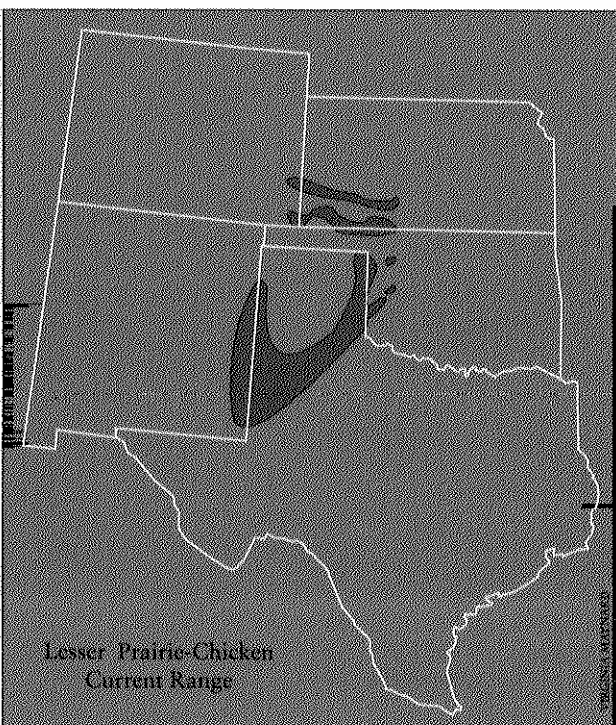
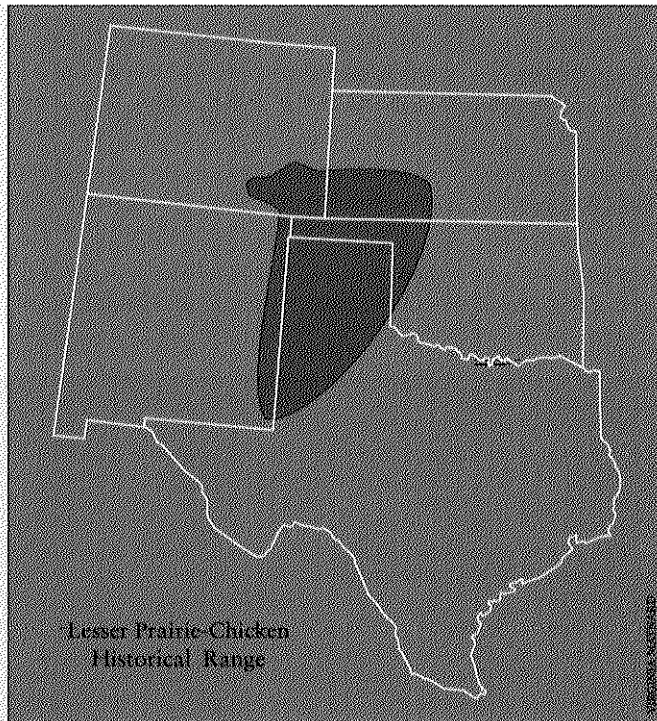


# A Closer Look: Lesser Prairie-Chicken



by JOHN RAKESTRAW \*

**F**OR BOTH the birder crouched in a blind on a cold spring morning and the hunter waiting at the edge of a milo field in November, the Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*) is an elusive quarry. A species once abundant in the southern plains states, this bird's bubbling calls and elaborate courtship displays are now much more difficult to witness as habitat within the birds' range has become fragmented by agriculture.

## Status and Distribution

The Lesser Prairie-Chicken is a small grouse found in the sand-sage prairies of southwestern Kansas; southeastern Colorado, and the Oklahoma panhandle, and in Shinnery Oak (*Quercus havardii*) rangelands of western Texas and eastern New Mexico (map). The number of birds was greatly reduced in the early 20th Century, first by market hunting, and then more severely by the Dust Bowl conditions of the late 1930s. The birds currently exist only in isolated populations where sufficient tracts of habitat are available.

