

MODELING NORTHERN BOBWHITE ABUNDANCE AT A LANDSCAPE LEVEL: A PRELIMINARY ANALYSIS

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Abstract

Northern bobwhite populations in Florida have declined precipitously over the last 3 decades. Declines have been attributed to landscape level habitat changes; however, few studies have investigated bobwhite abundance at landscape levels, and most have been in retrospective time using USGS Breeding Bird Survey data. During the years 2005-2007, we estimated bobwhite abundance across central Florida on private and public properties using distance sampling techniques. Locations of the sampling points were assigned at random between two predominate land cover types: pastureland and native grassland. Landsat imagery data (2003) were used to delineate land cover types via a supervised classification system. We created multiple *a priori* hypotheses that could explain the variation in bobwhite abundance across several scales. Example variables that may be included in the candidate set of models include: landscape metrics (e.g. patch size and shape), sampling level vegetation characteristics, and management activities (e.g. prescribed fire and cattle grazing). Normal regression or hierarchical regression models will be constructed to model abundance depending on the presence of spatial autocorrelation in the data. We propose that bobwhite abundance is not only affected by local (i.e. patch) level phenomenon but most likely at larger spatial and temporal scales.

[Abstract Only]

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