BARATARIA BASIN

BARATARIA BASIN

MAJOR PROBLEMS

Subsidence, wave erosion, tidal processes, and a lack of sediments continue to cause wetland loss in much of the Basin.

Wetland loss continues to progress inland and threatens freshwater and low salinity brackish marshes in the central Basin.

Extensive hydrologic changes have led to rapid exchange of freshwater and saltwater between the Gulf and the estuary and between water bodies and wetlands.

Integrity of the barrier island and beach system that shelters the estuary from the Gulf of Mexico is rapidly diminishing.

Wetland loss along major navigation channels.

PROTECTION, RESTORATION, ENHANCEMENT OBJECTIVES

Introduce freshwater and sediments from the Mississippi River where feasible to create and maintain wetlands.

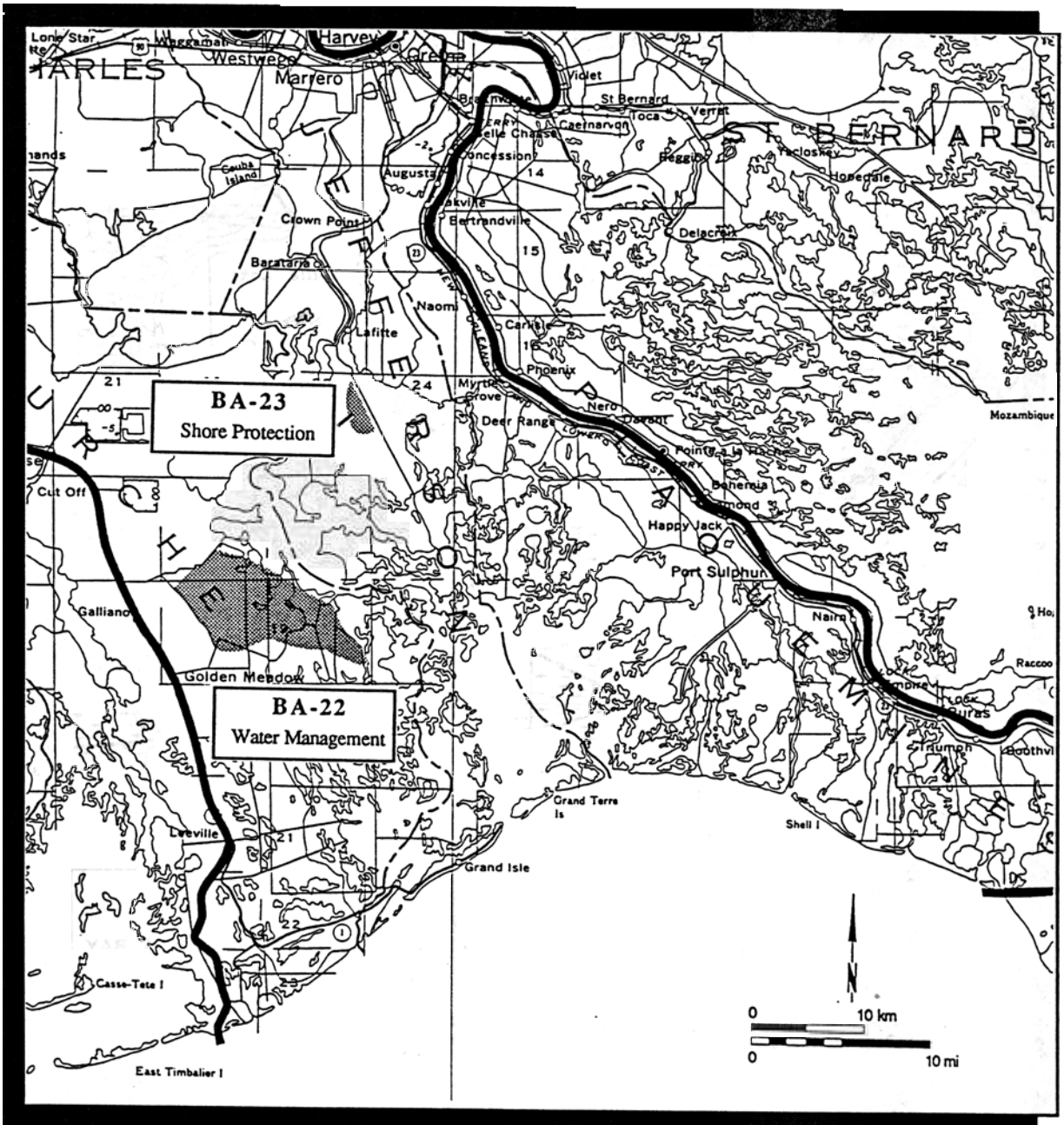
Optimize use of freshwater and nutrient resources within the Basin.

Maintain and restore the marsh belt across the central Basin as a hydrologic buffer.

Address adverse hydrolgic effects associated with major navigation channels.

