EXECUTIVE SUMMARY

LABRANCHE WETLAND MANAGEMENT PO-3a St. Charles Parish

Project Description and Goals

The LaBranche Wetland Management area is a 12,460 acre wetland consisting of intermediate to brackish marshes, open water and forested wetlands. This area was formerly fresh to intermediate marsh and swamp dominated by roseau cane, sawgrass, cattail, bulrush, threecornergrass, marshhay cordgrass, baldcypress and water tupello. The opening of the Mississippi River Gulf Outlet in the 1960's increased salinity levels in the St. Charles swamp by up to threefold¹. Consequently, dredging of the Interstate Highway 10 canal led to increased saltwater intrusion as well as accelerated erosion due to scouring. Hurricanes Betsy (1965) and Camille (1969) flooded the area with 2 - 5 feet of saline water. Finally, oil and gas canals as well as canals dredged for highway intersections or access have further increased saltwater intrusion and scouring. The result has been the development of large open water areas, degradation of the forested wetlands and a change in marsh from fresh to intermediate/brackish.

The project area lies south of the Pontchartrain Levee District and the Bonnet Carre Spillway to the north, Bayou LaBranche and Cross Bayou Canal to the west, Jefferson Parish to the east and approximately 1,800 feet north of Airline Highway to the south (Figure 1). The purpose of the project is to manage the freshwater within the area via active and passive structures to retard saltwater intrusion and maintain beneficial water levels. The project area is divided into two main areas by the Illinois Central Gulf Railroad. The 5,451 acres of brackish marsh north

¹ Montz, G. N. 1973. An ecological study of a baldcypress swamp in St. Charles Parish, Louisiana. Castanea 38:378-386.

of the railroad are proposed to be passively managed using fixed crest weirs, plugs and rock dams. The 7,009 acres south of the railroad will be actively managed for fresh/intermediate marsh via structures which include plugs, rock dams, and variable crest and flap-gated weirs for water control. In all, 20 structures and shoreline protection measures along lake Pontchartrain (Project PO-3b) have been proposed. The structures have been (or are being) constructed by a variety of participants including the Louisiana Department of Transportation and Development (DOTD) as mitigation for Interstate I-10 and its exits, by the New Orleans International Airport (NOIA) as mitigation for its expansion, by United Gas Pipeline Company as mitigation for lowering a pipeline within the area, by Shell Oil Pipeline, by the St. Charles Land Syndicate (the landowner), the parish, and by the Coastal Restoration Division of the Louisiana Department of Natural Resources (CRD). Five of the structures are specifically in this project (PO-3a) to be administered by CRD.

Project Status

Although all of the five CRD structures have currently been permitted, none have yet been constructed. One of the structures will be constructed by DOTD. Requests for proposals to construct the remaining four structures are currently being written by the Crowley staff of CRD.

Although it has not yet been completed, the project area is currently being monitored bi-weekly at 18 sites (Figure 1) for salinity, temperature and water level (except during duck hunting seasons) using a YSI #33 conductivity/salinity meter and a staff gage operated by CRD personnel. These sites were monitored in the summer of 1992, and the salinities were 1.5 ppt or less at that time. Color infra-red aerial photography was flown in November, 1991. It was ground-truthed in the summer of 1992 and the different habitat areas were delineated. Overall it was found that 6,750 acres were brackish marsh; 10,122 acres were living cypress/tupelo swamp; and 2,593 acres were fresh marsh.

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Figure 1. Map of bi-weekly stations and DCP's at the LaBranche.

Two real-time data collection platforms (DCP's) (locations shown in Figure 1) measured salinity and gage height starting in October, 1992. October and November, 1992, data recorded by the DCP's is shown in Figure 2. It can generally be seen that salinity and gage height were directly related, eg. that when water levels rose, salinity also rose.

Once all of the structures in the LaBranche Wetlands management plan are completed, salinities and water levels will be closely monitored to maximize the operation of the structures in order to meet the objectives and goals of the project.



Figure 2. LaBranche Wetlands DCP data for 1992.