

# The Illinois prairie-chicken recovery plan

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Once abundant in Illinois, the Greater Prairie-Chicken (*Tympanuchus cupido pinnatus*) is now a state-endangered species. Throughout its range, this signature bird of the tallgrass prairie is a high conservation priority because of its shrinking range and declining abundance, due to habitat loss and degradation. Nonetheless, the recovery potential of prairie-chickens in Illinois and elsewhere is very good, and only limited by people's motivation to provide adequate habitat. Since prairie-chickens have large home ranges, working towards their recovery will benefit many other grassland birds.

## Recent History

The historical changes in distribution and abundance of the prairie-chicken in Illinois, from tremendous abundance (10-15 million birds) throughout the state in the mid nineteenth century to near extirpation, are well-documented (Westemeier 1985). By 1993, fewer than 50 prairie-chickens remained in Illinois, including a handful of birds that had been imported from Minnesota.

Several problems had thrown the last Illinois prairie-chickens into what conservation biologists call an "extinction vortex," a downward spiral to oblivion. The too-small habitat goals set in the 1960s had not been achieved (Simpson and Esker 1997), and the birds were isolated – hundreds of miles from prairie-chicken populations in other states, with virtually no chance of movement between groups. Pheasants had expanded their range



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southward, parasitizing as many as 43% of all prairie-chicken nests in the mid-1980s before an aggressive control program (Vance and Westemeier 1979, Westemeier et al 1998a). Because of severe inbreeding depression, resulting from low population size for 3 decades, less than 40% of eggs could hatch, the rest infertile or with embryos dying during early development (Westemeier et al 1998b).

*Above: Greater Prairie-Chicken hen.*

*All prairie-chicken photos were taken by Mary Kay Rubey at Greater Prairie-Chicken leks in Wisconsin and Minnesota.*

In an attempt to restore genetic diversity and provide immediate demographic relief, prairie-chickens were translocated from Minnesota, Nebraska and Kansas to Illinois from 1992 to 1998. Egg fertility rates returned to normal levels above 90% (Westemeier et al. 1998b), and the population numbered around 250 birds in 1999. Knowing similar rescues would be necessary in the future if the prairie-chicken population remained small and isolated, biologists needed answers to several questions: how large of a population is needed to have a strong chance of long-term survival? How much grassland is needed to support a viable population? And, are there areas in Illinois with potential for establishing more prairie-chicken populations? Since 1962, Prairie Ridge had fortuitously become much more than a "prairie-chicken sanctuary," with significant populations of Northern Harriers, Short-eared Owls, Upland Sandpipers, Henslow's Sparrows and other grassland species of high conservation concern. Recovery efforts for prairie-chickens were expected to improve the status of many other grassland birds.

## Biology & Conservation

Prairie-chickens have several behavioral characteristics that make conserving them more challenging. First, they naturally are uncommon. Over a 30-year period in south-central Illinois, the spring density was about 18 birds per square mile, in an area of about 20% grassland (Simpson and Esker 1997).