

**Landscape and Fine Scale Habitat Associations of the Loggerhead Shrike and Henslow's Sparrow on Fort Riley Military Installation, Kansas**

by

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**ABSTRACT**

**This study was conducted to determine landscape and fine scale vegetative parameters associated with breeding Loggerhead shrikes (*Lanius ludovicianus*) and Henslow's sparrows (*Ammodramus henslowii*) on Fort Riley Military Installation, Kansas. Because Fort Riley is an Army training site, I also investigated the influences of training disturbance to the vegetation and range management practices on bird habitat patterns.**

**Breeding birds were surveyed in 1995 and 1996 using point counts. Survey plots were identified, a priori, at the landscape scale as either grassland, savannah, or woodland edge according to cover by woody vegetation. In 1995 and 1996, habitat at bird use sites was characterized at the landscape scale following the methods used for the survey sites. In 1996, vegetation was sampled at bird use points, and a principal components analysis was used to characterize the fine scale herbaceous vegetation. A military disturbance index was used to quantify the severity of training disturbance to the vegetation at survey and bird use sites.**

**Shrikes were associated with savannah habitat at the landscape scale. At the fine scale, tree and shrub density did not differ between use and survey sites. Use sites did not differ from survey sites with respect to haying or the number of years since a site was last burned. Use sites were characterized by tall, sparse, structurally heterogeneous herbaceous vegetation with high standing dead cover and low litter cover.**

**At the landscape scale, Henslow's sparrows were associated with grassland habitat that was last burned three years previously. Data regarding haying were inconclusive. At the fine scale, use sites had a lower tree density than survey sites, but shrub density did not differ between use sites and survey sites. Use site herbaceous vegetation was characteristic of late successional grassland with high cover and density of structurally homogeneous vegetation and high litter cover. Neither shrike or Henslow's sparrow use sites differed from survey sites with respect to the military disturbance index.**

**Maintaining a shifting mosaic of vegetation on Fort Riley can provide the different habitat types needed by breeding shrikes and Henslow's sparrows.**