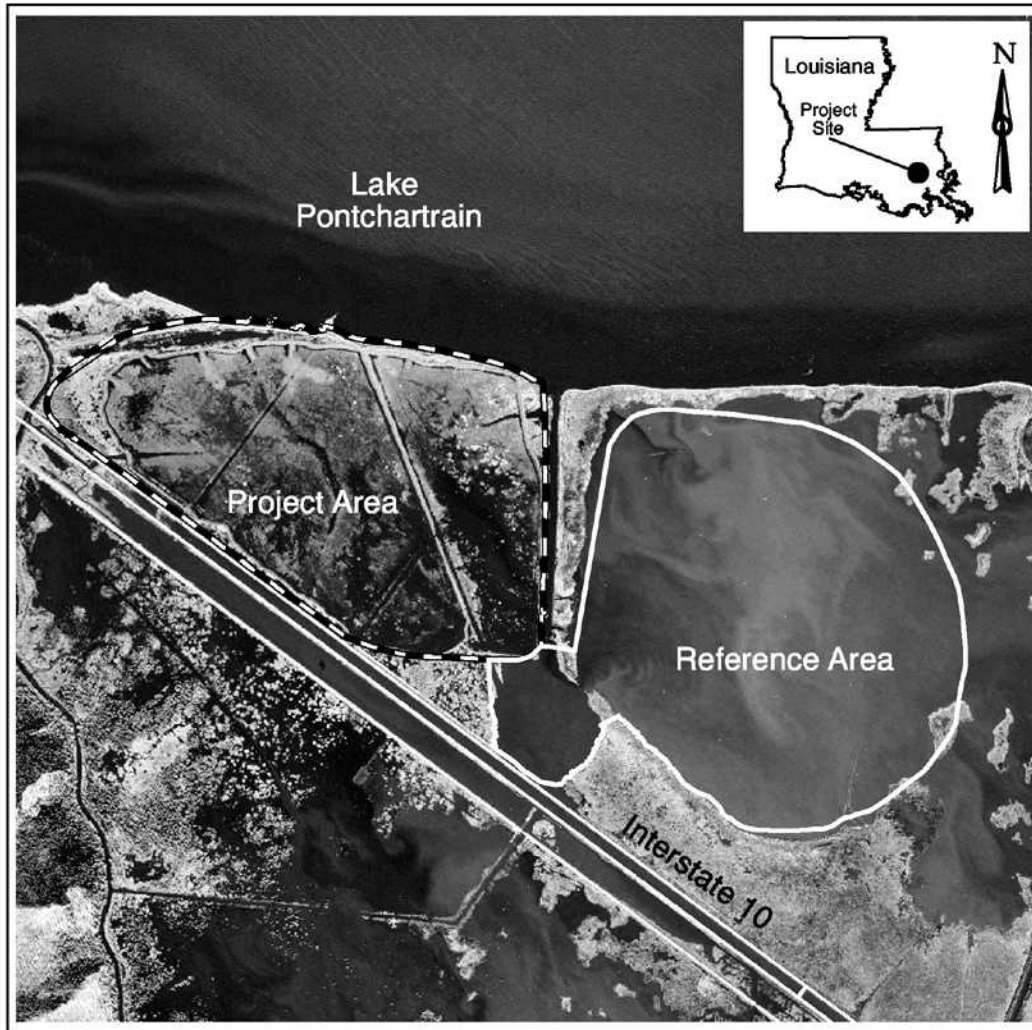


LaBranche Wetlands Marsh Creation

- Selected on PPL1
- Construction finished April, 1994
- Location:



Project Location



Project Features

1. 2.7 million yds³ dredged material with earthen containment dikes
2. Spoil ridge with sheetpile Z-wall closure and concrete weir
3. Two (2) exterior weirs
4. Five (5) box culverts

Planning

- Assumed Causes of Loss:
 1. Soil compaction and subsidence due to failed agricultural land reclamation in early 1900's
 2. Shoreline retreat rates of 9.5 ft/yr
 3. Canals created for barge access to build I-10

Goals and Objectives

Monitoring Plan (May 1994)

1. Create approximately 305 acres of shallow water habitat conducive to the natural succession of emergent vegetation
2. Increase the marsh to open water ratio to a minimum of 70% emergent marsh to 30% open water after 5 years

Construction

- Final Features (same as proposed)
- Exception:
Unauthorized structures built by LaBranche Duck Club include weir 4 to keep containment levee from breaching; weir 3 to close the breach at the southern end of the east levee; and plywood/2x4's to block drainage pipes along east levee. All were built to hold water in the project area to create a more desirable habitat for waterfowl.



Monitoring Variables

1. Habitat Mapping
2. Vegetation
3. Sediment
4. Water Elevations

Physical Response

Comparison to Adjacent Marshes

1. **Elevation** – Designed for +2' NGVD after 5 years. No surveys in Reference Area.
2. **Hydrology** – less variable in project area
3. **Salinity** – brackish marshes (3.9 - 4.5 ppt)
4. **Soils** – samples in project area have high bulk densities and % organic carbon. No samples in Reference Area.
5. **Other** – unauthorized construction modifications

Biological Response

Vegetation

- Species composition
- Vegetation targets not species-specific
- 1999 area was 82% land

Other Response

- Project area compromised

Landscape Response

1. Habitat composition changed
2. Reference area habitat unchanged
3. Sediment elevations stabilized

Project Adaptive Management

- Implemented Changes
 1. No improvements have been made since construction
 2. Unauthorized structures or structure modifications have ceased since 1999

Project Adaptive Management

- Recommended Improvements
 1. Gap containment dikes to increase tidal exchange
 2. Level containment dikes to marsh elevation
 3. Remove unpermitted barricades/structures to increase tidal exchange
 4. Re-survey staff gauges for more reliable elevation data
 5. Establish marsh elevations in reference area
 6. Re-grade high elevations to target elevations
 7. Add a maintenance component and possibly another lift
 8. Dredge tidal creeks or add trenasses

Lessons Learned for Future Projects

- Incorporated in the CWPPRA process
 1. Data gathered during pre-construction (biological and engineering) should be utilized to a greater degree and a greater degree of coordination between biologists and engineers should occur.
 2. Dredging or creating trenasses for tidal creeks and ponds should be part of the construction phase. (NRCS says these will form naturally – 4/8/02.)
 3. Containment dikes should be leveled to marsh elevation once dredged material has consolidated.
 4. Staff gauges should be surveyed to NAVD for more reliable data.
 5. Reference areas should be selected with the same elevations, marsh types, salinities, and soil characteristics as the project area.
 6. More frequent aerial photos for monitoring should be included in budgets.

Lessons Learned for Future Projects

Recommended for incorporation

- There needs to be a clear understanding between the CWPPRA agencies and the landowners and lessees of the property that no modifications of project components are allowed without the written consent of the agency that acquired the real estate easement.