Potential and Realized Habitat for Area-Sensitive Bird Species on State Preserves

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Collaborators: if applicable
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Goals and Objectives:

- Quantify relative abundance of breeding birds on State Preserves with a prairie component, with a particular focus on area-sensitive species, and relate prairie size to abundance of area-sensitive species.
- Inventory breeding birds on Catfish Creek Preserve.
- Estimate density of common breeding birds on select prairie Preserves that are in landscapes that could benefit or adversely affect their bird populations.
- Map land cover on and near State Preserves that are in landscapes that could benefit or adversely affect their bird populations.copy from proposal

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Introduction:

The network of State Preserves in Iowa have tremendous cultural and biological value. As functioning ecosystems, they provide living laboratories where ecosystem processes and functions can be examined. Those processes and functions may have been altered by habitat fragmentation. Habitat fragmentation leads to reductions in the number of species occupying habitat remnants. Because some processes and functions may depend on individual species, it is important to know which species may have been lost. In addition to possibly altering ecological processes, species that are lost may be of conservation concern because of their declining populations. Grassland birds have declined more than other bird group in North America in the past four decades. Of greatest conservation concern are specialist species that cannot adapt readily to surrogate grasslands and species that are found only on larger blocks of habitat. Species that seem to require habitat blocks above a minimum area are referred to as area sensitive. Area-sensitive species exhibit an increase in either population density or probability of occurrence with increasing size of a habitat patch. The degree of area sensitivity varies, with species seemingly requiring 10-50 ha of habitat if the parcel of land is in a block

Management of prairie State Preserves would be enhanced by knowing which Preserves provide habitat for which area-sensitive species. If species are missing because they are area-sensitive, it may be possible to bring some of these species back by restoring habitat adjacent to Preserves, thus allowing the Preserves to function as larger blocks. This has been done, for example, at Cayler Prairie State Preserve. It is therefore useful to document current adjacent land uses and what benefits, in terms of abundance of various bird species, may be provided by enlarged habit blocks. Documenting possible threats in the landscape would be valuable also. For example, the number of Wind Energy Facilities is increasing in Iowa and effects on nearby Preserves are unknown.

Progress:

Standardized bird surveys were conducted from early June to late July, 2008, on Prairie Preserves ranging from 2 to 100 ha. Surveys included times when singing males should be most detectable. Although we did not qualitify detectability, the survey effort was intense relative to the point counts that have been used in many other surveys. Thus we are fairly confident that rare or area-sensitive species would have been detected.

Future Plans:

optional