Although most sources agree that the Lesser Prairie-Chicken has sustained massive losses in population and habitat, there are not sufficient data to estimate reliably the bird's current total population. The state wildlife agencies in Colorado and Texas estimate their states' populations at 1000 to 2000 and 10,000 to 12,000, respectively. There is no official estimate of Lesser Prairie-Chicken numbers in New Mexico. Oklahoma and Kansas chart population trends through lek counts and hunter surveys, but do not conduct official counts. Thompson and Ely (1989) and other sources estimate the Kansas population at up to 15,000.

The Lesser Prairie-Chicken was thought to be conspecific with the Greater Prairie-Chicken (*T. cupido*) until 1885 (Horak 1984). Historically, the

\*707 North Main, St. John, Kansas 67576

ranges of the two species overlapped in a band bordering the southwestern third of Kansas (Horak 1984) and today the two may be separated by as few as 40 miles in central Kansas. Greater and Lesser prairie-chickens occupy very different habitats, however, and display notable physical differences. There are no published accounts of hybridization between the two species. But because Greater Prairie-Chickens are known to hybridize with Sharp-tailed Grouse (*Tympanuchus phasianellus*) on a regular basis in Nebraska, it is plausible that Greater and Lesser prairie-chickens might interbreed if their ranges overlapped (M. Schwilling, pers. comm.).

The Lesser Prairie-Chicken is found in sand-sage prairie and Shinnery Oak; the Greater Prairie-Chicken thrives in tall-grass and mixed-grass prairies. The Lesser Prairie-Chicken is lighter in color and more finely barred than the Greater, and measures about two inches smaller. The air sacks visible on displaying males are reddish-purple on the Lesser Prairie-Chicken and yellow-orange on the Greater. Both species have orange combs over the eyes, but these combs are more prominent on the Lesser. The voice of the male Lesser Prairie-Chicken heard on the leks is a light bubbling call, compared to the low hooting of the male Greater Prairie-Chicken. The Lesser Prairie-Chicken also engages in more crowing and cackling than the Greater during confrontations at the lek. Lesser Prairie-Chicken eggs are cream-colored and spotted with light brown or olive. The eggs of the Greater Prairie-Chicken are olive and spotted with dark brown (Ehrlich et al. 1988).

## Life History

Like other prairie grouse, Lesser Prairie-Chickens gather at leks in the spring. The leks are usually located on a slight rise where the vegetation is shorter than on the surrounding prairie (Horak 1984). In the sand hills of Pratt County, Kansas, where the vegetation is generally of uniform height on the hilltops and in the valleys, Lesser Prairie-Chickens have been observed displaying in an alfalfa field adjacent to the grasslands. Booming begins just before sunrise and continues for

approximately two hours. Some birds return to the lek in the evening. The males perform an elaborate display in an attempt to entice the females to mate. With tails held up and wings drooping, the males erect their elongated pinnae to reveal the air sacks on their necks. The males hold their heads down and stamp their feet as they give their bubbling call. The display is often followed by a charge at a rival male. Males spar with each other for position on the lek, with the dominant males occupy-



*Male Lesser Prairie-Chickens vie for position, with the dominant males occupying the center of the lek. Leks may contain as few as two males or as many as fifteen. Usually, only one to three females visit the lek on any given day.*

ing the center of the booming ground. While activity is most intense during the breeding season, mid-March through late May, limited booming may occur throughout the year. The same lek locations are often used year after year.

After mating, the females leave the leks to nest. Nests consist of a shallow scrape lined with grasses and are concealed in taller grass or shrubs. Clutches average 12 eggs, which hatch in 23–26 days. The precocial young leave the nest after hatching and

stay with the female for six to eight weeks (Ehrlich et al. 1988).

The diet of the Lesser Prairie-Chicken consists of foliage, seeds, and grain, with grasshoppers and other insects forming a large part of the diet in the warmer months (Horak 1984). In the southern part of their range, Lesser Prairie-Chickens rely heavily on acorns from Shinnery Oaks.

