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The

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

SUTTON

NEWSLETTER

Volume 35, Winter 2010

Bald Eagle Adventures...



Cover: Bensar explores the wide open spaces of the Grand Canyon. *Photography by Rob Pilley.* Inset: Bensar cools down in the mighty Colorado River. *Photography by Ryan VanZant.*

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...in the

GRAND CANYON!

by *Steve K. Sherrod, Ryan A. VanZant, and Jennifer N. Reeder*

There are few (probably less than 7) fully flighted bald eagles that are managed in captivity in North America, and the Sutton Center has three of them, all used in our middle and elementary school Oklahoma PASS standards-based educational programs. One is Bensar, a 19 year old human-imprinted male northern bald eagle. He was hatched in captivity as the offspring of two wounded eagles housed at the Center during Sutton's highly successful bald eagle reintroduction efforts from 1985-1992. A second is Fiona, a relatively young (6-7 years old) female that we received from Broken Arrow rehabilitators Gary and Kathy Siftar. This eagle has only one good eye, a result of having had West Nile Virus when it was recovered from the wild. The third is Sequoyah, a 22 year old southern male that hatched with eye infections from bacteria that had invaded through the eggshell during lengthy rains at Florida nests the year its egg was collected. As a result, he cocks his head at an odd angle in order to see better, and while he can fly fully well, he cannot be trusted to fly safely because of his sight.

Sometime in June, Steve Sherrod received a call from a British movie producer. He had been filming birds in Australia for a six part BBC project, a spectacular worldwide celebration of the natural world that would be featured later on the Discovery Channel. He was looking for bald eagles that could be used in film footage near some specific American landmarks. While, several such sites were proposed initially, the final goal to be considered would involve flying our eagles across an 18 mile wide chasm in Arizona called the Grand Canyon. Wow! And the answer was definitely "No, we are not interested." Such a task would probably necessitate flying an eagle that had been trained to follow an ultralight aircraft as are the Whooping Cranes in current rein-



Fiona rests on a landing perch before making a short flight along the rim of the canyon to Jennifer Reeder in the background.

roduction efforts. With the up-and-down-drafts that abound about the canyon cliffs, any ultralight efforts there would be dangerous. Even helicopters are not allowed below the rim except when authorized in the rescue of life-threatening hikers. Resident Golden Eagles or peregrines would likely attack a strange eagle in the area, driving it off into the miles and miles of the Colorado River's carvings.

But we had much more to consider in such an undertaking with regard to purpose. Our mission at the Sutton Center includes a significant educational component; however, we had to be assured that this proposed movie would be conservation oriented with regard to our natural wildlife and geologic heritage, and would portray our federally permitted eagles in a natural and accurate context. We also felt a significant responsibility that in having some of the few such fully-flighted Bald Eagles on federal permits we should consider making them available for a valid effort to promote the magnificence of the eagles and the natural world. Several more discussions with the producer convinced us that our standards would be

met, but a more realistic goal of flying the birds along the rim of the canyon was set, although even this is tricky given the incredible vastness of the canyon.

If you have been fortunate to have visited the Grand Canyon in person you will no doubt agree that pictures do not do it justice. That the enormity of this great expanse cannot be grasped by looking at a photograph or even while viewing its wonders when standing on the edge of the rim would be later experienced firsthand by Steve, Ryan, Jennifer, and the producer as this adventure unfolded.

While our Bald Eagles are used regularly in an educational capacity, at the time when we agreed to participate in this venture the birds were not in top flying condition so Ryan and Jen immediately included them in two months of conditioning. This involved flying on a creance or safety line some 300 or more yards several times daily for food in order to build up muscle and to become accustomed to the routine. It sounds simple, but it is definitely challenging when asking large birds to respond for food during the warmer period of the year.

Soon it was early October, and Ryan and Jen were off from the Center in a Sut-

Steve Sherrod

ton truck including the two eagles and associated equipment. Steve flew to meet the producer in Phoenix, and all four in the team then met up in little Williams, Arizona, on the periphery of the park and a lengthy two hour drive from the park area where the daily filming took place.

Work started the first day in difficult conditions due to high winds. We began by getting the eagles used to the new scenery while flying them short distances along the canyon's rim but on a leeward side of a rock outcrop. All in all the first day went well even in the poor conditions, and the weather promised to be near perfect for flying and filming over the following several days.

Day two was the first day of filming with sun shining and winds light, and we were set up and ready in the morning. The goals for the day were two main shots; one was an "onboard" view via a small camera on Fiona's back, and the other was a shot of Bensar flying along the rim of the canyon. Both birds flew well this day. The canyon seemed to distract the birds very little, and the first day of filmed flights went off with hardly a hitch. We were thrilled to see that all our hard work and training had paid off, but our anxiety was high, knowing that at any moment a bird could go off-track and down into the canyon. And, as we soon found, flying eagles in a national park immediately attracts throngs of vacationers who had to be held at bay by the rangers assigned to our operation each day.

Day three started off much the same as day two. It was a beautiful morning, and all involved felt confident we would be able to get many of the shots that we needed. With a few adjustments to Fiona's backpack mounted camera from the settings used the day before, and with plans for Bensar's flights along the rim from one point to another, things looked good. Ryan and Jen went through the process of weighing the birds, preparing the right amounts of food, and putting on a radio transmitter so that should either bird fly off, we would have a way to locate them. Fiona flew on the creance across a small gap several times, but it was tedious work. After each flight, she had to be

picked up, hooded, backpack camera removed, walked back to the starting point, video uploaded onto the computer, camera remounted, all before the next flight was conducted.

