

George
Miksch
Sutton
AVIAN RESEARCH CENTER



The

SUTTON

NEWSLETTER

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

Volume 44, Summer 2015

Severe Storm Impacts



A “pallid band” across the tail of a young Grasshopper Sparrow was induced by stress from a severe spring storm in Oklahoma.
Photography by: W. Alice Boyle.
Cover Photography by: Dustin Freeman.

MILLION-DOLLAR AGREEMENT PROMISES TO BOLSTER PRAIRIE GROUSE STUDIES AT THE SUTTON CENTER

For the common interests of grouse conservation and research, the Society of Tympanuchus Cupido Pinnatus, Ltd. (STCP) has agreed to a million-dollar deal that generously gifts their assets and adds their expertise to the Sutton Avian Research Center! The landmark agreement for our organization will enable us to expand our studies of these declining birds and redoubles the Sutton Center's commitment to prairie grouse conservation. We're humbled by STCP's endorsement and look forward to a lasting relationship with four former STCP Directors now on our Board (J. Kenkel, C. Newling, R. Schallert, & G. Septon).

We are also excited that Dr. John Toepfer, one of the world's top prairie grouse biologists, is joining us as the inaugural STCP/Hamerstrom Prairie Grouse Research Chair. The influx of knowledge, experience, and resources that are part of this deal will truly advance the Sutton Center's place in the field of grouse conservation.



Watch for in-depth information on the agreement, Dr. Toepfer's achievements & interests, and the history of the STCP in our Winter 2015 newsletter

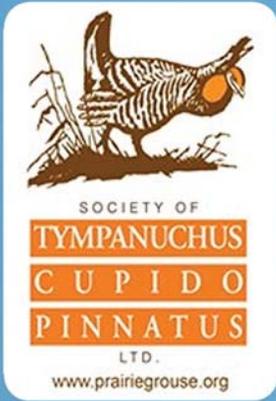


Photo by Noppodal Paothong

THANK YOU STCP!!!

NEW: CHECK YOUR MEMBERSHIP STATUS

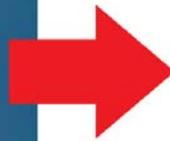
We hope that you enjoy and take full advantage of Sutton Center Membership benefits such as newsletters, special events, and other perks. Please take the time to review the new mailing address by-line for your membership renewal date.

A ***RENEW*** notice will follow your renewal date if your membership will expire before our next newsletter issue date, thus ending your subscription to this newsletter. To renew, please use the envelope inside this newsletter or visit our renewal webpage at http://www.suttoncenter.org/pages/become_a_member. You'll also receive automatic renewal if you purchase a Wild Brew Patron Ticket or Patron Ticket Package.

Thank you for your continued support! We couldn't do our work without members like you!

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Oklahoma Biological Survey



Director's Note:

The Circle Mountain View

Google Earth

When I first arrived in Bartlesville at the Sutton Avian Research Center I was met with curiosity by many Bartians (I love this term for residents of Bartlesville). Invariably they would ask, "Where is the Sutton Center?" I would answer that we were atop the hill south of the city, an answer that was regularly countered with, "Oh, you mean Circle Mountain!"

The Canadian in me thought, "mountain?" This remnant of the Flint Hills plateau that stretches out of Osage County and is carved by the Caney River as it funnels southward? I wasn't aware that the Sutton Center's location was such a prominent feature in the local landscape to earn the "mountain" moniker. Nonetheless, this seemed fitting to me because a mountain at its core is an elevated area that provides great perspective on the lands above which it rises. From where the Sutton Center is perched we can certainly see out a great distance across the plains to the east. Hawks and vultures soar along the escarpment to take advantage of the winds rising upward over the cliff face. Our road has two switchbacks to allow a suitable grade for typical vehicles. Looking south from the Price Tower's Copper Bar it looks like many a mountain I've seen in the East. In the regional landscape it is a mountain, eh!

As with Circle Mountain, the Sutton Center has had a place of prominence in the regional landscape. This is partly geographic, as we're a long-standing charity organization in the Greater Tulsa area and are known throughout Oklahoma for the free-flying bird educational programs we provide. Yet, the regional prominence metaphor also applies within academia, where our research efforts are best known to raptor and grouse conservation circles. Over the next few years we will build upon these solid foundations and strive toward a bigger place in the bird research and conservation world. Unlike the "mountain" we sit atop, the Sutton Center can continue to grow upward and extend its prominence.

To accomplish this lofty goal, we will need to increase the size, spread, and volume of projects that we're undertaking. As our position edges ever higher above the academic landscape, we will draw more eyes to our mission and more hands to see it through.

Atop our perch on a sparsely-populated section of Circle Mountain, the Sutton Center continues to grow because of our diverse research, conservation, education, and outreach initiatives (many outlined in this newsletter). Please check back in often on our webpage and our social media outlets (Facebook, Twitter, YouTube) to keep abreast of all of the exciting developments.

