

George
Miksch
Sutton
AVIAN RESEARCH CENTER



The

SUTTON

NEWSLETTER

Volume 41, Winter 2013

Then...

1984

Celebrating Our 30th Anniversary!

...and now

2014

Cover photography by Joel Sartore.



GMSARC file photo



Dan Reinking



GMSARC file photo

Top: Dr. Steve Sherrod accepts the award from Prairie Grouse Technical Council meeting chair, Dr. Dan Svedarsky. The Hamerstrom Award is for “exemplary contributions to prairie grouse conservation.” *Bottom:* Steve Sherrod, Lena Larsson, and Don Wolfe at the Tympanuchus Wildlife Management Area in Minnesota.

SUTTON CENTER RECEIVES PRESTIGIOUS HAMERSTROM AWARD!

by Steve K. Sherrod

At meetings of the 2013 Prairie Grouse Technical Council held in Crookston, Minnesota, this last October, the Sutton Avian Research Center was awarded the Council’s most celebrated honor, the Hamerstrom Award, for “exemplary contributions to prairie grouse conservation.”

The Prairie Grouse Technical Council, comprised of grouse biologists across the United States and Canada, presents this award every two years, when its members meet at locations throughout North America to present papers and to exchange scholarly information about prairie grouse biology and conservation.

Working with collaborators such as the Oklahoma Department of Wildlife Conservation and the New Mexico Department of Game and Fish, the Sutton Center, under the direction of Dr. Steve Sherrod, has been actively involved in field studies of greater and lesser prairie-chickens in Oklahoma and New Mexico for more than 15 years. This work has resulted in 25 publications on these two species alone. Senior Biologist Don Wolfe and Assistant Director Dr. Lena Larsson became involved in Sutton’s prairie-chicken research when it was first initiated in the late 90’s, and have continued with telemetry tracking, statewide surveys, and genetics studies of these grouse. Research Director Dr. Michael Patten joined the Sutton Center in 2003 and found important correlations be-

tween prairie-chicken life history strategies and the high mortality caused by fence collisions in fragmented habitat. Wolfe has been instrumental in developing fence markers to help prevent prairie-chickens (especially the low-flying lessers) from hitting fences that can be very hard for the birds to see against the horizon, particularly when flying 50 mph. These markers have been adopted to protect other Galliformes as well, including sage-grouse and grouse species in Europe. The Center’s live bird educational program, “It’s All About Birds!” includes information about these fence markers to acquaint school children with problems that can be created when we humans manipulate the environment.

Sherrod’s involvement as one of 10 members of the federally appointed Attwater’s Prairie-Chicken Recovery Team has led to plans to begin construction, near the Sutton Center, of a dedicated facility to breed large numbers for release of one of the most endangered birds in North America (see accompanying article for collaborating agencies, organizations, and zoos as well as a summary of plans).

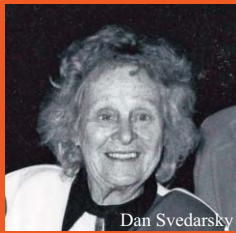
The letter nominating GMSARC for the Hamerstrom Award closes with “the George Miksch Sutton Avian Research Center has not only contributed to conservation of prairie grouse over the last 30 years, but to the entire field of conservation as a whole.” The Sutton Center is especially proud to be honored in this way!



Noppadol Paothong

A brief Hamerstrom History

by Don H. Wolfe



The year was 1995, a pleasant autumn day, when a special guest stopped by the Sutton Center for a short visit. Little did any of us know this would be the last time we would ever have the honor of seeing and visiting with Fran Hamerstrom, then nearly 87 years young. While I don't remember much of the conversations with her that day, what I do remember was her feeling sleepy and asking if she could take a nap in our front yard. I can only imagine what the UPS driver thought as he made his daily stop that afternoon and witnessed an elderly lady lying in the circle drive. It seems that everyone who knew Fran had some interesting tale to tell about her, and even many of those who never met her personally might recall seeing her cook a road-killed kingsnake during one of her many guest appearances on the David Letterman Show. But Fran was much more than an eccentric lady who wrote wild game cookbooks and relished road-killed cuisine. Fran and her husband Frederick (Hammy) were both well respected prairie grouse and raptor biologists, and were among the first graduate students under none other than Aldo Leopold, the renowned author of *A Sand County Almanac*. If one were to name the "Greats" in wildlife biology and conservation, Aldo, Fran, and Hammy would likely be the top three on many lists (although maybe not always in that order). Fran and Hammy authored or coauthored (usually together) several dozen articles on Greater Prairie-Chickens, Sharp-tailed Grouse, American Kestrels, and Northern Harriers, as well as several books on the same species. Fran also wrote two autobiographical books about her life: *My Double Life* and *Strictly for the Chickens*. Be sure to also track down Helen Corneli's (Hamerstroms' close friend and neighbor) book *Mice in the Freezer*, *Owls on the Porch*, and a collection compiled by their daughter, Elva Hamerstrom Paulsen, called *Hamerstrom Stories*. Hammy left this earth in 1990, at the age of 80, and Fran passed away in 1998 at the age of 89. Both the Raptor Research Foundation and the Prairie Grouse Technical Council present a "Hamerstrom Award" as the highest achievement honor given by each of those professional societies.



Ryan VanZant "test-flies" the octocopter in the Sutton conference room.

Bald Eagle Nest Surveillance Drone Program

by Ryan A. VanZant

Checking Bald Eagle nests for eggs or young can be a daunting, expensive and dangerous task. It often requires hours of observation, flights in aircraft, or strapping on a pair of climbing spikes and physically climbing the tree, sometimes 100 feet or more. But all that may change with the use of new drone technologies.

The Sutton Center recently purchased a Turbo Ace X88 Octocopter drone from WOW Hobbies in California. This radio controlled device carries a camera that transmits live video images to a monitor on the ground below. It also comes equipped with GPS technology and electronic stabilizers for safety and to prevent loss. We hope to be able to quickly assess the success or failure of a nest within minutes, by flying the drone up for a sneak peek, then bringing it back down. This could save us hours when compared to the time nest tree climbing normally takes.

We still have some hurdles to conquer before the octocopter flies into action. Our staff is currently learning to fly a trainer quadcopter (trying to teach bird people to fly is a very different experience). These drones are also heavily regulated by the FAA when used for anything besides strictly hobby use, and we are currently learning how to use our drone within the legal framework. We also must assess how the eagles themselves will react to the drones flying in their territories, but from our past experiences we feel it likely that the eagles of Oklahoma will be minimally bothered by the devices. The octocopter will allow for the nest to be checked in minutes rather than hours, minimizing the anxiety for the parent eagles.

We hope that very soon we can employ this technology to help save time and money, as well as making eagle nest surveillance much safer for our employees and less stressful for the eagles.

Grouse News....