The landing stumps from which Bensar was called and on which he landed were put in place on the edge of the rim, and his flight path was clear. All checked out positive, he was released, and his first three free flights of the day were perfect. Just as he began his fourth flight, something in the crowd of onlookers spooked him. Bensar took off on a wide arc into the canyon and away from what frightened him. While normally this would not have been a problem as he would have simply circled and returned for a reward, in this unfamiliar situation he quickly lost altitude as he soared on outstretched wings. We could only watch as Bensar casually circled lower and lower and disappeared into the canyon. We knew this could happen, but it seemed hard to believe as we watched him disappear.

It took only seconds for the shock to wear off and for our efforts to switch into recovery mode. We used our telemetry receiver to check signals from the eagle's transmitter at several triangulation points. Even with our extensive experience with this equipment, one problem is that in this habitat transmitter signals can bounce off the cliff walls and give false directional clues. With the help of the park ranger that was assigned to accompany us for the day, we learned that one of the park trails nearby led to the general area where we thought the bird would be.

With Jen left in charge of Fiona and equipment, the producer, Steve, and Ryan quickly mobilized the equipment needed for a difficult hike down the park's Tanner Trail, a trip that would last several hours. They were guided by a strong radio signal and trail markers as they descended quickly. Within the first 40 minutes they had dropped down nearly 1500 feet, and looked to Jen above like tiny ants on an ant trail. The signal grew stronger with every switch-back hiked and so did hopes of getting

Bensar back quickly. Roughly two miles down the trail a very strong BEEP indicated that the eagle was close. Suddenly, nearly two hundred yards down the trail and across the ravine, there was Bensar perched in a small juniper tree lightly flapping his wings in the breeze! Ryan pulled out his glove and called, but Bensar was not quite ready for his adventure to be over. He took off and flew over a small ridge with the radio signal fading quickly. The crew hurriedly hiked to where Bensar was last seen flying, but they were not even half way to the bottom of the canyon; to where Bensar had flown would not afford easy access. With light fading fast the hikers decided to make the demanding hike back up to the rim.

The next day, again with Jen tending Fiona and the gear, the producer, Ryan, and Steve rented sleeping bags and packs and headed back down Tanner Trail reaching the rock ridge just before dark. There they made camp with intentions of continuing the search the next morning. After a granola bar breakfast, the three began the difficult task of glissading down a steep canyon wall and talus slope covered

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Ryan VanZant, ranger James Schenck, and the project producer take a look over the rim...the beginning of another sort of adventure.

DANGER!

There be dragons...

Brenda D. Smith-Patten and Michael A. Patten

The primary focus of the Sutton Center's research is directed toward birds, but researchers affiliated with the Sutton Center work on other taxonomic groups as well. For instance, we have been conducting statewide surveys of Odonata—the dragonflies and damselflies—for the past two years, thanks in no small part to \$5000 in internal grant support from the Oklahoma Biological Survey. The principal goal of these surveys has been to fill the gaps in our knowledge about the status and distribution of dragons and damsels on a county-by-county basis. We also have been cataloging and reassessing the sizeable collection of dragons and damsels at the Sam Noble Oklahoma Museum of Natural History to see if anything had been overlooked in recent regional books (Abbott 2005, Paulson 2009). After all, the last comprehensive list of the dragonflies and damselflies of Oklahoma, compiled in 1957, included 126 species (Bick and Bick 1957).

Accordingly, our effort has meant vetting numerous records, compiling data from myriad sources, and, most fun of all, sliding into hip waders, grabbing our nets, and jumping into streams and lakes—all in hopes of documenting new county records across Oklahoma. To start our county searches we first created (with the help of Liz Bergey, Oklahoma Heritage Inventory Invertebrates Zoologist) species lists for each of the state's 77 counties, largely on the basis of maps in Abbott (2005) and from Abbott's database, Odonata Central (<http://www.odonatacentral.org/>), as well as our own field notes. We color-coded counties with simple cutoffs (Fig. 1): red meant "urgent attention needed," as in fewer than 20 species were known from the county; pink meant "attention required" and designated those counties below 25 species; tan meant "total is low" and suggested that, when possible, surveys ought to be prioritized after the more urgent counties had been surveyed. In essence, then, our goal was to ensure each and every one of the 77 counties had at least 30 species recorded in it. The county hunt has proved rewarding, with >300 new county records to date and 71 counties above 30 species!

In just two short years—we say "short" because the flight season of dragons is only late March to early November, with the vast majority of species active for far shorter periods—our progress has been extraordinary (Fig. 2). Of course, not all county additions have been the result of our efforts alone. Many others have



Mark Dreiling

contributed new records. We need to highlight John Fisher and Mark Dreiling, both of whom are highly capable observers and cheerfully willing to share their findings (e.g., see Smith-Patten et al. 2007). And they are fine photographers, too, as one can see from Mark's lovely photo of a Cyano Darner (*Nasuaeschna pentacantha*) at the heading. Others who have contributed important records include Eric Beck, Joe Grzybowski, David Arbour, Berlin Heck, Claire Curry, Vic Fazio, Ken Williams, and Cynthia Whittier; we hope others will share their sightings and photos. But, not only have many county records been added, which contribute to our knowledge of distribution of species across the state, we have also discovered some oddities, including a never before seen pattern on a Familiar Bluet (*Enallagma civile*) male (see Smith-Patten and Patten 2010). We found several specimens too that indeed had been overlooked, including a first state record of the Brimstone Clubtail (*Stylurus intricatus*)! The state list now numbers 148 species, 22 more than Bick and Bick (1957) reported.

