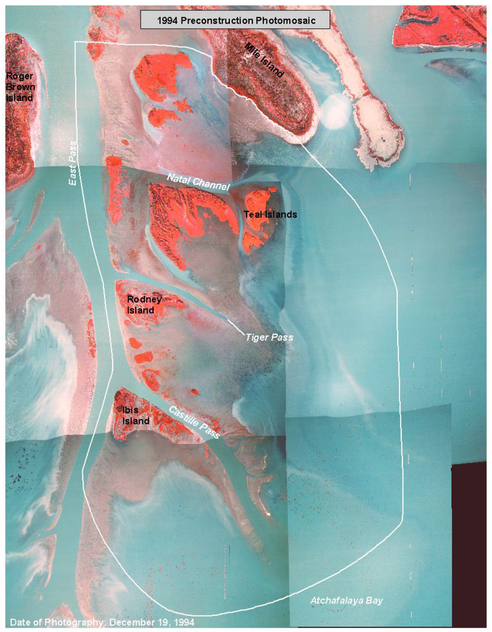
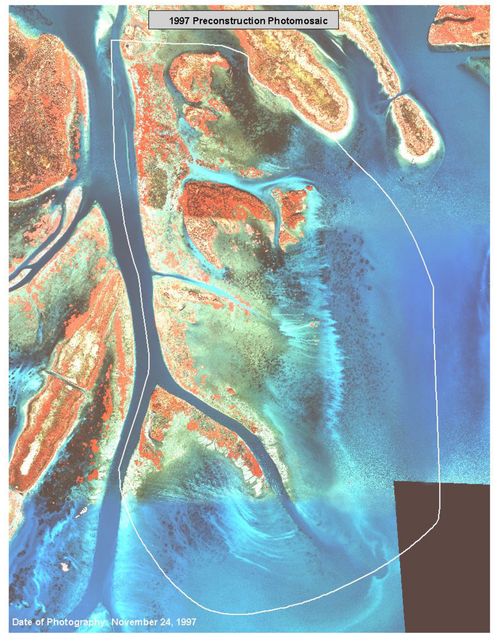
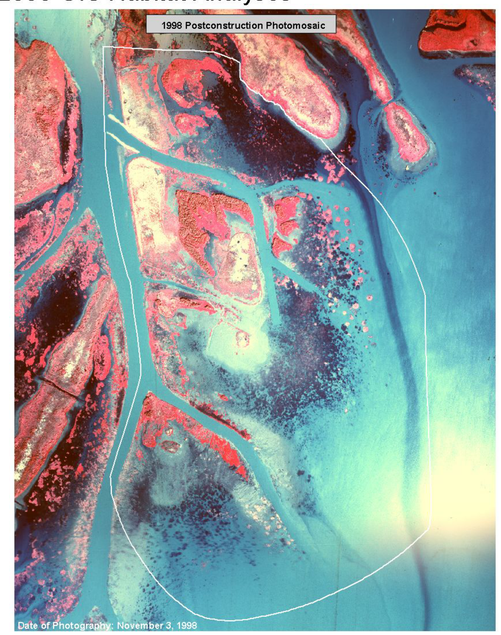
Atchafalaya Sediment Delivery (AT-02)

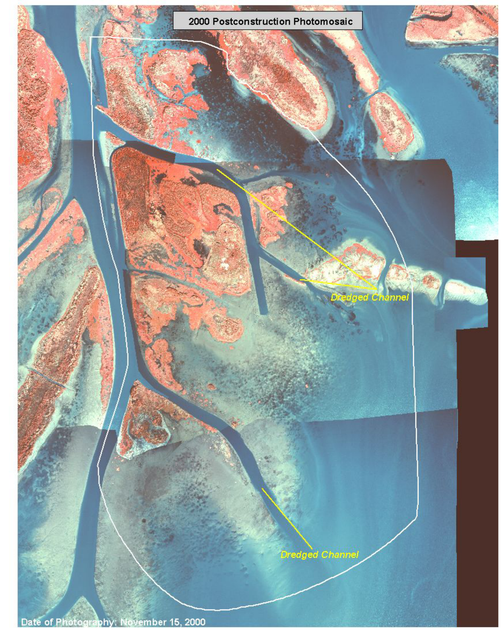
Coastal Wetlands Planning, Protection and Restoration Act