Estimate plummets for Lesser Prairie- Chicken population size



by Lena C. Larsson and Don H. Wolfe

RESULTS FROM ANOTHER SEASON OF AERIAL SURVEYS

This year's aerial surveys to count lesser prairie-chickens (LPC) came up with a pretty dismal tally. The 2013 estimate by WEST totaled ("worldwide") a LPC population size of 17,616 individuals, about a 50 percent drop from the 2012 estimate of 34,440 birds. Last year's 90% confidence interval was between 23,632 – 50,704 birds, which did not overlap with 2013's range of 8,442 – 20,978. The decrease was indeed significant. The extreme drought that has impacted the southern Great Plains in the past years is believed to have contributed to the plummeting lesser prairie-chicken numbers.

The 2013 estimate for the region that includes Oklahoma, south-central Kansas, and the northeast Texas Panhandle was 3,567 birds (90% confidence interval 968 – 6,761). That is down from 8,076 in 2012 (3,022 – 14,640).

THE LESSER PRAIRIE-CHICKEN RANGE-WIDE CONSERVATION PLAN ENDORSED BY US FISH & WILDLIFE SERVICE

After Oklahoma developed a state Lesser Prairie-Chicken Conservation Plan in 2012, a collaborative effort including the Western Association of Fish and Wildlife Agencies (WAFWA) and the Lesser Prairie-Chicken Interstate Working Group put together an expanded version that includes the five states in the bird's range. It was finalized in September 2013 and is available at <http://www.wafwa.org/documents/TheLesserPrairieChickenRange-WideConservationPlan.pdf>

The goal of this plan is to conserve the LPC for future generations while facilitating continued and uninterrupted economic activity throughout the entire LPC range. The strategy is to coordinate implementation of incentive-based landowner programs, and to apply mitigation to compensate development impacts on the LPC. The voluntary plan will be administered by the state wildlife agencies through WAFWA.

The U. S. Fish and Wildlife Service (USFWS) regards the plan consistent with criteria proposed last May for conserving the species. However, implementation of this plan will not necessarily stop the need to protect the lesser prairie-chicken federally. The final determination on whether to list the LPC under the Endangered Species Act is now expected in March, 2014.

4 *The Sutton Newsletter*

AWARDS RECEIVED BY GMSARC

1990 Oklahoma Academy of Science Award
For Extended Meritorious Service to Science in Oklahoma

1991 Certificate of Merit
Oklahoma Ornithological Society
For Outstanding Accomplishments in the Study of Birds, Nature, and Wildlife, and their Conservation to the End that Future Generations may always Appreciate and Protect Our Natural Resources

1991 Japanese Mountain Hawk Eagle Award
Society for Research of the Golden Eagle

1999 Recognition of Bald Eagle Recovery Efforts
White House Ceremony, Washington, D.C.,
President William J. Clinton

2003 Keep Oklahoma Beautiful
Award of Excellence for Pathfinder Parkway Bird Trail

2005 Finalist, Oklahoma Book Award
Oklahoma Breeding Bird Atlas (Dan Reinking, editor)

2007 Wildlife Stewardship Award
NatureWorks
Heroic Sculpture, River Parks, Tulsa

2009 President's Award for Environmental Education
Oklahoma Association for Environmental Education (Ryan VanZant)

2009 Outstanding Organization Award
Oklahoma Association for Environmental Education

2009 Keep Oklahoma Beautiful
Team Builder Award

2012 Freienmuth Award
North American Falconers' Association
Going Above and Beyond the Call of Duty for the Benefit of NAFA and/or Raptors (Steve Sherrod)

2013 Hamerstrom Award
Prairie Grouse Technical Council
To Recognize Exemplary Contributions to Prairie Grouse Conservation

The George Miksch Sutton Avian Research Center Past, Present, and Future

by Steve K. Sherrod

It was 1983 and the beginning of a severe economic recession; several environmentally inclined “Okies” had been discussing the possibility of establishing some kind of “avian conservation center” in the Sooner state. With guidance from this group of Oklahoma ornithologists, birders, and interested individuals (Bob Ahlquist, Warren Harden, John Shackford, John Tomer, and Jack Tyler), a governing board was established. The idea would be for a multi-purpose facility to be centered around science, education, and conservation while cooperating with government agencies, biologists, landowners, and other interested parties.

Harold and Sandy Price were interested in wildlife conservation, and they offered a significant monetary nest egg to help get the Center started, assuming more funds could be found to match their investment. But this effort would need a home, and the Prices were moving to California. So, their generous contribution of 39+ acres on top of Circle Mountain, south of Bartlesville, OK, along with a beautiful 8,000 sq. ft. redwood house would soon become the headquarters for the George Miksch Sutton Avian Research Center (GMSARC). Obviously named to honor George Miksch “Doc” Sutton, Professor Emeritus from the University of Oklahoma and a mentor for many, the Center could not have had a more distinguished and well recognized namesake.

As the movement built momentum, Joe Williams of Tulsa, along with other conservation minded individuals such as Bob Lorton, Jack Zink, and Len Eaton hosted a dinner for distinguished guests on top of the BOK building in Tulsa and helped raise \$350K to get the Sutton Center off the ground. Steve Sherrod and Alan Jenkins were hired to serve as executive director and assistant director respectively, and Don Wolfe, who initially joined the small staff, fresh out of undergrad school to help raise Japanese quail for eagle food, would later become a senior biologist specializing in grouse studies. A unique Bald Eagle recovery project was planned in cooperation with the USFWS and Florida Game and Freshwater Fish Commission, and fol-

low-up studies were to be conducted by the University of Florida. The Price’s loyal, annual financial contributions joined those of private foundations, corporate foundations, and myriad individuals who helped support the conservation and education efforts of the Sutton Center ever since.

It is obvious at this time in our species’ evolutionary history that the struggle to maintain our natural heritage, which includes both awe-inspiring creatures and the habitat so essential for their survival, will be a never ending battle. That job is overwhelming, and the Sutton Center along with other like-minded organizations must continue to work toward cooperative conservation solutions, if the multitude of life forms on our planet are to continue. The 30 year journey of the Sutton Center thus far has been magnificent, challenging, convoluted, wonderful, discouraging, collaborative, significant, and educational, and this sojourn has contributed positively toward a better natural world. In the following pages are shared some memories along the Sutton Center’s last thirty years. We hope you will find these images of interest, and we hope you will continue to support our continued efforts to conserve wild things and wild places.



From left to right: Joe Williams, Bob Lorton, Harold Price, Jack Zink, Len Eaton, and Joe Morris of the Sarkeys Foundation.

Painting by R. Heindel



Dan Remking

Establishment of the Sutton Center (1984)



GMSARC file photo

Bald Eagle Reintroduction Project (1985-1992)

With a large eagle barn under construction, the plan to remove complete clutches of eagle eggs (18 eggs in total for first year) from southern Bald Eagle nests in Florida was initiated. Early season removal of all eggs per nest stimulated laying of a second clutch and alleviated negative population impacts on resident Florida eagles. One egg was infertile, but all others hatched to be raised behind one-way glass with Sutton eagle puppets. Once ready to fly, the first Sutton-raised eagles were hacked back into the wild in several southeastern states, a project that continued with increased numbers (averaging 60 young per year) through 1992.