We are beginning to get a clearer picture of the dragons of Oklahoma that we plan to present in a detailed book on the status and distribution of the state's Odonata. Such a document could be important for various reasons. For example, global climate change may affect insect phenology (the timing of aspects of biology, such as emergence) and distribution substantially (Parmesan 2006), so a detailed knowledge of current phenology and distribution is essential as a baseline. All dragons and damsels are amphibious, so they breed and develop in freshwater and live as adults terrestrially; they are ideal organisms for monitoring water quality and availability, an issue that will grow in importance in the years to come (Baron et al. 2002, Heathwaite 2010).

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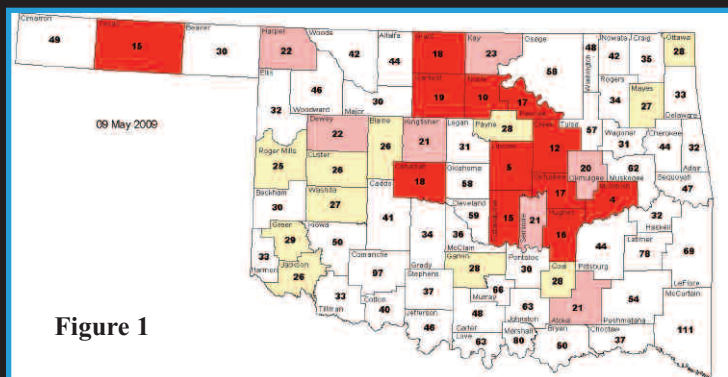


Figure 1

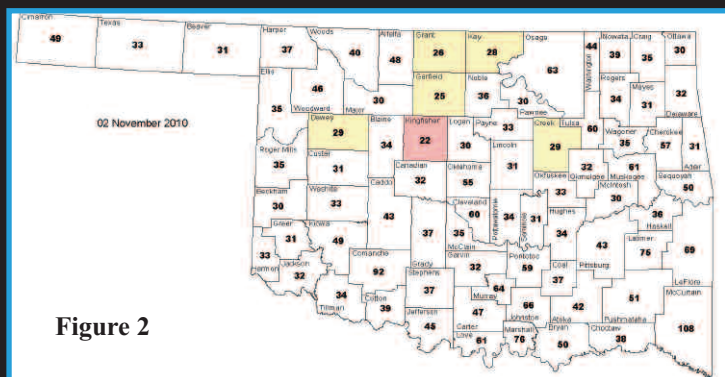


Figure 2

Grand Canyon, continued from page 3

with large, loose rubble, cacti and other thorny plant life. Just when things looked promising, the creek bed terminated in an 800 ft vertical drop. The only choice was to once again hike back to the rim and construct plan B.

After meeting with the park's backcountry office the next day, it seemed a final option might be to hike down the New Hance Trail to the Colorado River, parallel the river for several miles, and then to blaze trail toward the signal. This route descends nearly 6000 ft over 7 ½ miles before reaching the river. The estimated time was 3 days to hike down and back. A backcountry ranger and two park biologists volunteered to accompany Ryan on this arduous trek.

The crew started down the trail in an effort to find Bensar and feed him before dark. Within four hours Ryan had reached the river and headed toward the transmitter signal. The volunteers established a base camp at the river, and Ryan continued along the river and then cross country after triangulating toward the signal. The 500 ft high vertical walls along the river resulted in reduced signal strength causing some confusion on the eagle's location, but Ryan continued along the waterway until it widened. Checking again at that point for a signal, he got a blasting BEEP, BEEP, BEEP! With meat in gloved hand, Ryan headed around a small tree toward a rock wall on top of which he expected to find Bensar, when suddenly there was the eagle sitting in front of him on the ground not 20 feet away! Before Ryan could call the bird to him, Bensar came flying and landed on his back. Ryan quickly slipped on the jesses or leg straps, and gave a sigh of relief as he came to actually realize that Bensar had been recovered! But recovery at the river and recovery back to the rim were two different things, and just carrying Bensar to the top would be a daunting task.

Ryan was exhausted and had only about an hour of daylight left but wanted to get back to the base camp where the rest of the rescue team was waiting. As he began working his way back, he avoided swimming the river with expensive telemetry equipment by leapfrogging as he sat the eagle down on rocks, climbed up several feet, and then repeated the process over and over. As dark descended, he was forced to make camp in a small cave as he could no longer see the trail markers. After tying Bensar's leash to his pack, he rolled out his sleeping bag and passed out, but only temporarily. Bensar made lots of noise

during the night, keeping Ryan awake to count bats overhead and watch shooting stars.

The next morning, with gear and a hooded Bensar on his glove, Ryan began once again climbing the trail back to the volunteers and base camp. Rafters along the river greeted Ryan with open mouths as they saw him approach with an eagle on his fist. Ascending the canyon trail with backpacks is tough, but adding an eagle makes it more than challenging. The volunteer crew traded back and forth among them by carrying Bensar in a cradled position like a baby. They took many stops to rest and to insure that Bensar had food and water but reached the rim about 6 PM. After four and one half days, nearly 30 miles and almost 20,000 feet of hiking up and down the canyon, this trying recovery ordeal was over. All celebrated with a steak dinner, courtesy of the production company.

