



Short-term Impacts Of Prescribed Fire And Thinning On Ant Diversity In Loblolly And Shortleaf Pine Ecosystems

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The objectives of the study are to gather baseline population data for the red imported fire ant (RIFA), *Solenopsis invicta* and other ants occurring in mature pine stands in East Texas and to document any changes in ant diversity in the aftermath of controlled burns or thinning.

Three of the sample stands on the Sam Houston and two on the Davy Crockett were burned. Two stands on the Davy Crockett and one on the Sam Houston have been thinned. The sites have been sampled up to 8 times over the past 2 years.



The red imported fire ant



Sample site in Compartment 27 on the Sam Houston National Forest – pre-treatment



Sample site in Compartment 27 on the Sam Houston National Forest – post-treatment



Thinned sample site in Compartment 21 on the Sam Houston National Forest

Results: On the Sam Houston National Forest, 3775 specimens have been collected and identified through mid-2005. Thirty-five species were collected, and 61.7% of all ants were RIFA. Fewer samples have been processed on the Davy Crockett National Forest. Twenty-two species have been identified, and 55.0% of the 928 specimens were RIFA. Several unusual ants such as *Strumigenys* sp. were present. One potential new species was collected and will be described.

Mature pine stands scheduled for upcoming burning or thinning were selected on the Sam Houston and Davy Crockett National Forests in Texas. Unbaited pitfall traps were used to collect ants 3-4 times per year. Eight traps spaced 10 m apart were installed per stand, running from the stand edge toward the stand center. The ants collected were sorted and identified by Sam Houston State University.



Strumigenys sp.

Trends: It is too early to discern any trends in the effects of management activities on ant diversity. Opening a stand by thinning or burning often leads to increases in RIFA, but the results from our collections have been mixed to date. As sampling continues, any trends in ant diversity and frequency should become apparent.