ODWC



GMSARC file photo

1984

1985

1986

Cape Griffons (1984)

One of the earliest captive breeding efforts at the Sutton Center began with two pairs of Cape Griffons, native to southern Africa. Wild populations were declining, and captive breeding and augmentation of wild populations were being considered. Conservation efforts in Africa resulted in a reversal of the decline by the time these birds reached breeding age at seven years old. We successfully bred the species; four adults and their offspring were given to the Los Angeles Zoo in 1995.



GMSARC file photo

Coturnix Quail (1985)

In need of a high quality, readily available food source for our Bald Eagle raising efforts, we began a captive Coturnix quail colony in 1985, and in 1990, with help from the Lyon Foundation, built a large, state-of-the-art facility that is capable of producing over 50,000 quail per year needed for raising Bald Eagles from hatching to independence.



GMSARC file photo

Peregrine Falcon research, Baja, Mexico (1986)

Alan Jenkins joined Dee Porter in research on peregrine falcons populations in Baja, Mexico.



GMSARC file photo

Into the air, little baldies! (1988)

The Sutton Center is featured in the collectors edition (2000th issue) of Life magazine as well as National Geographic.

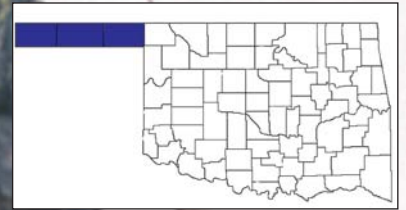


GMSARC file photo

Panhandle Raptor Surveys

In 1986, 1992, 1993, and 1995, we conducted raptor surveys in Cimarron County, at the far end of the Oklahoma Panhandle, where the High Plains meld into the foothills of the Rocky Mountains and the arid Southwest. The rugged canyon country, with spring-fed riparian streams, and mesas from ancient lava flows supports a wide variety of avifauna, including breeding Prairie Falcons and Golden Eagles. Although dated, the results of these surveys are still being used at the present time in determining sensitivity of potential wind development facilities.

GMSARC file photo



The Today Show (1989)

Steve Sherrod appears on The Today Show with Katie Couric.



GMSARC file photo

Alan Jenkins

1988

1989

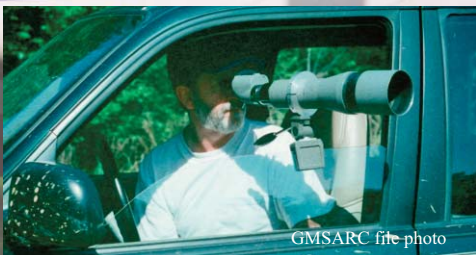
1991



Mike Watkins

Bald Eagle Nest Surveys (1991-2010)

Sutton Center Assistant Director Alan Jenkins conducted annual Bald Eagle nest counts in Oklahoma backed by USFWS, ODWC, and Sutton Center's many other supporters. He scoured tall trees from land, water, and air. Sutton Center's re-introduction efforts gave results, and Bald Eagles were found nesting in Oklahoma in 1991, with the number of nests steadily increasing since. In Alan's words "In Oklahoma, if we could establish 10 nesting pairs of birds, we would consider the program a success." Alan counted 121 nests when he did his last survey in 2010!



GMSARC file photo



Alan Jenkins

Alan Jenkins



GMSARC file photo.

Andean Condors (1991-1992)

In 1991, while hosting the annual Raptor Research Foundation Conference, we were asked by the California Condor Recovery Team to consider submitting a proposal to breed California Condors at our facilities. We needed to first gain experience by breeding the related Andean Condor. While waiting for breeders, Hurricane Andrew struck central Florida, causing extensive damage to the Miami Metro Zoo, and suddenly, a pair of Andean Condors found a home at GMSARC. Two subsequent offspring bred at Sutton were released in Colombia to augment wild populations.



Dan Reinking



GMSARC file photo



Dan Reinking

1991

Kazakhstan (1991-1992)

With support from the Trust for Mutual Understanding, Steve Sherrod joins other researchers to search for Altai Falcons or their genetic samples from Tien Shan and Altai Mountain Ranges of Asia.

India (1991)

Steve Sherrod and Alan Jenkins work with the USFWS Office of International Affairs by traveling to India for consultations with the Wildlife Institute of India regarding captive breeding projects for a number of threatened or endangered avian species in India.



GMSARC file photo

Dan Reinking

Nasa collaboration (1992)

GMSARC works with Jim Anderson of NASA using thermal imaging video technology to examine incubation temperatures of bald eagles.



GMSARC file photo

National Geographic 1992

The Sutton Center Bald Eagle Restoration Project is featured in the November 1992 article entitled "Eagles on the Rise."



Joel Sartore

Prairie Birds Study (1992-1996)

After the final season of Bald Eagle releases in early 1992, the Sutton Center began a 5-year study of grassland birds. Grassland birds were declining faster than any other group of species in North America. We studied 18 tallgrass prairie plots, each 40 acres in size, to examine how nesting birds respond to land use practices. Field crews conducted nest searching and monitoring, point counts to monitor bird diversity and abundance, and vegetation sampling to measure how the height and density of vegetation responded to burning and grazing. Over 2,700 nests of 41 species were found during the study, with the largest nest samples representing the Eastern Meadowlark, Grasshopper Sparrow, and Dickcissel. This work has yielded over 20 scientific publications, ranging from anecdotal but interesting observations, to species-specific examinations of response to land management, to collaborative efforts with other researchers to evaluate the effects of grassland habitat fragmentation on birds.



Bird Banding (1992-1996)

As a companion project to the nest searching portion of our grassland birds study, we banded birds at 12 stations on private ranches and on the Tallgrass Prairie Preserve. We operated these for five years as part of the international Monitoring Avian Productivity and Survivorship (MAPS) banding program. Following standardized protocols, birds inhabiting our prairie-edge banding stations throughout the breeding season were captured, examined, given a numbered leg band, and released. Amassing a large dataset from many contributors including the Sutton Center allows the Institute for Bird Populations to monitor



Roadside nest monitoring (1992-1996)

The amount of habitat along roadsides is large and is important to many bird species. These roadsides typically have more brush and trees than in the open prairie, and were heavily used by "edge" species such as Brown Thrashers, Eastern Kingbirds, Scissor-tailed Flycatchers, Loggerhead Shrikes, and Mourning Doves. The Center monitored over 1,700 nests during this study.

GMSARC file photo

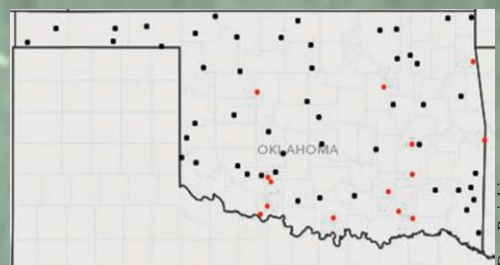
1993

trends in breeding success. We banded over 5,000 birds of about 85 species during this project.



