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*The*

**SUTTON**

**NEWSLETTER**

*"finding cooperative conservation solutions for birds and  
the natural world through science and education"*

*Volume 23, Winter 2004*

# *The Transition from Research to Conservation...*

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*Cover: Hit and run on the High Plains.*  
Sutton Center research has shown that 40% of Lesser Prairie-Chicken mortality in Oklahoma is the result of collisions with fences, power lines, and vehicles. An innovative new conservation project brings partners together to reduce the casualties and benefit prairie-chicken populations. See page 2 for details.  
*Photo by Don Wolfe.*

# ...Mitigating Collisions by Lesser Prairie-Chickens into Fences

by Donald H. Wolfe

As reported in earlier *Sutton Newsletter* articles, the Center's research has shown that collisions with fences are a major cause of mortality for the Lesser Prairie-Chicken and can even affect the sustainability of the species' populations. This problem has also been reported for several grouse species in Norway, Sweden, and other parts of Europe and North America. Marking of fences in Sweden resulted in >70% reduction in collisions. Of course, reducing the amount of fences may have even greater benefit. Throughout the high plains of western Oklahoma, Texas, and New Mexico, there are countless miles of unnecessary fences resulting from consolidation of pastures, conversion of pastures to agricultural fields, and simply leaving old fences standing when new fences are constructed. Rarely has there been much incentive for private landowners to remove old fences, since it is both costly and time consuming.

In 2004, jointly with the Oklahoma Chapter of the North American Grouse Partnership, we applied for and received a grant from the U. S. Fish and Wildlife Service to remove unnecessary fences and mark remaining fences in areas occupied by prairie-chickens in Beaver, Ellis, and Harper Counties, Oklahoma, and Lipscomb County, Texas. With additional monetary support from the Rocky Mountain Bird Observatory and the North American Grouse Partnership, we began this huge undertaking this fall. We expect to remove 75–100 miles of unnecessary fences and to begin marking an additional 75–100 miles of fences within the next year. Whereas these efforts will account for <1% of the fences in those counties, our six years of radio-tracking Lesser Prairie-Chickens will aid in determining areas where such efforts will be most beneficial.

There are certainly a myriad of problems contributing to prairie-chicken declines. Through our ongoing research, we expect to determine still more of these problems and will strive to develop management practices to address them. This one project is merely the first of what we hope will be several mitigation efforts we will employ to improve conditions, but one that may have significant positive effects. A study in Scotland documented over three grouse collisions per mile in a year. The collision rates we have observed are lower, but it is possible that for each mile of fence removed or marked, one additional prairie-chicken could survive until the next breeding season. Because females are much more prone to collisions than males, we expect to see more chicks produced each year as a result of this project.

Moreover, this effort is one in which a lot of people can help make a difference. Landowners, by voluntarily removing old fences when new fences are erected, will certainly help the birds on their properties. We will be soliciting volunteer help from local scout, 4-H, and other groups. Anyone with a few free days, a strong arm, a strong back, and a willingness to tolerate a few scratches, would be welcome to join our crew for some work days.

## Recent Ornithological Meetings in Oklahoma

### Oklahoma Ornithological Society

The Oklahoma Ornithological Society (OOS) held its annual fall meeting in October, at the west campus of Tulsa Community College. In addition to an annual spring field trip meeting, the fall OOS meeting provides an opportunity for researchers and birders to come together and learn about bird studies going on around the state of Oklahoma.

A morning field trip to the Osage Trail, a "rails to trails" project creating a 34 mile trail from downtown Tulsa to Birch Lake in Osage County along a former railroad right of way, provided good looks at a variety of warblers, winter sparrows, raptors, and woodpeckers. In the afternoon, attendees enjoyed a number of presentations on bird research projects being conducted by undergraduate students, graduate students, and professors at Oklahoma universities. The implications of winter flock size in juncos, polygyny in Louisiana Waterthrushes, breeding ecology of Prothonotary Warblers and Red-cockaded Woodpeckers, breeding bird species of the Oklahoma Panhandle, and a summary of Oklahoma's wildlife conservation priorities and the plan to address their needs were among the topics presented.

That evening following a banquet, Sutton Center biologist and president of OOS, Dan Reinking, gave a presentation on the

*Continued on page 4*



**IBBA meeting organizer David Cimprich shows a Sedge Wren to others on the group field trip to the tallgrass prairie.**

Dan Reinking

# Ecological Traps in Tallgrass Prairie: Effects of Management on Bird Nest Success

by Eyal Shochat

When the cues upon which animals select their habitats actually result in choosing areas where reproductive output is decreased, a habitat becomes an ecological trap. This phenomenon is especially common in human-managed ecosystems. The tallgrass prairie of Oklahoma has been managed for many decades with prescribed fires and livestock grazing. The regrowth of lush vegetation following spring fires attracts into the fields many arthropods and, consequently, their predators—the breeding birds. However, the change in vegetation structure following fires also facilitates nest predator movement through the tallgrass. How do these changes affect breeding bird habitat selection and nest predation?

