G.M. Sutton Avian Research Center P.O. Box 2007 Bartlesville, OK 74005 918.336.7778 918.336.BIRD info@suttoncenter.org www.suttoncenter.org

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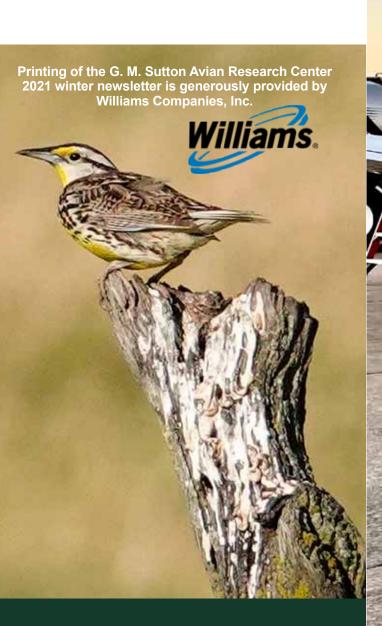
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Lily Grant	MBW Aviculturis

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Eastern meadowlark photo by Dan Reinking





Your generous donation helps us with our mission of "finding cooperative conservation solutions for birds and the natural world through science and education." Join us in protecting our natural heritage for the next generation!

SUTTON NEWSLETTER

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AN ENDANGERED SPECIES READY FOR TAKEOFF.

VOLUME 57 | WINTER 2021

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



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ON THE COVER:

Preparations for transporting masked bobwhite to Arizona include adding ground quail food and Gro-Gel (agar-based hydration supplement) to 13 crates containing chicks and adults before loading onto the plane. Photo by Steve Corbett

A Letter from the **Executive Director**



Dear Sutton Center friends,

Where did the summer go? As busy as we have been, it seems like the spring was long ago, but everything happened so fast that a little breathing will be good now that the breeding seasons for the eagles, the prairiechickens and the masked bobwhite, as well as the birds in the atlas blocks can be put to the records. Speaking of records, check out the numbers gathered by our Bald Eagle Survey Team volunteers! The stack of reports has enlarged the nest database a great deal. We are so grateful to all of you who help out in a myriad of ways.

We were fortunate to find outstanding staffing to come aboard ahead of the breeding season. Even better that we did not have to say goodbye to several interns; Morgan Anderson, Lily Grant, Daniel Harris, and Tamara Pratt accepted positions with the Sutton Center. Now, for others, we have to realize that there are other places to see (Gavin Nuttall got a field position in Hawaii), or an education to complete (Anna Baker, Richard Hasegawa, and Aaron Ware returned to college). We hope to see atlas surveyor RJ next summer. We also want to say a special thank you and good luck in college to volunteer Lynn Shambles who has been helping with Sutton Center's education animals since summer 2020! I am pretty certain that the experiences you all had with us and our birds have left some exceptional memories.

I was so happy to finally get an opportunity to travel to Buenos Aires National Wildlife Refuge (BANWR) for the fourth transfer of the masked bobwhite chicks. The refuge is a special place to experience, with its different ecosystem compared to the prairie and crosstimbers here in northeastern Oklahoma. There is a plethora of cacti and succulents (although not all memories of some chollas in my past are fond) and sections of the Altar Valley have amazing saguaros. While most of the masked bobwhite are currently tracked north of the BANWR visitor center, there was a foster dad with three young ones running around there during my evening visit. Such a rewarding experience considering the efforts of all involved in recovering this quail adapted to that special place on our planet.

Did you hear that birds are positively associated with life satisfaction? Researchers looked at socio-economic data in Europe and concluded that avian diversity was as important for happiness as income (Methorst et al. 2021, Ecological Economics). They concluded that "the happiest Europeans are those who can experience numerous different bird species in their daily life, or who live in near-natural surroundings that are home to many species." In other words, managing for bird diversity is a winwin, benefitting both birds and humans.

Thank you to all our supporters who help us do just that!

Seradaroon

Lena Larsson, Ph.D. **Executive Director**



Great Vegetation for Masked Bobwhite Releases 2021

by Don Wolfe

What a difference a year makes! At this time last year, the summer monsoons at Buenos Aires National Wildlife Refuge (BANWR) were nonexistent, causing the Sonoran Desert to look like ... well, a desert! And things looked grim for the masked bobwhite that were released. In fact, by November 2020, the birds with radio transmitters had either died or gone missing. Recovery efforts, however, were not in vain, as a few coveys, pairs, and individuals were located in the past spring and summer. So far this year, BANWR has received over 16 inches of rain, with 10 inches falling in July, the critical time for vegetation growth and insect production. No one who has spent time on the refuge in previous summers, including myself, remembers ever seeing so much lush vegetation.