Breeding Bird Survey expansion in Oklahoma (1992)

One of the longest running and best sources of information regarding bird populations in North America is the Breeding Bird Survey coordinated by the USGS's Patuxent Wildlife Research Center. As part of our grassland birds study, we established and recruited volunteers to survey an additional 22 routes in Oklahoma, raising the number of routes from 35 to 57 and providing more effective measurement of bird population trends in Oklahoma.





Don Henley (1994)

Don Henley of The Eagles, contacted by Sutton supporter Carolyn Wallace, contributed \$100,000 to help keep GMSARC afloat during tough times. Without that essential, financial boost at that critical point, GMSARC may not have survived.

Fort Sill (1994)

We utilized our grassland bird experience to conduct studies at the Fort Sill Army Reservation, assessing bird responses to the facility's conservation efforts and military training exercises.

Grassland Birds Conference (1995)

Being positioned in the heart of North America's grasslands and studying grassland birds, we hosted, together with the Association of Field Ornithologists, an international conference on the ecology and conservation of grassland birds in October of 1995. Attended by nearly 300 people from a number of countries, the conference included over 80 presentations and a memorable field trip to The Nature Conservancy's Tallgrass Prairie Preserve. Over 30 peer-reviewed papers from this conference were published as Studies in Avian Biology volume 19. Nearly 20 years later, we still hear from people who remember this conference for its quality and because it made a major impact on their research or conservation careers.



Rita Blanca National Grasslands (1996)

GMSARC conducted a grassland bird and livestock grazing study on the Rita Blanca National Grasslands for the USDA Forest Service. The primary objective was to evaluate different grazing regimes used by permittees authorized to graze on Federal lands.



1994

1995

1996

Henslow's Sparrow (1996)

Our grassland birds study documented a very significant population of Henslow's Sparrows at the Tallgrass Prairie Preserve. Although individual birds and evidence of nesting was known in northeastern Oklahoma since 1974, our intensive research suggested a population of several thousand Henslow's Sparrows might be present on the Tallgrass Prairie Preserve. This is one of the largest populations of this species in the country, and we conducted a habitat preference study as well as regional surveys in northeastern Oklahoma for the USFWS, documenting birds at 28 sites in 6 counties and discovering that tallgrass habitat remains unoccupied by this species for two growing seasons after being burned.



Greater Prairie-Chicken project (1997-2000)

We trapped, radio collared, and tracked Greater Prairie-Chickens in Osage County, Oklahoma, to determine the causes for the dramatic decline that the species had experienced over the previous decades. We found that the prairie-chickens preferred to place their nests in unburned prairie, but broods were led to relatively recently burned areas, with higher arthropod abundances and where it is easier for chicks to move around.

Breeding Bird Atlas

Edited by Dan L. Reinking

Oklahoma Breeding Bird Atlas (1997-2001) Published by OU Press in 2004

As five years of intensive grassland bird research ended, the Sutton Center took on a Breeding Bird Atlas project. This five-year citizen science study involved recruiting skilled volunteer birders to survey 583 randomly selected blocks of land throughout Oklahoma for nesting birds. Volunteers and project staff spent nearly 8,000 hours surveying, not including travel time, and found 212 species. Mourning Dove was the most widely distributed species, while our state bird the Scissor-tailed Flycatcher ranked eighth. Comprehensive, standardized inventories of this type provide important baseline information on current bird distributions, and are designed to be repeated at intervals of 20 years to monitor changes.



Christmas Bird Count (1998-present)

Several Sutton Center employees join birders from all over North America to count birds during the holidays. In the 1998-1999 season, at the request of The Nature Conservancy, we initiated a new Christmas Bird Count on the Tallgrass Prairie Preserve. In the 15 years that this count has been conducted, over 130 species of birds have been spotted at least once. This CBC has become a favorite among many birders in Oklahoma, and there are several participants that come regularly from out of state.



1997

OU affiliation (1997)

With help from Sutton supporters, the Oklahoma Legislature, and then OBS Director Dr. Gary Schnell, GMSARC affiliates with the Oklahoma Biological Survey at the University of Oklahoma.

1998

Camp Gruber (1998-1999)

Management of wildlife on military properties, while secondary to training and operational missions, is important considering the aggregate amount of habitat available on these facilities nationwide. In 1998 and 1999 we conducted over 200 standardized breeding season bird transect surveys on Camp Gruber Training Center, an Oklahoma Army National Guard facility. We also developed an educational display for use by the OKARNG that described many birds present on this 33,000 acre facility.



Swainson's Warbler (1998-2011)

The Sutton Center provided administrative assistance for Dr. Mia Revels of Northeastern State University to study Swainson's Warblers, one of the rarest of breeding birds in Oklahoma. She has documented larger numbers than were thought to occupy the state, and collected valuable information on their nesting ecology.





Craig Koppie

White House recognition (1999)

On July 2, GMSARC was recognized at a White House ceremony hosted by President William Jefferson Clinton. Our invitation was coordinated by the USFWS's Craig Koppie for the significant role Sutton played in the recovery of our national bird and its removal from the endangered species list.

Lesser Prairie-Chicken studies in Oklahoma and New Mexico (1999-present)

We have researched Lesser Prairie-Chickens in western Oklahoma and eastern New Mexico. Although the research in New Mexico ended in 2006, it continues in western Oklahoma. To date, over 900 Lesser Prairie-Chickens have been captured and radio-tagged. Key findings have been 1) survivorship increase with availability of shrubcover, 2) fence collisions are a large cause of mortality, 3) as with greater prairie-chickens, lessers show reluctance to nest/roost/forage by and even cross transmission lines, and 4) the genetic effective population sizes suggest that the populations are at risk of inbreeding depression.



GMSARC file photo

Camp Robinson (1999)

The Robinson Maneuver Training Center, a 33,000 acre Arkansas National Guard Training Center contracted with us in 1999 for bird research and monitoring. We surveyed for 4 species of special management concern: Northern Bobwhite, Bachman's Sparrow, Loggerhead Shrike, and Cerulean Warbler. We also conducted 150 point counts detecting 69 species, located and monitored 46 nests of 15 species, and evaluated the incidence of nest parasitism by Brown-headed Cowbirds.

1999



David Wiedenfeld

Nicaraguan Parrot Survey (1999)

Wild parrots are captured annually for the pet trade. To assist with the development of harvest quotas that would allow sustainable use of wild parrot resources, GMSARC's Dr. David Wiedenfeld surveyed parrot populations in Nicaragua.



Dan Reinking

Pathfinder Parkway Bird Trail (1999)

Twin objectives of educating the public about birds as well as demonstrating Sutton Center leadership for community involvement came to fruition in 1999 with the installation of signs along Bartlesville's Pathfinder Parkway trail. A total of 12 signs along a two-mile stretch of this pedestrian and cycling path illustrate with original color artwork (by Mark Waller) 40 species of birds which can be seen along the trail, as well as provide descriptions and information about each bird. Sutton staff received help from students, local companies, and charitable entities.