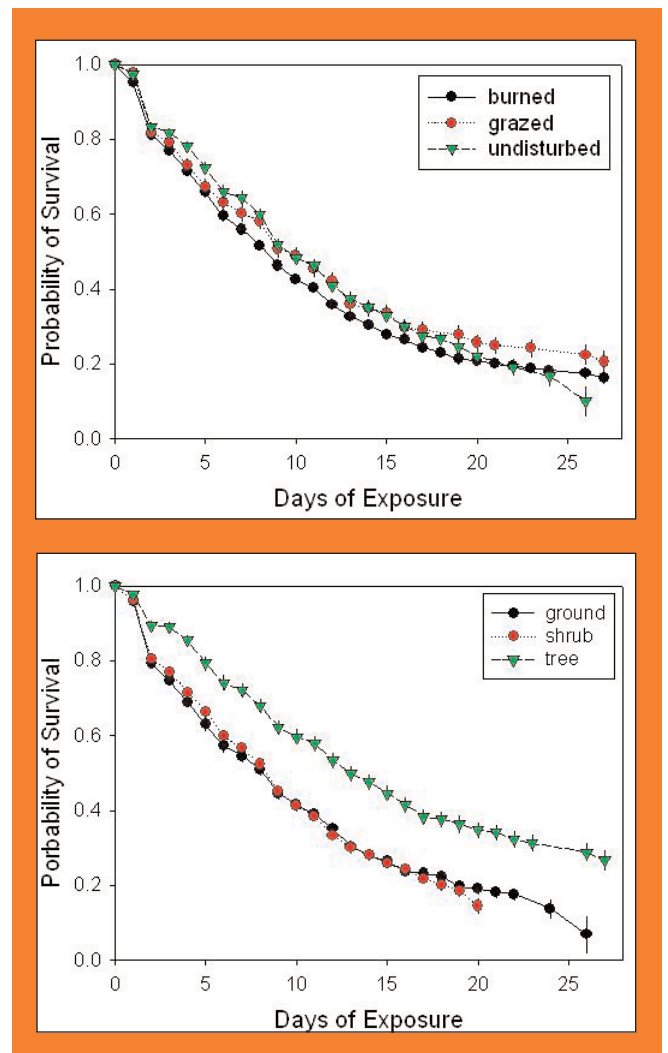
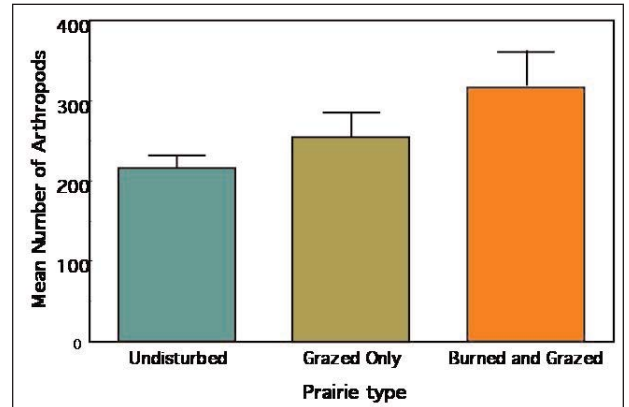
We addressed this question by monitoring nearly 2600 nests of 26 bird species in tallgrass prairie plots during five breeding seasons (1992–1996). These included undisturbed, grazed only, and burned and grazed plots (18 plots of 40 acres each). In the last three years we also recorded arthropod and predator (reptiles, birds and mammals) abundance in these plots. For each nest we recorded whether it succeeded or failed, and in the latter case, the reason for failure.

The best way to assess breeding habitat preference is to compare bird densities between habitats as the overall bird density keeps increasing during spring. In low densities, birds should enter their primary (preferred) habitat only. In high densities they will start using other habitats in the landscape, but their densities in the primary habitat will always exceed their densities in less preferred habitats. We found that on average, each spring, breeding birds first enter burned and grazed plots, followed by grazed only plots. Undisturbed plots were the last to be entered. This pattern concurred with arthropod abundance, which was the highest in burned and grazed plots and the lowest in undisturbed plots. It suggests that the cue for habitat selection is the amount of food available for nestlings.

