

Habitat Selection and Spatial Partitioning of Male White-tailed Deer

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White-tailed deer preferentially seek areas dominated by herbaceous plants for feeding and use brush for screening and thermal cover. Deer densities commonly increase in brush-dominated habitats following mechanical clearing to create openings. This increased use has been attributed, in part, to greater forb abundance in the cleared areas.

Our overall objective is to test the hypothesis that habitat selection in male white-tailed deer is driven by thermoregulatory behavior at some upper temperature threshold, whereas, below that threshold, habitat selection is driven by forage quality and availability. A prediction based on this hypothesis is that screening cover is unimportant in habitat selection. Additional objectives are to determine if (1) male white-tailed deer alter home ranges to forage in recently disturbed patches, (2) intensity of use of disturbed patches declines with time after disturbance, and (3) disturbance alters deer movement and foraging patterns and plant community preferences.

About 600 acres within a 1,100-acre area on the Laureles Division of the King Ranch will be root-plowed in strips during summer 2008. To determine habitat that is selected, 14 male white-tailed deer will be captured and fitted with Global Positioning System (GPS) collars. The GPS collars will be programmed to estimate the deer's location every 30 minutes for 10 months. Vegetation biomass, nutritional quality, and screening cover will be estimated in the spring and summer. Black globe thermometers will be used to estimate standard operative temperatures in male white-tailed deer within each plant community and in disturbed areas.

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