
Field borders: important habitat for birds in intensive agricultural lands

Field borders have substantial conservation potential in the Mississippi Alluvial Valley as much-needed winter habitat for grassland birds, according to a study by Mississippi State University (MSU).

Researchers looked at bird use and nesting survival in newly established herbaceous field borders on six farms in Sunflower County. In 2002, the borders were planted with native warm-season grasses, partridge pea, and kobe lespedeza amid row crop fields and wooded fence rows that contained drainage ditches.

Bird use of field margins was compared between fields with wide borders (60–120 feet), narrow borders (20–30 feet), and no borders.

“We found four times as many birds in the winter in wide buffers as we did in nonbuffered fields,” says Dr. Wes Burger of MSU. “During the breeding season, we also found more species in buffered fields than unbuffered. No dickcissels, a species of concern in Mississippi, were found in the nonbuffered field edges. But, we found 434 nests in the field borders, nearly all of them in wide borders, and 19 percent of them were dickcissel. This suggests field borders may provide crucial nesting habitat for ground-foraging grassland birds.”

Birds nested much more in wide borders (60–120 feet wide) than in narrow borders (30 feet or less). No nests were found within transect line areas in fields without borders.

Overall, nesting success within field borders was low, at 22 percent. While there was only a small percentage of birds nesting in narrow borders, success rate of those nests in narrow borders was about 8 percent higher than in wide borders.

Previous studies have shown field borders to benefit northern bobwhite

populations, but the bobwhite population base in Sunflower County was not large enough to detect any population trends over the 3-year study.

“Narrow field borders are certainly a large improvement over nonbordered field margins. However, this research also delineated the substantial advancements possible with increased widths,” Burger says. “Results indicate that field borders intended as nesting habitat need to be greater than 30 feet wide. We recommend farm-scale management regimes to encompass a variety of wide and narrow field borders. Use wider borders as much as possible, wherever it fits into the crop production system, but, also incorporate narrow borders throughout the entire farm to increase total percentage of the landscape in grassland habitat and increase usable space.”

The study provides more science to help improve conservation programs to continue to benefit wildlife as well as agricultural producers in this intensively farmed valley, according to Ed Hackett, a biologist with the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), who facilitated the study for the NRCS.

Funding for the project was provided by Delta Wildlife, the U.S. Environmental Protection Agency, and the NRCS Agricultural Wildlife Conservation Center (AWCC).

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



Photos by Philip Barbour, NRCS and Steve Dinsmore

Dr. Wes Burger in a field border with native vegetation; dickcissel (inset).

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