However, despite the better food conditions in disturbed plots, nest success was the highest in undisturbed plots where food was less abundant, and lowest in burned and grazed plots where food was the most abundant. We therefore examined the causes of nest failure. We found that 80% of all nests failed as a result of predation and that the proportion of failures resulting from predation increases from undisturbed plots to burned and grazed plots.

Predator observations revealed that these differences in nest predation were associated with predator abundance. Reptilian and avian predators were most abundant in burned and grazed plots. Reptiles accounted for 80% of all predators. This may explain the differences in nest survival rates between ground-, shrub-, and tree-nesting species. Whereas ground- and shrub-nesting species had similar nest survival probabilities, nest survival was significantly higher for tree-nesters.

We concluded that certain management practices in the tallgrass prairie can turn it into an ecological trap for breeding birds. Birds are attracted to burned or grazed areas by higher food abundance, but predator abundance is also higher in these areas. The predators, mostly reptiles, have a negative effect on nest success, especially of ground-nesting species. Therefore, bird conservation may benefit from sustaining a relatively large proportion of unburned areas in the landscape each spring. These unburned areas may hold smaller populations of breeding birds than disturbed areas, but they may better support self-sustaining bird populations.



# Sometimes the Hunt Comes Up Empty

by Michael A. Patten

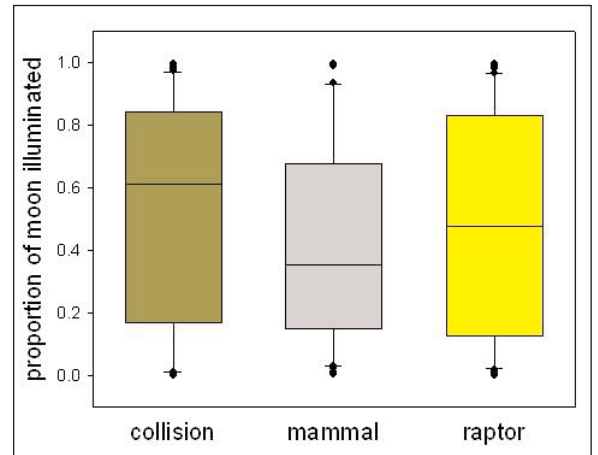
Science is a human endeavor. Despite a Herculean striving toward objectivity, science is fraught unavoidably with basic human fallibility. Failings are often slight and typically self-correcting, the latter being a key strength of the scientific process. But in the short term, at least, reporting bias can paint a distorted picture. This bias arises as a result of a profound tendency to publish only those findings thought to be notable or important, often meaning little more than they are significant statistically. As a consequence of this tendency, numerous studies—no one really knows exactly how many—that failed to achieve conventional significance fail to see the light of day. Such studies are instead filed away by the researcher and are soon forgotten. Hence, this "file-drawer problem" (Rosenthal 1979, Csada et al. 1996, Bachau 1997, Scargle 2000) yields a skewed view of the natural world. As an example, the Sutton Center recently conducted two analyses that could easily end up in the file drawer.

The analyses concern population declines and mortality patterns of, respectively, the Greater and Lesser Prairie-Chickens, two uncommon grouse of grassland habitats. The first study concerned the relationship between grain prices and population levels of the Greater Prairie-Chicken. The premise was that these birds benefit from extensive planting of certain head grains, particularly milo. Price would determine how much milo was grown and thus how much was available to the birds. Yet the correlation between the price of milo over a 37-year period (1962–1998), corrected for inflation, and the size of the prairie-chicken population in those years, was not significant ( $r = -0.18$ ,  $P > 0.20$ ). We concluded that any relationship between grain price and population fluctuations was nonexistent or, at least, unimportant.

We later tackled the hypothesis that Lesser Prairie-Chicken mortality by way of raptors, mammals, or collisions, is related to moon phase. Although the moon tended to be less illuminated for mammal kills (see the adjoining figure), analyses failed to detect a significant relationship between phase and type of mortality. Perhaps data incorporating temperature and cloud cover would yield a significant trend, but as it stands we cannot conclude that the proportion of the moon that is illuminated is related to prairie-chicken mortality.

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## Ornithological Meetings (Continued from page 2)



**Mist netting LeConte's Sparrows at the Tallgrass Prairie Preserve.**

wildlife and landscapes of Iceland. George Miksch Sutton spent the summer of 1958 in Iceland, and published the book *Iceland Summer* in 1961. Dan revisited many of the places Sutton wrote about, and photographed many of the species Sutton drew and painted in his book.

