

Naomi Outfall Management (BA-03c), Barataria Bay Waterway East Side Shoreline Protection (BA-26) **Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA)** 2000 Land-Water Analysis

2000 Photomosaic



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

Louisiana Department of Natural Resources Coastal Restoration Division New Orleans Field Office

Data Source:

Land-Water data were derived from 1:24,000 scale, color infrared photography obtained November 23, 2000. The data were overlaid on a 1998 Digital Orthophoto Quadrangle at 1:25,000 scale.

Project Description:

The BA-03c and BA-26 project areas lie within the Barataria Basin in Jefferson and Plaquemines Parishes, Louisiana. The area is bordered by the Barataria Bay Waterway (BBW) and the town of Lafitte on the west and the Mississippi River and the community of Naomi on the east. The area extends to the south of The Pen and includes the Dupre Cut portion of the BBW. The proposed project area totals 26,970 a, of which 12,074 a are open water and 15,061 a are marsh.

Historically, wetlands in this area were divided into large interdistributary basins by the natural levee ridges of former Mississippi River distributaries and were formed as a result of a low-energy environment. The natural ridges and meandering paths of its major water courses protected the marshes from direct influences of salinity and tidal action occurring to the south in Barataria Bay. However, the abandoned delta complexes of the Mississippi River now often experience subsidence rates in excess of 1 cm/yr. Between 1956 and 1990, a large portion of emergent wetland marsh was degraded and lost in the project area. Marsh loss rates for the Barataria quadrangle averaged 1.01 mi²/yr between 1939 and 1990. Furthermore, because of a combination of natural processes (such as subsidence and sea level rise) and human activities (including canal dredging and levee construction), the area has undergone a series of changes. Levee construction specifically has had a dramatic impact on the general ecology of the marsh by altering the once uniform distribution of freshwater from the river into the marsh-estuary complexes. The construction of the BBW may have caused tidal fluctuation and salinity levels to intensify in the project area. Additionally, use of the waterway by commercial and recreational traffic has eroded contiguous shorelines to the extent that very little of the original spoil bank remains. Several sections of the east bank of the BBW have eroded into interior open water areas, creating a direct link between the waterway and interior marshes.

The BA-03c and BA-26 projects seek to manage the freshwater from the Naomi Freshwater Diversion Project (BA-03), which was implemented by the Louisiana Department of Natural Resources (LDNR) and Plaquemines Parish in 1993 and includes a siphon that has provided an average of 997 cfs/month of freshwater from the Mississippi River. Specifically, the function of the siphon was to protect the project area from continued saltwater intrusion and reduce wetland loss by restoring riverine inputs of freshwater and sediments to the marsh. Both of the the current projects will manage the diverted freshwater from the Naomi siphon in the area via the installation of two water control structures designed to reduce freshwater loss and saltwater intrusion.

Additionally, the east bank of the BBW will be rebuilt to protect the adjacent marsh from erosion due to boat wakes and saltwater intrusion. The rebuilt east bank will include approximately 17,600 linear feet of foreshore rock dike along with fixed crest weirs to help retain the freshwater that will enter the area from the Naomi siphon located to the north of the project areas.

| Class | BA-03c Project Area Acres | BA-26 Project Area Acres |
|------------------------|------------------------------|-----------------------------|
| Land | 11,385 | 1,077 |
| Water | 12,081 | 2,427 |
| Total | 23,466 | 3,504 |
| BA-26 Land Water | 6 Project Area | Project Location: |









U.S. Department of Agriculture Natural Resources Conservation Service Map ID: USGS-NWRC 2004-02-0198