The next day, Ryan and Bensar took a well deserved break while Jen, Steve, and the producer continued to fly and film Fiona on the creance along the canyon rim. We cannot thank the volunteers enough for their willingness to accompany Ryan to the river and back with Bensar. We on the Sutton team have no questions at all about why the canyon is called GRAND!

As for the movie, we only wish we could share with you some of the most spectacular natural history footage that we were privileged to view from around the world. For now, it must remain under lock and key, but we promise that you will not be disappointed.



Steve Sherrod

After days of hiking from top to bottom and back in the Grand Canyon, Ryan returns triumphant with Bensar and volunteers Jean Lawrence, Dean Reese, and Sean Mahoney.

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Literature Cited

- Abbott JC (2005) *Dragonflies and Damselflies of Texas and the South-Central United States*. Princeton Univ. Press, Princeton, N.J.
- Baron JS, Poff NL, Angermeier PL, Dahm CN, Gleick PH, Hairston NG jr, Jackson RB, Johnston CA, Richter BD, Steinman AD (2002) Meeting ecological and societal needs for freshwater. *Ecol. Appl.* **12**:1247–1260.
- Bick GH, Bick JC (1957) The Odonata of Oklahoma. *Southwest. Nat.* **2**:1–18.
- Heathwaite AL (2010) Multiple stressors on water availability at global to catchment scales: Understanding human impact on nutrient cycles to protect water quality and water availability in the long term. *Freshwater Biol.*
- Parmesan C (2006) Ecological and evolutionary responses to recent climate change. *Annu. Rev. Ecol. Evol. Syst.* **37**:637–69.
- Paulson D (2009) *Dragonflies and Damselflies of the West*. Princeton Univ. Press, Princeton, N.J.
- Smith-Patten BD, Patten MA, Dreiling MJ, Fisher J (2007) Phenology and new county records of Odonata of northeastern Oklahoma. *Publ. Okla. Biol. Surv.* **8**:1–13.
- Smith-Patten BD, Patten MA (2010) Broken antehumeral stripes in a male *Enallagma civile* (Familiar Bluet). *Argia* **22**(3):20–21.

Surveys for White-tailed Ptarmigan in New Mexico: Highlights from the High Country!

Story and Photography by Don W. Wolfe

At a latitude of slightly below 36 degrees North, the Sangre de Cristo Mountains of northern New Mexico are the extreme southern extent of White-tailed Ptarmigan (*Lagopus leucura*) distribution. Although the three species of ptarmigan are primarily arctic birds, the White-tailed Ptarmigan has adapted to living in the alpine environment of the Rocky Mountains and a few other mountain ranges in western North America. Little is known about the exact distribution within New Mexico or what factors may limit their distribution or abundance. Since 2007, we have attempted to identify occupied range in New Mexico, and to determine factors important to the persistence of the species within the state.

Not only are White-tailed Ptarmigan one of the most difficult birds to locate in North America, conducting research on this species can also be extremely difficult. The main difficulties arise from the facts that these birds occur only in the high alpine (typically above 12,500 feet elevation in New Mexico, or about 500 feet higher than the timberline), they are in remote areas requiring long, hard hikes, and the mountain weather and snow accumulation severely limit access from October through May. In fact, our first efforts in 2010, a May trip planned primarily to deploy temperature/humidity data loggers on several mountain tops and alpine ridges, required many awkward miles of snowshoeing including head-first falls, sinking waist-deep in soft snow, and frequently losing trails. Late and heavier-than-normal snow accumulation contributed to long, cold, wet days in the mountains, including camping on soggy ground next to a marsh because that was the only open and relatively flat place we could find to make camp.

Despite the difficulties, we made four different trips to the high country between May and September 2010 and were able to survey several new peaks and ridges. From 2007 through 2010, approximately 27 square kilometers of alpine habitat, encompassing 19 peaks and 9 ridges either connecting peaks or extending from peaks, were surveyed. Birds were located visually or responded to recordings at nine locales (in some of these locales, birds were found in nearly the same spot in different years), and recent sign (feces or molted feathers) were found at over 300 locales. Based on our surveys to date, we estimate that approximately 11 square kilometers are occupied by ptarmigan, at least seasonally. An additional 10-15 kilometers of possibly suitable White-tailed Ptarmigan habitat have not yet been surveyed, mostly on private lands or land belonging to the sovereign nation of the Taos Pueblo. We were also able to deploy 26 temperature/humidity data loggers in an effort to determine the suitability of possible thermal refugia (crevices between or under boulders, or "rifts" on the peaks are thought to be used by ptarmigan during the warm afternoons to help in thermoregulation). In addition to GMSARC personnel, including Erik Storjohann, Randy Lewis, Lena Larsson, and myself, we were assisted by volunteers Chuck Linn and Hali Linn. Without their valuable assistance and cheerful companionship, we most certainly would have accomplished less.

In past years, surveys were funded by the Oklahoma Biological Survey, but beginning this year, New Mexico Department of Game and Fish provided funding that allowed for extending survey efforts to several additional areas as well as for future plans of dietary and genetic analyses.