Eagle Soars Event (2000)
 GMSARC hosted “The Eagle Soars” black tie event to celebrate the downlisting of the Bald Eagle from Threatened status and to honor the many who played significant roles in supporting the Sutton Center’s contribution to this success story.

GMSARC file photo

Prairie Grouse Technical Council meeting (2001)

The Sutton Center cohosted the binennial PGTC meeting in Woodward Oklahoma, which attracted over 100 grouse biologists from the USA and Canada.



GMSARC file photo

Dickcissels in Venezuela (2001)
 Dickcissels leave Oklahoma to spend the winter in enormous flocks, migrating primarily to a relatively small area of Venezuela. A million or more birds may come together to roost at night, and forage on agricultural crops during the day. This makes them vulnerable to accidental or deliberate poisoning with pesticides. In 2001, we visited concentration areas in Venezuela to examine pesticide levels in this Neotropical migrant.



David Wiedenfeld

GMSARC file photo

2001

2002

2003

National Geographic Speakers (2002, 2004, 2005, 2007, 2008)

With support from F & M Bank and Trust Company, the Sutton Center arranged events at which *National Geographic* photographers spoke to students and the public about their experiences across the world in the context of conservation and education.



Dan Reinking



Alan Jenkins

Annual Sutton Picnic (2003-2013)
 With the generous and indispensable help of the RiggsAbney Law Firm and their employees, the Sutton Center has hosted a picnic with music, presentations, and activities for all ages. This is a way for the Sutton Center to say thank you to it’s members.

Dan Reinking



Doug Tozer

Oklahoma Winter Bird Atlas (2003-2008)

After completing the Oklahoma Breeding Bird Atlas, we once again recruited citizen scientists in a five-year effort to survey the same set of 583 blocks throughout Oklahoma, this time during the winter months. Volunteers and staff recorded 26,000 bird obser-

ervations of 183 species. The Red-tailed Hawk was the most widely distributed species, occurring in over 95% of surveyed blocks. The forthcoming *Oklahoma Winter Bird Atlas* book will be a companion volume to the *Oklahoma Breeding Bird Atlas* and will provide a valuable baseline reference against which to measure future changes in winter bird distributions in Oklahoma.



Don Wolfe

Fence Marking/Removal (2005-present)

Collisions with fences are one of the major mortality causes for Lesser Prairie-Chickens. In 2005, we started marking willing landowners' fences to increase visibility, as well as removing fences that were serving no function. The methodology we developed has since been applied for conservation of Greater Sage-Grouse, and in France for the protection of Capercaillie and Gray Partridge. Research in Idaho has shown that marking fences reduced sage-grouse collisions by over 80%.



Dan Reinking

Sutton Center Renovation (2002-2003)

Major renovations to our administration building were achieved in 2002, providing us with a conference room, enhanced wheelchair access, more convenient restroom facilities, better electrical service, better drainage, new patios and walkways, and numerous additional improvements.

2004

Inland Bird Banding Association meeting (2004)

The Sutton Center hosted the Inland Bird Banding Association (IBBA) annual meeting in 2004. Since 1922, the IBBA brings together federally licensed bird banders who meet to share information and techniques in both academic and hands-on field settings. Sutton staff presented keynote programs and assisted with field trips and other logistics in addition to hosting the meeting at our facility.



Dan Reinking

Four Canyon Preserve bird surveys (2005 and 2007)

Eight visits by Sutton staff from April to December in 2005 and ten spring and summer visits in 2007 to The Nature Conservancy's Four Canyon Preserve in northwestern Oklahoma yielded an indication of the species present there. One hundred and ten species were detected during our surveys. This information helps preserve managers direct habitat improvements to benefit priority species.



Dan Reinking

2005



GMSARC file photo

Sooner Lake Nest (2005-present)

A cooperative project involving Alan Jenkins at GMSARC and OGE staff resulted in the construction of an eagle nest pole that was erected and ready for use by eagles when their dead tree nest fell into the water at Sooner Lake. This nest pole would later accommodate two of GMSARC's eagle nest cams.

Dan Reinking

It's All About Birds! Educational Program (2006-present)

It's All About Birds! debuted for a full house at Union High School in Tulsa. This first performance of the Sutton Center's unique free-flight bird program was an early indication of just how effective and successful this program would become. Since then, the program has been seen by over 100,000 students and adults, and live birds continue to educate viewers. This free program travels to schools all across the state, presenting its environmental education message within the framework of Oklahoma's state education standards.



Dan Reinking

The Sutton Award (2006-present)

The Sutton Award recognizes Oklahoma high school students, grades ten through twelve, who demonstrate the ability to communicate current conservation topics in compelling ways. The Sutton Award is comprised of up to \$20,000 in cash to be distributed annually among winning students and instructors.



Dan Reinking

2006



Milos Milenkovic

Wild Brew (2005-present)

The Sutton Center inherited Wild Brew in 2005 to become our largest annual fundraising event. This one-of-a-kind event combines fare by Tulsa's best restaurants with first-rate beers by artisan brewers from the U.S. and around the world – plus live band music by local favorites such as Mid-Life Crisis, Mark Bruner and Shelby Eicher. Wild Brew is a terrific time helping to support the Sutton Center's research and education programs. For more details visit www.wildbrew.org.



Dan Reinking

Bald Eagle Nest Cameras (2006-present)

Utilizing new technologies, the Sutton Center, with technical assistance from Atlas Broadband, installed web based cameras in Oklahoma Bald Eagle nests. These cameras allow scientists and the public alike to get a look into the intimate life of Bald Eagles and their offspring, from building of the nest, to fledging by youngsters. Several million views by people from over 170 countries have enabled observers to learn about eagles from the comfort of their own computers.



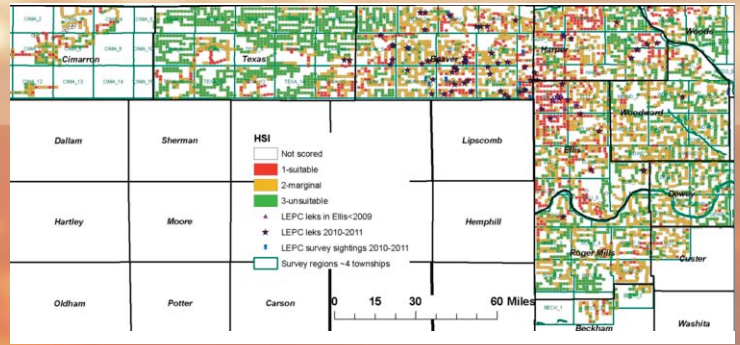
Madeline Wolfe

White-tailed Ptarmigan Study (2007-present)

The Center has been conducting surveys for White-tailed Ptarmigan throughout all high alpine areas (above 12,000 feet elevation) in north-central New Mexico, which is the southern extent of the species' range. We are also determining the limiting factors that influence this species' presence, and the genetic isolation from populations to the north. Due to climate change in the mountains and increasing mountain recreational activities, the Rocky Mountain populations of White-tailed Ptarmigan are now being considered for listing under the Endangered Species List.

