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The influence of prescribed fire on southeastern fox squirrel habitat selection

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Fire-dependent longleaf pine forests of the southeastern United States are an important forest type for southeastern fox squirrels (*Sciurus niger niger*), a species of high conservation priority in the region. But widespread timber harvest, urbanization, and fire suppression have reduced longleaf pine forests to less than 5% of its original range. Today, resource managers use prescribed fire to restore and maintain longleaf pine ecosystems and the associated wildlife habitat. Current use of growing-season prescribed fires, which closely mimic the timing of historical fires, may benefit the southeastern fox squirrel because it evolved under a similar fire regime. However, growing-season burns may reduce hardwood trees within longleaf pine forests. Because a large percentage of the fox squirrel diet is hard mast, a reduction in hardwoods could reduce habitat quality for squirrels. We will investigate relationships between growing-season prescribed fire and fox squirrel habitat selection using a resource selection function. In winter of 2011, we began capturing and radiocollaring fox squirrels on Fort Bragg, North Carolina. Squirrels will be tracked at least three times per week through the summer of 2012. We will develop a resource selection function

based on a used vs. availability design, wherein we will explore various environmental covariates as predictors of fox squirrel habitat selection. Significant habitat variables can be used to identify, prioritize, and protect important resources for the southeastern fox squirrel in a fire-maintained system.