After mating, when activities at the leks subside, the birds disperse and become more difficult for birders to observe. The great-

est concentrations of Lesser Prairie-Chickens can be found in late fall and early winter. At this time the birds form large flocks and can be seen flying into crop fields to feed in the morning and evening. Milo and soybeans are preferred (Horak 1984), and prairie-chickens will travel up to two miles to feed in these fields.

Hunters have long been aware of this behavior pattern. During the early winter of 1991, only one Lesser Prairie-Chicken was located on all the Christmas Bird Counts conducted in Kansas, while hunters in that state harvested approximately 600 birds that season (Rogers 1992, Thompson 1992).

## Threats

The greatest threat to the Lesser Prairie-Chicken is the conversion of prairie into farmland. Although crop fields can be an important food source for the birds, and can actually help to increase populations, these fields must be adjacent to large tracts of properly managed prairie. Farmland in the range of the Lesser Prairie-Chicken is of limited value without extensive irrigation. It has been suggested that if water tables continue to drop and irrigation becomes more difficult, some areas of cropland may be allowed to revert to prairie (Thompson and Ely 1989).

Cattle grazing can occur in Lesser Prairie-Chicken habitat without adverse effects (Horak 1984). The prairie evolved with grazing animals (e.g., Bison, Elk, Pronghorn), and cattle can fill this niche if the grazing is carefully controlled. Over-grazing, however, reduces both food and cover for the birds. Furthermore, in Texas and New Mexico, Shin-



BOB GRESS



BOB GRESS

Most birders observe Lesser Prairie-Chickens while the birds are displaying in spring. But more birds can be found in the late fall when large flocks fly into cropfields to feed.

nery Oak rangelands are sometimes treated with the herbicide rebuthiuron to improve grass production for cattle. It has been noted that Lesser Prairie-Chickens in these treated areas find a poorer quality diet due to the lack of acorns (Olawsky 1993).

## Conservation Needs

Texas has attempted to reintroduce Lesser Prairie-Chickens into parts of their former range,

but without success. The U.S. Forest Service is considering a reintroduction program near Clayton, New Mexico, but as of this writing has not been able to obtain any birds. The preservation and proper management of habitat has been the most successful means of conservation. A study in Kansas determined that a mix of 75 percent grassland and 25 percent cropland provided the optimum habitat for prairie-

chickens (Horak 1984). Although it is unlikely that we will again see the flocks of over 10,000 birds reported a century ago, the population of Lesser Prairie-Chickens can be stabilized with careful management of existing grasslands and, ideally, by allowing additional areas to return to their natural state.

## Acknowledgments

I would like to thank the staffs of the following agencies for their assistance in obtaining information on populations and conservation efforts: Kansas Department of Wildlife and Parks, Colorado Natural Resources Department, Oklahoma Wildlife Conservation Department, Texas Department of Parks and Wildlife, New Mexico Game and Fish Department, and the U.S. Forest Service Office in Albuquerque, New Mexico.

## References

- Ehrlich, P.R., D.S. Dobkin, and D. Wheye. 1988. *The Birder's Handbook: A Field Guide to the Natural History of North American Birds*. New York: Simon and Schuster.
- Horak, G.J. 1984. *Kansas Prairie-Chickens*. Pratt, Kansas: Kansas Department of Wildlife and Parks.
- Olawsky, G.D. 1993. Diet and body condition of Lesser Prairie-Chicken on tebuthiuron-treated Shinnery Oak rangelands. Paper presented at the annual meeting of the Kansas Ornithological Society, 2 October 1993.
- Rogers, R. 1992. *Small Game Hunter Activity Survey—1991*. Pratt, Kansas: Kansas Department of Wildlife and Parks.
- Thompson, M.C. 1992. The winter bird count for 1991. *Kansas Ornithological Society Bulletin* 43(1).
- Thompson, M.C., and C. Ely. 1989. *Birds in Kansas*, v.1. University of Kansas Museum of Natural History. Public Education Series No. 11. 