Lesser Prairie-Chicken surveys (2010-2011)

The Sutton Center systematically surveyed the Oklahoma range of the Lesser Prairie-Chicken during its breeding seasons in 2010 and 2011. This meant many person hours driving county roads, stopping every mile to listen and look for birds. Besides locating bird occurrence, we assessed the suitability of habitat. The combined effort reached over 5000 assessment stops! The survey results are being used to determine where development has the most impact on the Lesser Prairie-Chicken and where the best areas for effective conservation work are located.



Woolaroc (2008, 2011, 2012)



Ryan VanZant

2010

**Wildlife Expo (2008, 2011, 2012)
It's All About Birds!**



Ryan VanZant

2008

**OK Mozart (2008-2011)
It's All About Birds!**



2009

Phillips 66 Eliza Creek bird surveys (2008-2012)
Volunteer Phillips 66 employees help manage an Eastern Bluebird nest box array and wildlife area on company-owned property at the outskirts of Bartlesville. Sutton staff have assisted with bird walks on the property as well as providing management recommendations.



Dan Reinking

Tulsa World columns (2008-present)

A 2008 phone call to Sutton senior biologist Dan Reinking from Kelly Bostian, the then new *Outdoors* section editor of the *Tulsa World* newspaper, initiated what would develop into a long running weekly column entitled *Bird Watch*. Each brief article features a bird species that can be seen in northeastern Oklahoma on the publication date, along with behavioral or life history information. Well over 200 species have been featured and more are on the way. A bird migration calendar is also included to note expected arrivals and departures in the region.

Rob Pilley

Earthflight (2010)

In early 2010, the Sutton Center was contacted about the possibility of flying our Bald Eagles over the Grand Canyon for a ground breaking BBC / Discovery Channel series called *Earthflight*. This program features birds, filmed in high-def, taking the viewers to sights in nature that are rarely seen. Many of these birds carried on-board backpack mounted cameras, giving the viewer a true "bird's eye" view. That October, Steve Sherrod, Ryan VanZant, and Jennifer Reeder accompanied the Center's local celebrity Bald Eagles, BENSAR and Fiona, to the filming location in the Grand Canyon National Park. After 7 days of filming, the flights of our eagles were featured in the European and North American episodes of the *Earthflight* series and have been viewed on television stations all around the world.



Ryan VanZant

Eagle Tracking (2010-present)

The mobility afforded to migratory or wide ranging birds because of their capacity for flight leads to obvious questions by scientists and bird enthusiasts alike. When, where, and how fast do they go? When young eagles leave the nest they spend about four years as nomads until they reach maturity; then they typically establish a nesting territory in the general vicinity of where they were raised and first took flight. With the recent advent of the GPS network and small, lightweight satellite tracking systems we now have the technology to answer some of these questions. We started our eagle tracking program in 2010 by placing transmitters on two nestling eagles near Sand Springs, Oklahoma. Sutton staff and visitors to our website have been able to track the movements of these birds as well as 10 additional birds in subsequent years. There are not well defined patterns to their movements; our initial two birds moved south to Texas for their first summer and fall. Since then most have gone north after leaving their nest, some as far as Canada. The transmitters we are using have an expected life of 3 years or more, so we hope to follow at least some birds through to their first nesting season. Follow the eagles' movements at suttoncenter.org.



GMSARC file photo



GMSARC file photo



Cheryl Cavert

2012

BEST Eagle Surveys (2012-present)

As Alan Jenkins kept records of Oklahoma bald eagle nests, he also encountered persons passionate about our national symbol. They loved to learn more about eagles from Alan, and volunteered to help with his efforts. After Alan's retirement, the new assistant director Lena Larsson asked these citizen scientists to become the BEST: the Bald Eagle Survey Team. The team helps us continue keeping records on the number of bald eagle nests in the state. We are expanding the monitoring efforts to gather additional data useful for research on the birds' habitat requirements. The data gathered is not only important to learn about eagle population trends and needs, but the Bald and Golden Eagle Protection Act also prohibits interference with nests, so consultants and developers contact us to inquire whether we have records of nests close to their project areas.



Dan Reinking

The Fly Fishing Film Tour (2012, 2013)

This is "fly fishing's most anticipated annual event" according to Stonefly Magazine. The tour is a series of short films shot all over the western hemisphere in some of the most desirable places to fish. The tour is shown in over 100 places across the nation and the Sutton Center, due in part to a few influential board members, was able to bring the tour to Green Country for an event to benefit the Center's Sutton Award Scholarship Program.



GMSARC file photo

Lesser Prairie-Chickens again (2013)

Although research and conservation efforts on Lesser Prairie-Chickens have never ended, we ceased radio-tracking in 2010, and then began again in 2013 under a contract with the Oklahoma Department of Wildlife Conservation. One focus in our ongoing research is to gain further knowledge of the role of nutrition and diseases on prairie-chicken populations.

INCREASING CHANCES OF RECOVERY FOR ATTWATER'S PRAIRIE-CHICKEN A DEDICATED BREEDING FACILITY NOW UNDERWAY BY THE SUTTON AVIAN RESEARCH CENTER

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

The Sutton Center (GMSARC) is now set to take on a significant, new conservation project – breeding the Attwater's prairie-chicken (APC) for release! This is one of the most endangered birds in North America, and it is essential to increase the captive production of this species in order to provide enough birds for release that sustainable populations can be re-established in the wild. We are therefore ready to give our best efforts to help with the recovery of this special bird.

The Attwater's prairie-chicken has been dangling on the edge of becoming extinct for a long time. This grassland grouse once inhabited six million acres of prairie along the Gulf Coast from Corpus Christi, Texas, north to the Bayou Teche area in Louisiana, and for some 75 miles inland. As grasslands were consumed by human settlements, industries, agriculture, and brushy vegetation, and possibly due to pesticide use on rice crops, the estimated population of close to one million birds about a century ago plummeted precipitously. It was listed as endangered in 1967 and by 1996, only 42 birds were left in the wild.

Attwater's prairie-chickens are currently being kept in captivity at Houston, Caldwell, and Abilene zoos as well as at Fossil Rim Wildlife Center in Texas. These birds are breeding stock that is carefully managed genetically through a detailed studbook, and offspring of these captives are released annually (228 in summer of 2013) at the Attwater Prairie Chicken National Wildlife Refuge, Texas City, Texas, and at specific locations on private land. However, with a relatively short life span (for most, about two years) and owing to threats such as flooding, red-imported fire ants, and predators like

white-tailed hawks, raccoons, skunks, foxes, and great horned owls, only a limited number of APCs are able to successfully reproduce in the wild. One of the main objectives in the Attwater's Prairie-Chicken Recovery Plan is to increase propagation and release efforts in order to boost wild populations to high enough levels that self-sustaining populations can be established. This is where the Sutton Center has work to do!

Most captive-bred Galliformes or chicken-like birds such as quail, grouse, ptarmigan, partridges, and pheasants have not exhibited good success at survival and breeding once released into the wild. We are hoping that this new breeding facility will serve as a living laboratory in which we can experiment with different nutritional, behavioral, and management techniques that might significantly increase the likelihood for captive bred Galliformes to flourish once released. This is one of the primary goals of our undertaking.

