George Miksch Sutton AVIAN RESEARCH CENTER

The SUTTON NEWSLETTER

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

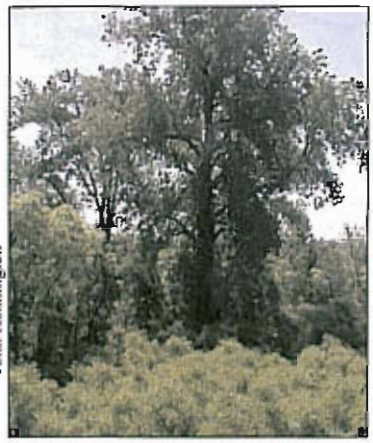
Volume 21, Summer 2004

Winter Bird Atlas: First Year a Success!

What's Inside...

Cover: Winter lakeshore. *Photo by Dan Reinking. Inset Left:* A Hooded Merganser finds a meal. *Inset Above:* An Eastern Towhee silhouetted against the snow. *Inset photos by Bill Horn.*

A Few Words from the Executive Director...


John Kennington


Gary Sifar


Dan Reinking


Dan Reinking

Top left: **The nest tree is the one just to the left of the tall tree in the center.** ***Top right:*** **The collapsed nest.** ***Above:*** **Steve Sherrod and Don Wolfe begin construction of an artificial nest platform. Steve Belanger, also from the Sutton Center, passes the wood up to build the new nest.** ***Below:*** **The rescued nestlings.**


Gary Sifar

With all the wonders of the natural world that exist right here in North America, and with all the work in which the Sutton Center is or has been involved regarding grassland birds right here in Oklahoma (see recent 20th Anniversary Sutton Newsletter), it is nevertheless clear that Bald Eagles are a very favorite bird for many.

On Monday, April 26th, Gary Sifter and his wife Kathy, Tulsa rehabilitators, called with news from Moriah Gonzales that a local eagle nest (resulting from the Sutton Center's eagle reintroduction program) was felled in recent thunderstorms. Of the three nearly-grown chicks, one had been depredated on the ground, but Gary and Kathy had the other two in a kennel and were providing food for the birds. Gary queried me about the possibility of hacking the birds back to the wild.

Having conducted extensive, large-scale hacking programs for both Peregrine Falcons and Bald Eagles and knowing all the special building and equipment, food, 24/7 care and observations, and months of necessary preparation that are involved, I encouraged placing the young eagles back in the general vicinity of the nest so that the parents could take care of their own young. Of course there was major concern by many that the parents might desert the young since a few days would have elapsed between the time when the eaglets were "lost" and returned to the area, but it seemed a very good bet to some of us that the parents would return and do what parents normally do. When young eagles fledge naturally in the wild, it is not uncommon for them to disappear for a day or two if they get down below the canopy and must find a way, often on foot, back up to a higher point from which to fly. At the same time, parents are programmed to "look" for lost young for several days following the first flights of their eaglets and to bring food to the youngsters even on the ground.

THE BERRYHILL CREEK NEST
A Synopsis
1998, First known, occupied, failed.
1999, Occupied, no young produced.
2000, Unoccupied.
2001, New nest across the river, 2 young fledged.
2002, 2 young fledged.
2003, 3 young fledged.
2004, 3 young, 2 fledged.

Two days later, on April 28, Don Wolfe, Dan Reinking, and Steve Belanger of the Sutton Center accompanied me to meet Gary and Kathy at the former nest tree. Alan Jenkins, Assistant Director and Sutton Bald Eagle Nest Survey Captain, was gone on vacation and missed the event, but he had been tracking the history of this particular nest along with many others here in Oklahoma for several years (see side bar). I was surprised that a small army of others, too numerous to name, were also there. Kevin Stubbs, Lori Stem, and Eric Langer of the U.S. Fish and Wildlife Service, and Bob Germany, retired Special Agent for USFWS Law Enforcement were present along with numerous Tulsa Audubon Society Members including TAS President, John Kennington. Also, KOTV representatives and Tulsa World photographer and reporter, Tom Gilbert and Randy Krahbiel (see Tulsa World articles "Bald, battered 'n' brave" April 29, page A-1, and "Eaglets no longer home alone" May 4, page A-9), were on the scene. With all this attention that was obviously going to be made public, I was surely hoping our plan would work.

The former nest was obliterated completely except for a remnant that had caught in the bottom fork of the tree. The sticks comprising old nests such as this often become sponge-like with age and so heavy with soaked-up water (several tons) that they can tumble down their entire tree. This nest, however, had just fallen from the tree, and fortunately two of the three young remained uninjured. It is unusual for Bald Eagles to raise three nestlings; in fact, the average per successful nest is usually about one. Apparently the food supply in this area of Oklahoma is good, and many soft-shelled turtle carapaces found below the nest would suggest this aquatic species provided many meals for these particular eaglets.

But back to the new "nest" construction. The day we arrived was extremely windy, and I knew that to place a new nest high in the tree would not be wise since getting 10 1/2-week-old chicks (nor-

mally fledging at 12 weeks) to stay in an unfamiliar nest in the wind after they had already been out on the ground would not be easy. In addition, working high up in high winds is not easy for an old man. Having done this kind of work before when placing many hack boxes on cliffs for peregrines and building hack towers for both peregrines and bald eagles, I knew we should bring in a single trip all possible equipment that could be needed. We came loaded for bear, with everything from electric generators to chain saws, rappelling ropes and ascenders to tree spikes, and hammers and nails. Luckily Pat Faragher picked up some major pole barn spikes to help as well.

