

## Blurring the lines between working and conservation lands: Bird use of prairie strips on farmers' fields

### Abstract:

As part of a larger prairie strips project, this project began monitoring how farmland birds are affected by the addition of these strips to cropland. The hypothesis is that bird species presence and abundance can be positively impacted by the potential habitat provided by prairie strips.

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*The project increased the scientific understanding of how prairie strips are impacting bird communities and also provided adopting farmers and farmland owners with some data on wildlife use of their farms and whether beneficial habitat is being offered for desirable wildlife through prairie strip establishment.*



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### What was done and why?

The central hypothesis of the Science-based Trials of Row-crops Integrated with Prairie Strips (STRIPS) project is that the conversion of small amounts of row-crops to prairie within agricultural landscapes will provide disproportionately greater environmental benefits (i.e., soil stability, water purification and attenuation, carbon sequestration, insect pest suppression, and wildlife habitat provision) than expected based on the amount of land converted. The key to this conservation practice is strategic integration of a perennial land cover that is biologically diverse and native to this landscape. The STRIPS project also has the potential to address the habitat needs of grassland-dependent species in the Midwest by establishing diverse native prairie vegetation.

The objective of this project is to quantify how grassland birds respond to the novel and economically practical prairie strips conservation practice. Understanding bird response to prairie strips located in farmers' fields is critical from ecological, social, and economic perspectives. Increasing the amount of available, diverse, native prairie habitat provides an opportunity to positively impact some grassland birds. As a group, grassland birds have experienced the steepest population declines among all bird taxa in the United States, mostly as a result of habitat loss.

The investigator proposed to test these hypotheses in relation to bird habitat provision:

- Native bird species richness is higher in row-cropped fields with a greater area of prairie habitat, and
- Native bird species richness varies with landscape context surrounding the row-cropped field with prairie strips.

### What did we learn?

The long-term goal of this project is to provide robust measurement and analysis of improved agricultural biodiversity through bird habitat provision benefits associated with the prairie strips conservation practices. As such, the work substantially contributes to the value of the overall STRIPS project and expands its relevance to the continental scale by providing habitat for breeding, migrating, and wintering birds, which link Iowa to places such as the Arctic and South America. It also expands project relevance beyond producers and land managers to include nature enthusiasts, who value habitat for its wildlife-viewing opportunities.