1994, 1997, 1998 and 2000 GIS Habitat Analyses







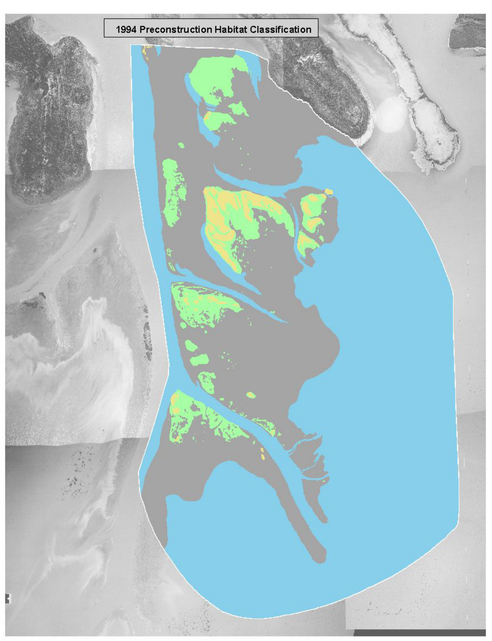


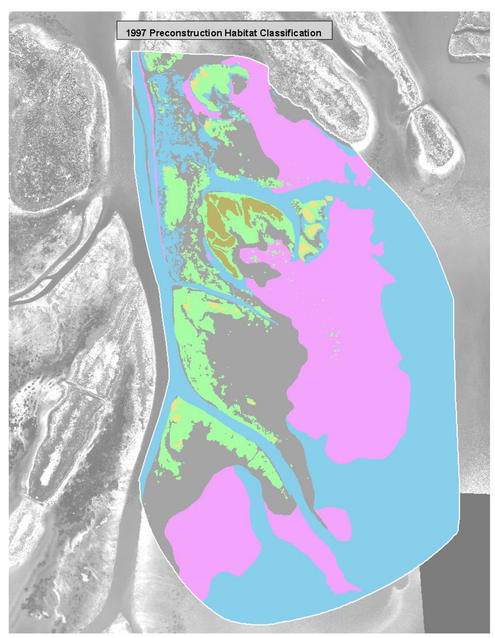
Project Location

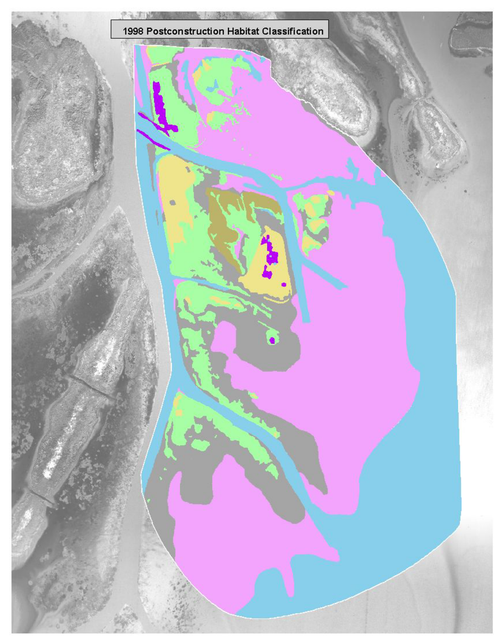
Project Description

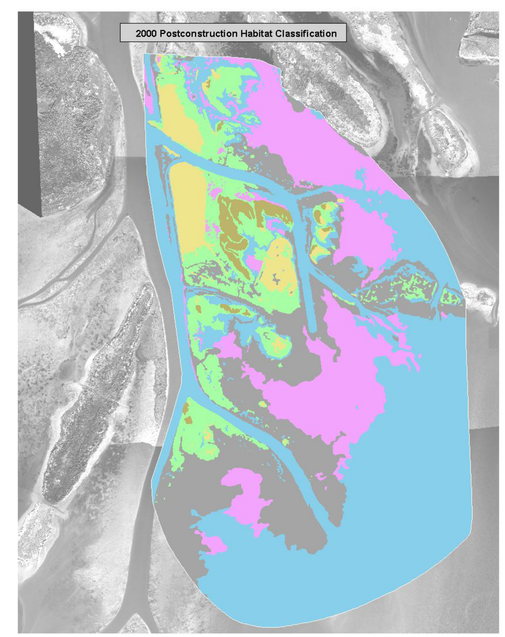
The Atchafalaya Sediment Delivery Project encompasses 2,181.55 acres (882.87 ha) of fresh wetlands located in the northwestern region of the Atchafalaya Delta within the Atchafalaya Delta Wildlife Management Area in St. Mary Parish, Louisiana. The project is bounded by East Pass to the northwest, Atchafalaya Bay to the south and southeast, and Mile Island to the northeast. A subaqueous delta formed at the mouth of the Atchafalaya River between 1952 and 1962 with the introduction of silts and fine sands to the bay. From 1962 to 1972, coarser materials were deposited into the Atchafalaya Bay, and a period of distal bar and subaqueous delta bar accretion occurred. During the progradational phase of the delta growth, which occurred between 1973 and 1976, deposition of coarse sediment accounted for growth of new land at an average rate of 2.05 square miles per year to form its present subaerial expression of 11.31 square miles. The Atchafalaya Delta is bisected by the Lower Atchafalaya River navigation channel, which is maintained by the U.S. Army Corps of Engineers for navigational purposes. Dredged material on the channel banks and increased channel depth have created unnatural conditions, forming a conduit for river sediment to the Gulf of Mexico depriving the adjacent delta environments of sediment critical to the delta-building process. Also, distributary channels in the eastern portion of the Atchafalaya Delta have undergone large reductions in cross-sectional area and flow efficiency, further reducing sediment delivery to the delta lobes. These restrictions have resulted in the deprivation of sediment to wetland areas and the formation of a shallow delta platform in the eastern portion of the Atchafalaya