

**BIRD, BUTTERFLY, AND SMALL MAMMAL COLONIZATION DURING EARLY ESTABLISHMENT
IN A PRAIRIE BIOFUEL PROJECT**

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Abstract: The University of Northern Iowa's Tallgrass Prairie Center is investigating the feasibility of using biomass harvested from diverse plantings of native prairie vegetation as a sustainable biofuel. A major objective of this research is to determine optimal methods for managing prairie vegetation while maintaining high quality habitat for native wildlife. In 2009, a Black Hawk County site previously managed for row crop production was seeded with four different treatments of native vegetation ranging from a switchgrass monoculture to a diverse 32-species mix of grasses, forbs, and sedges. To assess wildlife colonization of the site during early establishment, we conducted visual line-transect surveys of birds and butterflies and live trapped small mammals in 2009 and 2010. Avian use of the site was limited during the 2009 breeding season; however, sixteen bird species were frequently recorded in the plots during the fall 2009 and spring 2010 migrations. Migrating bird density and richness were significantly greater within plots compared to adjacent harvested corn fields. Sixteen species of butterfly, including two habitat specialists, were recorded in 2009. Small mammal communities in all treatments were dominated by mice in the genus *Peromyscus*, and mammal species richness, relative abundance, and the spatial distribution of captures in the plots increased over the course of the first growing season. Data from 2009 provide a baseline for continued efforts to assess wildlife response to the various treatments as vegetative communities mature; we will discuss results of our recently completed 2010 field season in this context.