

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

Wyatt Bagwell

Brian. Oswald, Kathryn Kidd, Jessica Glasscock



Arthur Temple College of Forestry and Agriculture

STEPHEN F. AUSTIN STATE UNIVERSITY

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. This would affect population growth, age structure, body size, and body condition and population renewal for white-tailed deer.

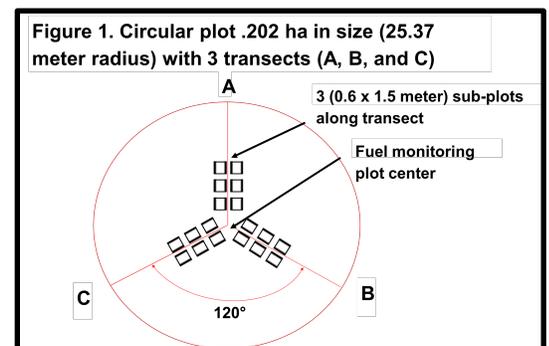
While prescribed fire effects on white-tailed deer habitat has been studied, the majority of studies conducted have not included herbaceous production, browse utilization, and nutrient availability, and their correlation to the optimum burn regime in the piney woods ecoregion of Texas.



Methods

This study will be conducted on the Sabine/Angelina, Davy Crockett, and Sam Houston National Forests, and select Wildlife Management Areas (WMAs) within these forests: Alabama Creek Banister, Moore Plantation, and the Sam Houston National Forest. Additional study sites will be on the Winston 8 Ranch between Nacogdoches and Lufkin Texas and the Roy E Larsen Sandyland Sanctuary between Kountze and Silsbee, Texas.

Browse utilization will be assessed using a modified version of Texas Parks and Wildlife Stem count Index method. Woody browse nutrient samples will be clipped from the plots used to assess browse utilization. Within the plots new buds, shoots, leaves and new stems will be collected from multiple browse species to capture variability and reduce bias. The samples will then be sent to Dairy One forage laboratory in Ithaca, New York. Herbaceous production will be measured within United States Forest Service fuel monitoring plots (Figure 1). The relationship will be examined between browse utilization survey data from local WMAs and the prescribed fire history to determine the most utilized areas in different burn regimes.



Wyatt Bagwell is pursuing a Master of Science in Forestry at Stephen F. Austin State University. He received his Bachelor of Science in Wildlife Science at Tarleton State University with a minor in Biology.