Kevin Stubbs and Don Wolfe immediately went to work cutting 5 ft. long by 3 inch thick saplings, and within a couple of hours our motley crew had a new nest platform constructed. The eaglets were retrieved from their kennels, and Pat Faragher and I banded both birds, a young male and young female. Males in many birds of prey are smaller than their larger sisters. These youngsters were hoisted in bags via a climbing rope up to the new platform, and I carefully placed them on the platform. Then I tried to retreat as inconspicuously as possible after leaving several of Gary and Kathy's dead rats to tide the birds over until their parents rediscovered them and began feeding again.

There was much concern over whether or not the parents would return, but I felt confident since they had been seen in the area within the last couple of days. Dave Edwards of the Tulsa Audubon Eagle Committee organized personnel to observe the nest and document a sighting when and if the adults did return. Kevin Stubbs tossed up a bit more supplemental food on Sunday, May 2, but he also found fresh soft-shelled turtles below the new platform indicating the parents must be returning with food. The next day, Monday, May 3, Tulsa Audubon President John Kennington stopped by to check things and actually got a picture of one of the adults on the new nest platform with the youngsters perched side by side. Yet there were more concerns expressed that certain branches would be in the way when the eaglets tried to depart. Again, we knew this just would not be a problem as young birds of prey fledge from all sorts of situations and usually manage to overcome most difficulties.

By May 7th when Sutton Center Assistant Director Alan Jenkins visited the nest, both eaglets were perched in a tree about 20 feet from the new nest platform and above it. This is called the "branching" stage in which they hop-flap from branch to branch but have not yet taken full flight. Within a few more days, both youngsters were moving freely about the cottonwood trees in the nest area and taking to the air.

It was a bit of work to get these chicks back to normal fledging as part of a family group, but it is a lot less work than hacking. The important part is that they will have parents to feed and care for them while they are developing their genetically programmed (instinctive) hunting skills for the next eight to ten weeks following first flight and before they become independent. It is especially rewarding to realize these are perhaps great grandchildren of eagles the Sutton Center had hacked from 1985 to 1992.

I had been through this many times before, but I did learn one thing new. I am not as young or agile as I was when I used to do this stuff on cliffs or towers in my 20s. And since the time of constructing this last eagle nest site, I proved it to myself by snapping the tendon to my left bicep while lifting the tongue of a loaded trailer in an effort to get it away from some trees before hook-up. Surgery tomorrow is supposed to solve the damage; wish it could solve the aging part too.

Steve Sherrod

Steve Sherrod, Executive Director

Dan Reinking

Dan Reinking

Gary Sifar

John Kennington

Dan Reinking

Gary Sifar

Top left: **The eaglets are banded.** ***Top right:*** **Steve Sherrod pulls the young eaglets up to the nest platform.** ***Above:*** **The young ones check out their new home. One parent is sighted with the eaglets at the new platform nest.** ***Right:*** **Turtle carcasses are another indication that the parents are feeding their young.** ***Bottom Right:*** **One of the young leaving the nest.**

Bill Horn

The Brown-headed Cowbird is the world's most generalized brood parasite, laying its eggs in the nests of over 220 species.

The Landscape's Influence on Parasitism by Cowbirds

by Michael A. Patten

The cowbirds (*Molothrus spp.*) are brood parasites—they lay their eggs in the nests of other species. These hosts act as foster parents to the young cowbirds and thus raise far fewer of their own young. As a consequence of these costs, brood parasites like the Brown-headed Cowbird (*M. ater*) have wrought devastation on some populations of birds, and costs may have increased as this species expanded its range into areas where humans had created favorable habitats, particularly agriculture and pastures. The Brown-headed Cowbird evolved as it colonized temperate North America, where it encountered a slew of naïve hosts and thus became a generalist brood parasite. This species is now the world's most generalized brood parasite, with over 220 host species documented. It is distributed widely in the Great Plains of central North America and reaches peak abundance in the northern half of that region. Two-thirds of grassland species in the plains have served as hosts, over half of them commonly. The high impact of parasitism on grassland hosts underscores the importance of understanding what landscape features influence parasitism rates.

In general it appears that the probability of brood parasitism decreases as distance from a wooded edge increases. The probability of nest predation appears to show the same pattern, perhaps because predators travel preferentially along habitat edges. Nonetheless, the Brown-headed Cowbird does not avoid parasitizing nests in areas with high rates of nest predation. The literature is more contradictory about the effects of grazing and burning, with researchers reporting no effects of either, no effect of burning, a negative correlation between parasitism and burning, and a positive correlation between parasitism and grazing. Regarding grazing, Brown-headed Cowbirds commute between feeding sites and breeding sites, usually < 3 km. Birds return to where they fed the previous day but assess the habitat en route. Habitat assessment seemingly keys on the presence of cattle, with which cowbird feeding sites are typically associated. Parasitism rates are highest close to cowbird feeding sites, implying that parasitism rates ought to peak in grazed areas. The relationship between rates of parasitism and nest placement within the substrate is even more contentious, as nest height may or may not have an effect, and increased nest concealment has been found to decrease parasitism rates in some studies but be unrelated to rates in others. No studies have examined how nest height and concealment vary across the landscape and in turn how these variables are related to rates of brood parasitism.

The Sutton Avian Research Center used extensive data (>4000 nests) from a five-year study of avian reproductive ecology

Continued on page 5

Figure 1. Probability of brood parasitism by the Brown-headed Cowbird across four treatments in tallgrass prairie. Bars signify the standard error.