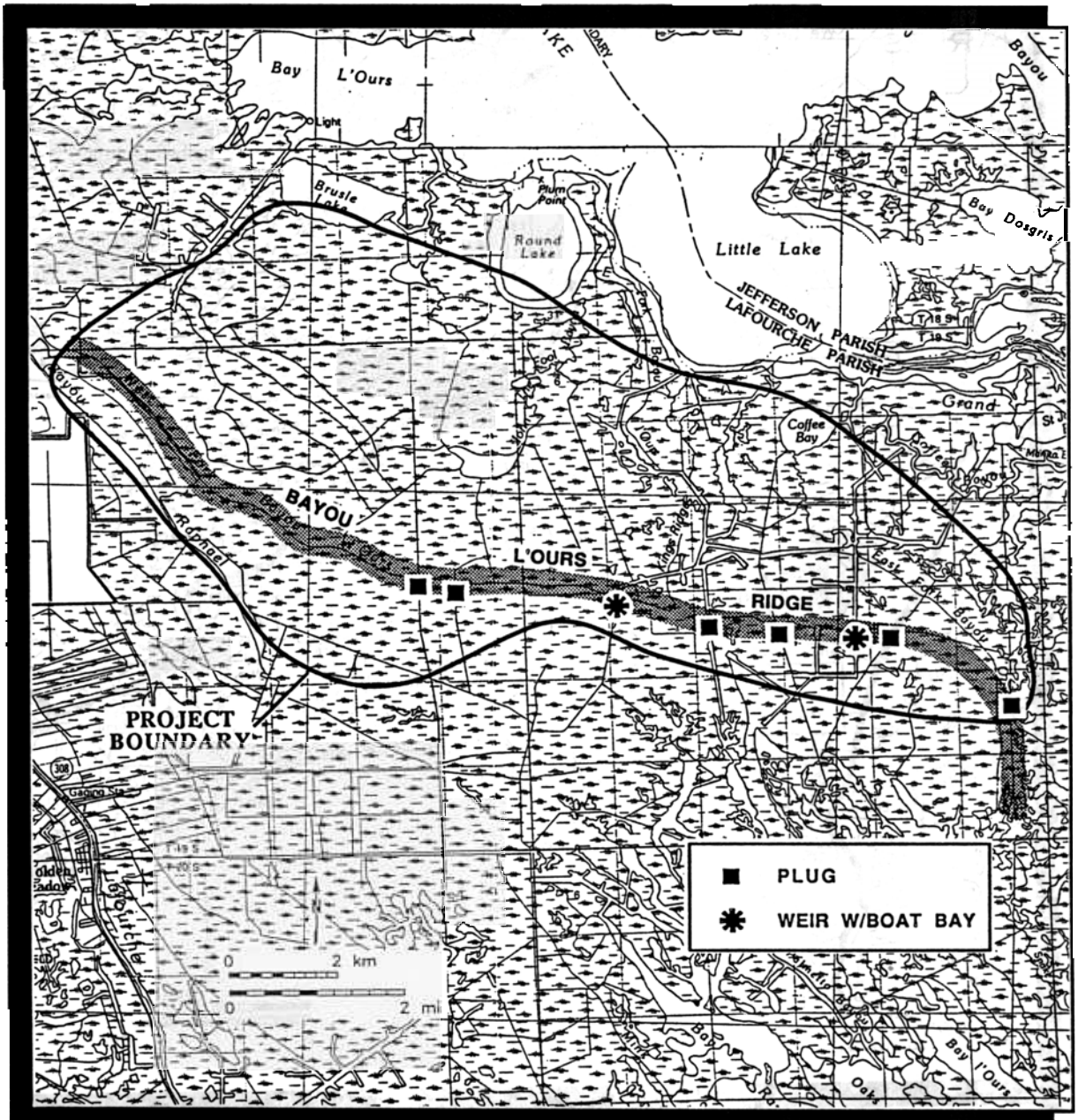
Maintain critical barrier beach and island systems and manage losses where unavoidable.

Address critical, localized wetland loss.