Bay. Reopening Natal Channel and Castille Pass will supply fresh water and suspended sediment to 2,000 acres (809.4 ha) of delta environments. The postconstruction features include dredging Natal Channel and Castille Pass and placing the dredged material at an elevation suitable for emergent marsh vegetation. Since reopening these channels, fresh water and suspended sediment have been supplied to up to 2,000 acres (809.4ha) of the delta. Natal Channel and Castille Pass are tertiary channels on the east side of East Pass. Each of these channels was dredged at an elevation of -10.0 feet (-3m). Construction for dredging began February 1, 1998 and ended on March 28, 1998.

N









Habitat Classification Acreage Results

Class	1994	1997	1998	2000
Project Area				
Fresh Open Water	1251.9	849.7	660.2	951.9
Submerged Aquatics	0.0	643.3	864.8	404.6
Fresh Marsh	142.1	216.8	230.9	227.3
Beach/Bar/Flat	750.9	429.7	302.2	460.3
Wetland Scrub-Shrub	36.7	14.0	78.2	100.6
Wetland Forested	0.0	28.1	31.0	36.5
Upland Barren	0.0	0.0	14.2	0.0
TOTAL	2181.6	2181.6	2181.5	2181.2

Scale 1:17,000

0.5 0 0.5 1 1.5 Miles

0.5 0 0.5 1 1.5 2 2.5 Kilometers

Data Source:

The preconstruction habitat data were derived from 1:12,000 color infrared aerial photography acquired on December 19, 1994 and November 24, 1997. The 1998 postconstruction habitat data was derived from 1:24,000 color infrared aerial photography acquired by the Louisiana Department of Wildlife and Fisheries on November 3, 1998. The 2000 postconstruction habitat data was derived from 1:12,000 color infrared photography acquired November 15, 2000. Habitat classification is based on "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin and others, 1979, FWS/OBS - 79/31 [Reprinted 1992]) as modified by the National Wetlands Inventory mapping conventions.

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
Thibodaux Field Office

Federal Sponsor:
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

Map ID: USGS-NWRC 2003-02-006