Tracking Eagles for Their First Few Months

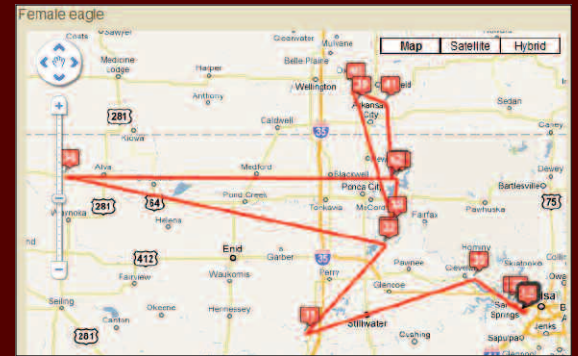
by Dan L. Reinking

Readers of our previous newsletter may recall the adventures and difficulties that were involved in placing satellite transmitters on two eagle chicks that were about to fledge from a nest in Sand Springs. Since that time, we have been learning some interesting lessons as we follow the movements of the young eagles. Based on a similar tracking project some 20 years ago using older technology, we found that the young eagles we tracked then went to Canada shortly after leaving their hacking tower, perhaps to escape the Oklahoma summer heat for a while. Our expectation was that our 2010 eaglets would do the same.

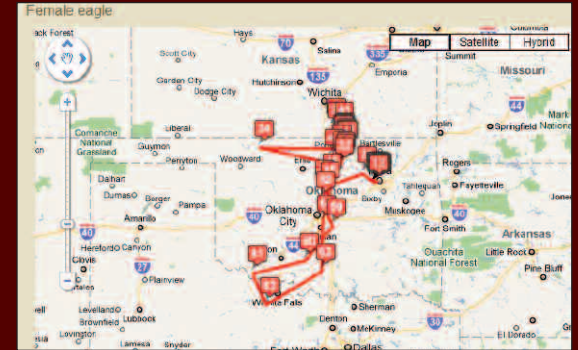
Scientists often counsel caution about making sweeping conclusions from limited data, and our eaglets' journeys have so far not included any international visits to our northern neighbors. Instead, both the male and female spent weeks in the vicinity of the nest site, making only small forays of a few miles before returning repeatedly to the nest area. Clicking on the Satellite or Hybrid views on the tracking maps on our website (suttoncenter.org) provides an eagle's eye view of the habitat and helps us understand how the eagles are using their environment. In the first weeks and months after leaving the nest, the eaglets can clearly be seen spending a good deal of time on sandbars in and along the river. Such sandbars offer a degree of safety for the young eagles because they provide an unobstructed view of any approaching danger, while at the same time presenting opportunities to capture shallow dwelling aquatic prey such as fish and turtles as the young eagles hone their hunting skills.

Gradually through the late summer, the eaglets began independently exploring farther afield, with return visits to the nest area at frequent intervals. Bald Eagle diets are largely centered on fish and other aquatic life, and you can see from the tracking maps their penchant for rivers and lakes. The female eagle made an August visit to northwestern Oklahoma and then a September trip to southern Kansas. She spent a good deal of time near Kaw Lake and Sooner Lake, and along the Arkansas River in between these locations. By early October, she headed south, passing through the area southwest of Frederick in southwestern Oklahoma before crossing the Red River into Texas. After a stop near Lake Kickapoo southwest of Wichita Falls, she headed back into Oklahoma, pausing near Oklahoma City before returning to the north end of Kaw Lake. Females have been shown to wander more than males in some raptor species, perhaps to help ensure genetic diversity of populations, and this female eagle has wandered more than her male sibling.

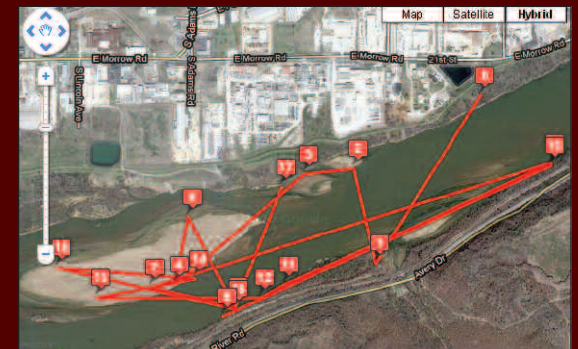
The male eagle stayed near the nest site for most of the summer, only visiting the Oklahoma/Kansas border region by late September. This trip was immediately followed by a larger journey to Lake Texoma near the border of Oklahoma and Texas, and then the Tishomingo National Wildlife Refuge. We hope you are enjoying watching the tracking maps as much as we are, and we are grateful to NatureWorks for funding these transmitters. This project is providing information on dispersal that cannot be gathered any other way, and we look forward to following the progress of these eagles as well as additional eagles if funding can be found for more of these expensive but incredibly useful transmitters.



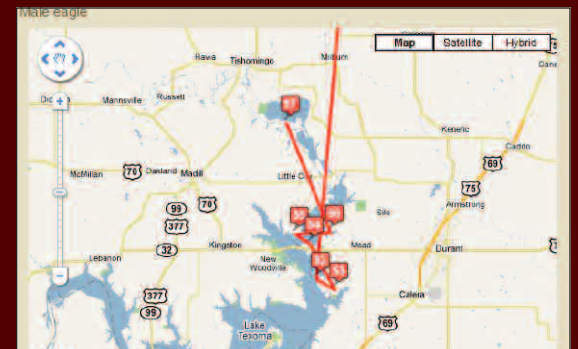
This mid-September map of the female eagle's movements shows her trips to northwestern Oklahoma and southern Kansas.



The female eagle's travels through early October are summarized here. Visitors to our eagle tracking web page can zoom in for greater detail.



