

# The drummer of love



Every spring, nature lovers from across the country come to the Buena Vista grasslands of central Wisconsin to experience a most unusual early morning show. They get to review a song-and-dance performance that is equal parts entertainment and science. They also help gather data on a state-threatened species, the greater prairie-chicken. The annual mating rituals of the male prairie-chicken, known as “booming,” are an equal treat for the eye and ear that includes behaviors, moves, and the distinctive male call, a low and resonant *whoo doo zhoo*. Males will cackle and whine and raise their pinnae, or “ear feathers” to catch a potential mate’s eye. A foot-stomping display is said to have inspired the species’ scientific name, *Tympanuchus cupido pinnatus*, meaning “drummer of love.”

Prairie-chickens here in the Upper Midwest live in flocks of a few to 200 birds, except during breeding and nesting season when they are more solitary. There is safety in numbers, and gathering in groups helps keep the flock alert and protected from predators like coyotes and raptors as the coveys feed and roost in tall grassy areas. They are nonmigratory residents of Wisconsin, and are well adapted to the cold. Like their more familiar relatives, ruffed grouse, prairie-chickens will roost in snow burrows when it becomes extremely cold. Their winter diet consists of crop and weed seeds exposed by harsh winds in open areas, as well as aspen buds. Summer fare includes insects and seeds supplemented by feeding on green leafy vegetation.

Over the last century, prairie-chicken populations declined because they were tasty table fare. Also their habitat continued to shrink as the tallgrass prairie was cultivated into prime farmlands. In Wisconsin, prairie-chickens were once found in every county. As recently as 1930, their state population was estimated at more than 54,000 birds. Today, biologists estimate about 1,500 prairie-chickens remain in the state.

It takes a lot of land to support even this small number of birds, and approximately 12,000 acres of land on the Buena Vista Grasslands of southwestern Portage County

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Prairie-chickens once were abundant in Wisconsin, but declined for multiple reasons during the last 100 years. Now, only 1,500 exist in the state’s remaining grasslands. —Photo by Tim Hickok

# Prairie-chickens court spring and a future on vast grasslands of central Wisconsin.

—By Peggy A. Farrell

are managed by the Wisconsin Department of Natural Resources to provide the needed wide horizons and habitat for prairie-chickens. In addition, prairie-chickens can be found in outlying grasslands from the Medford area of Taylor County southeast to the Leola grasslands in Adams County, particularly on the state wildlife areas known as Mead, Dewey, Paul J. Olson, and Buena Vista.

Due to the dwindling numbers of prairie-chickens, a count is taken each spring to track the population trends and evaluate management effectiveness. The census consists of finding all booming grounds and recording the number of males present during the month-long mating season. Biologists infer that if the total number of males increases from year to year, the entire population has grown proportionately.

Taking a “chicken census” isn’t just a simple matter of counting birds. Staff and volunteers from the University of Wisconsin-Stevens Point and the Wisconsin Department of Natural Resources as well as private volunteers spend hours in March and early April scouting out booming grounds, or leks, where male prairie-chickens will put on their show during the April breeding season. When booming grounds have been identified, these surveyors, along with the public viewers, spend time in blinds each morning gathering the data used in population estimates.

According to Lyle Nauman, UW-Stevens Point wildlife professor emeritus and census coordinator, 444 male chickens were observed in April of 2005, a 26 percent decrease overall from the previous year.

“This was the lowest count since our census began in 1989,” Nauman indicated. “In addition, last year was bad for prairie-chicken reproduction because it was cold

and wet. Young chicks are susceptible to cold and pneumonia. It looks pretty grim in some areas.”

He noted lower numbers of birds throughout the fringe areas of the prairie-chicken range though populations were more stable and hadn’t fluctuated as much in areas specifically managed as grassland habitat like the Buena Vista property.

## Drawing from a deeper genetic pool

Wildlife professionals and conservationists agree that a sound management plan is key to sustaining healthy resources. In October 2004, the Wisconsin Natural Resources Board approved the Central Wisconsin Grassland Conservation Project, a management plan that grew out of research to address habitat concerns and genetic viability of prairie-chickens, according to DNR Wildlife Biologist Jim Keir.

“Wisconsin has an isolated population of prairie-chickens,” Keir explains. “Historically, they were scattered over much of the central part of North America, but the landscape has changed and continues to change today. If we want to maintain this species we have to manage the habitat or these birds would soon be gone from the state.”