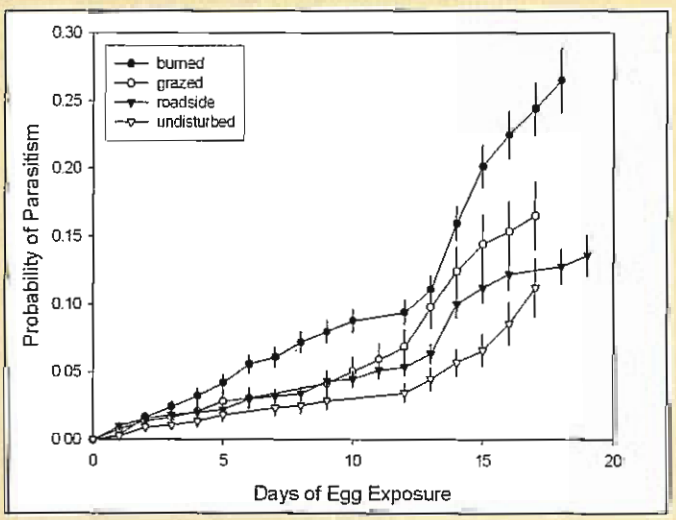
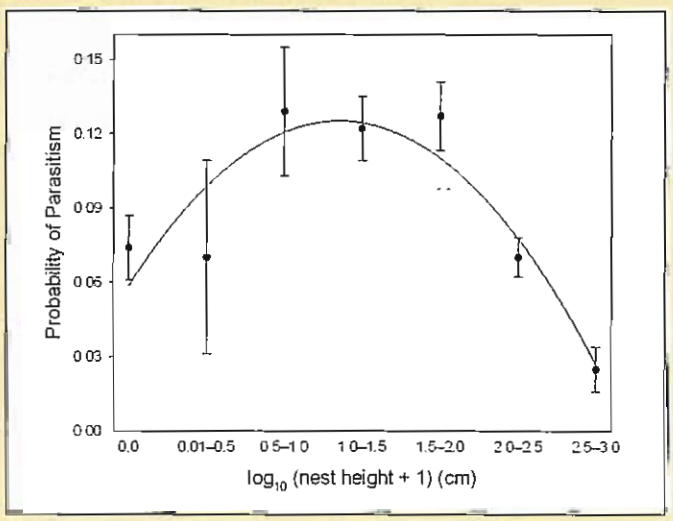


Figure 2. The probability a Brown-headed Cowbird parasitizes a nest as a function of nest height.

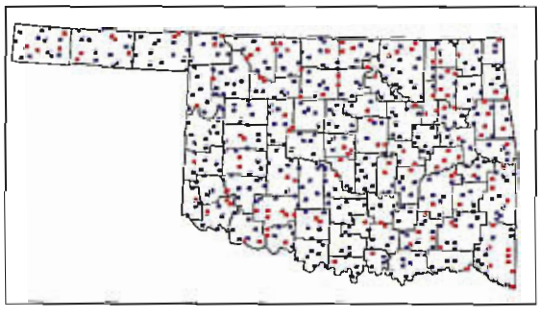


Oklahoma Winter Bird Atlas: Season One

by Dan L. Reinking


Northern Cardinals add a splash of color to otherwise gray winter days.

Neither rain nor hail, nor sleet nor snow kept the devoted cadre of winter bird atlas volunteers from their task of surveying for wintering birds across the state of Oklahoma during the first season of the project. Modeled after the recently completed Oklahoma Breeding Bird Atlas (published by the University of Oklahoma Press in summer 2004), this new survey effort aims to inventory the wintering distribution of birds in Oklahoma. For as long as scientific studies of birds have been undertaken, emphasis has been placed on the nesting season, when most birds are relatively sedentary on territories and when nests and young provide focal points for research. Less well understood is the ecology and even the distributions of species during the other half of the year. By completing a five-year, standardized survey of wintering birds, the Sutton Center hopes to better understand the current distributions of the approximately 200 species found in Oklahoma during the winter months. Differing weather conditions during the five winters of the study, and the decision to require surveys both early and late in each winter, should allow for some interesting patterns of bird distribution to be mapped, especially for irruptive species such as Pine Siskins, Red Crossbills, and Red-breasted Nuthatches. An effort will also be made to track occurrences of rare wintering species such as Trumpeter Swans and Yellow-billed Loons, even if they are observed outside of our randomly selected survey blocks.


The same 583 blocks surveyed for the Oklahoma Breeding Bird Atlas are being surveyed again during the winter months. The 139 blocks shown in red were surveyed by volunteers and project staff during the winter of 2003-2004.

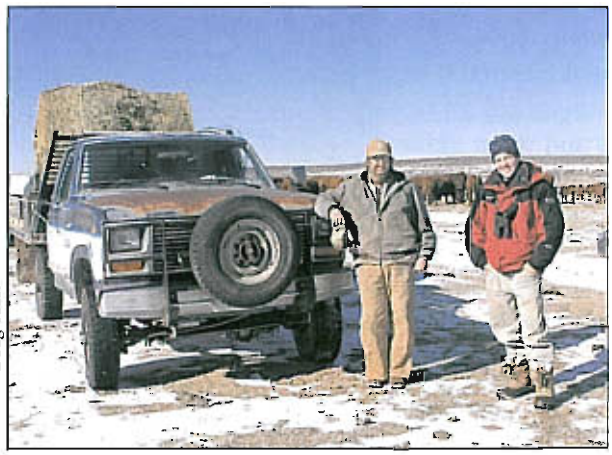
A number of atlas blocks were surveyed this year by project staff (see page 6), but as with the breeding bird atlas, the majority of survey work is being completed by skilled volunteers. Many individuals who worked on the breeding bird atlas have signed up again for this current adventure, and a few new people have been recruited as well. The ranks of Oklahoma birders have again been swelled by the participation of several people from neighboring states. Participants who had previously worked on the breeding bird atlas have remarked on the condensed time frame in which the winter surveys take place. The season for the breeding bird atlas lasted about 6 months, while the winter bird atlas season is only 2-1/2 months, and is further divided into early and late periods. Factor in the busy schedules people typically have in December, and it is especially gratifying to see the progress that has already been made during the first year of the project. This support from volunteers will be crucial to the success of the project over the final four years of surveys.