We will be pushing the Sutton Center further into the lime-light over the next few years. Thank you for your continued support. It will greatly assist our continued rise on the bird research and conservation map!



Jeremy D. Ross, Ph.D. – Executive Director



The Sutton Newsletter

Summer 2015
edition

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GWSARC file photo

Saturday, August 22
5pm - 8pm

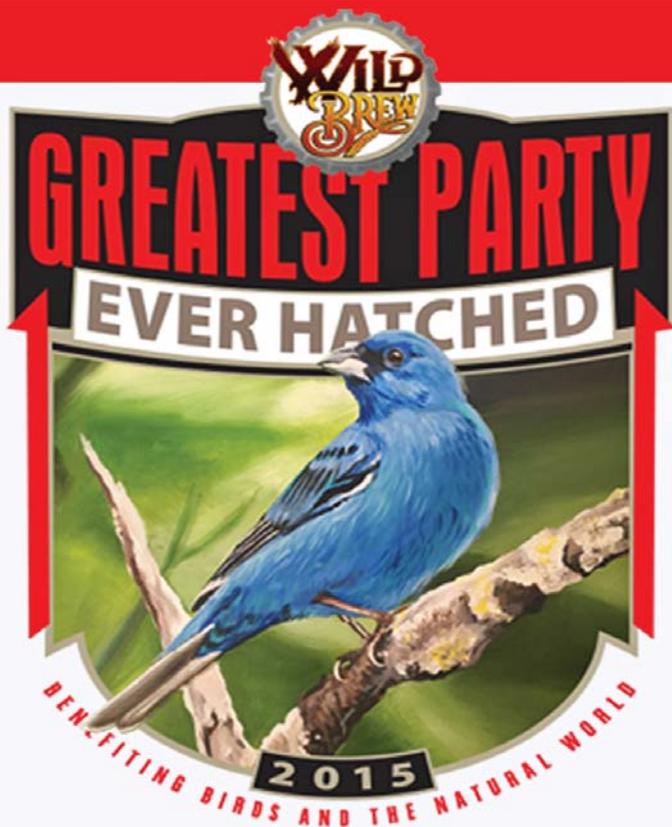
Cox Business Center / Tulsa Convention Center

Purchase tickets at
wildbrew.org

Be a Patron and get in one hour early!

See the Special Bird Show
@ 4:30 during Patron Hour

A fundraising event in benefit of the Sutton Avian Research Center - www.suttoncenter.org



Members' Picnic planned for autumn!

Considering that spring is regularly very busy with research and rainstorms, we have decided to move our annual member appreciation picnic to the fall. We've accounted for college football games and conference travel and chosen **SATURDAY, OCTOBER 17TH** as the date for this year's picnic. Typical picnic food like hot dogs, hamburgers and sides will be served and we will have many special programs and featured visitors that will appeal to all ages!

Space restrictions mean that **the picnic is open to current members only**, so please check your mailing address on the back of this newsletter to see if your membership is current through at least "10/17/15". Shuttles to/from parking areas will be needed and we are seeking volunteers to assist with this and other services. Please RSVP Director of Development Elizabeth Ross (elizabeth@suttoncenter.org) if you plan to attend and note if you'd like to volunteer to help!



We look forward to seeing you at the Sutton Center during the crisp, cool days of fall!

Sutton Awards 2015

Story by Karen A. Kilbourne
Photography by Dan L. Reinking



In our eleventh year, the Sutton Award scholarship program continues to be a success! This year we had 79 entries from fifteen schools across the state.

The Sutton Award competition is for Oklahoma high school student conservation artists in grades 10-12. Each entry is a piece of art accompanied by a required essay explaining how the artwork communicates information about a current conservation issue. All entries were judged 2/3 on the artwork itself and 1/3 on the essay. This year the judges included: David Nunnely with NatureWorks; Mary Barnes, an art teacher associated with Willowbrush Studio + Gallery; Barbara Bates, Sutton Center board member and retired teacher; Jeremy Ross, Executive Director of the Sutton Center; and Elizabeth Ross, artist and Director of Development at the Sutton Center.

We really want to thank Rachel Wimpey, owner of Willowbrush Studio + Gallery for displaying the artwork in a newly renovated portion of her gallery located in southeast Tulsa. Everyone at the gallery was a tremendous help, and this collaboration has truly been beneficial for the Sutton Award scholarship program. Rachel is a former Sutton Award scholarship participant herself! She made the gallery available for our judges and hosted a reception at which students, parents, donors, and the public could view all of the artwork submitted and make their "People Choice Award" selection. Over 100 people attended the opening and reception.

The top twenty students received scholarships and had their artwork displayed at the NatureWorks Art Show and Sale this year. The Sutton Center was given a large booth to display the students' artwork and essays. Proud students, teachers, friends and families took the opportunity to congratulate each other and mingle with the professional artists on hand. This is a wonderful opportunity for the students! NatureWorks has been a tremendous supporter of the Sutton Awards throughout the years and we look forward to working together to support Oklahoma art students in other endeavors as well.

