

**FRESH WATER BAYOU WETLANDS (ME-04) PHASE 1**  
**ME-04-MSPR-1095-1**  
**PROGRESS REPORT NO. 1**  
for the period  
January 31, 1995 to October 1, 1995

**Project Description/Status**

The Freshwater Bayou Wetlands (ME-04) project encompasses about 37,000 acres of freshwater to intermediate wetlands located between Louisiana Hwy 82 and Freshwater Bayou Canal, approximately 9 mi southwest of Intracoastal City, Louisiana (figure 1). The objective of Phase 1 of the project is to prevent further widening of the Freshwater Bayou Canal channel into the project area, thereby protecting existing emergent wetlands along the west bank of the canal from further deterioration caused by shoreline erosion and tidal scour. The specific goal of Phase 1 of the project is to decrease the rate of erosion and wetland loss along the west bank of Freshwater Bayou Canal using a rock breakwater. Construction of approximately 28,000 linear ft of free-standing, continuous rock dike along the west bank of the canal was completed in January 1995.

**Monitoring Design**

To document land and water areas, marsh loss rates, and interannual shoreline movement, aerial photography will be flown, georectified, photointerpreted, mapped, and analyzed with GIS once preconstruction and three times postconstruction. To document shoreline movement, shoreline markers denoting the vegetated marsh edge will be established at 1000-ft intervals along the west bank of the canal, and along the east bank of the canal opposite the north and south ends of the dike in two reference areas. Shoreline position relative to the shoreline markers will be monitored by direct measurement annually.

During April 1995, shoreline markers were established along the east bank of Freshwater Bayou Canal in the two reference areas opposite the north and south ends of the dike. Three shoreline markers with hubs, referenced to settlement plates located on the dike, were established in each of the reference areas. During June 1995, shoreline markers were established along the west bank of Freshwater Bayou Canal. Thirty-one shoreline markers with hubs, referenced to settlement plates located on the dike, were established along the west bank of the canal.

## **Results/Discussion**

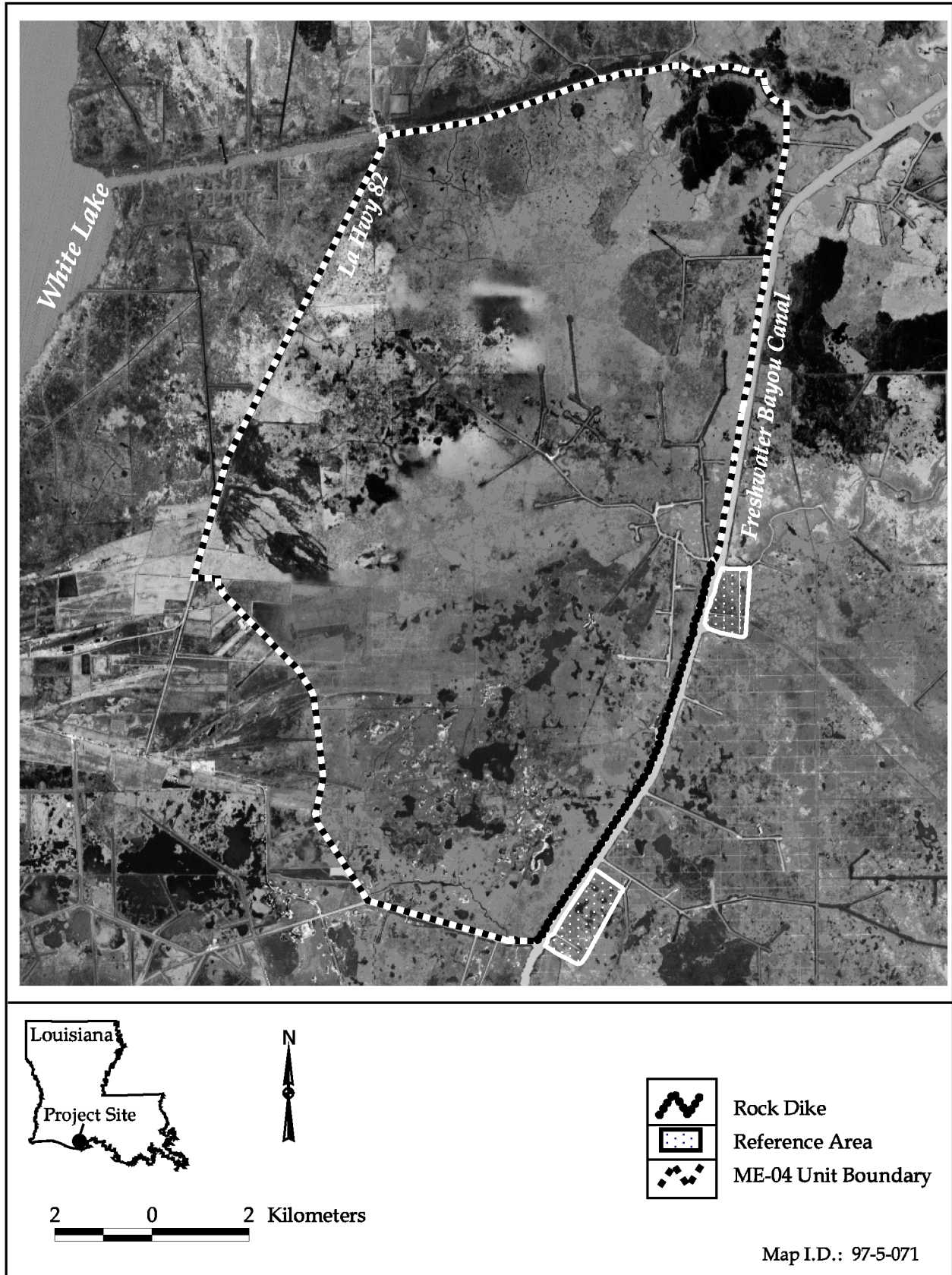
Due to an emergency authorization to construct the Phase 1 rock dike well in advance of schedule, it was not possible to schedule an aerial photography flight over the project area prior to construction of the dike. Therefore, the aerial photography scheduled to be flown October 31, 1995 will serve as the preconstruction photography for both phases 1 and 2 of the project.