Parasitism by Cowbirds continued

in tallgrass prairie habitat to address these various issues. We addressed how parasitism varied across the landscape—in this case undisturbed prairie, grazed prairie, burned prairie, and roadside strips. We also examined the effects of nest placement and how nest height and concealment varied across the landscape (Fig. 1). We found that grazed areas, regardless of whether they were burned in spring, had substantially higher rates of parasitism (~13%) than did ungrazed areas (~5%). Cowbird density was higher in burned areas, likely because of increased forage, but burning did not affect parasitism rates beyond the effect of grazing. Even so, the extent to which the prairie was burned may be an indicator of annual variation in parasitism rates across the landscape. Edge effects were weak, differing marginally between roadside plots (~7%) and prairie plots (~4%) after we accounted for the effects of grazing. Nest placement also played a role in brood parasitism, with rates peaking for nests between 10 cm and 100 cm above the ground (Fig. 2). Nest height varied across the landscape: roadside nests were, on average, placed substantially higher (mean = 227.3 cm) than nests on prairie plots (mean = 33.8 cm), which may explain the lack of a strong edge effect. Nest concealment was related negatively, but weakly, to nest height and had little effect on parasitism rates except when concealment was complete or after we accounted for the landscape or nest height. We conclude that, on the Great Plains, rates of brood parasitism by the Brown-headed Cowbird are associated complexly both to features of the landscape and to peculiarities of nest placement as they vary across the range of host species and across the landscape.

Coyotes, Catfish, and Cowboy Boots: Oklahoma Winter Bird Atlas Adventures, Canadian Style

by Doug Tozer



Doug Tozer

Danny Simmons (left) takes time out of his cattle rounds to direct Doug Tozer to several species of birds about the ranch in the background. This was a typical example of the friendliness and helpfulness of many landowners on whose property the Sutton Center's winter bird atlas surveys took place this past winter.

When I drove past the dead coyote tied to a fence post, I thought little of it. The same thing has happened back home in eastern Ontario, the only difference there being it was a wolf. A little farther along, I encountered 4 huge catfish heads, also tied to fence posts. Interesting, I thought. Even farther, I came across 6 cowboy boots, neatly slipped over the tops of fence posts. Now I was worried; "Oklahomans are weird," I thought. Is there any limit to what they hang out for display? Had I chosen the wrong state for my southern birding adventure? Coyotes I understand, catfish I can live with, but what was up with those boots?

Of course, I knew there must be good explanations for all of it. And while touring throughout the state conducting bird surveys for the Sutton Avian Research Center's winter bird atlas, Oklahomans repeatedly assured me through superb hospitality and exceptional friendliness that this is the state for a southern birding adventure. As a result, I now have an immense appreciation for this state's many habitats and the birds found within them during winter. Plus, I had a great time figuring out that some people don't like coyotes much and show it, some like catching big catfish and boast about it, but no Oklahoman, I'm disappointed to say, came up with a good explanation for the boots.

I'm from Algonquin Provincial Park, a 3,000-square-mile piece of boreal forest mixed with hardwood forest, 3 hours by car north of Toronto. I have birded extensively throughout northern and southern Ontario, and have worked and birded in Georgia, Florida, and Louisiana. Before this winter, I had never ventured to the southwest. I was, therefore, delighted when the Sutton Center gave me the opportunity to come down and conduct winter bird atlas surveys. I was so excited, that on the way here I drove 19 hours straight, fell asleep at 4 am and had to stop for 3 hours in a rest area in Missouri, yet I was birding the next morning near Bartlesville by 9 am.

You've maybe heard about breeding bird atlases, which take place in spring and summer. In fact, the Sutton Center, in partnership with the Oklahoma Biological Survey and the University of Oklahoma Press, recently completed one for the state. But you might not be aware of winter bird atlases. They operate in much the same manner as a breeding bird atlas, with similar objectives: to determine species distribution and abundance with a standardized methodology. The Sutton Center is noteworthy for undertaking this project, given that, in North America, only one other state (Ohio) and a single county in California have ever tried it before.

The big difference from a breeding bird atlas, of course, is birds aren't breeding, and it's darned cold at times. Well, cold for Oklahomans, but not so much for Ontarians. I found the entire winter to be quite balmy, including the 8°F night I spent sleeping in the back of my truck (like I did every night between 2 December and 7 February). In the morning, my water container had frozen solid, so I boiled snow for my morning coffee. On that same night, back in Algonquin, it was minus 36°F, which, I have to admit, would have brought on a chill-to-reckon-with. But, hey, its all what one's used to, right?

Another notable difference between winter and breeding bird atlases, is most birds don't sing in the winter. In spring and summer, birds actively advertise themselves, either to attract a mate or to defend territories from others. This makes it comparatively easy for atlasers to find them. During winter, the solution is to make squeaking, pishing, and hooting sounds, which encourage birds to vocalize and increase one's chances of detecting them. Although, making these sounds sometimes attracts attention from those who are unaware of what one is doing, which reminds me of a story involving me pishing in public and the police (but that will have to wait for another time).

