West Belle Pass Headland Restoration (TE-23)

Coastal Wetlands Planning, Protection and Restoration Act

1997 GIS Habitat Analysis

Preconstruction color-infrared photography

Preconstruction color-infrared photography acquired November 8, 1997

Project Description

Located in Lafourche Parish, Louisiana, adjacent to Port Fourchon, the West Belle Pass Headland Restoration project encompasses an area of 2,459 acres of coastal wetlands. Timbalier Bay borders the project to the west, Bayou Lafourche and Belle Pass to the east, and the Gulf of Mexico to the south. The habitat of the project consists of a combination of salt marsh and black mangrove wetlands. Bayou Lafourche was a major distributary of the Mississippi River carrying approximately 12% of the Mississippi River's discharge until it was closed at Donaldsonville as a flood protection measure in 1904. In 1955, input into Bayou Lafourche was restarted with the installation of pumps at Donaldsonville. Upon reaching the gulf, Bayou Lafourche splits into two primary passes, Pass Fourchon to the east and Belle Pass to the west. Accelerated beach erosion has been caused by the extension and restoration of jetties placed in 1939 at the mouth of Belle Pass. Marshes in the project area have experienced an average sea level rise of 0.41 inches per year along with a wetland loss of 0.31 square miles per year. Pipeline canals have caused a rim effect due to local subsidence, impounding the interior marshes causing a deterioration and loss of the vegetated wetlands. Shoreline erosion is occurring along the western side of Bayou Lafourche because of boat traffic and tidal action at a rate of approximately 20 feet per year. Timbalier Bay has been encroaching on Bayou Lafourche through the marshes to the west. These openings in the marsh are expected to accelerate the rates of erosion within the project area. This project is designed to reduce the encroachment of Timbalier Bay into the marshes on the west side of Bayou Lafourche and Belle Pass by creating 184 acres of subaerial land by filling in pipeline canals and open water areas. Old dams will also be refurbished along with the construction of new ones along the dredged canals to allow stabilization of created and existing marsh. This project will also increase the marsh to open water ratio and reduce shoreline retreat along the west bank of Bayou Lafourche and Belle Pass.

Project Area

Reference Area

Project Area

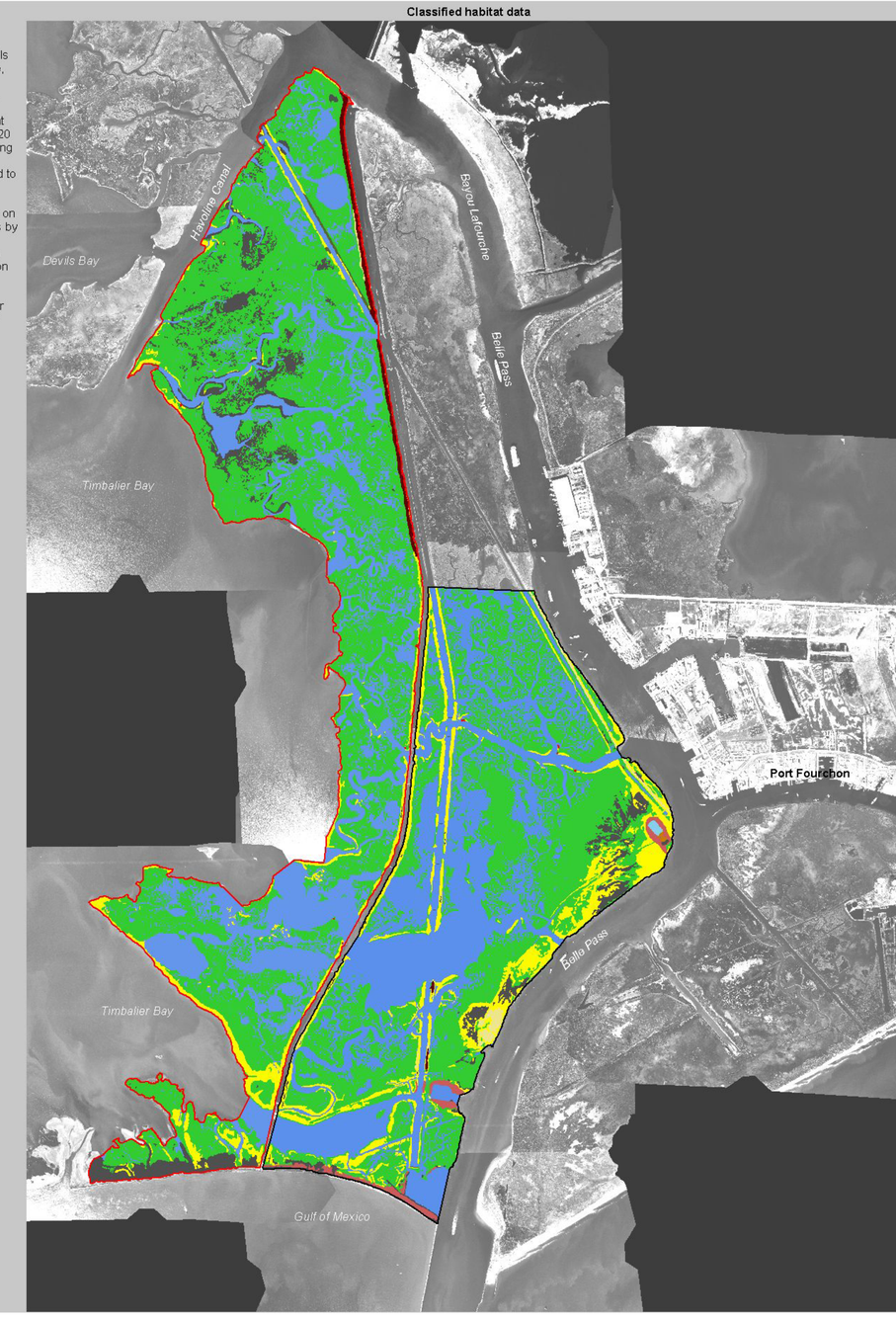
Habitat Analysis Results

Class	Project Area	Reference Area
Upland Range	0.5	0.0
Marsh - Salt	572.6	929.5
Beach/Bar/Flat	36.9	101.5
Open Water- Fresh	1.4	0.0
Open Water- Salt	552.2	485.8
Upland Forested	0.9	19.0
Upland Scrub-Shrub	16.4	0.2
Urban	0.2	0.2
Wetland Forested	0.0	3.1
Wetland Scrub-Shrub - Fresh	11.2	1.1
Wetland Scrub-Shrub - Salt	148.4	71.0
Total	**1340.7**	**1611.4**

Habitat Classes

- Upland Range
- Marsh Salt
- Beach/Bar/Flat
- Open Water- Fresh
- Open Water- Salt
- Upland Forested
- Upland Scrub-Shrub
- Urban
- Wetland Forested
- Wetland Scrub-Shrub - Fresh
- Wetland Scrub-Shrub - Salt

Classified habitat data



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Scale 1:18,000

0.5 0 0.5 1 1.5 2 2.5 Miles

0.6 0 0.6 1.2 1.8 2.4 3 3.6 4.2 Kilometers

Source:
Habitat data derived from 1:12,000 scale color-infrared photography shown here at 1:18,000 scale. Preconstruction photography was obtained November 8, 1997. Habitat classes are based on "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin and others, 1979, FWS/OBS - 79/31) as modified for National Wetlands Inventory mapping conventions.

Federal Sponsor:

US Army Corps of Engineers

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