Site characteristics were recorded at each monitoring site. In addition, GPS coordinates were recorded at each reference area site. An example of the information obtained is provided in Table 1. The shoreline surveys are to be repeated in April 1996, after which time two data sets will be available for analysis and interpretation.

---

Prepared on October 9, 1995, by Karl A. Vincent.

<b>LDNR Monitoring Manager:</b>	Karl A. Vincent	(318) 893-3643
	NR Geoscience Specialist 3	
<b>LDNR Project Manager:</b>	M. Garrett Broussard	(318) 893-3643
<b>Federal Sponsor:</b>	NRCS/Joe Conti	(318) 473-7687
<b>Construction Start:</b>	October 10, 1994	
<b>Construction End:</b>	January 31, 1995	



**Figure 1.** Freshwater Bayou Wetlands (ME-04) project area map showing phase 1 features.

Table 1. Freshwater Bayou Wetlands (ME-04) Phase 1. Locations and site characteristics of the reference area monitoring sites.

Shoreline Marker	Settlement Plate	Distance to Shoreline (ft)	Shoreline Characteristics	
ME-04-R1-1-M	1	74.6	Earthen spoil bank ridge about 6 ft wide with <i>Sapium sebiferum</i> , on underlying layer of shell. Protecting marsh with 70% <i>Scirpus olneyi</i> , 20% <i>Spartina patens</i> , and 10% <i>Typha</i> sp. Marker installed in open marsh.	
ME-04-R1-2-M	2	78.0	Earthen spoil bank ridge about 3 ft wide with <i>S. sebiferum</i> , on underlying layer of shell. Protecting marsh with 70% <i>S. olneyi</i> , 20% <i>S. patens</i> , and 10% <i>Typha</i> sp. Site more eroded than R1-1. Marker installed in open marsh.	
ME-04-R1-3-M	3	70.0	High banked, wide earthen spoil bank with <i>S. sebiferum</i> , on underlying layer of shell. Protecting marsh with 70% <i>S. olneyi</i> , 20% <i>S. patens</i> , and 10% <i>Typha</i> sp. Marker installed on edge of spoil bank.	
ME-04-R2-1-M	20	74.4	Low, narrow, earthen spoil bank with <i>S. sebiferum</i> mostly fallen into canal, leaving <i>Phragmites australis</i> as dominant plant on bank. Protecting marsh with 95% <i>S. patens</i> and trace of <i>S. olneyi</i> , surrounded by stand of <i>P. australis</i> .	
ME-04-R2-2-M	22	62.55	High banked, wide, earthen spoil bank dominated by <i>S. sebiferum</i> and <i>Rubus</i> sp., on underlying layer of shell. Protecting marsh stand of 100% <i>P. australis</i> . Marker installed in <i>Phragmites</i> stand near the edge of the spoil bank.	
ME-04-R2-3-M	23	76.85	High banked, narrow, earthen spoil bank with <i>S. sebiferum</i> and <i>Rubus</i> sp., on underlying layer of shell. Protecting marsh stand of 100% <i>P. australis</i> . Marker installed in <i>Phragmites</i> stand a near the edge of the spoil bank.	
			<b>GPS Coordinates</b>	
ME-04-R1-1-M	1		29° 39' 46.9" N	92° 15' 22.0" W
ME-04-R1-2-M	2		29° 39' 34.1" N	92° 15' 29.0" W
ME-04-R1-3-M	3		29° 39' 34.9" N	92° 15' 20.3" W
ME-04-R2-1-M	20		29° 35' 50.3" N	92° 17' 28.1" W
ME-04-R2-2-M	22		29° 35' 58.7" N	92° 17' 24.2" W
ME-04-R2-3-M	23		29° 36' 15.6" N	92° 17' 07.7" W