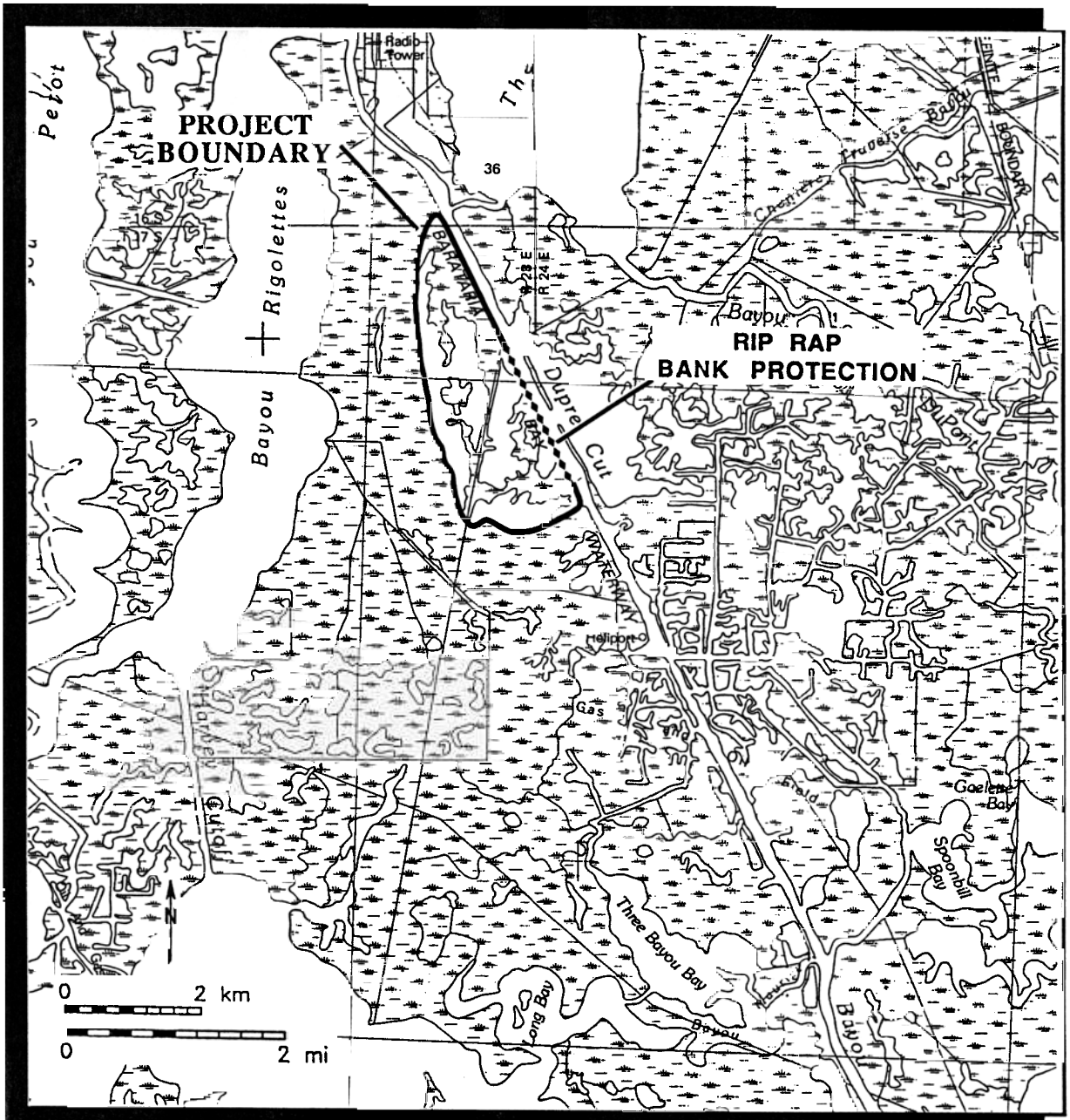
PROJECTS IN THE BARATARIA BASIN

BA-22	Bayou l'Ours Ridge Hydrologic Restoration
BA-23	Barataria Waterway Bank Protection



BA-22. BAYOU L'OURS RIDGE HYDROLOGIC RESTORATION

The natural levee ridges of Bayou l'Ours historically provided an important hydrologic boundary within the lower Barataria Basin. They served to reduce the rates of water exchange between wetlands to the north and the more saline, open bays to the south of the ridge. This protective function was largely lost when the ridge was breached by a number of canals. Integrity of the ridge as a hydrologic boundary will be restored by means of a series of canal closures and two water control structures containing a boat bay for navigation purposes. The project is expected to benefit 737 acres of brackish marsh and is estimated to cost $1,320,000.



BA-23. BARATARIA WATERWAY BANK PROTECTION (WEST)

Boat wakes continue to cause bank erosion and widening of the Barataria Waterway. Intersection of the waterway with interior ponds and channels of adjacent wetlands has resulted in accelerated tidal exchange and rapid changes in salinity. Approximately 2,700 acres of marsh have been lost in the area of the Dupree Cut, largely as a result of these hydrologic changes. Dredged material and rock armoring will be used to restore and protect 9,400 feet of the west bank of the Barataria Waterway along the Dupree Cut. The project is estimated to cost $2,195,000.

TERREBONNE BASIN

TERREBONNE BASIN

MAJOR PROBLEMS

Subsidence, wave erosion, tidal processes, and a lack of sediments continue to cause wetland loss in the southeastern part of the Basin.

Impaired drainage, subsidence, and lack of sediments limit regeneration of swamp forests in the upper (Verret) Basin.

Extensive hydrologic changes have led to rapid exchange of freshwater and saltwater between the Gulf and the estuaries and between water bodies and wetlands.

Integrity of the barrier island system that shelters the estuary from the Gulf of Mexico has greatly diminished.

Backwater conditions adversely affect sediment supply and drainage of marshes in the western (Penchant) Basin.

Wetland loss from bank erosion along major navigation channels.

PROTECTION, RESTORATION, ENHANCEMENT OBJECTIVES

Reduce the rate of unavoidable loss by maintenance of protective features such a strategic barrier island segments, ridges, and critical flood protection features.

Optimize use of Atchafalaya River water and sediment to maintain marshes in the southwestern (Penchant) Basin.

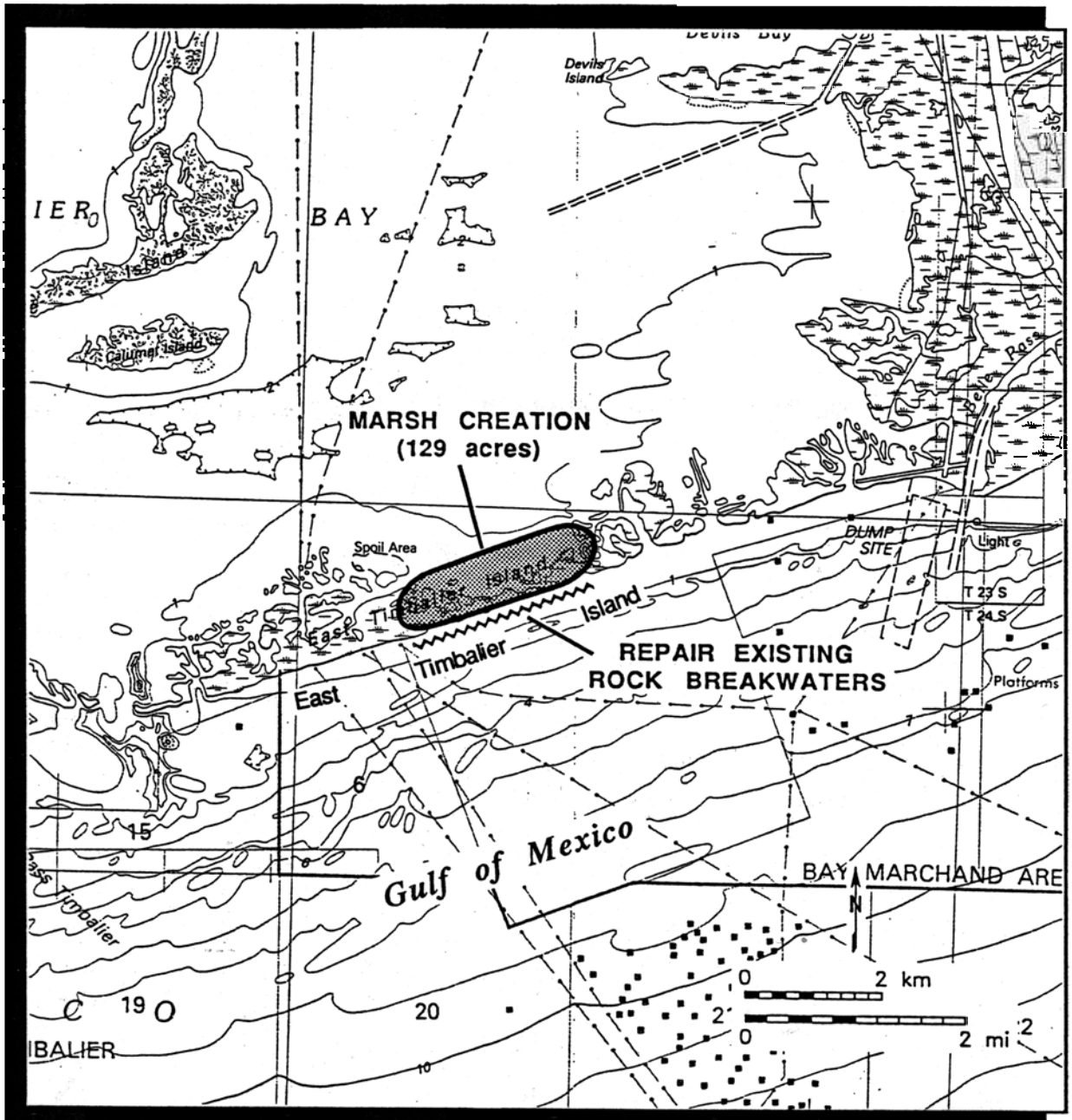
Optimize use of freshwater and nutrient resources and reduce saltwater intrusion within the eastern (Terrebonne/Timbalier) Basin through water management.

