

# Grassed waterways are habitat for birds, snakes

**G**rassed waterways, even those that are narrow, are habitat for both birds and one of their predators—snakes. That is one conclusion of a study of 33 grassed waterways in southeastern Iowa in the summers of 2002 and 2003 by Iowa State University (ISU) researchers Tricia Knoot and Dr. Louis Best.

The study focused on songbirds and snakes because the decline of grassland birds is well documented, and 10 of the 27 snake species found in Iowa are listed as endangered, threatened, or of special concern.

Best and Knoot recorded 27 different species of birds using the waterways, and five species of snakes. Red-winged blackbirds were most abundant among the birds, at 54 percent of the total numbers found, followed by barn swallows (12%), dickcissels (9%), ring-necked pheasants (5%) and song sparrows (4%).

The waterways varied from 20 to 80 feet wide, and averaged 42 feet in width.

“We found that bird and snake use of waterways was influenced by characteristics of both the site and surrounding area, and responses to these characteristics varied among species,” Knoot says.

“Meadowlarks liked wider waterways, for instance, while indigo buntings preferred narrow waterways. Barn swallows, indigo buntings, and red-winged blackbirds were found more often in waterways near farmsteads, but meadowlarks and ring-necked pheasants stayed farther away,” she adds.

Eight of the 27 bird species observed during surveys also nested in the waterways. Three-fourths of the 106 nests found were red-winged blackbird nests. Only 21 percent of the nests were successful—nearly 80

percent of the failures were due to predation.

Snakes were present in about 80 percent of the grassed waterways. The brown snake and two species of garter snake were found most often. They were more plentiful in wider waterways. While some birds and snakes used waterways as narrow as 20 feet, some species were strongly associated with wider grassed waterways.

The study found landscape-level factors—the amount of grass in the surrounding landscape and distance to wooded habitat—to be very important to snake populations in grassed waterways. The amount of litter cover was also important to snakes.

The study suggests that maximizing widths, increasing forbs, and limiting early summer disturbance in waterways may enhance habitat for some wildlife species.

According to Dr. Bill Hohman, a biologist with the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) in Fort Worth, Texas, the study adds to understanding of wildlife uses of buffers in agriculturally dominated landscapes of the Midwest.

Hohman facilitated the study for the NRCS and agrees with researcher recommendations that emphasize minimizing any early summer disturbance in waterways.

Funding for the project was provided by the NRCS Agricultural Wildlife Conservation Center (AWCC), formerly the Wildlife Habitat Management Institute.

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



*Photos by Tricia Knoot, ISU researcher*  
**Grassed waterway (top); Smooth green snake (bottom)**

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