Squeaking is a sound made by "kissing" the back of one's hand, while pishing is done by making a loud "psh-psh-psh," similar to the way one would tell someone to be quiet by saying "shh." Hooting is simply imitating the calls of an owl:

Doug Tozer

Winter bird atlasing can be challenging, especially on mornings when the temperature has fallen to 8 degrees Fahrenheit the previous night, one's water container has frozen solid, and boiling snow is the only option for hot coffee, as Doug Tozer experienced while conducting surveys for the Sutton Center.

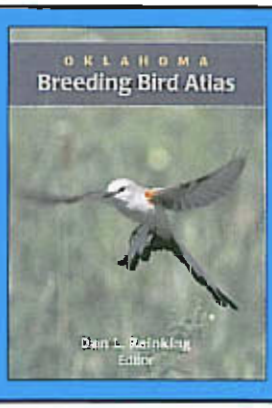
I find Barred and Great Horned Owl calls work extremely well on chickadees, titmice, and woodpeckers, for example. The reason this works is that small birds often mob predators, like bird-eating hawks and owls. Squeaking and pishing sound similar to calls normally used by small birds to mob predators. Therefore, when they hear imitations of mobbing calls, they go into "mobbing mode," and approach to get in on the action. It is thought that mobbing is adaptive because those birds that mob are more likely to force a predator to go somewhere else to hunt (where it might be able to sneak up on small birds because it hasn't been mobbed yet), increasing the mobber's chances of surviving, which results in more offspring that also mob, and so on. Birds approach owl imitations presumably because they want to mob the "owl."

So how many species did I see and where: in total, 147, with an average of 45 in any particular area. This varied from as low as 17 in open prairie with few or no trees in Cimarron County in the western panhandle, to as high as 69 in pine forest interspersed with clearings and ponds in McCurtain County in the southeast. Even though the panhandle had few species, they were often the most interesting. There, I saw numerous Prairie Falcons, Ferruginous Hawks, and Golden Eagles, sometimes one every dozen telephone poles or so, along with tens of thousands of longspurs, of 3 species: mostly Lapland, but also McCown's and Chestnut-collared. The southeast brought dozens of Tufted Titmouse, Carolina Wren, and Red-bellied Woodpecker sightings, with Fish Crows and Brown-headed Nuthatchs being treats for somebody from up north.

Of course, I certainly wasn't the only birder out collecting data. The winter bird atlas relies on the power of many volunteers, who generously give numerous hours of their time. This donation of effort does not go unnoticed: the Sutton Center appreciates and gratefully acknowledges volunteers who participate in the winter bird atlas. Surveying birds across an area as large as the entire state would simply be impossible without volunteers.

Now, my southern birding adventure draws to a close. I certainly learned a tremendous amount about the wintering birds of Oklahoma, and appreciated the opportunity to contribute data to a worthwhile research effort. Plus, I now know better, when it comes to coyotes and catfishes tied to fences. However, if anybody ever figures those boots out, send word up to Ontario.

I guess I'll turn my car towards Detroit, and as each of the 21 hours on the way home passes, I'll think about all of the fun I had. Of course, it would be unfortunate if I took a wrong turn, and ended up exploring New Mexico, Arizona, and Texas first. Either way, I'd be willing to bet I won't be nearly as excited about leaving Oklahoma for Ontario, as I was on the way down. I'm feeling tired already. Guess I'll have to stop several times to keep awake. And, hey, while I'm stopped, I might as well poke around and look for some birds, right?



From 1997 to 2001, over 100 volunteer birders surveyed nearly 600 blocks of land throughout Oklahoma for nesting birds as part of the Oklahoma Breeding Bird Atlas project. The Oklahoma Winter Bird Atlas project nicely complements this recently completed effort and will make Oklahoma one of very few locations in North America to have completed both breeding and wintering bird atlases. Containing over 500 pages, more than 220 color photographs, and more than 220 color maps, the Oklahoma Breeding Bird Atlas is currently in production at the University of Oklahoma Press and should be available in July of 2004.

OU Engineering and Arts & Sciences Cooperate on "Bird's Eye View"

by Brian Eichinger

Project Files

The research team tests the camera systems with the ornithopter, a remote controlled flapping aircraft.

Project Files

The harness contains the batteries on the backpack between the bird's wings, and the camera is on the bird's keel (breastplate).

In December of 2003, Dr. Ajay Agrawal, Professor of Mechanical Engineering in the College of Engineering at the University of Oklahoma, introduced the course project for Senior Design Practicum, AME 4553. Attaching a wireless, color video camera to a bird in hopes of getting the world from the bird's perspective is a task significantly more difficult than it might first appear. After consulting with Dr. Steve Sherrod of the Oklahoma Biological Survey's Sutton Avian Research Center in OU's College of Arts and Sciences, Dr. Agrawal was both convinced this feat was possible and that a homing pigeon was up to the task.

Under Drs. Agrawal's and Sherrod's tutelage, five senior mechanical engineering students undertook the project: Brian Eichinger, Bobby Watkins, Todd Collier, Sam Johnson, and Nathaniel Sianipar. Although conceived as a mechanical engineering capstone, in reality the effort was more interdisciplinary combining biology, bird psychology, biomechanics of winged-flight, electronics, electromagnetism, and managerial and fiscal responsibility. The first priority was to determine if there was a video camera system small enough and light enough to suit our needs. Fortunately, we found a 2.4 GHz wireless video camera and receiver system for $1200 plus two cheaper test systems that cost only $100 each.

We next had to know if our camera systems would work while buffeted by a pigeon's flapping, a fact confirmed by our constructing an ornithopter (purchased from www.ornithopter.org), a remotely controlled, flapping aircraft similar to a bird. Through indoor use, we determined that the camera functioned aboard an oscillating platform as long as the general area was free of large, flat, metal objects causing interference in our video transmission.