Reduce saltwater intrusion through Houma Navigation Canal.

Address critical, localized wetland loss.

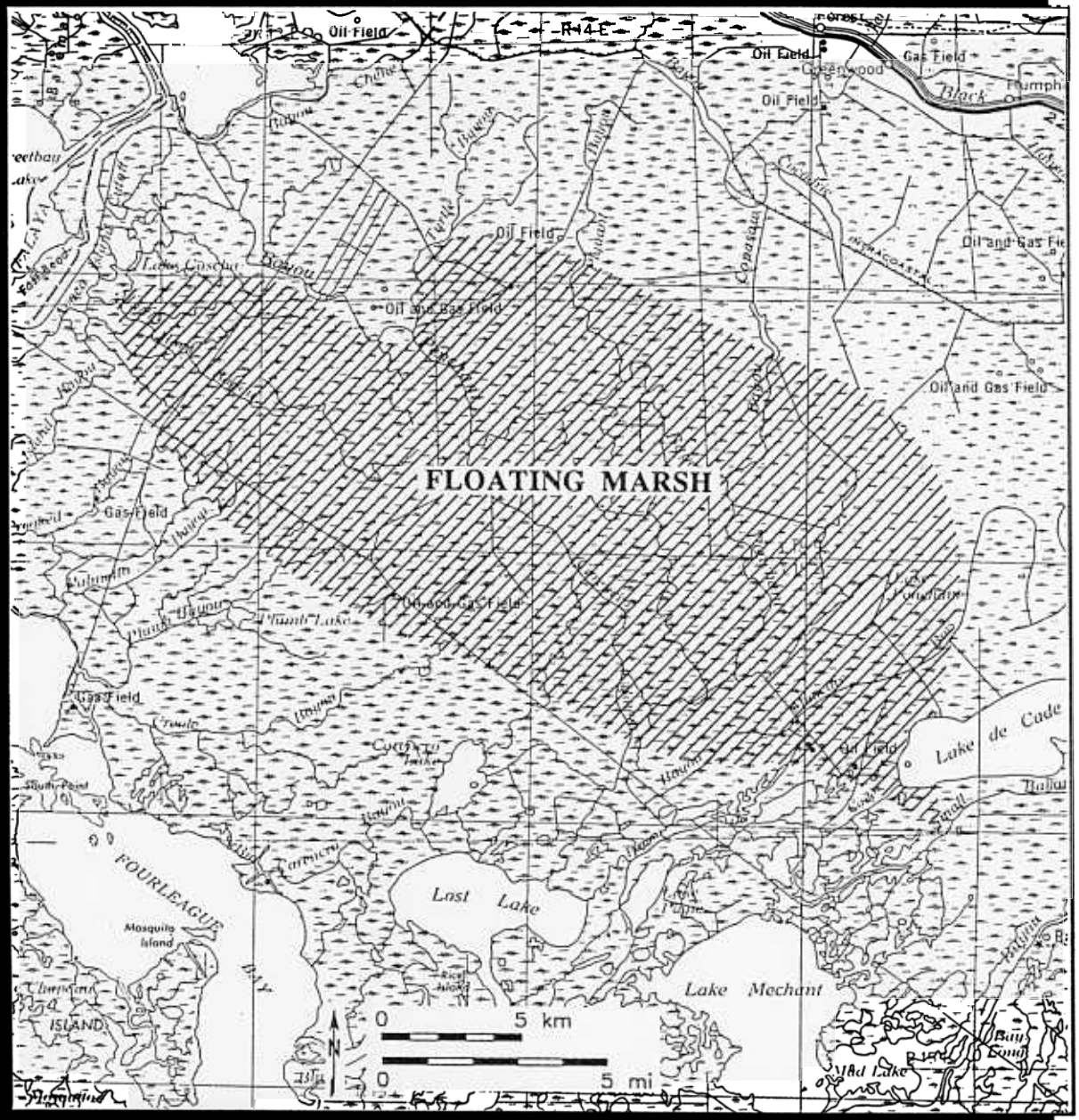
PROJECTS IN THE TERREBONNE BASIN

TE-30	East Timbalier Barrier Island Restoration (Phase II)
TE-31	Flotant Marsh Fencing Demonstration



TE-30. EAST TIMBALIER BARRIER ISLAND RESTORATION (PHASE II)

Hurricane Andrew caused development of a large breach through East Timbalier Island in 1992, thereby accelerating the rate of erosion of the two remaining island segments. East Timbalier Island provides protection of the Bayou Lafourche corridor. Together with Timbalier Island, it shelters the Timbalier Bay estuary and helps reduce tidal effects and related saltwater introduction. Life expectancy of the island will be extended by expanding Phase-I restoration efforts to the eastern portion of the island, including closure of the breach, and increasing the island's elevation by means of dredged material placement. The project is estimated to cost $5,752,000 and have a direct wetland benefit of 215 acres.



