THE PROCEEDINGS

of the

LOUISIANA ACADEMY OF SCIENCES

VOLUME XLVIII
1985

Published by

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An Annual Publication

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Date of issue: 31 December 1985

Proc. Louisiana Acad. Sci. 48:109–115. 1985.

THE EFFECTS OF WINTER FLOODING ON WHITE-TAILED DEER IN SOUTHWESTERN LOUISIANA

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ABSTRACT. *White-tailed deer* (Odocoileus virginianus) *were monitored throughout a period of severe marsh flooding, December 1982–March 1983. Deer were confined to man-made levees for at least two months. Night count data for 595 deer observations were subjected to an ANOVA and showed no evidence of a declining deer population due to high water levels. No emaciated deer were observed. Necropsy findings verified that deer randomly collected were healthy. Although levees comprised only a small percentage of available deer habitat, during flood conditions levees provided adequate habitat requirements to maintain in good body condition a densely concentrated deer herd.*

Key words: white-tailed deer, Odocoileus virginianus, *flooding, levees.*

INTRODUCTION

White-tailed deer (*Odocoileus virginianus*) occur throughout Louisiana with high populations occurring in the marshes of southwestern Louisiana. St. Amant (1959) and Glasgow and Ensminger (1975) reported substantial deer populations in coastal marshes of southern Louisiana. St. Amant estimated that the coastal marshes support one-third of the total state population. Levees and spoil deposits provide a diversity of habitat, support plant communities different from adjacent marsh, and provide travel lanes, fawning areas, and bedding grounds for deer (Self et al. 1974). A recent aerial deer survey of 1,500 acres of intermediate marsh adjacent to the flooded study area projected the deer population as one per 37.5 acres (Joanen et al. 1981).

The coastal marshes are subjected to periodic flooding by high tides and excessive rainfall. Ensminger and Nichols (1957) and Harris and Chabreck (1958) noted hurricane damage results in massive die-offs of fish and wildlife. According to Glasgow and Ensminger (1957), deer and vegetation are lost due to a combination of drought followed by tide-water flooding.

Loveless and Ligas (1959) observed deer mortality due to extended periods of high water in the Everglades, and suggest high water impacts does due to demands of pregnancy. They concluded population numbers vary from year to year, depending largely on seasonal rainfall and resulting water levels which determine availability of nutritious forage and survival of young.

The opportunity to study short-term effects of high water on a deer herd resulted from heavy rainfall on 26–28 December 1982, followed by above average precipitation during January and February 1983. The study site was in the lower portion of the Mermentau Basin of southwestern Louisiana.

MATERIALS AND METHODS

The study area, in Cameron Parish, lies in a fresh marsh (Chabreck and Linscombe 1979) bounded by the Grand Chenier ridge complex on the

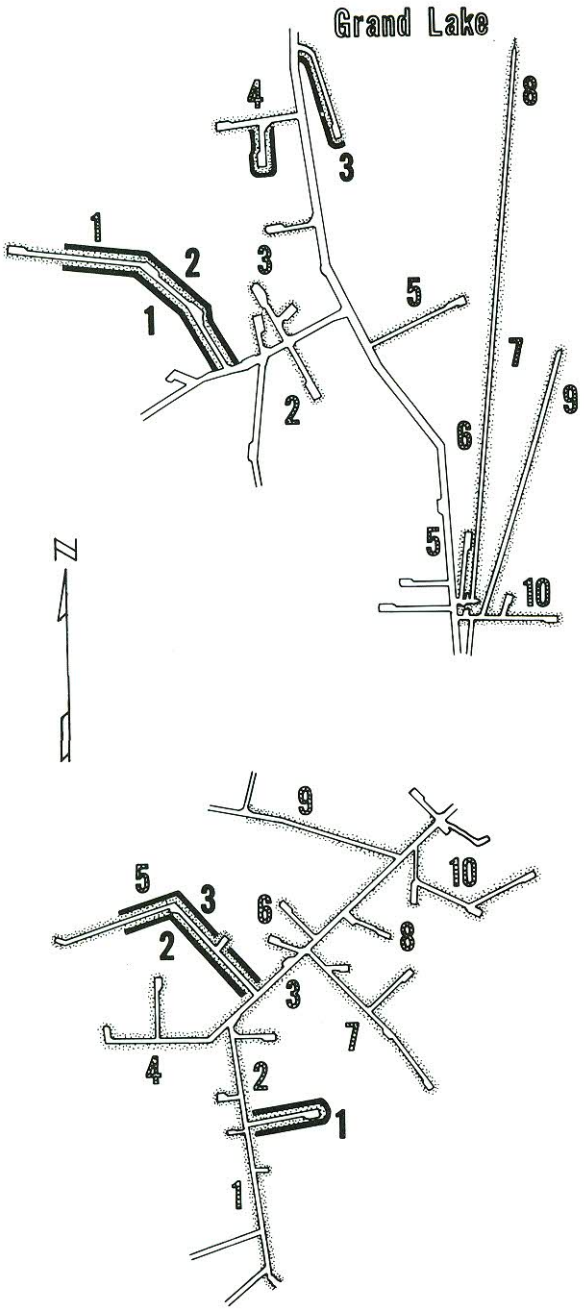

FIGURE 1. Grand Cheniere Ridge and Grand Lake deer survey areas. Number represents survey route mile number, dark thickened line represents each 3 mile levee survey, and stipple represents each 10 mile survey route.