This early August tracking map for the male eagle using the "hybrid" view illustrates his extensive use of river sandbars while learning to hunt.



This mid-October map of the male eagle's movements show it visiting Lake Texoma and Tishomingo NWR.

SURVEYING

for the Lesser Prairie-Chicken

by Lena C. Larsson, Don W. Wolfe, and Luke A. Bell

Sutton Avian Research Center's field crew was busy assessing habitat suitability and listening for Lesser Prairie-Chickens this past spring. The data gathered will be used to fine-tune current knowledge of where this bird exists and where it can persist. The Lesser Prairie-Chicken (LEPC) is a candidate species for listing under the Endangered Species Act and its priority for such listing has become high. This bird's total distribution has declined to approximately 10 percent of the former range, and the population size estimate is only 5 percent of historical figures (in Oklahoma, the 'lessers' occur in the northwest, while there are Greater Prairie-Chickens in the northeast). This grouse is sensitive to habitat fragmentation caused by roads, human development, and habitat conversion, and requires large contiguous patches of suitable habitat. Research done by the Sutton Center has documented how prairie-chickens often collide with electric lines and fences, causing injury and mortality. The birds also avoid or abandon areas with vertical structures such as wind turbines, oil wells, and transmission towers, and areas with human activity. The U.S. Fish

and Wildlife Service defines the most serious threat to the Lesser Prairie-Chicken as "the present and threatened destruction, modification, and curtailment of its habitat and range."

Therefore, a spatially based planning tool has been designed in an effort to reduce the negative effects of development on the Lesser Prairie-Chicken in Oklahoma. The model was created through a collaborative effort including the Sutton Center. The model can be accessed through a website (<http://www.wildlifedepartment.com/lepcdevelopmentplanning.htm>) and provides industry and wildlife professionals with a tool that can help: 1) site development with consideration to LEPC conservation, 2) estimate the amount of a voluntary contribution to the LEPC habitat conservation fund needed to offset the impact of potential developments, and 3) locate areas to apply habitat conservation fund contributions for effective LEPC conservation work.

The LEPC conceptual model ranks land relative to its importance for LEPC conservation. It consists of a spatial grid

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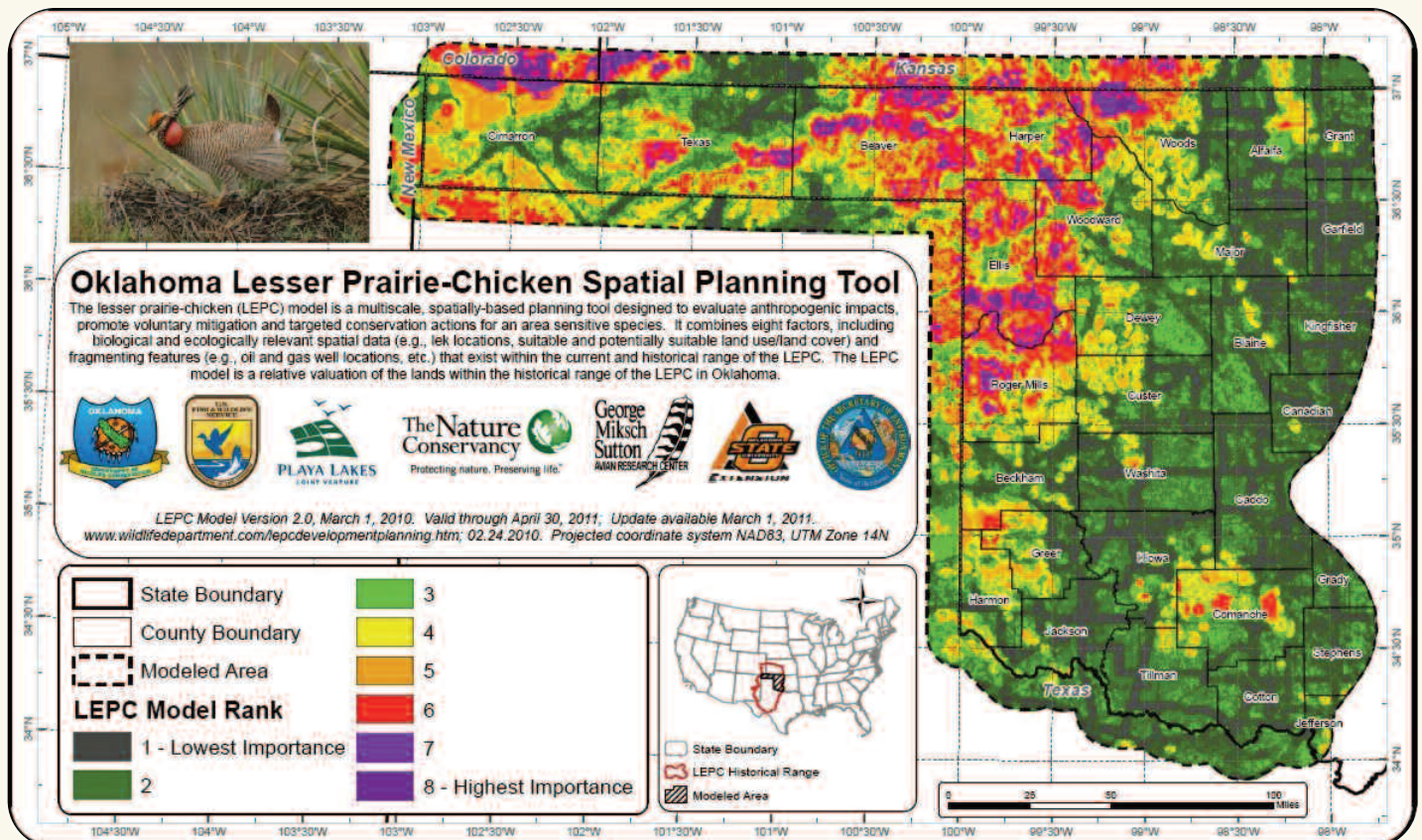


Figure 1. The current LEPC model output resulting from the addition of the eight binary factor grids. The higher the pixel value, the greater its value for Lesser Prairie-Chicken conservation.