The OOS was founded in 1950 to encourage the study and conservation of birds in Oklahoma. For more information about the OOS, visit [www.okbirds.org](http://www.okbirds.org).

## Inland Bird Banding Association

The Inland Bird Banding Association (IBBA) held its annual meeting in early November, at the Sutton Center, where our recent renovations made hosting a scientific paper session for a meeting like this much more practical. On Friday evening, Sutton Center Executive Director Steve Sherrod presented an overview of the history and projects of the Sutton Center. Assistant Director Alan Jenkins then gave a program on regulations, techniques, and practical considerations for trapping roadside raptors. A Saturday morning bird banding workshop at the Tallgrass Prairie Preserve was held to demonstrate techniques for mist netting and banding grassland birds, including the elusive Le Conte's Sparrow and Sedge Wren, both of which were successfully captured and banded.

Saturday afternoon was spent at the Sutton Center, where presentations of a variety of scientific studies using bird banding to monitor bird populations were given. Following an evening banquet at the meeting hotel, Sutton Center biologist Don Wolfe presented a program on our nearly 10 years of research studying prairie-chickens using radio telemetry.

The IBBA was organized in 1922, and its membership engages in the study of birds and their conservation. For more information about the IBBA, visit [www.aves.net/inlandbba/](http://www.aves.net/inlandbba/).

# OG&E and USFWS Erect an Artificial Bald Eagle Nest

*text and photos by M. Alan Jenkins*

In 1995 the Payne County Audubon Society noticed a new Bald Eagle nest being built at Sooner Lake, located midway between Stillwater and Ponca City on U.S. Highway 177. This lake is used as a cooling pond for the Sooner Power Plant run by Oklahoma Gas and Electric Company (OG&E). The nest can be seen from Oklahoma Highway 15 by traveling 1¼ miles east of Highway 177. There is a turnout there on the south side of Highway 15 where you can park and look to the south and see the large nest in the remains of a dead cottonwood tree.

In the 11 nesting seasons since 1996, these eagles have produced young every year, generating a total of 17 young. This is a mean reproductive rate of 1.9 young/year compared with the mean of 1.6 young/year for all of Oklahoma's nesting Bald Eagles. It is thought that if a pair of eagles can fledge about 1 young each year, that rate of reproduction, after mortalities, is enough to replace the pair and result in a stable breeding population over an extended period of time. As you can tell, this pair is doing more than its share to make sure Oklahoma's nesting eagle population exceeds its replacement level and keeps increasing.

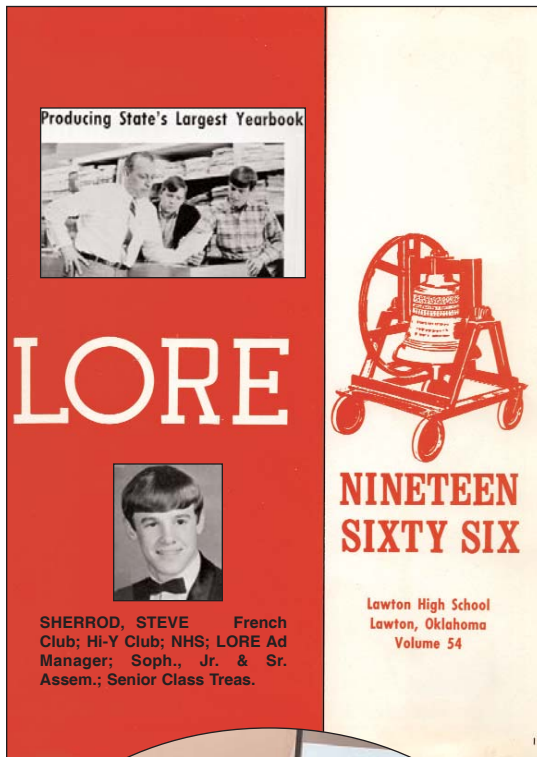
One problem: the nest is built in a dead tree in standing water, and this type of nest will eventually fall. This particular nest territory does not have any other suitable nesting trees in the vicinity to hold a nest after the current one is gone.

