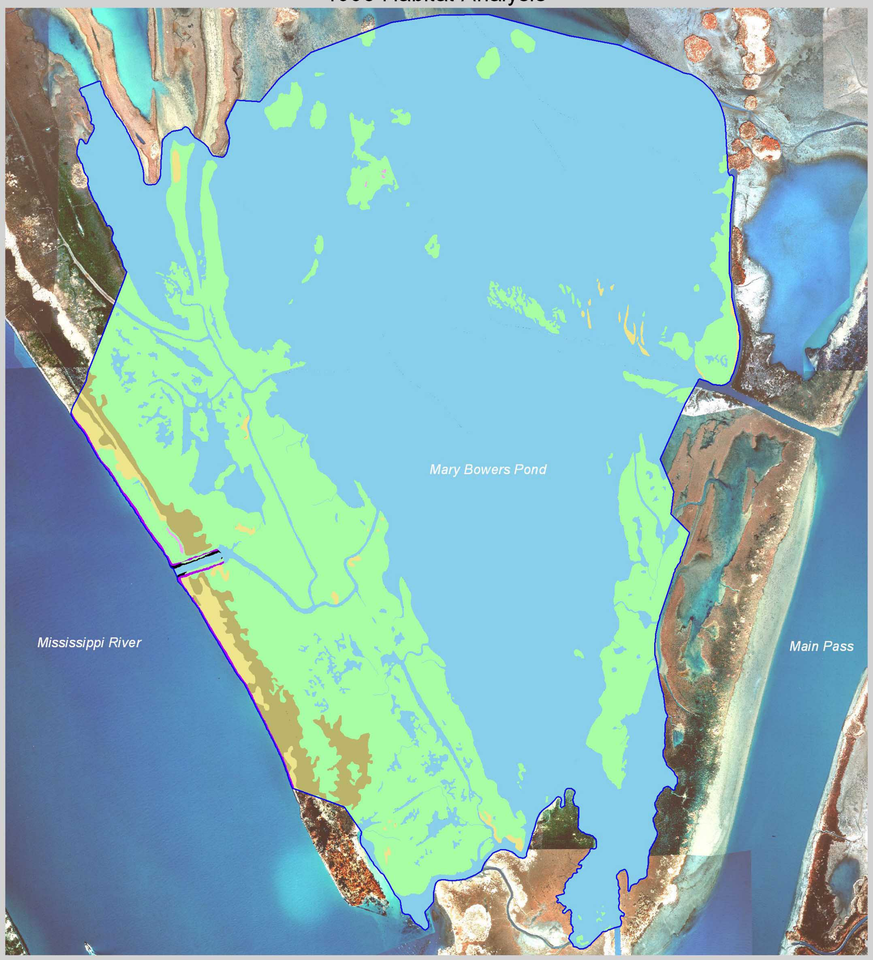
Channel Armor Gap Crevasse (MR-06)

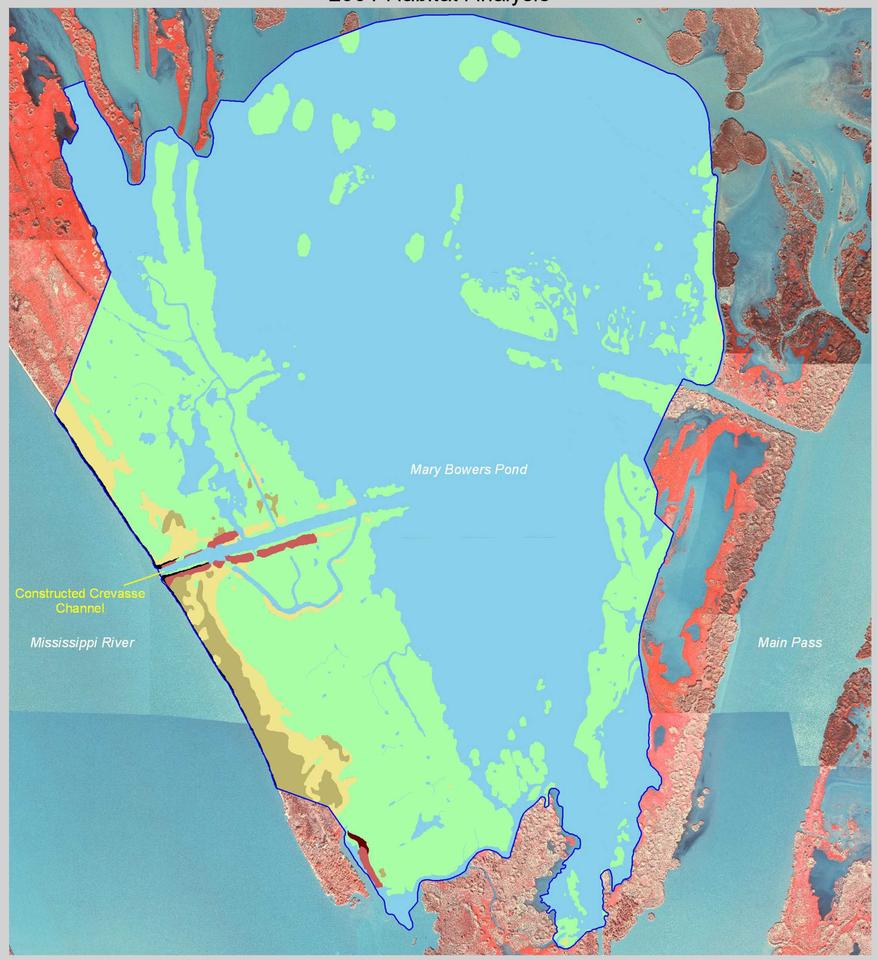
Coastal Wetlands Planning, Protection and Restoration Act