TE-31. FLOTANT MARSH FENCING DEMONSTRATION

Breaches in canal spoil banks have greatly changed water movement in the fragile, flotant marshes in the northwest Terrebonne Basin. The connection of these marshes with the canals allows accelerated water exchange, causing severe erosion and subsequent fragmentation of the marsh. Because the organic nature of the soils often prohibits the restoration of hydrologic conditions by conventional methods such as water control structures or bank restoration, alternative means of restoration and protection are needed. This project will test the effectiveness of different types of fencing as a means to prevent breakup of the flotant marsh cover. The estimated project cost is $367,000.

TECHE / VERMILION BASIN

TECHE / VERMILION BASIN

MAJOR PROBLEMS

Erosion along bay shores and navigation channels.

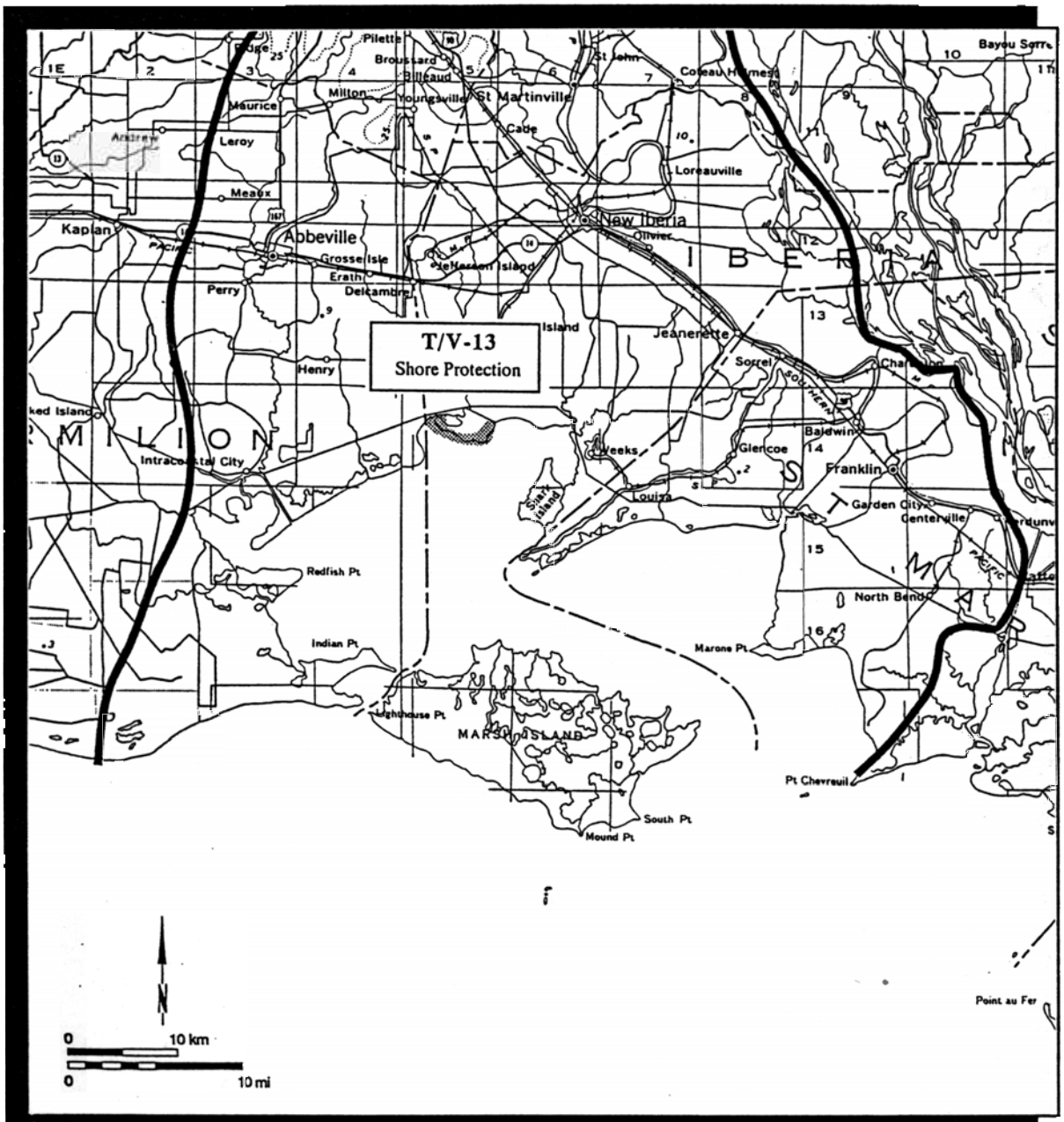
Localized wetland losses resulting form human-made changes in hydrology.

PROTECTION, RESTORATION, ENHANCEMENT OBJECTIVES

Full utilization of available sediment resources.

