CAMERON PRAIRIE REFUGE PROTECTION (ME-09)
ME-09-MSPR-0995-1
PROGRESS REPORT NO. 1
for the period
August 3, 1994 to September 30, 1995

Project Description/Status

The Cameron Prairie Refuge Protection project is located in north central Cameron Parish and includes 247 acres of highly organic freshwater wetlands located within the Cameron Prairie National Wildlife Refuge (figure 1). Since the construction of the Gulf Intracoastal Waterway (GIWW) between 1935 and 1940, wave erosion of the marsh adjacent to the GIWW has greatly increased due to the increased use of navigational vessels in the area. Wave erosion along the shoreline of the project area has caused most of the spoil banks to be depleted and allows for abnormal overtopping of the spoil banks to occur. In January, 1994, a 13,200-ft limestone breakwater was constructed 0-50 ft from (and parallel) to the northern bank of the GIWW in 3-4 ft of water. The purpose of the breakwater was to prevent the encroachment of the GIWW into 247 acres of highly organic wetlands and to prevent the channel from overtopping and eroding the existing spoil bank.

Monitoring Design

Color infrared aerial photography will be flown once prior to construction and at yr 2, yr 5, and at an additional yr to be determined at a later date. The photography will be used to determine wetland gain/loss within the project area over time. Habitat mapping will be compared with the 1992 photography set. Shoreline markers will be placed at maximum intervals of 1000 ft adjacent to the rock breakwater and in a reference area located one mile east of the breakwater. Direct measurements will be taken annually at set locations to measure the shoreline position relative to shoreline markers. A professional survey will be conducted at yr 2, yr 5, and at an additional yr to be determined at a later date. Aerial photography and Global Positioning System (GPS) surveys will also be used to measure shoreline movement and to document shoreline movement over time. All surveys will be compared with historical data sets of 1956, 1978, and 1988 shorelines.

Results/Discussion

Aerial photography for the preconstruction phase of the project was flown on November 1, 1993. Wetland gain/loss rates will be determined once the first set of postconstruction photography is flown in 1996.

On July 20, 1994, the preliminary phase of surveying the rock breakwater using GPS equipment was conducted. The survey included using GPS to map the position of the rock breakwater, the shoreline behind the breakwater, and the reference area. The completed survey will be georectified by the National Biological Service (NBS) and will be compared to future GPS data sets to facilitate interpretation and evaluation of project effectiveness.

In March, 1995, a professional cross-sectional survey was completed by Pyburn and Odom, Inc. of Baton Rouge. The cross sections were conducted at the permanent shoreline markers and include all land 50 ft north from the vegetated marsh edge to approximately 50 ft south of the breakwater towards the GIWW channel. Readings were gathered every 10 ft between the existing shoreline and rock dike. The locations of the elevational surveys and an example of a typical elevational profile are shown in figure 2. The baseline survey data will be compared to future data sets for interpretation and evaluation of project success.

Prepared on September 18, 1995, by Mike Miller.

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Construction Start:	January 31, 1994	
Construction End:	August 3, 1994	

