

# Influence of Prescribed Fire on White-Tailed Deer Browse in East Texas Forested Ecosystems



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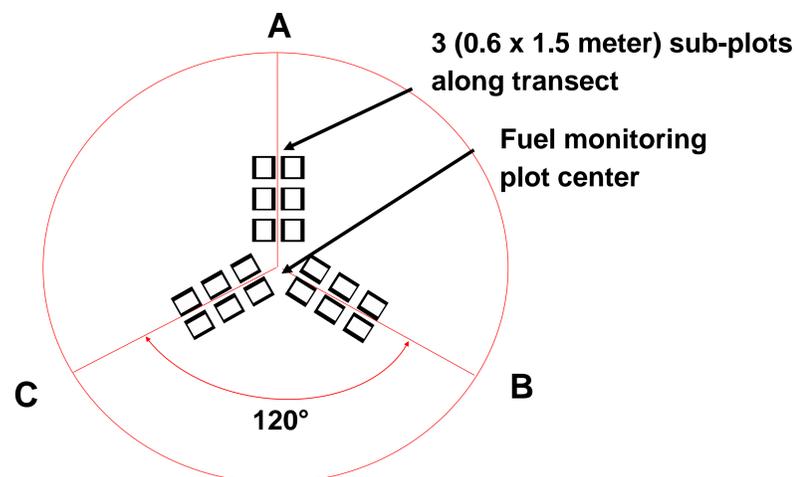
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## Introduction

- Fire is often used for shaping and managing habitat for white-tailed deer (*Odocoileus virginianus*).
- Prescribed fire has been utilized to improve browse availability, forage production, and nutrient availability for deer.

## Plot Design



**Figure 1.** Circular plot .202 ha in size (25.37 meter radius) with 3 transects (A, B, and C)

## Goal and Objectives

### Goal

- Assess the effects of different prescribed fire regimes on white-tailed deer forage and browse productivity.

### Objectives

- Assess impacts of different burn regimes on preferred white-tailed deer browse species' nutritional value and caloric content in National Forests and Grasslands in Texas, the Winston 8 ranch, and the Nature Conservancy's Roy E. Larsen Sandylands Sanctuary habitats.
- Correlate browse utilization survey data from four Wildlife Management Areas (WMAs) in East Texas with the prescribed fire history to determine the most utilized areas in different burn regimes.
- Determine which prescribed burn regimes in East Texas produce the optimum forage for white-tailed deer.

## Acknowledgements

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## Methods

- Browse utilization will be assessed using a modified version of Texas Parks and Wildlife Department's stem count index method.
- Herbaceous production will be measured on 34 plots (Figure 1).
- Woody browse nutrient samples will be clipped and sent to Dairy One forage laboratory in Ithaca, New York.
- Browse data will be obtained from local WMAs and correlated to the prescribed fire history in to determine where browse utilization was highest.

## Analysis

- All statistical analysis will be performed in SAS version 9.4.
- ANOVA (Analysis of Variance) will be performed to test the significance ( $p=0.10$ ) of the relationship between years since burned and the dependent variables.
- Linear regression will be used to analyze the relationship between years since burned and the dependent variables.