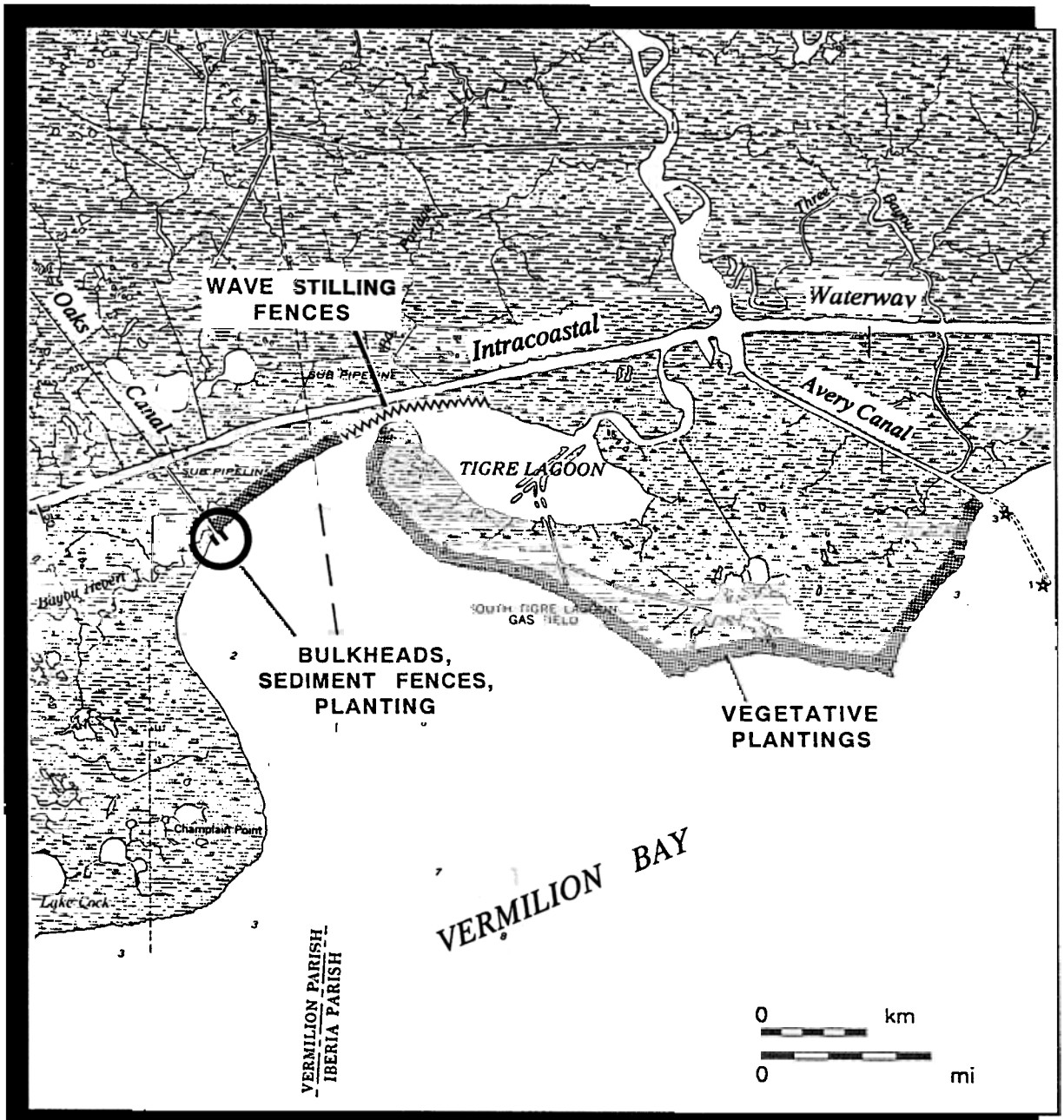
Increase sediment retention in sheltered areas.

Address critical, localized wetland loss.



PROJECTS IN THE TECHE/VERMILION BASIN

T/V-13 Oaks Canal/Vermilion Bay Shore Protection



T/V-13. OAKS CANAL/VERMILION BAY SHORE PROTECTION

Erosion along the northern shore of Vermilion Bay, between Oaks Canal and Avery Canal, ranges from 15 to 45 feet per year. The loss of wetlands along the northern shore of Tigre Lagoon would establish a connection with the Gulf Intracoastal Waterway and subject inland marshes to increased water level and salinity fluctuations. The project will provide shore protection through the installation of bulkheads, sediment fencing, and vegetative plantings at the mouth of Oaks Canal, through wave stilling fences along a portion of Tigre Lagoon, and through vegetative plantings along Vermilion Bay. The project is expected to benefit about 125 acres by reducing erosion rates. The state's cost will be $500,000.

CALCASIEU / SABINE BASIN

CALCASIEU / SABINE BASIN

MAJOR PROBLEMS

Extensive hydrologic changes have led to rapid exchange of freshwater and saltwater between the Gulf and Calcasieu Lake and between water bodies and wetlands in the central Basin.

Reduced freshwater retention and increased salinity variation continue to result in wetland loss.

Large-scale conversion of marsh to open water has increased water turbidities and wave erosion.

Shore erosion along the Gulf of Mexico threatens physical integrity of the entire Basin by breaching of protective barrier.

Wetland loss along major navigation channels.