Professor Christine Thomas, Dean of



Biologists are concerned that isolated prairie-chicken populations lack genetic diversity. Relocating birds from a larger Minnesota population may reinvigorate the genetics of the Wisconsin flock.

the College of Natural Resources at UW-Stevens Point, and a Wisconsin Natural Resources Board member, says the current management plan uses a landscape-level approach. “We’re looking at the entire biological region, not just the Buena Vista marsh. What we don’t want to see are islands of isolation in the chicken population.”

When small numbers of a given species become isolated from other populations of the same species, inbreeding can occur, leading to a loss of genetic diversity and declining population health. Wildlife professionals were seeing some evidence of Wisconsin’s prairie-chickens going down that path. In January of 2005, the Department of Natural Resources asked a committee of seven geneticists from around the country to look at research that suggested “inbreeding depression” might soon occur. After reviewing historical and contemporary genetic data, the group found evidence that subpopulations of prairie-chickens in Wisconsin have lost significant levels of genetic diversity, according to committee member Brian Sloss of the Wisconsin

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Cooperative Fisheries Research Unit at UW-Stevens Point.

"We all agreed that the genetic component is a problem," Sloss said, "but without adequate habitat, the chickens won't survive either, and habitat is a concern too."

To begin to address genetic weaknesses, the committee formally recommended relocating 30-40 hen prairie-chickens from Minnesota to the Buena Vista Marsh in Wisconsin. That process may begin as early as this summer.

In addition, the long-term success of prairie-chickens depends on sustaining adequate amounts of permanent grassland habitat. Managing grasslands in the prairie-chicken range is the single most important component of the Central Wisconsin Grassland Conservation Project, Keir says. The Department of Natural Resources' approach to achieve that goal includes a blend of science and public education.

"Our work over the past few decades on Buena Vista serves as the template for what we'd like to accomplish," said Keir. "But the state owns the lands we are managing now and it's not the state's intent to own all the prairie-chicken habitat out there." He went on to explain that suitable grassland occurs in clusters. Grasslands are scattered over a landscape of more than one million acres from Leola in Adams County sweeping northward towards Medford in Taylor County, a distance of 75 miles that contains distinct core areas where chicken activity is concentrated. Between core areas there is currently little chicken activity. "We'd like to connect these core areas with a landscape through which the birds would be comfortable traveling,"

Keir said. "You might visualize them as connecting stepping stones that encourage more intermixing in the breeding population."

To create this "scatter pattern" that integrates productive farm practices with suitable grassland habitat, the Department of Natural Resources is working with the Natural Resources Conservation Service, the U.S. Fish and Wildlife Service, county land conservation departments, and private landowners to maintain grassland on agricultural landscapes. This effort includes providing incentives for farmers to use rotational grazing and to apply for Farm Bill programs like the Conservation Reserve Enhancement Program (CREP) that will share costs with landowners to maintain grasslands.

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## A solid 75 years of prairie-chicken work

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Concern for Wisconsin's prairie-chickens is not new. The first wildlife research project in the state focused on this colorful bird with the fast feet when A.O. Gross, a grouse expert from Maine, was contracted to do research from 1928-1930. Pioneering work by biologists Frederick and Frances Hamerstrom began in the 1930s. The last legal prairie-chicken hunting season in Wisconsin took place in 1955. The Hamerstroms published a guide to prairie-chicken management in 1957. By then, their urgent call for habitat protection prompted private groups like the Dane County Conservation League and the Society of Tympanuchus Cupido Pinnatus to purchase over 12,000 acres of land that was subsequently leased to the Wisconsin Conservation Depart-

ment to establish a grassland management program. Today, the state manages 15,000 acres of grassland.

The University of Wisconsin-Stevens Point College of Natural Resources (CNR) became another key partner in prairie-chicken research. The Hamerstroms were inducted as honorary associates in the college and the late professor Ray Anderson had a close personal friendship and professional relationship with the couple. Several CNR wildlife students had the fortunate opportunity to work with them.

In the late 1990s, university funds dried up for faculty to coordinate the annual spring prairie-chicken viewing. "We thought it would be a shame to see this great public service eliminated," said CNR Dean Thomas, so the Becoming an Outdoors-Woman (BOW) program stepped in to schedule public opportunities to view chickens during their mating season.

With so many people and organizations rooting for the prairie-chicken, the fate of the threatened bird looks a little brighter in the future. Agencies and landowners can work together to manage habitat that benefits all grassland species, which in turn will benefit the people who rely on the land for a living and call it home.

*Peggy A. Farrell is the assistant director for the International Becoming an Outdoors-Woman program. University of Wisconsin-Stevens Point graduate student Katie Brashear also contributed to this article.*

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