Seung Young (Emily) Kang, a student at Victory Christian School, received first place with her evocative oil painting entitled "Hope for the Hopeless." The beautifully rendered canvas featured a mother polar bear and her cub on an ice flow in the Arctic Ocean. Ms. Kang's piece was also the winner of this year's "People's Choice Award." Congratulations surely go out to Emily, who has formerly placed in the top twenty, and this year placed number one! We look forward to seeing how Emily develops as an artist in the upcoming years.

The Sutton Center is especially grateful to its sponsors, including NatureWorks, Bama Companies, Inc., and Willowbrush Studio + Gallery. If you would like to make a contribution to the Sutton Award for 2016 or would like to learn more about how your student can apply, please contact Elizabeth Ross. Be sure to visit the NatureWorks Art Show and Sale next year and see the amazing talents of Oklahoma's youth displayed alongside the masterful work of professional artists.



by Lena C. Larsson, Steve K. Sherrod, and Don H. Wolfe

More Lesser Prairie-Chicken Surveys

The lesser prairie-chicken crew has been very busy again this spring with listening and habitat assessment surveys! We followed a similar protocol as when we did the saturation survey in 2010 and 2011. A saturation survey is essentially a ‘census’ where as many locations as feasible are inventoried. We lay out routes throughout the lesser prairie-chicken range, drive them early in the morning during the spring when the birds are actively vocalizing on display grounds, and stop every mile to listen and record their presence. As reported previously (Sutton Newsletter, summer 2014), the lesser prairie-chicken was listed as threatened under the Endangered Species Act (with a special rule to limit regulatory impacts on landowners and businesses). The Lesser Prairie-Chicken Range-wide Conservation Plan implemented in 2013 is administered through the state wildlife agencies and the Western Association of Fish and Wildlife Agencies (WAFWA). The Oklahoma Department of Wildlife Conservation (ODWC) committed to continue state-specific monitoring in the conservation agreement, and the ‘Best By’ date considered for these population surveys is less than five years old. In addition to Sutton Center efforts, aerial surveys cover road-less areas, and the yearly ODWC and volunteer routes are continued.

H.R.1735 - National Defense Authorization Act for Fiscal Year 2016 passes the House of Representatives

It would at first appear that a national defense bill might have little to do with birds, or grouse in particular, but it turns out that H.R.1735 does indeed. This bill includes language preventing listing the Greater Sage-Grouse as “threatened or endangered” until 30 September 2015, and (through amendment 38) to reverse or prohibit further listing of the Lesser Prairie-Chicken as “threatened or endangered” until 2021. The justification for such linkage to a defense bill is that protection of habitat afforded to these birds from the above listings would hinder military exercises. Most likely, thwarting the Endangered Species Act is the real intention.

The Endangered Species Act can indeed be difficult, and we at the Sutton Center deal with it regularly, from both sides. Right now, we are building a world class breeding facility from which to breed and release one of the most endangered birds in North America, the Attwater’s Prairie-Chicken. On a daily basis we have to be very careful during our construction to take consideration of the endangered American Burying Beetle’s habitat needs. So, in this case, we are pitting two endangered species against each other, but we are working hard to make it work for both of the animals.

The important question should actually be directed toward whether we value the spectacular diversity of life with which we co-exist on our planet as much or more than money, because it is all about money. But the fact is that we don’t really have any idea how valuable these forms are. Yes, it sounds trite to repeat the example of how penicillin, a life-saving drug that revolutionized world health, was derived from something so apparently worthless as bread mold. But there are countless examples of how other life forms benefit human life, and we don’t know the half of it. So we need the Endangered Species Act to protect what we don’t know or value, but, hopefully will in the future. To live in a world shared by other incredible life is so very important to all of us, even if we fail to realize that. That is why we go on vacations to the beach, the mountains, and to the tropics. There are some who will sign up for a one way trip to Mars, undoubtedly an “out of this world” experience, and that is OK if you so desire. However, if that is your intention, please take the time before you leave to let your representatives and senators know that you support wildlife conservation here in North America, and oppose adding language to congressional bills that weaken conservation efforts.

Recent Research Results on Wind Development and Greater Prairie-Chickens

Our colleagues at Kansas State University recently published four different peer-reviewed papers that discuss the effects of wind facility development on Greater Prairie-Chickens in the Flint Hills of Kansas. While no effect was noted on survivorship, nest placement, or nest success, they observed that wind facilities had an effect on persistence of booming grounds within 5 miles (8 km) of wind turbines, and that prairie-chicken hens showed avoidance behavior toward turbines. These results are generally consistent with other studies showing avoidance of wind turbines and transmission lines by Greater Sage-Grouse, Greater Prairie-Chickens, and Lesser Prairie-Chickens, including our own studies published in 2009.