PROTECTION, RESTORATION, ENHANCEMENT OBJECTIVES

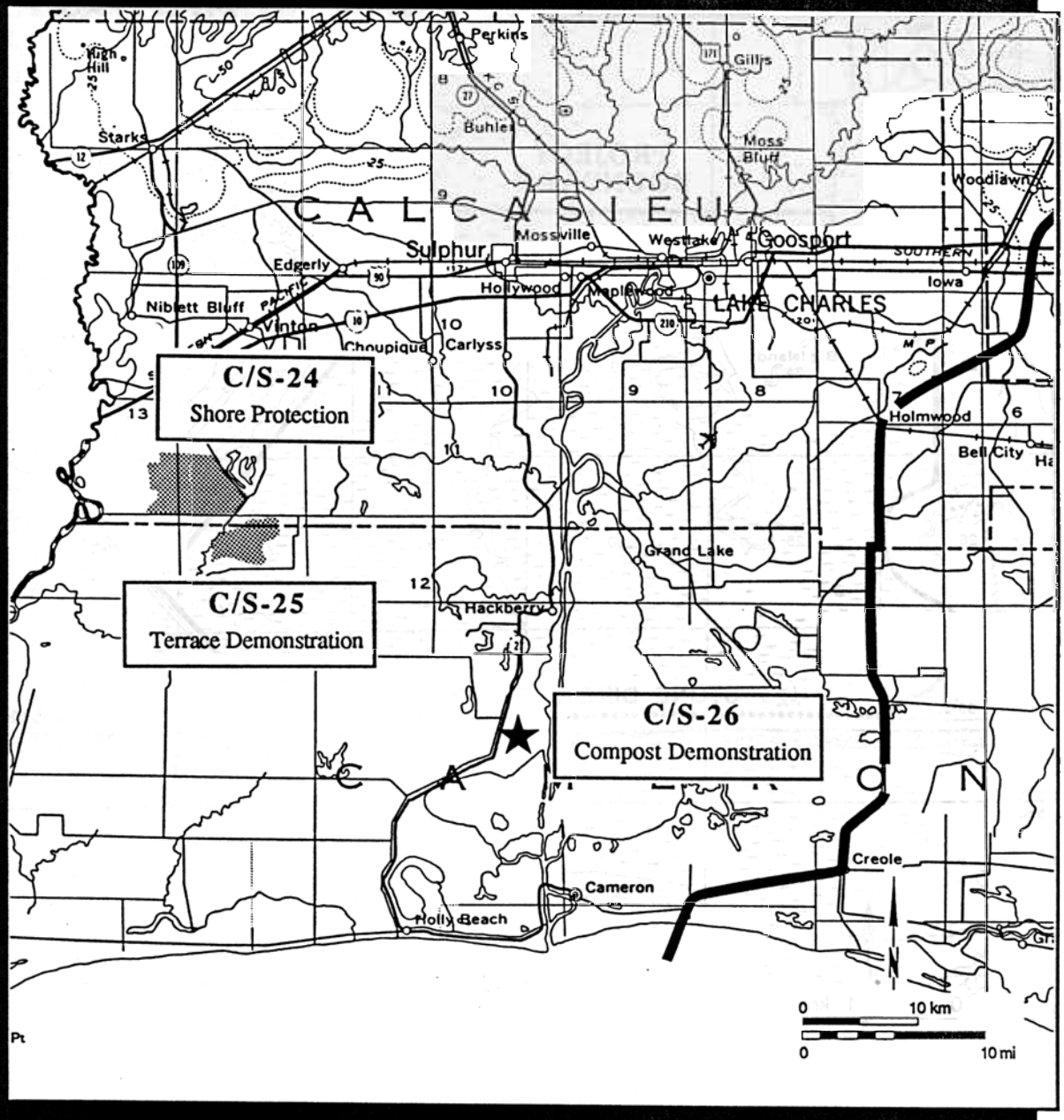
Maintain integrity of Gulf shore barrier, including both structural and non-structural elements.

Improve protection from saltwater incursions and prevent rapid loss of freshwater through water management.

Full utilization of available sediment resources, including dredged material.

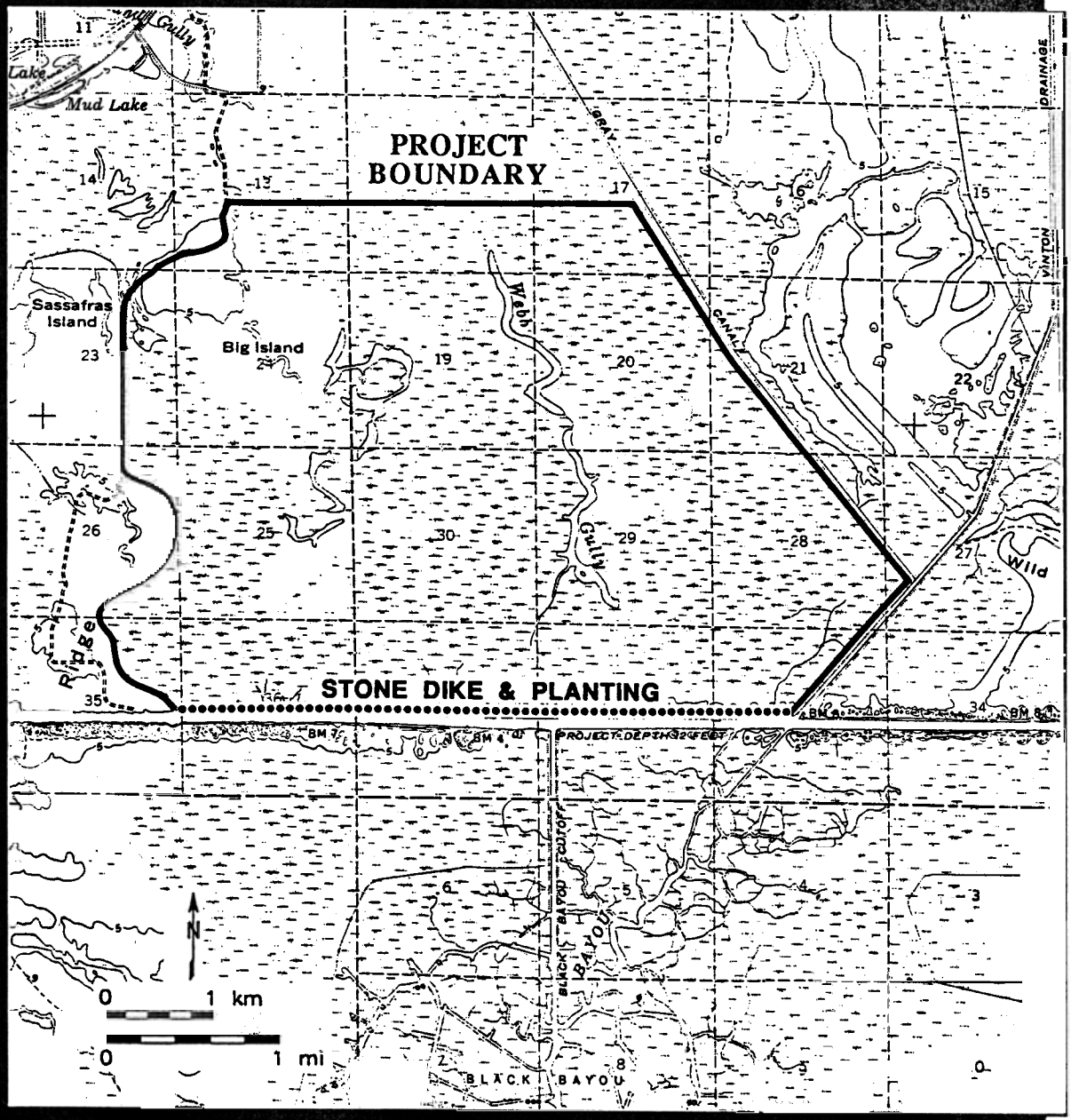
Restoration of interior marsh through water management and planting.