We were now ready to put our $1200 camera on the pigeon, but that took a careful and deliberate process that lasted an entire semester. Our first task was to construct a comfortable, sufficiently lightweight harness not only to house the camera system and protect the power supply, but to allow the pigeon to fly unencumbered. Then, we conditioned the pigeon to fly with an identically weighted, mock harness and camera. We selected a bird that did not panic or immediately try to remove the harness and allowed it to fly over increasing distances with a flight or two per week.

Next, we attached a cheap camera to the pigeon with our harness design to insure live video reception from a pigeon in flight and to reveal any design flaws. Finally the expensive camera was attached for a short flight to ensure everything worked as expected. Once the bird was released from a mile away with the long range camera, we obtained the high quality, live video as we had originally set out to acquire.

The homing pigeon is ideal for this project as it is large enough to carry a backpack-mounted payload, 0.7 ounces or less (which is less than the weight of one pigeon egg or less than 5% of the pigeon's body weight), and it returned to the home loft where we could recover our camera. The nominal goal (0.7 oz) was achieved by using lithium-ion polymer batteries (0.2 oz), a wireless camera/transmitter system (0.2 oz), a Kevlar composite camera housing (0.1 oz), and a parachute cord harness (0.2 oz).

Our harness' aerodynamic impact on the bird was reduced by being well balanced while not impeding the range of motion for wings, tail or feet. Our final design placed the camera on the bird's keel (breast plate) and the batteries on a backpack between the wings where parachute cord straps passed over the shoulders. The parachute cord itself provided a channel through which we ran wires for the power supply to the camera.

The final hurdle was to minimize the psychological impact of this system on the bird. The pigeon immediately removed our early harness designs, and it took several revisions to get the harness just right. Still, the pigeon wore the harness for a day or two at most before trying to remove it. We concluded that the bird should be trained from youth to wear the harness, or it should be left on the bird for a limited amount of time.

Continued on page 9

Brian Eichinger

The research team from left to right: Bobby Watkins, Sam Johnson, Nathaniel Sianipar (rear), Dr. Steve Sherrod, Randy Goodpasture, Dr. Ajay Agrawal, and Todd Collier.

Oklahoma's Nesting Bald Eagles, 2004

by M. Alan Jenkins


Gary Siftar

A closeup of one of the nestlings rescued and reintroduced after a thunderstorm this April.

The hardest part of having a banner eagle-nesting year like 2003 is being able to top it. Sometime there must come a reckoning, I reckon, when progress is at least temporarily halted. Naturally, numbers of nesting Oklahoma Bald Eagles can't continue to climb forever.

As you recall, since your recall is better than mine, in 2003 there were 41 known occupied nests that produced 51 young eagles. In 2004, we had 38 occupied nests and 45 young were produced so far (see below), making it, nonetheless, the eagles' second best nesting year. In addition there is one nest that is always late, for which we don't have the results yet (the ironically named "Go Get 'Em" pair). And there is another nest that is either ultra-late or has recycled and begun a new nesting attempt. When I was there in mid-May an adult was on the nest in incubating posture at a time when most all the other nests in the state had large or fledged young. When these two nests finish, it's likely the number of fledged young will be greater than the 45 already counted.

One possible reason for having fewer occupied nests in 2004 was the timing of the survey flights this year. Owing to bad weather and an illness, thankfully temporary, of the U.S. Fish and Wildlife Service's Regional Pilot, Jim Bredy, we were not able to fly to check nest occupancy until February 12th. Usually Jim and I make the first flight, to check occupancy, close to mid-January. After egg laying the number of unoccupied eagle nests increases during the nesting season as pairs fail, losing clutches or young eagles, so a late flight means fewer occupied nests are counted. Then, the weather and other factors conspired to force the productivity flight, when young eagles are counted, to be earlier than usual. When we made this flight many of the nests had adults on them, and they were dutifully covering the nest contents being the conscientious parents that they are. This means that some productivity checks had to be made later, from the ground or water. That wasn't much of a problem because I truly enjoy getting out of the office and galumphing through the field and forest, or launching my kayak (referred to as the "Yellow Banana" or the "Yellow Submarine" depending on which side is currently above water) and checking the number of nestlings produced. So, I can get an accurate count of eagle productivity, but it takes more time and effort when it has to be done from the ground.

Let me take this opportunity to thank two of my helpful volunteers, Sally Jenkins (yes, she's related), and Betsy Stewart, who knows a lot about how to change a flat on my field truck.

On an unrelated note, I've heard and read of resurgence in the efforts to upgrade the status of the Bald Eagle from Threatened and to remove it from the List of Endangered and Threatened Species altogether. Regardless of the decision made, the results for Oklahoma justify its declassification for this state.

"But you were never made, as I, on the wings of the winds to fly! the eagle said."

Will Carleton, *1911*

"Bird's Eye View" continued

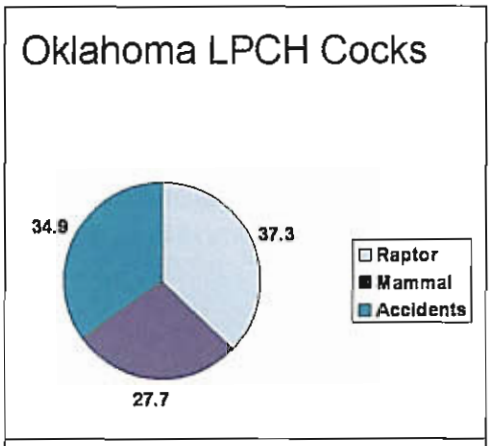
So what resulted from all this effort? We originally set out to get live video from a bird in flight, and that's exactly what we got. The video picture oscillated with the flapping of the pigeon's wings and became smooth when the bird glided, but we could clearly make out the red Ford Ranger pickup in the parking lot below as the pigeon passed over it.