One solution: build a new nest structure. The Sutton Center knew of successful efforts by conservationists in Arizona to build artificial nest structures for Bald Eagles in areas where there were no suitable trees. Their plans were published, so we decided to approach OG&E to see if they would be willing to construct and erect a new eagle nest platform. Steve Sherrod, Don Wolfe, and I met with OG&E environmental management personnel, including David Branecky and Erv Warren, along with Kevin Stubbs and Stephanie Harmon of the U.S. Fish & Wildlife Service and Russ Horton of the Oklahoma Department of Wildlife Conservation. OG&E called the meeting to explore the ways they could improve the wildlife habitat on the Sooner Lake Plant site. Discussion centered on improving Sooner Lake habitats for Greater Prairie-Chickens, Interior Least Terns (an endangered species), and Bald Eagles (a threatened species). The Sutton Center, OG&E, and the government agencies decided to erect an artificial Bald Eagle nest platform near the present nest to be used (we all hoped) after the currently used tree fell into the water. Also, owing to the public nature of the lake, an opportunity to do some science and conservation education with signage near the highway existed. The Fish & Wildlife Service would pay most of the costs, OG&E would pay for the remainder and provide manpower, engineering, and construct the platform tower.

After a meeting to discuss and finalize the engineering plans, a steel column with anchored guy wires would be put near the nest. It was constructed with an inverted pyramid cup on top that would hold nesting material. On November 3 (and therefore before the nesting season) OG&E used a crane to place the artificial nest in the water. Although this placement made the job more difficult, it was decided that a nest surrounded by water would be safer than one placed on the nearby shore. We will keep you posted on this nest, or you could even visit and see it yourself; just confine your activities to the roadside and use binoculars or a scope.



# A Few Words from the Executive Director...



"Once a Wolverine, Always a Wolverine!" were the final e-mailed words from Lawton High School teacher, Karen Beavers, following my three presentations at my high school alma mater during mid-November 2004. It did not seem like nearly 40 years since, on game days only, I had trod on the tile wolverine in the intersection of Lawton High's hallways. I was proud of having a wolverine for the mascot, as I liked predators anyway, but especially those with serious pluck. I remembered that mascot when I saw the yellow v-ed backstripe of my first wild wolverine, many years later, loping along a snow-covered slope in Canada; we were flying low in a small chopper at 60 below zero just before hitting a complete whiteout, but that's another story.

My presentations had been initiated when Sid Hudson, Vice-Chancellor, Oklahoma State Regents for Higher Education, gave me a call earlier in the year about the Garfield Lectures Program. Sid and colleagues were hoping to expand the educational opportunities afforded to students at Lawton High by bringing in alumni in various career positions, and he asked if I would be willing to talk to the kids regarding what others at the Sutton Avian Research Center and I did as professionals involved with wildlife conservation. So, I put together a PowerPoint summary that included my days at Lawton High, undergrad college days at OU, MS and PhD work at Brigham Young and Cornell, and Sutton Center employment including travel at various locals throughout the world.



I suspected high schoolers would be a difficult age, simply uninterested in the importance of environmental work, much less how birds were related. Would these kids be able to relate to a bald-headed, wrinkled old man who once had a Beatle's haircut (see inset)? As the kids entered the class, I felt my suspicions were confirmed. Nearly all of them were doing the "gangsta walk", dragging their feet with characteristic posture, and with an ambiance that, to me, suggested being unreceptive toward learning.

I was somewhat surprised at the dead silence and lack of sleepy eyes during each talk. Obviously the teachers had the classes well under control. When I finished my 40-minute presentations, the questions started slowly, but then poured forth covering everything from environmental subjects to completely unrelated bird questions. As the bell rang, a guy I had pegged for a real "gangsta" stopped long enough to say, "Man, you did a great job!" Another student, with German accent and whose military family was associated with Ft. Sill, stayed along with others almost until the next bell excitedly chatting about my talk and majoring in college biology. I guess Dr. Phil was right suggesting one should not assume "eye rolling" teenagers had tuned you out completely.

By e-mail, Karen Beavers, mentioned above, related several students' comments following my presentations. One suggested she was glad an LHS graduate would return to share "real world" experiences. My emphasis on birds as worldwide samplers of both soil and air actually impressed the kids who voiced surprise that birds could impact science so significantly. Of course students enjoyed the unique "gory" bird stories I had told, as well as hunting falcon episodes from around the world.

The teachers stressed the importance of bringing presentations to the high school level where students are making career and life choices, and where exposure to math and science as well as to other subjects offer a seed, some of which will sprout for the future. I made a specific effort to show students why so many subjects, while seemingly unrelated to their present lives, will ultimately be essential in most future jobs.

The statewide Sutton Center educational, live bird show, under development now, will be offered to Oklahoma secondary schools starting fall 2005. It will relate Math and Science and various other subjects to the future of life on earth. These students are part of Earth's future, and we hope you will help the Sutton Avian Research Center by supporting our important efforts to present a new, exciting, environmental educational program throughout the state. Stay tuned for future news of this great opportunity for Oklahoma students.

A handwritten signature in black ink that reads "Steve Sherrod".

Steve Sherrod, Executive Director

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