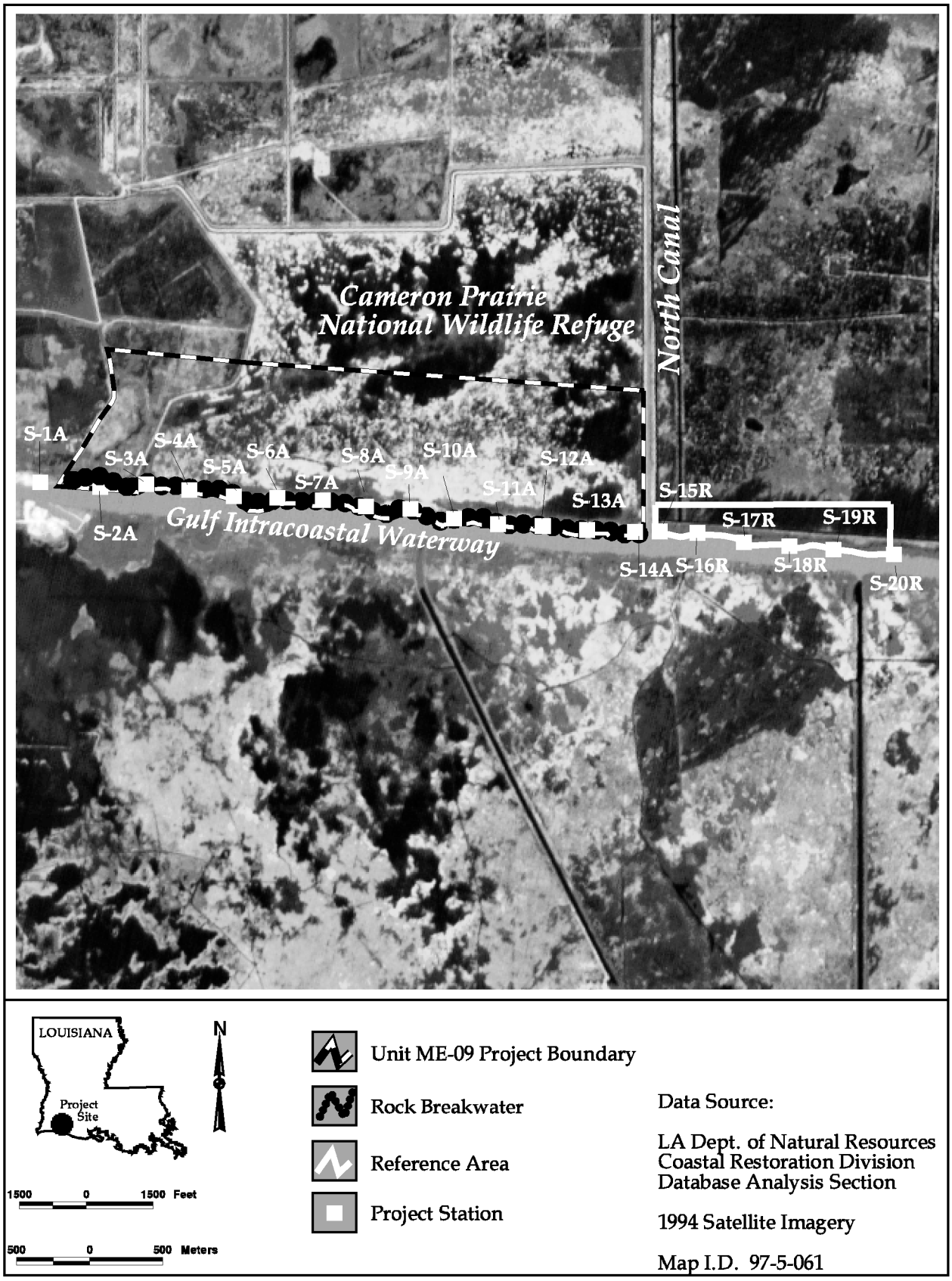

Figure 1. Cameron Prairie Refuge (ME-09) Project showing station locations and the project and reference areas.

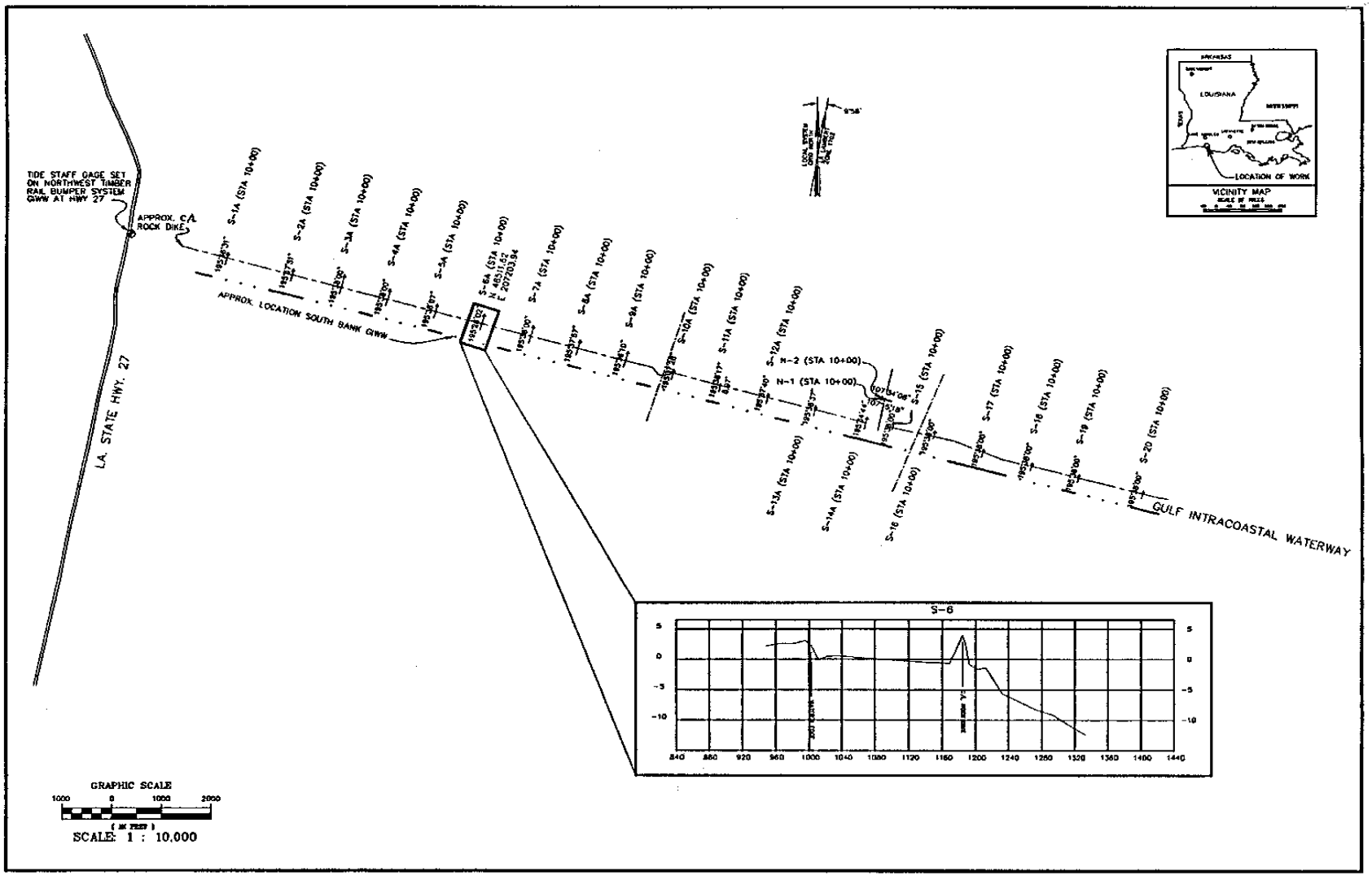

Figure 2. Cross-sectional survey locations with a typical elevational profile.