Sutton 30-Year Anniversary Gala!



BIRDS
..... of a
FEATHER
30 YEARS TOGETHER



Wiped Out by Storms...

- Severe Weather Impact on Bald Eagle Nests

by Lena C. Larsson and Jeremy D. Ross

The Sutton Center continues to monitor the recovery of Oklahoma's breeding population of Bald Eagles and is exhilarated to observe what strides that the species has made in the state. We are extremely grateful for the citizen-scientists who are reporting nest observations through Sutton Center's website and, most especially, to the Bald Eagle Survey Team (BEST) members whose tireless, in-kind effort has allowed us to confirm additional eagle nesting territories each and every breeding season. It is because of this monitoring effort that we are able to not only gauge the population's growth, but also to monitor the negative effects of unpredictable events such as severe weather.

As a case-in-point, because of regular BEST monitoring efforts we were able to study in detail the nest losses among local eagles during the tornado that devastated Sand Springs on 25 March 2015. The tornado had followed a route along the Arkansas River which has been prime Bald Eagle breeding habitat for years now. In fact, that stretch of river hosts one of the highest densities of Bald Eagle nests in the state!

In the aftermath of the storm, BEST members Cheryl Cavert and John Peaden reported that multiple nests had been completely blown from their trees, with devastating impacts for the young eaglet occupants. Of 9 Bald Eagle nests along the Arkansas River from Sand Springs though Tulsa, 5 were destroyed, killing an estimated 8-10 eaglets. At Lake Yahola on the north side of Tulsa, tornadic activity and/or strong winds knocked down one nest which killed two eaglets, while a nearby nest remained unscathed.

Cheryl Cavert had fortuitously photographed the nests in Sand Springs and Lake Yahola a few days before the tornado struck. In the days following, she had returned to the exact same locations to photodocument the changes. Amazingly, even in cases where the nest was blown clear from the tree, there appeared to be little other damage to the tree itself (see before and after photos below). Clearly, the large and repeatedly-used nests of Bald Eagles (see inset) are quite vulnerable to disintegrating under strong winds.

We are currently analyzing data on the nest destruction and certain weather data associated with the storm in an effort to determine what characteristics of the storm led to the destruction of the nests. If we know what wind speeds, for instance, corresponded to nest survival versus destruction, we could use this information to predict the chances of future storms destroying eagle nests without having to chase after each individual storm across the country. We might even be able to assess what risk there is that a nest will fall in a given year based on where it's located, how many years it's been used, and relevant dimensions. As sad as the nest destruction and loss of chicks may be, the



March 16 - Parent on nest



March 26 - Nest obliterated by tornado

Before-and-after photos of a Bald Eagle nest tree in Sand Springs. Note the parent on the nest before the storm (*left*) and the complete disappearance of the nest after the tornado, despite a lack of notable tree limb damage (*right*).

Oklahoma Bald Eagle population is now large enough to endure. We expect the eagles to rebuild nests in their territories before the next breeding season since all of the parents likely escaped (see video link below). Had this scale of nest loss happened in the 1980's when the Sutton Center was just starting to get the Bald Eagle reestablished in Oklahoma, the impact on the population could have set back the species' recovery many years.

The tornado was a close call for one nest in Sand Springs located immediately below the Keystone Dam in White Water Park. This area is heavily frequented by all-terrain vehicles and because of this potential disturbance, the Sutton Center, Tulsa Audubon Society, and the U.S. Army Corps of Engineers have put up an informational sign to ask the public to main-



Cheryl Cavert

Above: Remains of a nest blown down at Lake Yahola north of Tulsa. Below: Feathers are among the nest debris.



Cheryl Cavert

tain a safe distance from the nest. Reports from our BEST monitor confirm that this pair raised two young this season.

Eagles and their nests are protected under the Bald and Golden Eagle Protection Act of 1940. If you see a nest that has blown from a tree please contact the US Fish and Wildlife Service, your state wildlife agency, or your local game warden before attempting any recovery or rescue efforts.

Witness one of the Sand Springs Bald Eagles fleeing the tornado after being presumably forced to abandon its nest: youtube.com/watch?v=5UI-7PF7Bgw (eagle appears at 01:55)
Video by StormChasingVideo.com



Carlos Gomez

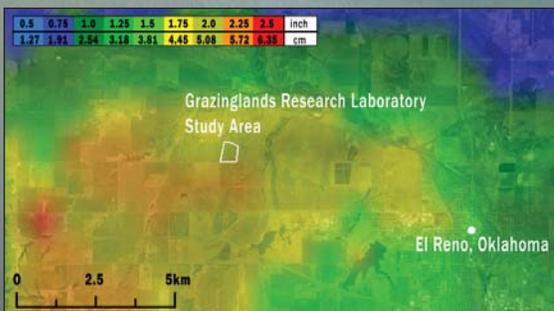
Bald Eagle chick killed when its nest in Sand Springs, OK was blown down by a tornadic thunderstorm. At least 10 eaglets died during the severe storm outbreak.

