



Greater Prairie-chickens have Become an Indelible, Irreplaceable Part of Our Ranch

The sight and sound of a male Greater Prairie-chicken in full display mode at sunrise on a spring morning is an incredible event and an incredible experience.

Article by **William R. Browning, MD**
Photos: © **Glenn D. Chambers**

My introduction to the Greater Prairie-chicken was in the 1950s and 60s, when one would occasionally fly up under my horse causing sudden repositioning of the startled animal, sometimes nearly unseating me. Those years were a heyday for chickens. Hunters still remember those years and the old Kansas Forestry, Fish and Game Department records of harvest numbers bears this out. Once my horse walked into a flock crouching in the grass and stepped on one. I captured the broken-winged bird, took it home and put it in the chicken house with the domestics. In the morning it was dead. Confinement did not agree with it.

Hiking in the pasture with a friend one evening in the early '70s, I heard a recurring sound that I could not identify. Together we knelt down and crawled toward the noise. After a hundred yards we seemed to be no closer, so we stood and walked crouched over another hundred yards and finally walked upright several minutes longer before a lek finally flushed ahead of us. Eureka moment!

When we moved back to the ranch in 1976, still spring mornings would throb with the call of the Prairie-chickens, so many voices that they came from no particular direction. But over the decades the voices have gradually dimmed. Now there are no voices to the east. I can pick out the calls from the Pixlee Ranch lek a mile north of our house, where there were only four voices last year. Southwest a mile, is the "home pasture lek." It has only ten birds now, down from a steady 18 thirty years ago. And on very still mornings I hear the "school house lek" more than two miles west. It is the lek where Glenn Chambers takes his beautiful photographs.

The Greater Prairie-chicken has been in sharp decline for decades in one of its former strongholds: south of the Kansas Turnpike in the Flint Hills (where we live) and east into Missouri. The state of Missouri has pretty much lost this iconic bird. That state's native population numbers less than 100 individuals; whereas historically they had tens of thousands. Only recent restocking with



birds trapped in the Salina area give Missouri some hope for a continuing presence.

The first two tiers of eastern Kansas counties are now generally acknowledged to be without a self-sustaining flock. In fact there are perhaps only a few pockets of Greater Prairie-chickens south of the Turnpike where hunting would not be a reckless adventure in local extinction. Those few thriving local populations owe their existence to ranchers who consistently maintain nesting habitat that is not intensively grazed and not annually burned.

Recent population studies in the southern Flint Hills and on a range near Manhattan have consistently shown bird populations incapable of sustaining themselves. This has been primarily attributed to poor nesting

success, brood survival and in some cases excessive hen mortality.

The reasons for decline are theoretical: loss of habitat, including nesting cover that is inadequate to provide concealment, and woody (tree) invasion of the prairie. In Missouri the prairie remnants have been so constricted by excessive tree and “brush” encroachment and by conversion to fescue and other cool-season grasses, that the critical mass (acreage) for Prairie-chicken success may not be attainable. But this remains to be seen. Intensive efforts by a coalition of conservation partners currently underway in western Missouri may still be fruitful.

If the theoretical causes for Prairie-chicken demise: poor nesting habitat due to annual burning; prairie fragmentation into landscapes that



When a hen approaches a lek, courtship activity of the males present accelerates as a reflection of their excitement. Females often observe the displays before approaching the dancing males.





Patch burning: not for sissies. Photo by Sam Berner.



It's war out there: we named this bird "Toughie." Glenn reported that from his small piece of real estate on the edge of the lek, he would run to any battle, which he generally lost. On my last visit to the lek that spring of 2008, one bird – probably Toughie – unable to fly, ran from the lek, surely soon fated to be an easy meal for an avian or mammalian predator.

Eighteen-Bird Lek

Without the presence of fire and periodic burning in the landscape, Tallgrass Prairie would not exist as we know it. In today's environment, however Prairie-chickens cannot sustain themselves in areas where "whole landscapes" are burned annually – leaving little or no cover for secure nesting.

are too abbreviated for an animal that evolved on millions of acres of uninterrupted prairie; and woody invasion that discourages nesting and provides an unacceptable density of raptor perches and an incursion of additional mammalian nest predators are correct, then a study on a prairie that is not afflicted with these limitations should demonstrate the presence of vibrant flocks.

This study is in the works. Through a Pittman-Robertson grant (funded by taxes on sporting goods) this study began this year and will run for four seasons. The funds are channeled through the Kansas Department of Wildlife, Parks and Tourism, and Kansas State University.

Three sites were deemed suitable for the intensive research: a ranch in northwest Greenwood County, a ranch in southern Chase County, and the Tallgrass Prairie National Preserve northwest of Strong City.

All three of the ranches selected are in landscape-scale prairies, free of significant upland woody invasion and are patch burned. Patch burning involves burning a different third of a grazing unit each year, a management practice designed to allow for unburned nesting cover. On these sites hens will be trapped and radio collared and then monitored daily via antenna tracking devices from a sufficient distance to avoid nest disturbance. Documentation of egg numbers, egg weights, age, hatching dates and nestling viability will all be accomplished using the hens' collars and at least one visit to the nest. Then hatchlings of a suitable age will be spotlighted at night and netted for attachment of their own collars.



When some areas are burned and others nearby are left unburned in a mosaic pattern, as with the patch burn practice employed for study currently underway on our ranch, Prairie-chicken courtship and nesting can continue without missing a beat. Many of the cocks are facing into a sharp southeast wind.



It may appear to be “scorched earth” but males continue to squabble over their territorial claims on the booming grounds. A day after the controlled burn, the relatively light colored birds stand out in contrast like Snowy Owls – occasional visitors to Kansas.



Although a burned patch may serve as a foraging area and become suitable within a couple months as brood habitat if it isn't grazed intensively, it does not provide nesting habitat for Prairie-chickens. Hens do not initially nest in grass the year of the burn. A stand of residual cover from previous years' growth with a height of from one to two feet and with sufficient density is best.

All of this will contribute to an understanding of nesting success, chick survival, hen survival and dispersal to distant sites. Cock assessments can generally be ascertained without radio collars due to their presumed loyalty to the leks where they can be readily flushed and counted in the spring and fall.

Results of the study will gradually be made available over a four-seasons period. Audubon of Kansas will be watching closely and ongoing data reported in future issues of *PRAIRIE WINGS* and on the website. A real tragedy would be the discovery that the flocks on these sites are also in decline and that there is an “as-yet-not-recognized circumstance” that is a limiting factor for viability. We hope not.

Leks are Booming Grounds
 A “lek” is the term used for a site used by male Prairie-chickens for courtship displays. Leks are also referred to as “booming grounds.” Males perform to attract females, fight other males for dominance and the best sites within the communal display area, and dominant males on a lek are most often selected by hens. The booming ground is the social center of Prairie-chicken ecology.

William “Bill” R. Browning, MD and his wife Jennifer live on a ranch in the Flint Hills between Madison and Matfield Green. Bill is a wildlife enthusiast, prairie conservationist, and a ranch manager. He has been actively involved in Audubon for nearly thirty-five years and was the first chairman of the Board of Trustees for Audubon of Kansas. He also served as a member of the Kansas Wildlife and Parks Commission.