

Seasonal avian use patterns of farmed wetlands and nest predation dynamics in riparian grasslands dominated by reed canary grass (*Phalaris arundinacea*)

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ABSTRACT

Agricultural practices in the Great Plains disrupt biological communities by altering physical habitat characteristics that influence use of these areas by native species. To better understand the influence of farming on avian communities, I conducted two studies to examine bird use of habitats altered by farming. First, I documented seasonal patterns of avian use in farmed playa and floodplain wetlands in Kansas. In addition, the Wetland Evaluation Technique (WET) and Habitat Assessment Technique (HAT) were used to determine their efficacy to efficiently assess farmed wetlands as wildlife habitat. A total of 51 bird species were found on farmed wetlands; the two most abundant wetland-dependent groups were shorebirds (14 species) and dabbling ducks (6 species). Migrant shorebirds were usually present in spring and fall in playas while ducks used both wetland types in fall and early winter. The outcome from WET and HAT suggested farmed wetlands were poor habitats for wildlife despite empirical evidence to the contrary; consequently both methods are unsuitable evaluation methods for Kansas farmed wetlands.

the second study was an experimental investigation of artificial nests in previously farmed riparian grasslands dominated by reed canary grass (*Phalaris arundinacea*) to examine the factors that affect nest predation in an introduced grass monoculture. Field trials were conducted by placing artificial nests baited with house sparrow (*Passer domesticus*) eggs in two riparian grasslands on the Flint Hills National Wildlife Refuge (FHNWR) during the 1998 breeding season. Temporal differences existed between early and subsequent trials, with the highest predation rate during the late trials. The amount of nest concealment provided by reed canary grass did not appear to influence predation rates on artificial nests. Instead, dense growth of reed canary grass may have altered predation pressures by deterring predation by corvids and medium-sized predators and encouraging small mammal predation because of a favorable microhabitat. Predation rates were similar to published studies of real nests suggesting that artificial nests baited with house sparrow eggs may provide an index of actual predation rates and reed canary grasslands may be suitable surrogate habitat for nesting grassland birds.