Bald Eagle Nest Facts

- Pairs of Bald Eagles regularly reuse the same nest for multiple breeding seasons, each year adding fresh material to make a soft and sturdy surface for their eggs. One nest in Vermillion, OH was used for 34 years before its tree was blown down!
- The Guinness World Records lists the Bald Eagle as building the heaviest bird nest. The largest was recorded in St. Petersburg, FL in 1963. It was 9.5 feet wide, 20 feet deep, and estimated to tip the scales at over 4,400 lbs!
- Scissor-tailed Flycatchers, House Sparrows, and Woodrats (among many other species) are known to use the undersides or middles of these nests, even while Bald Eagles are still occupying it!

Leaving a mark...

Dustin Freeman



Estimated hailstone sizes in the Grasshopper Sparrow study area on May 31, 2013 were about 2 inches in diameter.

- The lasting impacts in nestlings from severe storm stress

by Jeremy D. Ross and Dan L. Reinking

“What happens to birds when severe storms occur?” This question, which has often been left to the realm of anecdotes and well-meaning guesses, now has at least one scientific answer thanks to a team that included researchers at the George M. Sutton Avian Research Center and the University of Oklahoma (OU).

While studying a ground-nesting bird population near El Reno, Oklahoma, a research team led by GMSARC’s new Executive Director Dr. Jeremy Ross found that stress during a severe weather outbreak of May 31, 2013 had manifested itself into malformations in the growing feathers of young birds. The team had witnessed the phenomenon they termed ‘pallid bands’ (pallid meaning faint or deficient of color) in a large proportion of fledgling Grasshopper Sparrows (*Ammodramus saviannarum*) after the population was bombarded by hailstones more than 2.2 inches wide. This storm also spawned a deadly, record-breaking 2.5-mile wide EF5 tornado just south of the site. The results of this study, which have been published in the open-access journal *PeerJ*, found spikes in the chemical signatures of pallid bands that signaled a prior stress response in the birds and that these abnormalities likely formed in emerging feathers during or shortly after the May 31 storm.

“This may be the first example of severe thunderstorms being scientifically implicated in sub-lethal stress

impacts on wildlife,” said Dr. Ross, who lead the study as a postdoctoral researcher at the Oklahoma Biological Survey at OU before joining the Sutton Center. Other authors included Dan Reinking, Senior Biologist at the Sutton Avian Research Center, OU collaborators Drs. Jeffrey Kelly and Eli Bridge of the Oklahoma Biological Survey and Dr. Michael Engel of the ConocoPhillips School of Geology and Geophysics, along with Dr. Alice Boyle of the Division of Biology at Kansas State University.

This groundbreaking study arose nearly by accident, as it was opportunistically undertaken in August 2013 after the team observed a high incidence (44%) of pallid bands across the tail feathers of juvenile Grasshopper Sparrows captured near El Reno, Oklahoma as part of another study. Ross and his collaborators hypothesized that the pallid bands were induced by the stress during the severe weather outbreak earlier that year. Because a breaking down of muscle tissue during the stress response shifts the nitrogen composition of the blood, which is then incorporated into the developing feathers, the research team was able to find that the feather tissue comprising pallid bands contained a spike in certain nitrogen isotopes which confirmed a prior stress event.

From 18 young birds captured at the site, the team measured the nitrogen isotope levels in pallid bands



W. Alice Boyle

A young Grasshopper Sparrow still growing its tail and other feathers.



W. Alice Boyle

Nestling Grasshopper Sparrows at the age when they would have been affected by a severe storm, resulting in pallid bands in developing tail feathers.

MEET STORM!

EDUCATION PROGRAM UPDATES....

by Kimberly A. Lobit



Students from George Washington Carver Middle School in Tulsa posed with the Sutton Center's newest bald eagle, Storm. Carver was one of two schools that won the Baby Bald Eagle Naming Contest.

We have some exciting news to share! The Sutton Center has welcomed an 8-week old female southern bald eagle to the education team. You may remember those nasty storms in March; well, one of those storms managed to knock down this eagle's nest. She survived, but unfortunately her sibling did not and her parents never returned. Gary and Katherine Siftar of Broken Arrow were kind enough to care for this eagle under their raptor rehabilitation permit until all of the necessary paperwork was completed for her move to the Sutton Center. We are very excited to have this new addition, as she will be part of the next generation of avian ambassadors in the *It's All About Birds!* programs.

To involve the community we held a naming contest for the baby eagle. Storm was chosen as the most popular name. George Washington Carver Middle School in Tulsa and Ranch Heights Elementary in Bartlesville each submitted this name suggestion. Both schools won a special visit from Storm, and participating teachers and parents will receive a free Sutton Center membership for a year. What a lucky bunch! In an effort to introduce Storm to her new life educating the public about the importance of birds, we also included her in our last few programs of the past school year.