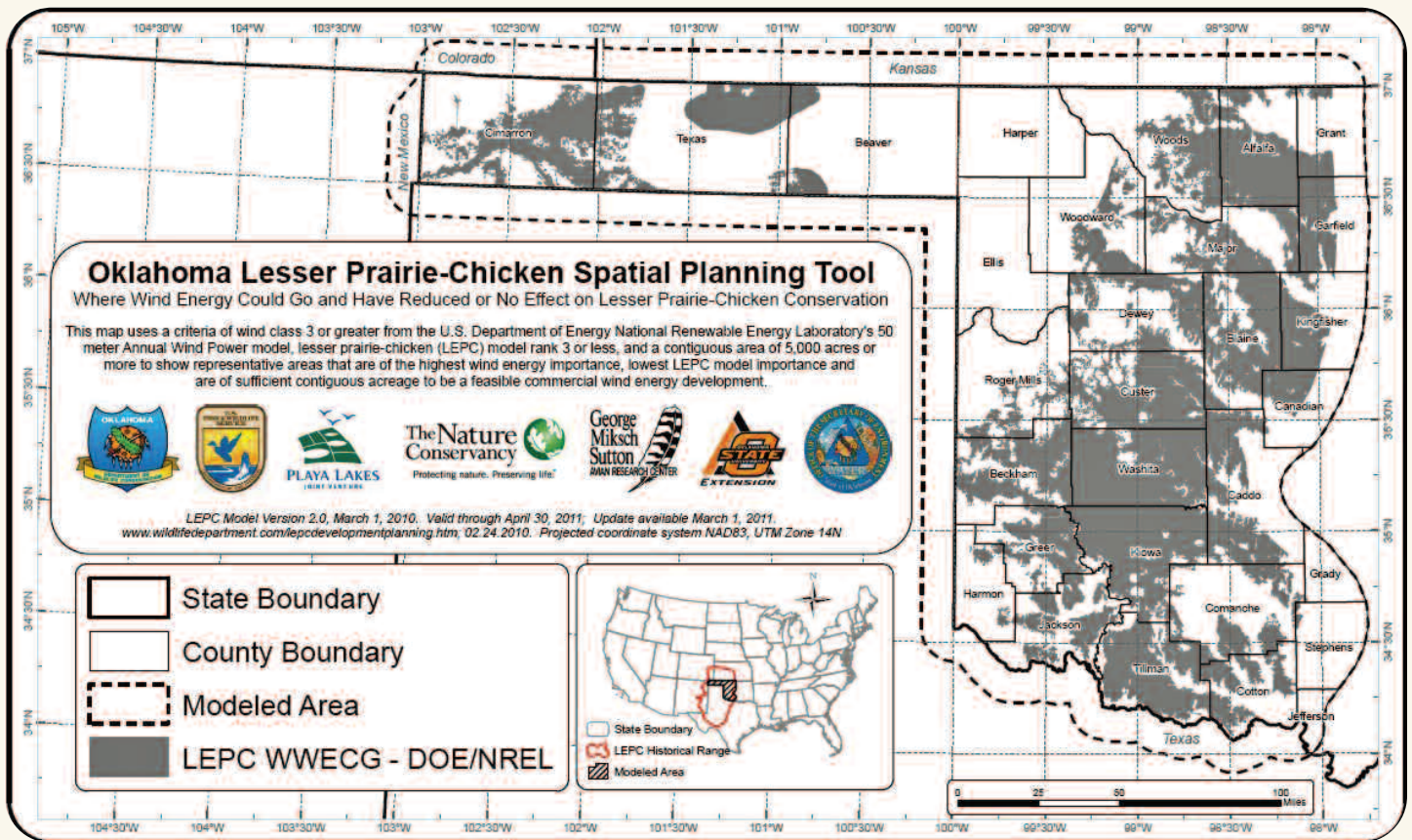


Figure 2. Using the Oklahoma Wind Power Initiative's wind potential neural network model, the grey areas indicate where wind energy could go without impacting Lesser Prairie-Chickens .

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spanning the historical range of the LEPC in Oklahoma in which each 30m x 30m pixel is numerically ranked. The higher the rank, the more valuable that pixel is to the LEPC. Ranks are determined by comparing each pixel in the grid against a set of criteria addressing LEPC occurrence, habitat requirements and threats. Each rank value is associated with a dollar value reflecting the cost of replacing that land if it were destroyed or degraded. The model can be used to evaluate any type of potentially detrimental development (e.g. wind energy development, road construction, oil and gas wells, transmission lines).