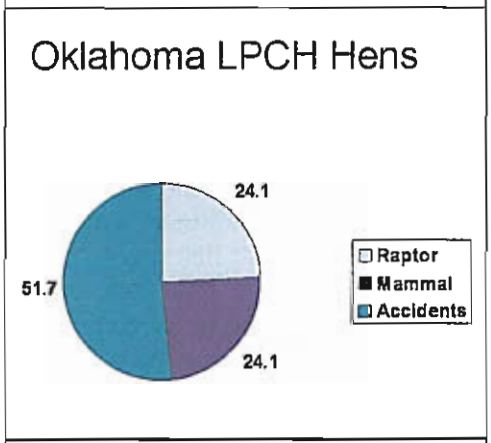
Now that we have shown what can be done with present-day technology, we can begin to apply our technique to bird migration, bird navigation studies, civil surveillance, and sports venues. Imagine the "pigeon cam" at the next football game, or traffic reports from pigeons released from strategic points throughout a major city. Aerial video can be obtained from a pigeon at a fraction of the cost of a helicopter or blimp. With battery and camera technology constantly improving and getting cheaper, it's just a matter of time before everyone can enjoy a bird's eye view.

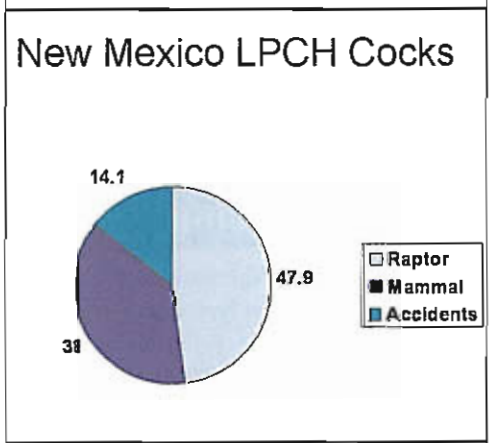
Our future work will include investigating the physical impact (affecting electromagnetic field reception?) our transmitter may be having on the pigeon as well as refining our harness design. The guiding philosophy behind our work is that nothing can ever weigh too little. Our thanks to Dr. Steve Sherrod of the Sutton Avian Research Center for providing advice and experience regarding the conditioning of the homing pigeon and the construction of the harness, as well as for his help in tracking down our lost pigeon and allowing us to borrow one of his personal homing pigeons for display in our competition. We are especially grateful to Robert Bagley and Marshall Electronics for providing their new micro transmitter that allowed tracking of the pigeon with minimal weight but maximal tracking signal strength. This transmitter literally saved the loss of our best camera. Finally, homing pigeons are raised, trained, and raced in nearby Oklahoma City at World of Wings, where we had the assistance of homing pigeon expert, Randy Goodpasture, and the generous use of his birds in completing our project.

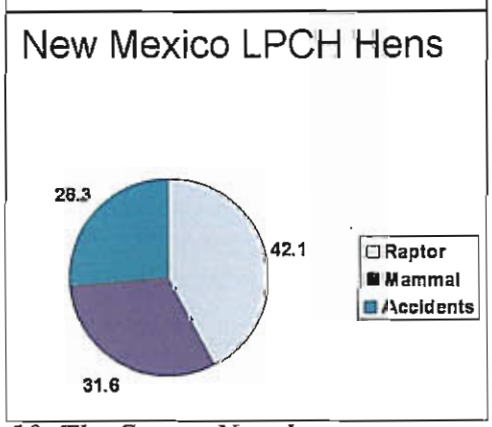
Lesser Prairie-Chicken Research Update and Some Management Ideas

by Don Wolfe









Our sixth spring of trapping Lesser Prairie-Chickens just ended. Since March of 1999, we have captured and radio tagged over 700 individuals, which have been tracked over 34,000 times. All in an effort to determine causes for range retractions and declines that have been observed in this species. One of the less pleasant tasks that are carried out by our field personnel is the recovery of carcasses and the determination of the cause of death. Through May 2004, over 300 carcasses from radio-tagged birds have been recovered. The cause of death was determined from 230 of those; 90 (39.1%) were the result of predation by raptors, 69 (30.0%) were the result of predation by mammals, 58 (25.2%) were the result of collisions with fences, 7 (3.0%) were the result of collisions with power lines, 5 (2.2%) were the result of collisions with automobiles, and 1 (0.4%) drowned in a stock tank.

In the Spring 2004 Sutton Newsletter, Michael Patten pointed out the differences in mortality causes between study sites and the possible implications on population viability. A manuscript further detailing how the observed mortalities can affect population sustainability and changes in life history strategies has been accepted provisionally in the journal *Evolutionary Ecology Research*. The charts presented here further demonstrate the differences in mortality observed between study sites as well as between sexes. Note that collision rates are much higher for hens than for cocks. This is especially problematic in Oklahoma, where collisions account for over 50% of the hen mortality.

So, what can be done about it? Research in Scotland has shown that marking fences with strips of "construction safety fencing" has reduced grouse collisions by 71%. Also, unnecessary, often dilapidated fences commonly occur throughout the Lesser Prairie-Chicken's range. However, the cost of marking and/or removing fences is well beyond the means of even the most well-intentioned landowners without state or federal subsidies. Another related issue is cross-fencing, which is often done to control grazing pressure. At the most extreme is a management regime known as "cell grazing," which results in an approximate four-fold fence encounter rate for a bird flying across the prairie landscape. We suggest that, where possible, grazing pressure be controlled through patch burning or the strategic placement of supplemental feeding locations, mineral licks, or water sources. Also, while various habitat improvements are often beneficial, perhaps state and federal agencies that are working with private landowners on prairie-chicken conservation should place even greater emphasis on fence reduction. Good nesting or brood-rearing habitat is of little value if there are no hens to utilize it.