Another wonderful school year season has come to an end and it has definitely kept us busy. We visited schools from all over the state and have great memories from each. It was such a blast spending the day with local elementary students this spring as we played environmentally themed games and had fun building our own nests. We had a fantastic response to our *It's All About Birds!* program at the OK Mozart Festival in Bartlesville, and are looking forward to presenting it this summer at the AOU / COS Conference in Norman. Be there or be square!

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Jeremy D. Ross

Feather tissue malformations were evident when pallid bands were examined under a microscope.

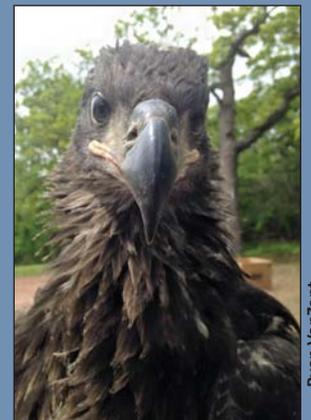
relative to other sections of the same tail feathers and found that there had been a significant spike in the nitrogen chemistry in the pallid band region of the feathers. The team was more definitively able to attribute these stress markers to the May 31, 2013 severe weather outbreak by confirming that the expected proportion of chicks in an average year that would have hatched as of May 31 closely matched the proportion of young showing pallid bands. These demographic data were previously collected by the Sutton Center during a multi-year field study in Osage and Washington Counties in northeastern Oklahoma.

[This article was modified from an OU press release authored by Jana Smith, Director of Strategic Communications for R&D at the University of Oklahoma]



Wikimedia Commons

Hailstones can cause significant damage to nesting birds in addition to cars and homes.



Ryan VanZant

Up Close and Personal with Golden Eagles

Story and Photography by Dan L. Reinking



Left: Dr. Jim Lish of Oklahoma State University presents some of his experiences studying Golden Eagles in Montana to visitors at the Sutton Center. **Right:** Falconer Oscar Pack shares a close view of his Golden Eagle with the assembled crowd outside following Dr. Lish's lecture. The Sutton Center's Golden Eagle, "Midas," is partly visible at the left.

While much of the Sutton Center's conservation work has involved Bald Eagles, both North America and the state of Oklahoma are home to another eagle species, the Golden Eagle. Named the national bird in at least three countries including Afghanistan, Germany and Mexico, the Golden Eagle is a popular choice. These three countries also serve to illustrate the wide geographic distribution of the Golden Eagle, which occurs in Eurasia, North America, and North Africa.

The Sutton Center was pleased to host Dr. Jim Lish of Oklahoma State University in March for a talk about Golden Eagles. Dr. Lish has spent

about 8 years working with a research crew in Montana that traps and release Golden Eagles during fall migration. He related a number of adventurous tales describing his experiences with both wildlife and weather in the mountains, and described his research studying wing loading in Golden Eagles. Wing loading essentially measures the weight of the bird divided by the surface area of the wings. Wing loading varies among bird species, and affects the flight abilities and the flight styles used by birds, and in the case of a predator such as an eagle, this ratio relates to how heavy a prey item an eagle is able to carry in flight.

Golden Eagles are superlative flyers, with the ability to carry prey, soar seem-

ingly effortlessly, glide at high speeds, and dive at remarkable velocities in the neighborhood of 200 mph, making their pursuit dives comparable in speed to those of Peregrine Falcons. Dr. Lish described many of the flight behaviors and strategies used by Golden Eagles that he has personally observed during his annual eagle trapping seasons.

Avid Oklahoma falconer Oscar Pack brought a Golden Eagle to show the group following the talk, and Ryan VanZant displayed the Sutton Center's Golden Eagle that is used in our education program. The power and large size of Golden Eagles were obvious while standing just a few feet from them.

NEW FACES AT THE SUTTON CENTER!



Dan Reinking

Jeremy D. Ross and Elizabeth A. Ross, two new additions to the Sutton staff!

The George Miksch Sutton Avian Research Center has added two new staff members this spring!

In March, Dr. Jeremy D. Ross began as the new Executive Director of the Sutton Center. Dr. Steve Sherrod has moved into the role of Director of Conservation to focus on the development and success of our Attwatter's Prairie-Chicken captive breeding facility. Dr. Ross will be leading the rest of the day-to-day operations of the Sutton Center and is involved in other research projects (e.g., Severe Storm Impacts articles).

Dr. Ross most recently was employed by the Oklahoma Biological Survey (OBS) at the University of Oklahoma as a Post-doctoral Research Associate. He studied habitats and migration patterns of grassland songbirds in Oklahoma using small backpacks known as geolocators. This technology has been adopted and refined by Dr. Eli Bridge at the OBS under whom Dr. Ross was employed after first being a collaborator. As part of the Aeroecology group at the OBS, led by Dr. Jeff Kelly (OBS & Sutton Center Board) and Dr. Phil Chilson (Meteorology), Dr. Ross used radars and other weather data to track the nocturnal migration of birds.

