3 Years is Compared to Available Historical Data Sets, Previous Monitoring Data Sets and Reference Area Shoreline Changes

O & M Data Collected - Comparison of Periodic Elevation Survey Transects Established from the Structure Sections to the Shoreline

Monitoring Variables

Habitat Mapping:

Land/Water Data Will be Included in the GIS Analysis of Color-Infrared Photography Obtained Pre-construction, Year 5, 11 and 17 Post-construction, ±3 Years and Will Provide for Comparison with Previous Land/Water Data Sets.

Physical Response

Shoreline Erosion:

2001 Differential GPS Data from the Shoreline Behind the Structure Sections has Been Recorded, but Comparison to Available Historical Data Sets or Pre-construction Baseline and Reference Area Shoreline Monitoring Data Sets Has Not Been Completed.

Physical Response

Elevation Change/Sediment Accretion:

Post-construction O & M Elevation Survey of Transects Between the Structure Sections and the Shoreline May Be Conducted in 2002.

Comparison with the As-built Data Set Could Then Determine if Sediment Accretion has Occurred Between the Structure and the Shoreline, Although This was Not Included as a Project Goal or Objective or Monitoring Element.

Biological Response

There were no biological response variables measured.

Landscape Response

Landscape response will be determined after the first post-construction flight conducted in fall 2002.

Comparison of Land/Water Data Sets Could Then Determine if the Landscape is Maintaining Its Integrity or if Connections Have Formed Between the Bay and Interior Open Water Areas.

Project Adaptive Management

Implemented Changes:

No Modification Has Been Done to the Structure Since Construction Completion in January 1999

Project Adaptive Management

Recommended Improvements:

Consider Adding an Element to Measure Sediment Accretion Between the Structure and the Shoreline in the Monitoring Plan.

If Data Analysis Indicates Effectiveness, Consider Extending Shoreline Protection Further West to Protect Additional Areas from Further Erosion and Deploying at Other Sites to Prevent Circumvention of the Hydrologic Structures.

Lessons Learned for Future Projects

- Incorporated in the CWPPRA process
  - **Sufficient Geotechnical Investigations**
  - **Clarification and Consistency of Goals and Objectives in all Documentation (EA, WVA and Monitoring Plan)**
  - **Annual Post-construction Inspection of Structures**
- Recommended for incorporation
  - **Support implementation of Coastwide Reference Monitoring System (CRMS)**