FUNDING

We are especially grateful to have received funding for this project through collaboration with the National Fish and Wildlife Foundation (NFWF), the U.S. Fish and Wildlife Service (USFWS), and the Mohammed bin Zayed Species Conservation Fund (MBZSCF). The Species Conservation Fund has experience with a similar project – captive breeding of the Houbara

bustard. The Houbara bustard occupies a niche similar to the North American sage-grouse species but on the Eurasian and African continents. This bustard also experienced a rapid population decline that was caused by habitat degradation as well as high hunting pressure. Houbara conservation has been quite successful with very high survival and reproduction in the wild of released birds that were raised in captivity. Representatives from the Species Conservation Fund visited us last year to consider our planned approach, to



The APC Team from left to right: Don Wolfe (GMSARC), Wendy Brown (USFWS), Mike Morrow (USFWS), Claude Gascon (NFWF), Ken Riddle, H.E. Razan Al Mubarak (MBZSCF), Lena Larsson (GMSARC), Nofa Al Marzouqi (MBZSCF), Terry Rossignol (USFWS), Jean Little (GMSARC), Steve Sherrod (GMSARC), Dan Petit (NFWF), H.E. Mohammed Al Bowardi (MBZSCF).

see the land where the facility would be built, and to discuss the project with us and representatives from the National Fish and Wildlife Foundation, the U.S. Fish and Wildlife Service, and the federally appointed Attwater's Prairie-chicken Recovery Team.



Joel Sartore

THE PLAN

The Sutton Center has purchased 77 acres of prairie habitat near Bartlesville on which to build this facility, with construction to proceed in stages over a couple of years in order to test design and materials that will be used. Structures will include laboratories and offices, breeding barns, chick raising buildings, and large (football field sized), netted enclosures in which poults will become accustomed to natural habitats as well as natural type foods prior to transport and release in Texas. This treatment is designed to prepare them for survival in the wild.

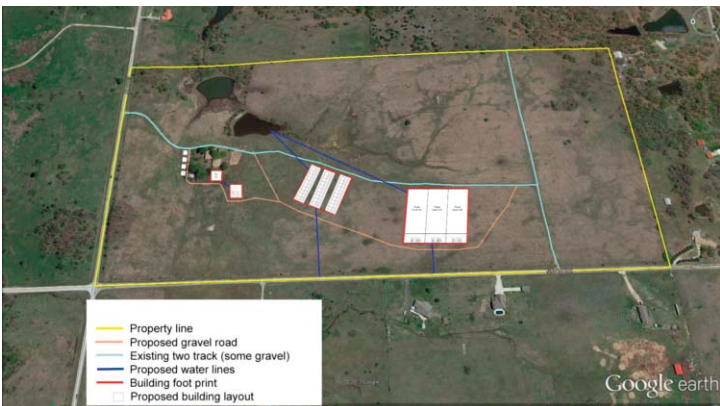
The breeders will be kept behind screened wire to avoid avian malaria, West Nile Virus, and other mosquito-borne diseases while in captivity. Some chicks chosen for breeders will be raised to maturity and be bred as imprints that can be fertilized through artificial insemination, others will be raised as natural breeding hens allowed to select their own males just as do wild prairie-chickens, and others will be bred in trios. Chicks slated for later release will not be raised behind screening, but will be exposed to the elements naturally just like any wild birds. Natural

populations and other behavior. Strict control of predators at the site will be a challenge, but we have plans to address this, and we are optimistic that it can be accomplished.

The breeding in captivity of disappearing prairie-chickens or other grouse will not, in itself, solve the problems that these birds are currently facing. This must be accomplished in combination with habitat reclamation, management, and conservation efforts. Through this work, we aim to ensure the long term recovery and survival of this iconic species for future generations to enjoy, and that what we learn from the APC breeding program will also be useful toward higher survival and reproduction in the wild of other captive bred Galliformes like bobwhite quail, lesser prairie-chickens, and other grouse if that becomes needed.

A video about the Attwater's prairie-chicken recovery work in Texas can be viewed at: http://www.fws.gov/refuge/Attwater_Prairie_Chicken/multimedia/Videos.html.

food types such as captive raised insects (crickets on special diets) and fresh sprouts, rather than strictly processed, bagged foods, will be raised at the facility and supplied to these birds. The birds will be monitored via live cameras in order to maintain records of





Wild Brew 2013

Story by Hillary A. Parkhurst

Photography by Dan Reinking & Casey Hanson

Wild Brew was started in 1999 by three guys who were tired of going to black tie events and would rather throw on their Hawaiian shirts and drink good beer. The event began in an airplane hangar as a fundraiser for The Nature Conservancy and was TNC's signature event for several years. The event continued to grow and gain attention from craft brewers and patrons that enjoyed tasting craft beer. In 2005 the Wild Brew founders changed the event to benefit the Sutton Avian Research Center. Several of the people who originally served on the committee are still very involved with the event, and the Sutton Center has a Director of Development who helps the committee with the many minute details, ticket sales, and sponsorships. The event has grown to almost 2000 guests a year and continues to transform with the times.

Despite one of Tulsa's worst power outages and wind storms the city had seen in years, Wild Brew proved that with 15 years in the making, it was still the best party ever hatched! Our committee of almost 30 volunteers spent countless hours working to make this year's event even better than past years while also facing challenges as the majority of Tulsa was without power for up to a week in some areas. Their work and the work of our incredible chairs this year helped pull off what many said was the best event to date!

Wild Brew is now Oklahoma's largest beer tasting festival! Attendees enjoyed malted brew from all over the world and all kinds of food from over 30 local restaurants. Patron guests en-

joyed a lounge featuring specialty restaurants and the opportunity to mingle with local craft brewers.

This year's volunteer committee was chaired by Sutton Center Board of Directors member Kristopher Koepsel of Riggs Abney Attorneys at Law, and Mary Vrooman, co-owner of Tri-Arch Architecture. The Honorary Chairs of the event were Bob and Liz Austin of Tulsa. Mr. Austin is the owner of Helicomb International. Special thanks go out to all of the beer vendors and restaurants for their generosity and contributions to the event. A complete list can be located at www.wildbrew.org. (Our new and improved website!)

This event would not be possible without the support of our sponsors, especially SilverTree Technology, Journal Broadcasting Group, Idea Studio, JD Young and One2One Marketing, John Steele Zink Foundation, Oklahoma Magazine, V Tulsa Magazine, and the Austin Family Foundation, along with many others. The committee and the Sutton Center also thank Scott and Mary Vrooman for hosting the Wild Brew thank you party in their lovely home, and lastly a huge thank you goes out to our incredible committee of volunteers who worked tirelessly to provide a fun and vibrant event. Their support for the Sutton Center is truly appreciated.