Prior to coming to OU, Dr. Ross had been at Bowling Green State University (BGSU), both as a graduate student and then as a post-doctoral researcher. There he studied both Greater Prairie-Chickens (*Tympanuchus cupido pinnatus*) and Lark Sparrows (*Chondestes grammacus*) using a mixture of field studies,

archive searches, and genetics lab work as part of his Doctoral studies. After graduating, his employment at BGSU as a Post-doctoral Research Associate focused on monitoring nocturnal bird migration over and around the western third of Lake Erie. This research was focused on the potential impacts of proposed near-shore and off-shore wind farm developments.

Dr. Ross is originally from Manitoba, Canada, where he received his Bachelor of Science with honours in Zoology from Brandon University. He married an Ohio girl (Elizabeth, *see below*) in 2005 and became a US citizen in early 2013.

Hillary Parkhurst has taken the position of Director of Development for the Arts and Humanities Council of Tulsa. We want to thank Hillary for all of her



Elizabeth Ross

Dr. Jeremy D. Ross works a playback to draw target bird species into nets as part of a grassland birds study in the Wichita Mountains Wildlife Refuge, OK.

outstanding hard work and wish her the best in her new endeavors!

Elizabeth A. Ross began as our Director of Development in April and comes with a number of skills and experiences that will allow her to maintain and expand the outreach and fundraising efforts of the Sutton Center. Most recently she was employed as a Project Manager/Learning Consultant with the University of Oklahoma's Center for Public Management where she helped plan and run many large professional development conferences for OU and the Oklahoma Department of Human Services. Before that she was the Program Manager for an undergraduate research program at BGSU called

Science, Engineering & Technology Gateway Ohio (SETGO), which helped budding researchers to develop and network throughout a year-long schedule of special seminars and sponsored independent study. Elizabeth was also previously the Stewardship Specialist/Volunteer Coordinator for the Wood County Park District in NW Ohio, where she helped to conduct and promote many outreach and education programs, such as the restoration of functional tallgrass prairies in the county. Elizabeth received her Bachelor in Fine Arts with Art Education Certification from BGSU and spent a few years as a primary school art teacher. Her passion for both art and science have her excited about the Center's involvement with NatureWorks through the Sutton Award in Student Conservation Art and she's proud to be part of continuing Sutton's art/science legacy.

Elizabeth is aiming to grow the outreach efforts, fundraising events, and volunteer involvement at the Sutton Center. She hopes to increase support from the community of conservation supporters in Oklahoma and beyond so that the Sutton Center can continue its research, conservation, and education mission for many years to come.

We're all very excited to welcome both Dr. and Mrs. Ross and their expertise, spirit, and friendliness that are perfect fits here at the Sutton Center! Please arrange a visit and they'll gladly talk about their long-term visions and how everyone can get involved in supporting further growth of the Sutton Center.



Wood County Park District (Ohio)

Our new Director of Development Elizabeth Ross (center front) has a passion for volunteerism as a way to engage the community in environmental stewardship.

FRIENDS OF SUTTON

est. 2015

by Elizabeth A. Ross



Elizabeth Ross

Rhonda Cannady helps clean the Center's garage. We are very grateful for the generosity of such volunteers!

The Development Division is pleased to announce that with the help of our extremely ambitious outreach intern, Noah Cannady, the Sutton Center has recently formed the "Friends of Sutton" volunteer group. Perhaps you already heard a little bit about it on our Facebook page? We hope that you have and that you see participation in this group as an ideal way to support the Sutton Center!

Over the years, the Sutton Center has been blessed by support from our many members. Through experience I know that people are always interested in offering what they can to aid the efforts of nonprofit organizations but

they aren't sure how to help, beyond giving money. However, we would like our world of supporters to know that their time and effort are just as valuable and we would gladly accept such contributions as well! Our staff is often involved in many projects and programs, and many of us find ourselves buried by upkeep and organizational tasks that compete for time with our primary job duties. To relieve this strain, Noah and I have been on a mission to recruit those who are interested in contributing their time to help us with tasks that Sutton Center staff have had limited time to tackle.

Fortunately, a core group of wonderfully persistent volunteers has emerged and they have been tremendously helpful already. The garage is organized, inventoried, and cleared of unusable or outdated items. The so-called "Green Barn" is on its way to being revamped as our shop. The entrance to the administration building is again being beautified with gorgeous flower beds that are home to native wild flowers, bees, butterflies, and birds (of course).