The ranks are based on various sources but the most current information lends the best validity to the model. One way that the Sutton Center is improving the model is through extensive surveying and habitat assessment within LEPC range in Oklahoma. The Oklahoma Department of Wildlife Conservation is funding the surveys. Sutton personnel were able to survey over 2000 stopping points at which the habitat within a half-mile radius was assessed. These surveys covered Texas, Beaver, and parts of Harper Counties this past spring when the prairie-chickens were active and could be heard gobbling at leks. Whenever there was potential that Lesser Prairie-Chickens might occur, we listened and looked for any signs of them. We found 45 leks, many of which were previously unknown, and observed additional birds. There is also an opportunity for the public to contribute to this data collection effort. A page with

a map is available on our website through which the public can report sightings of Lesser Prairie-Chickens. Surveying will continue next spring.



A male Lesser Prairie-Chicken displays on a lek in north-western Oklahoma. *Photography by Noppodal Paothong.*

Mobbing Behavior of Acorn Woodpeckers

by graduate student Lauren A. Wilkerson



Steve Metz

If you have never seen an Acorn Woodpecker, you are in for a treat. These dainty, clown-like birds were described as “our native aristocrat” by early naturalist W. L. Dawson (1923). They have light yellow eyes and faces surrounded by a black bib and hood topped with the obligatory red woodpecker crown. When flying, their conspicuous white wing and rump patches contrast sharply with their black back and tail, making them readily recognizable as they flit through the trees. In addition to their natural charm these woodpeckers are unusual in a couple of different ways. First, they spend a great deal of time creating massive granaries, storing acorns in closely packed individually drilled holes that, when empty, bear a passing resemblance to Swiss cheese. These granaries are often oak trees, but to the chagrin of many western homeowners can include just about any wooden structure including telephone poles, barns, and houses. Second, they are cooper-

ative breeders, meaning that more than two birds attend a nest. In the case of Acorn Woodpeckers these extra birds are often offspring from previous years. Known as “helpers” these birds help feed and defend the current chicks and assist their parents in the hoarding of acorns for a few years before moving out and getting a territory of their own.

This summer I had the privilege of studying the behavior of these woodpeckers at Hastings Natural History Preserve, near Monterey, CA. I was particularly interested in mobbing behavior, which is when smaller birds band together, call loudly and attempt to chase off a larger bird that is perceived as a threat, sometimes pursuing it as it flies away. This behavior can be seen in towns and subdivisions across the country as crows and jays frequently mob hawks and at times are mobbed by smaller passerines in turn. My goal was to see if the mobbing behavior of the breeding pair of birds differs depending on whether or not they have helpers and/or fledglings. Of particular importance is the reaction of the breeding birds to the presence of helpers, as they may mob more in an effort to protect their grown young or less if the primary role of helpers is to assist the breeding birds with their parental duties, like a human nanny would.

As natural mobbing can be too rarely observed to reliably produce data, I instigated mobbing by placing a stuffed Cooper’s Hawk in the woodpeckers’ granary trees. I was then able to film the resulting mobbing behavior from a blind while identifying individual birds as breeders, helpers or fledglings by reading the colored bands on their legs. Preliminary results are encouraging and indicate that females may mob more than males. There is also evidence to suggest that helpers may have been present during the mobbing event more often than would be expected by chance, something one would expect if helpers are truly helping the breeding birds. I look forward to conducting further analysis of these data and seeing what sort of picture emerges.

Sutton Center’s 2010 Publications

- Bell LA, Fuhlendorf SD, **Patten MA**, **Wolfe DH**, **Sherrod SK** (2010) Lesser Prairie-Chicken hen and brood habitat use on sand shinnery oak. *Rangeland Ecology and Management* **63**:478-486.
- Elmore D, **Wolfe DH**, Allen K (2010) Impacts of lead ammunition and sinkers on wildlife. Oklahoma Cooperative Extension Service NREM-9015. 4pp.
- Grzybowski JA, Arterburn JA, Cox JA, Fazio VW III, Gall BL, Loyd MJ, Mays LP, **Reinking DL** (2009) Oklahoma Bird Records Committee Date Guide to the Occurrence of Birds in Oklahoma. 5th edition. Published by the Oklahoma Ornithological Society. 40pp.
- Hagen, CA, Pitman JC, Sandercock BK, **Wolfe DH**, Robel RJ, Applegate RD, Oyler-McCance SJ (2010) Regional Variation in mtDNA of the Lesser Prairie-Chicken. *Condor* **112**:29-37.
- Horton R, Bell L, O’Meilia CM, McLachlan M, Hise C, **Wolfe DH**, Elmore D, and Strong JD (2010) A spatially-based planning tool designed to reduce negative effects of development on the Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*) in Oklahoma: A multi-entity collaboration to promote Lesser Prairie-Chicken voluntary habitat conservation and prioritized management actions. Oklahoma Department of Wildlife Conservation. Oklahoma City, Oklahoma. 79pp.
- André C, **Larsson LC**, Laikre L, Bekkevold D, Brigham J, Carvalho GR, Dahlgren TG, Hutchinson WF, Mariani S, Mudde K, Ruzante DE, Ryman N (2010) Detecting population structure in a high gene-flow species, Atlantic herring (*Clupea harengus*): direct simultaneous evaluation of neutral vs. putatively selected loci. *Heredity*, in press. doi:10.1038/hdy.2010.71.
- Wolfe DH** (Updated on 1 September 2010) Grouse Bibliography compilation. (2+ MB PDF file) More than 600 pages of grouse citations organized by genus.

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