

**STATUS: ENDANGERED**

Endangered in Iowa



King Rail

Rallus elegans

Introduction

The King Rail is a chicken-sized marsh bird and the largest of the rails found in the U.S. This species is a rare migrant and summer breeder in Iowa, and is listed as endangered in our state. More than other members of the rail family in our state, King Rail numbers seem to be greatly reduced in comparison to the early 20th Century, and it has been nearly extirpated from the state.

Field observation data that document confirmed or probable breeding of King Rails at a specific habitat for at least 2 years of the previous 6 years (the years being considered roll forward annually) are needed for Iowa's IBA Technical Committee to recognize that site as one of Iowa's Important Bird Areas (IBAs).

The King Rail is dependent upon marshes and wetlands where its secretive behavior may make it difficult to find. But at times it may be seen rather boldly stalking along marsh edges in full view of observers.

Up until about 50 years ago, the King Rail was fairly common in Iowa, but it has declined alarmingly in the past 30-50 years. This trend is almost certainly due to the loss and/or degradation of the wetlands that this species is dependent upon. King Rails are the most threatened rail in North America.

Fewer than a dozen adults of this species were reported in most recent years, and these reports are primarily from areas near the Mississippi River, or from the prairie pothole region of north-central and northwestern Iowa. King Rails migrate at night.

Protection and restoration of wetlands and marshes may bring this species back to the population levels that were known prior to severe drainage efforts.

Habitat Preferences

King Rails found in Iowa depend upon wetlands and marshes and the dense vegetative cover that these habitats provide. At times they also make use of brushy swamps, or areas with a thick growth of willows.

This species appears to prefer to breed in areas of high marsh vegetation (cattails, bulrushes and other species) with scattered shrubs and small trees.

Breeding Habitats

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Feeding Habits

The diet of King Rails consists mainly of crustaceans and aquatic insects, especially beetles. They eat crayfish, snails, clams, grasshopper, frogs, spiders and seeds of aquatic plants. At times they also eat many small fish.

King Rails feed mainly during daylight hours. They usually forage in areas concealed by plant cover or in comparatively open areas where they blend with surroundings and are only a few steps from protective cover. Feeding is generally in water so shallow that only the bill, or part of it, disappears beneath the surface.

Food is usually obtained from aquatic habitats, but when feeding on land near water, this species often carries food to water and immerses it before ingesting. Larger items captured in the water may be carried to solid ground and dismembered before being eaten.

Breeding Biology

King Rails usually nest along the edge of wetlands, and the nest may be over water or land. The water at nests in northwestern Iowa averaged about 1 foot in depth. The nest is a cup of dead grasses and sedges placed on a mound of dead vegetation. Surrounding vegetation is often pulled over the nest to form a canopy. Additional simpler nests may be constructed nearby, and these are utilized after the young hatch.

Egg laying generally begins by mid-May. Peak nesting is from mid-May to mid-June. A typical nest will contain 10-12 eggs, sometimes 6-14. Incubation is by both parents, and lasts 21-23 days.

The downy young leave the nest a few hours after hatching. Day-old chicks can follow the parents for considerable distances. Both parents feed and care for the young for about three weeks. After that the young start to capture much of their own food. By 7 to 9 weeks of age the young are rarely fed by the parents. The young are able to make short flights at the age of about 9-10 weeks.

Young King Rails are normally independent of adults by mid to late summer; and usually depart from areas where they hatched by August or September.

Concerns and Limiting Factors

King Rails make heavy use of the sedge-meadow zone around the edge of marshes. This vegetation zone shows the effects of drainage most readily, and is probably more heavily altered by agricultural uses than deeper and wetter portions of wetlands and marshes. Loss of wetland complexes is by far the most critical threat to rail populations.

Alteration of the floodplain with flood control dikes and other land use changes along the Mississippi River flyway may have severely impacted King Rail numbers.

As nocturnal migrants, individual King Rails are prone to striking various illuminated structures such as television and radio towers; telephone and electrical wires; and tall buildings. This species is also vulnerable to vehicular traffic when it occurs near the wetlands they require for nesting.

Before the large-scale use of pesticides in the late 1940s and early 1950s, King Rails were more common in Iowa and other parts of the Midwest. Since that time they have declined to uncommon, and now, to rare status. The crustaceans and aquatic insects that King Rails feed on are severely affected by manufactured biocides. Runoff from agricultural fields may have contributed to the rapid decline in this species; as biocides are accumulated in the bodies of the prey that King Rails must feed on to survive.

A large concern is the extensive loss of wetlands in the lower Mississippi River valley and along the Gulf Coast where this species spends the winter. Loss of winter habitat may be more critical to King Rails than loss of breeding habitat.

Perhaps the greatest overall, and most direct threat to King Rails, has been the large reduction in herbaceous floodplain wetlands through agricultural, urban, and industrial developments.

Habitat Management Recommendations

Habitat management recommendations can be summarized as follows. King Rails require wetland, marsh and floodplain habitats for nesting. All forms of wetlands, marshes and natural swales should be maintained for nesting and feeding areas. Drainage and land leveling should be discouraged. Growth of beds of perennial vegetation should be encouraged. Shallow marshes and seasonally flooded sites are most easily drained and impacted by agriculture, and these should be retained in natural vegetation wherever and whenever

feasible. Row crops have little value for King Rails, for other species in the rail family, or for species that have seriously declining populations generally.

Researchers have found that nesting success improves when dense wetland vegetation is encouraged within the interior, not the periphery, of managed wetland complexes.

Ditches and borrow areas may be the only remaining habitat available to rails in intensively farmed regions. These areas may be susceptible to rapid flooding that can destroy nests and/or young from mid-May through June. Care should be taken to avoid flooding during this period of time. Roadside mowing of areas with wetland vegetation should be discouraged during the period of nesting and brood raising.

The optimal situation in Iowa for King Rails is a complex of wetland habitats. Densely vegetated sites are necessary for migration and nesting periods, and slightly higher and drier areas within wetland complexes are most important to brood foraging. Restoring wetlands adjacent to core breeding habitats; and managing invasive plants in key breeding areas are also strongly recommended.

Despite conservation concerns, King Rails can still be legally hunted in all southern coastal states from Texas to Connecticut and this geographic area include the habitats used by a wintering species that is listed as endangered in Iowa. Although it is true that rails are only lightly hunted, clearly a reassessment of the status of King Rail as a hunted species is warranted. Greater public awareness and appreciation of this species and the rich biological habitats that it depends upon would be highly desirable.

See the wetland management portion of this information for additional relevant management details.