Obituary:

It is with the deepest of sorrow that we inform our readers of the passing of LPCH 502, pronounced dead by Chief Grouse Medical Examiner Fumiko Sakoda on 4 April 2004, apparently the result of an unfortunate collision with a fence. He was originally captured on 22 April 2000 (then aged as unknown), and was recaptured in 2001 and 2003. Assuming he was a juvenile when first captured, he was nearly 5 years old. He was tracked 389 times through March 2004, the most times that any bird had been tracked (second highest was bird 509, with 358 locations). His contribution to science is unequaled. We're sure he is enjoying his new-found status on the Great Gobbling Ground in the Sky, free of Northern Harriers, Great Horned Owls, Prairie Falcons, and five-strand barbed-wire fences. LPCH 502 is survived by 8 wives, 43 children, 137 grandchildren, 212 great-grandchildren, and 306 great-great-grandchildren. In lieu of flowers, surviving family members request that memorial gifts be made in the form of milo food plots in Ellis County, OK.

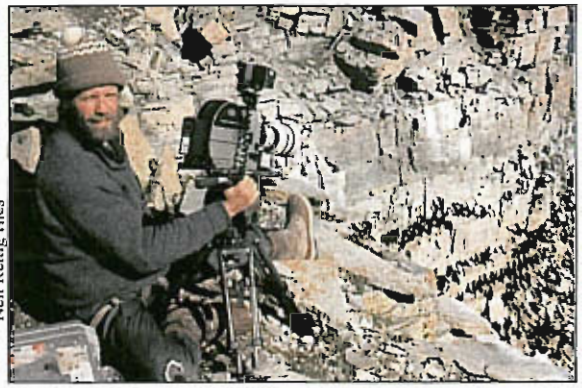
Renowned Cinematographer Visits Oklahoma

Neil Rettig and his partner Cal, a male Harpy Eagle, made a special appearance at the Sam Noble Museum of Natural History January 20, 2004. As a naturalist, conservationist and world-renowned cinematographer, Neil had a variety of experiences to share with the audience.

"Neil Rettig is considered to be one of the finest natural history filmmakers on the planet, and he is a recognized biologist, too," said Steve Sherrod, the executive director of the Sutton Avian Research Center.

Dan Rinking

The grand finale of Neil Rettig's presentation was an appearance by his Harpy Eagle, the largest and strongest species of eagle in the world.



Neil Rettig files

National Geographic, BBC, Discovery Channel cinematographer Neil Rettig filming Thick-billed Murres in Arctic nesting colony on cliffs below.

"In addition to making documentaries for Discovery, BBC, National Geographic and Disney, Neil has been the subject of a film by National Geographic on outstanding nature cinematographers." Rettig's work includes dozens of television specials on wildlife from raptors to primates. He has filmed from the frozen Arctic to the hot and humid rainforests, and Rettig is currently finishing a project for BBC on the Mississippi River.

Neil Rettig spoke to over 7000 Oklahoma students during his time in the state, as well as making an additional public presentation at the Tulsa Historical Society. The Sutton Center, an affiliate of the OU College of Arts and Sciences and Oklahoma Biological Survey, invited Rettig as part of the annual educational forum sponsored by The F&M Bank & Trust. Co., American Electric Power/Public Service of Oklahoma, Acron Group of Companies, Intervest Properties, and Frisco Title Corp., as well as Reynolds Ford and Arvest Bank of Norman.

Neil Rettig files

Neil Rettig files

Left: **Neil filming in Ugandan rainforest for the special on Mountain Gorillas.** ***Below:*** **Neil Rettig with an Alligator Snapping Turtle.**

Rettig encourages students to dream and to pursue their dreams. He spoke to them of first seeing the Harpy Eagle in the *Encyclopedia Britannica*, including the facts that it was both rare and little known. He told his friend he was going to film that eagle. Neil saved money from painting houses and other odd jobs, and he later headed to Guyana. He brought back the first detailed footage of Harpy Eagles nesting in the wild, including an egg hatching.

The ingenuity of constructing a blind 30 feet from the Harpy's nest, 150 feet off the ground, and getting the photographs, initiated Rettig's reputation of being the one to call to get difficult nature shots. He was the director of photography for "Mountain Gorilla," the first natural history film produced by Imax Systems Corp. for large-screen IMAX cinemas. During this production Rettig pioneered methods to move the camera vertically and horizontally to give the audience the best images of the rainforest canopy.

"We need to educate people, to stimulate people to do something," Rettig said.

"In order for people to save something, they first have to be able to appreciate it," said Steve Sherrod. "The work of people like Neil Rettig shows us these things by bringing them into our living room."

Many of the areas Rettig has filmed are in third world countries with little in the way of conservation efforts. This lack of environmental policy has resulted in the destruction of many habitats he has filmed through the years. "There are areas of the Philippines where we filmed that were forest at the time, but were clear-cut a year later," he said. "And such habitat destruction is happening all over the world."

G. M. Sutton Avian Research Center
P.O. Box 2007
Bartlesville, OK 74005
(918) 336-7778
(918) 336-BIRD
e-mail: GMSARC@aol.com
web site: www.suttoncenter.org

Non-Profit Organization
U.S. Postage Paid
Bartlesville, OK 74003
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