Much remains to do, but with the Friends of Sutton growing its ranks we are confident that we'll soon check many items off the to-do list! What type of tasks? Demolition, clerical, grounds keeping, landscaping, and small construction projects all ready to go. There are also numerous fundraising or outreach events that will need greeters, servers, hosts, and idea machines. And we would be remiss if we did not acknowledge and call for more volunteers in support of the nest monitoring efforts of the Bald Eagle Survey Team (BEST).

If you are interested in becoming a "Friend of Sutton" please phone (918-336-7778) or email (elizabeth@suttoncenter.org) with your questions. We'd love to have you join the team!

14 *The Sutton Newsletter*



Dan Reinking

Blast from the Past

Story and Photography by Dan L. Reinking

Residents living or traveling near wooded areas of eastern Oklahoma this spring were no doubt impressed with the sheer volume of cicada sounds heard from late May into early June. While there are annual cicadas, and some that emerge every several years, the longer life cycle periodical cicadas really make an impression. A 17-year brood of three species of periodical cicadas in the genus *Magicicada* known as the Kansan Brood emerged over portions of Oklahoma, Kansas, Missouri, Iowa, and Nebraska this year. Hatching from eggs in 1998, the nymphs burrowed underground, were nourished by juices from tree roots for over 16 years, and went through several growth stages before emerging and completing a final molt into adult form this spring. During their short adult life of a few weeks, mating took place and eggs were laid by the females to begin another 17-year cycle.

The characteristic sounds of cicadas are produced using drum-like organs known as tymbals, and different species produce somewhat different sounds. Densities of hundreds of thousands of cicadas per acre are not uncommon, and these incredible numbers result in the deafening volume of sound being produced. The adults are able to fly, but are otherwise harmless and vulnerable. Many animals including birds, rodents, snakes and fish will opportunistically eat cicadas. The periodical cicadas use their sudden and overwhelming population to thwart predators, emerging in such numbers that they can't possibly all be eaten before reproducing. Yellow-billed Cuckoos, Red-headed Woodpeckers and Mississippi Kites are among a number of bird species that will eat cicadas. Kites sometime capture cicadas in flight, and rather gracefully reach forward with a foot to eat their meal while flying.

Listen for the next local emergence of a 17-year brood in 2032!



4A... BIRD BREAK!

Bird is the Word!

Q T J A B V Y Y T R Z Y C C M
 G P K M T V O V N R W A T Y O
 J T D V Q W G D J I E D S E P
 R I V H T T O Q O R J S Z E S
 Y G M O H N W A A B P T E H P
 T S I G O L O H T I N R O D U
 F H I O Q F T E Y X X E P C O
 Y E K D B S Q I E K K P D S R
 E K C S W L D Q G G E I Z X G
 W I T L Z C P S T H S M T T A
 Q Z E S Z Z M I W J F N K T H
 X S P V I M N O A Y U C M S G
 R F I C E X U G H X G A Y Q G
 N Z U A B I F X E U K L G Y G
 F D O S K L P B B M P E R C H

- John James Audubon, an **ORNITHOLOGIST**, named the bird after his friend, Colonel Harris.
- Harris' Hawks generally live in **DESERT** habitats.
- They have incredible vision, possibly **EIGHT** times greater than human vision.
- Sometimes Harris' Hawks will **PERCH** on top of each other.
- They are one of two raptor species that hunt in **GROUPS**.
- Their average weight is about **TWO** pounds.

YOU QUACK ME UP!



What is my favorite sport you ask? Hawkey, of course!

Zephyr and Arroyo Our Harris's Hawks

Harris's Hawk: The Harris's hawk is typically found in south-west North America all the way down to central South America. They live in desert-like habitats and

have recently been sighted in some suburbs of desert cities. They have been spotted in Oklahoma, but it is very rare. They are one of two raptor species that hunt in groups which is very important for their survival. An average Harris's hawk weighs about 2 pounds. When they hunt in larger family groups, they can catch prey as large as a jackrabbit which can weigh around ten pounds. They also have excellent vision, possibly 8 times greater than human vision. These awesome predators practice a behavior known as "back-standing" or "stacking" where several birds will perch on top of each other. It is believed that this behavior serves several purposes, one being providing a better view over a greater area to spot prey or competitors. The ornithologist and painter, James John Audubon, named the bird after his friend, Colonel Harris.

National Bird Meetings Planned for OU

In the heat of the Oklahoma summer hundreds of ornithologists from across the USA and beyond will descend on the campus of the University of Oklahoma for the annual six-day joint conference of the American Ornithologists' Union and Cooper Ornithological Society.



The Sutton Center will have a large presence at the meeting, including:

- Collectively presenting six different scientific talks or posters
- Hosting a special symposium entitled "Severe weather impacts on birds: Past, present, and future"
- Providing a version of the Education Division's free-flying bird program
- Organizing an outreach and fundraising event around an early-release showing of *The Messenger*, a documentary about songbird declines in the Americas
- Setting up an informational booth among the conference exhibitors
- Being a partial sponsor of the conference travel mugs

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