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# Habitat patches for grassland birds: size matters

**W**hile it is difficult to determine the minimum size of a grassland patch a bird species needs to thrive and reproduce, biologists know size matters to a number of species.

A study by the U.S. Geological Survey (USGS) Northern Prairie Wildlife Research Center documented relative grassland patch sizes preferred by 16 species.

“Some species use habitat patches regardless of size, but others don’t,” says USGS research scientist Dr. Douglas Johnson. “The area requirements and factors that determine which habitats they select are not well understood.”

Johnson examined evidence of minimum area requirements for grassland birds in nine counties in eastern Montana, North and South Dakota, and western Minnesota.

Lark bunting was typically found in large grassland patches in counties where they were observed. Northern harrier was encountered in large patches—more than 247 acres—more often than expected. Clay-colored sparrow and Baird’s sparrow responded positively to field size. Bobolink and sedge wren also showed some tendency to favor larger patches. LeConte’s sparrow showed no clear preference for large patches.

Some species showed inconsistent responses to patch size. Density of Savannah sparrow was positively related to field size in northeastern Montana, but negatively related in western South Dakota. Common yellowthroat favored smaller grasslands in western North Dakota, but larger patches in western Minnesota. The response of grasshopper sparrow to field size was weak overall, but also varied regionally. Grasshopper sparrow showed the reverse pattern, preferring larger

fields in western counties, but smaller fields in eastern regions.

Two species, mourning dove and brown-headed cowbird, showed a weak tendency toward small patches.

In addition to the northern harrier, five other species were detected only occasionally, but seemed to prefer larger patches. They were the sharp-tailed grouse, willet, marbled godwit, upland sandpiper, and Wilson’s phalarope.

The study indicates maintaining and grouping CRP lands in larger than 40-acre blocks will be most beneficial to grassland birds, says Dr. Bill Hohman, a biologist with the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) in Fort Worth, Texas.

Hohman facilitated the study, which was aided by a grant from the NRCS Agricultural Wildlife Conservation Center (AWCC).

The AWCC, located in Madison, Mississippi, is a fish and wildlife technology development center.



*Photo by Dave Menke, USFWS*

**Common yellowthroat**

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For more information on wildlife conservation technology, contact:

**Ed Hackett**

NRCS AWCC

Phone: (601) 607-3131

E-mail: [ed.hackett@ms.usda.gov](mailto:ed.hackett@ms.usda.gov)

Web site: <http://www.whmi.nrcs.usda.gov>

For more information on this summary, contact:

**Dr. Douglas Johnson**

USGS Northern Prairie Wildlife Research Center

Phone: (612) 624-4716

E-mail: [douglas\\_h\\_johnson@usgs.gov](mailto:douglas_h_johnson@usgs.gov)

**Dr. William Hohman**

USDA NRCS

Phone: (817) 509-3332

E-mail: [william.hohman@ftw.usda.gov](mailto:william.hohman@ftw.usda.gov)