Find us on Facebook: Wild Brew Tulsa and Twitter: #wildbrew and download our app in the iTunes App Store by searching: Wild Brew



Sutton Center's Recent Publications

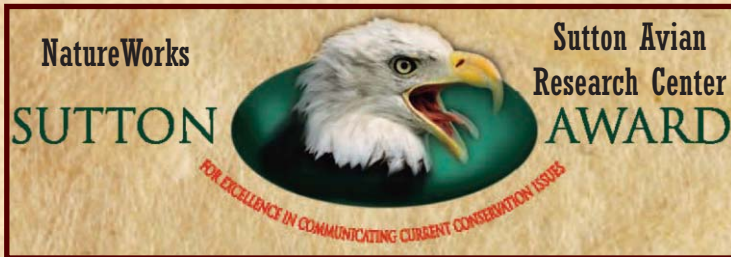
Larsson LC, Pruett CL, Wolfe DH, Patten MA (2013) Fine-scale selection of habitat by the lesser prairie-chicken. *Southwestern Naturalist* 58(2):135-149.

Reinking D. (2013) Book review: The Raptors of Iowa. University of Iowa Press. 2013. scientistsbookshelf.com.

Sutton Center's Recent Presentations

Larsson LC, Oyler-McCance SJ, Wolfe DH, Fike JA, Walker HA, Patten MA (2013) Genetic diversity of white-tailed ptarmigan in its peripheral range in New Mexico. Poster presentation. The Wildlife Society Annual Conference, 8 Oct.

Larsson LC, Pruett CL, Wolfe DH, Patten MA (2013) Fine-scale habitat selection by the lesser prairie-chicken. 30th Prairie-Grouse Technical Council, 11 Oct.



Sutton Award 2014!

by Hillary A. Parkhurst

We are pleased to announce the 9th annual Sutton Award Scholarship Program. This is a great opportunity for Oklahoma high school students, grades 10-12, to receive significant funding for their continuing education or other aspects of their future!

This award recognizes those students who demonstrate the ability to communicate current conservation topics in compelling ways. Students are required to create and submit a presentation piece that tells an intriguing story about a current conservation topic, such as water, air or soil quality, or wildlife conservation. Applications and scholarship requirements can be found on www.suttoncenter.org.

We are now fundraising for the Sutton Award Scholarship program. The student art submissions are due by January 27, 2014 for judging. The 2014 NatureWorks Wildlife Art Show is March 1st and 2nd at the Renaissance Convention Center in Tulsa.

The top winning scholarship entries will be featured at the NatureWorks Wildlife Art Show (see www.natureworks.org). Every dollar counts towards supporting Oklahoma's youth and their futures, and we hope that you can help in this endeavor. If you would like to make a donation or need information about the Sutton Award Scholarships, please contact Hillary Parkhurst, 918-629-4591 or hparkhurst@riggsabney.com. Thank you for your continued support of the Sutton Center!

IMPORTANT REQUEST TO ALL OUR FRIENDS

We hope you enjoyed this special edition of the Sutton Newsletter with its thumbnail review of our work over the past 30 years. In addition to our other projects, we are now taking on a special new challenge with the prairie-chicken breeding facility.

Even with support from the sources listed, it has taken a significant outlay of our cash resources to initiate this effort. At this special time of year, we would be especially grateful if you would remember the Sutton Center's Christmas stocking. We really appreciate your support!

E-MAIL?

Would you prefer an electronic version instead of receiving our newsletters in the mail? Want to hear about our upcoming events?

Let us know!

Just shoot us an email at gmsarc@aol.com and stay connected.



4A...

BIRD BREAK!

Bird is the Word!

V W E X M A K C R E Q T A E W S A L K
 G G R V P B W E Y N A T T Q U G T M S
 L Q O T N K D T N A O D L C K F M Q H
 F P V A D R E S Z Q O W I P U J W U W
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- A **MURDER** is a flock of crows.
- Crows, ravens, and blue jays are in the family **CORVIDAE**.
- Since crows eat almost anything, they are considered **OMNIVORES**.
- Crows exhibit cooperative defense behavior in which they gang-up on or **MOB** an enemy until it leaves the area.
- Crows' feathers are mostly **BLACK**.
- A communal sleeping group is known as a **ROOST**.
- Edgar is the Sutton Center's **AMERICAN CROW**.

YOU CRACK ME UP!

At Christmas, who brings presents and toys to all of the good little crow girls and boys?

Santa Caws!

What do teen crows do after high school?

Go to cawlege!

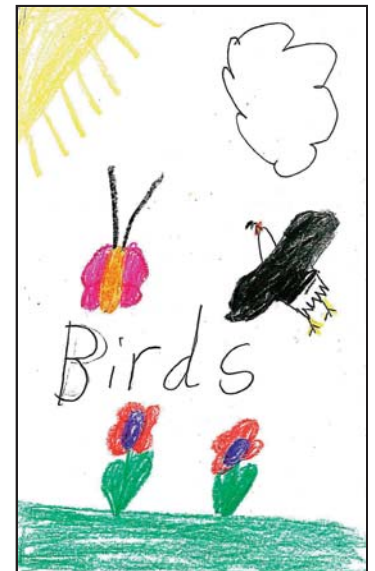
What does the crow take to work in his thermos?

Caw-fee!



The Sutton Center's American Crow, Edgar, has performed over three hundred times in the *It's All About Birds!* environmental education program.

American crows (*Corvus brachyrhynchos*) belong to the family Corvidae. These completely black birds are extremely adaptable and intelligent. They live almost anywhere there is water and food. Food means just about anything that they can get their beak on like seeds, fruits, insects, mice, crayfish, eggs and babies of other birds, road kills, and even garbage. Their habitats can include towns, parks, trash dumps, roadsides, forests, and farmlands. Crows build their nests on tree branches, sometimes close to the trunk. They are very social birds and live as family groups. Their roosts can number from a few hundred to two million crows. A group of crows is called a "murder" – this term probably originates from old folk tales and superstitions. Crows use tools, and they have been observed dropping nuts on the road so the weight of passing cars will crack open their next snack. Just like parrots, crows can also mimic human voices and sounds.



Have any avian artists at home? Have them draw something for us and send it in! Your child's artwork could be in our next Sutton Newsletter!

Thank You to These Loyal Sutton Supporters!

October 16, 2012 through October 15, 2013

Up to \$99

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\$10,000 to \$24,999

American Eagle Title Group, LLC, Journal Broadcasting Group, NatureWorks, Reagan Smith Energy Solutions, Inc., SilverTree Technology, Wolf Creek Charitable Foundation.

\$25,000 or more

National Fish and Wildlife Foundation, Harold & Sandy Price, The University of Oklahoma, Wild Brew attendees 2013.

Memorials and Honoraria

In honor of Sam Daniel and Jean Little: Warburton Capital Management Fund & Tulsa Community Foundation. In honor of Lee Holcombe: Frederick & Janet Drummond. In memory of Wanda Kirby's daughter, Tami: Deborah Gravlee. In honor and memory of Gary Neal: Dena and Bob Hudson. In honor of Tom Polk for Father's Day: James Polk. In honor of Dan Reinking and the Sutton Center staff: Carl and Nan Reinking.

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