1996 and 2001 Habitat Analyses

1996 Habitat Analysis



2001 Habitat Analysis



Project Description:

The Channel Armor Gap project area is located in the Mississippi River Delta south of Venice in Plaquemines Parish, Louisiana. The project area comprises 30% freshwater marsh and 70% shallow, open water, totaling 2,097 acres (849 ha). The estimated land loss rate for the Mississippi River Delta is 5.37 mi^2/yr (13.91 km^2/yr), which is 21% of the total annual land loss occurring in the Louisiana coastal zone.

Human alterations to the Mississippi River may have caused negative consequences for the hydrologic cycle of the Mississippi River and its wetland-building processes. Firstly, prolonged maintenance of the river in its current position through artificial levees has caused rapid sedimentation onto the continental shelf. This rapid sedimentation coupled with gas formation and wave loading has created an extremely unstable delta front. Instabilities at the continental shelf edge have induced the removal of large volumes of sediment from the delta front. Secondly, an abundance of small, bifurcating distributaries throughout the delta has resulted in inefficient sediment delivery, thus limiting delta growth.

Naturally occurring levee breaches (crevasses) promote infilling of shallow interdistributary ponds with sediment-laden river water and eventually create subaerial land (or deltaic splays) that becomes colonized with marsh vegetation. The method of artificially creating crevasses has been used to combat wetland loss in the Mississippi River Delta since the early 1980s. This technique is recognized as both cost-effective and highly successful at creating new wetlands.

The objective of this project is to promote the formation of emergent freshwater marsh in place of the shallow, open-water area of Mary Bowers Pond. This objective will be met by enlarging an existing gap in the Mississippi River levee to allow an increased flow of sediment-laden river water into the receiving bay. Over the 20 year life of the project, this crevasse is expected to convert approximately 1,000 acres (405 ha) of open water into emergent marsh.

Class	1996 Acres	2001 Acres
Marsh - Fresh	415.6	455.1
Open Water - Fresh	1091.5	1039.4
Wetland Forested	35.3	23.7
Wetland Scrub Shrub - Fresh	18.9	37.9
Upland Scrub Shrub	0.0	6.2
Upland Barren	3.7	0.0
Jetty	0.5	3.0
Upland Forested	0.0	0.5
Submerged Aquatics - Fresh	0.3	0.0
Total	1565.8	1565.8

Habitat Classes

- Marsh - Fresh
- Open Water - Fresh
- Wetland Forested
- Wetland Scrub Shrub - Fresh
- Upland Scrub Shrub
- Upland Barren
- Jetty
- Upland Forested
- Submerged Aquatics - Fresh

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

N

Project area

Scale 1:9,000

0.5 0 0.5 1 Miles

0.5 0 0.5 1 1.5 2 Kilometers

Source:
The habitat data were derived from 1:12,000 scale color-infrared photography shown here at 1:9,000 scale. Preconstruction color infrared photography was obtained on January 9, 1996 and postconstruction color infrared photography was obtained on December 19, 2001. 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 the National Wetlands Inventory mapping conventions.

Federal Sponsor:
US Army Corps of Engineers

Map ID: USGS-NWRC 2003-02-037