Address critical, localized wetland loss.



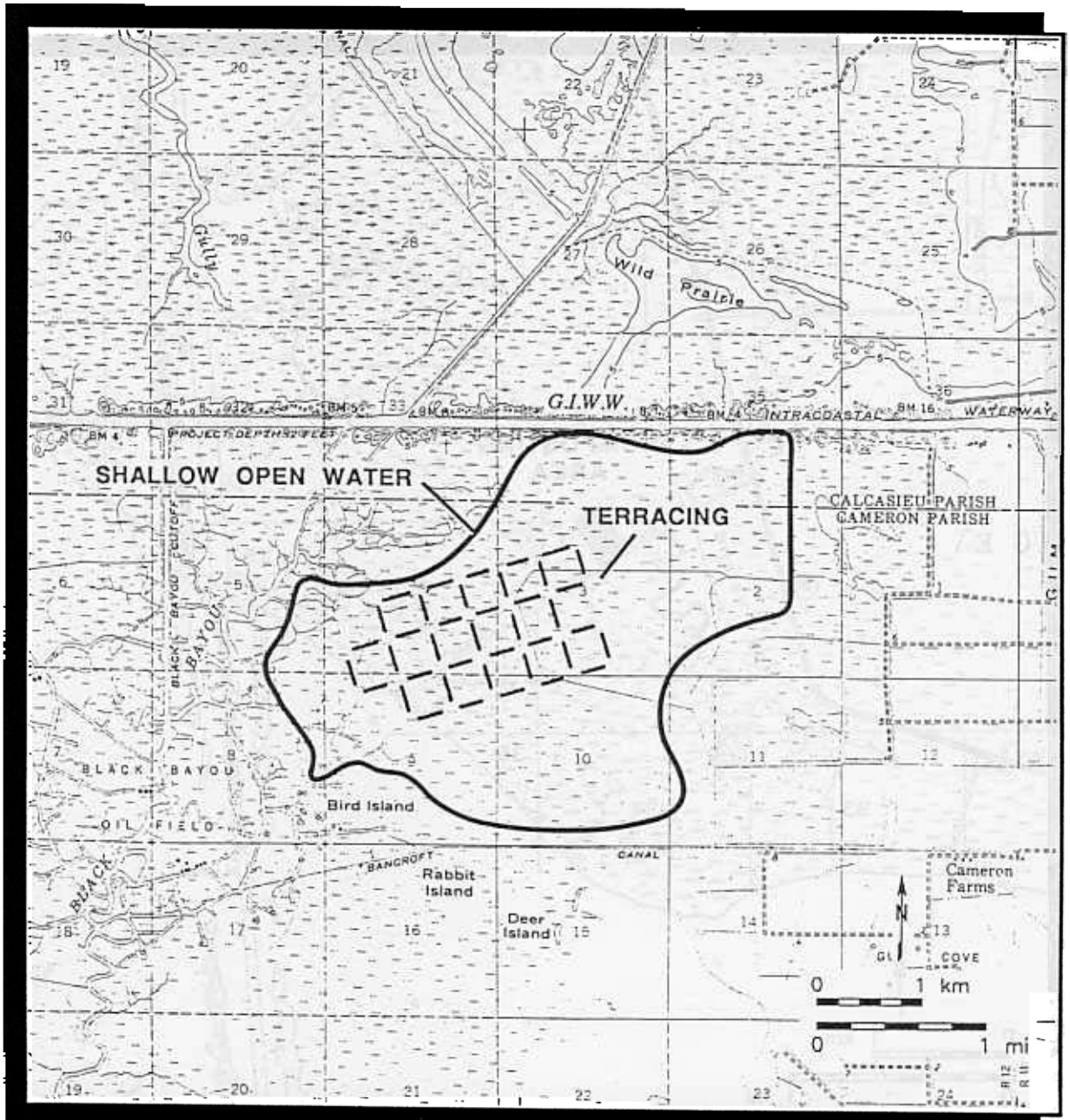
PROJECTS IN THE CALCASIEU/ SABINE BASIN

C/S-24	Perry Ridge Bank Protection
C/S-25	Plowed Terrace Demonstration
C/S-26	Compost Demonstration



C/S-24. PERRY RIDGE BANK PROTECTION

Construction of the GIWW has caused substantial marsh loss in the Perry Ridge area. Marsh loss has resulted from bank erosion as well as from the connection of interior water bodies to the GIWW, thereby allowing accelerated water exchange and introduction of saltwater. The project will restore and protect the northern GIWW bank from Perry Ridge to the Vinton Drainage Canal using a combination of dredged material, riprap, and plantings. The project will have a 633 acre marsh benefit and enhance aquatic vegetation growth. The estimated project cost is $2,224,000.



C/S-25. PLOWED TERRACE DEMONSTRATION

The conversion of wetlands to shallow, open water bodies leads to accelerated erosion when ponds increase in width and depth through shore erosion and suspension and removal of bottom sediments by waves and currents. To reduce erosion rates requires diminished wave action and retention of sediments. This project will test the effectiveness of constructing earthen terraces in shallow water bodies by means of a marsh buggy and plow. The terraces will be planted and serve as wave-stilling and sediment-trapping devices. If successful, this method will be applicable to at least 60,000 acres of shallow ponds in Cameron Parish alone. The estimated project cost is $600,000.

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