As in 2020, the conservation flying and carbon neutral non-profit organization LightHawk contributed with volunteer pilots Mike Schroeder, Warren Dean and Carl Mattson providing transportation of our valued birds to Arizona. We cannot overemphasize the gratitude we have for their generous assistance; it makes the transports so much easier for both birds and us.

The vegetation was flourishing at the Buenos Aires National Wildlife Refuge this summer. Photo by Lena Larsson

The Sutton Center provided 946 chicks and 40 adults for release on BANWR during this summer. Additionally, we held back 280 chicks to be used as future foster parents, covey augmentation, and to replenish our breeding flock, as many of our current breeders are now four years old. We plan to transfer 200 of the retained chicks and the surplus adults for covey augmentation in late fall and next spring.

Due to staffing shortages at BANWR, we have been providing additional help to care for the chicks after arrival, and to assist with releases and post-release monitoring. Aaron Ware, Lily Grant, and Morgan Anderson each stayed at the refuge to care for the birds after the first three deliveries (respectively), and Fumiko Sakoda went prior to the fourth delivery to radio track the previously released birds as well as care for the birds from the fourth transport, and continued to track birds through the month of October. At the time of writing, 30 radioed adults were being tracked, most still having broods with them.

Great Vegetation for Masked Bobwhite Releases 2021 (Continued)

by Don Wolfe

In addition to the volunteer pilots, several others have stepped up to provide valuable assistance. Volunteers Linda Maholland and Brian Fennern met us at the airfield in Arizona each time, and helped with the offloading from the plane and then provided rides to pick up rental vehicles. Sutton board member Barbara Bates donated accumulated air miles to fly Lily and Morgan back to Oklahoma so they could resume

their duties here, and Sutton volunteer Steve Corbett helped with the transport and the 1200 mile drive back on the fourth trip. Finally, our intern partnership with Bartlesville High School resumed this year, with senior Emma Sanderson assisting both our masked bobwhite and education programs for a couple of hours every day.

Congratulations Don!

We are proud to announce that Sutton Center senior biologist Don Wolfe was recently chosen to be the leader for the Masked Bobwhite Recovery Team. (A recovery team is a multi-agency group of individuals tasked with ensuring the recovery of an endangered species.)



Second Year of the Second Oklahoma **Breeding Bird Atlas**

by Dan Reinking

Oklahoma birders fanned out across the state this past summer for the second season of the five-year Oklahoma Breeding Bird Atlas. This second iteration of the first atlas project that was conducted from 1997 to 2001 is designed to evaluate how Oklahoma's breeding bird populations have changed over the past two decades. Intensive, systematic, repeatable surveys of birds statewide in 583 randomly selected areas provide a framework for long-term population monitoring. The long-term nature of the study and the fact that we are only two years into the current surveys limits the conclusions we can draw at this stage, but getting people out looking for birds in many areas of the state that otherwise receive little attention from birders creates an opportunity for surprises or interesting observations, even at this early stage of the project.

One readily apparent change from the first Breeding Bird Atlas is that ospreys are now becoming established as a nesting species in eastern Oklahoma, with multiple nest records from multiple counties. These large, fisheating raptors declined dramatically in the U.S. during



Don Wolfe and Steve Corbett ready for the return trip to Oklahoma after the fourth delivery of masked bobwhite in September 2021. Photo by Lena Larsson



Morgan Anderson getting ready for her LightHawk flight with the masked bobwhite to Arizona. Photo by Lily Grant





Photo by Lily Grant



Lily Grant holding a newly hatched masked bobwhite chick. Photo by Morgan Anderson

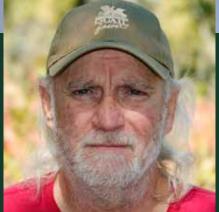
"My trip to the Buenos Aires National Refuge (BANWR) was a valuable and informative experience. Upon arriving at the refuge, I was met with a landscape filled with contrast. It was a desert yet lush and green, rich with a diverse community of waterfowl, raptors, snakes, frogs, rodents, and insects.

The majority of my days were spent caring for the foster dads and chicks. This mainly consisted of pen maintenance, providing water and food, which included a variety of seeds, live insects, and game bird pellets, and providing protection during the numerous rainfalls.

The highlight of my experience was releasing the broods within locations best suited for them around the refuge. The most personally rewarding part of my visit was tracking the newly released broods. On one particular outing, I was able to track a foster dad with numerous chicks under a half-cut mesquite. My presence did not deter the foster dad from protecting and caring for his chicks. A sure sign of a successful release!

I am looking forward to my next trip to BANWR and helping this important endeavor."

Lily Grant, Aviculturist





Eastern bluebirds may have declined dramatically in Oklahoma following a record-setting winter weather event in February. Photo by Jim Arterburn

Second Year of the Second Oklahoma Breeding Bird Atlas (Continued)

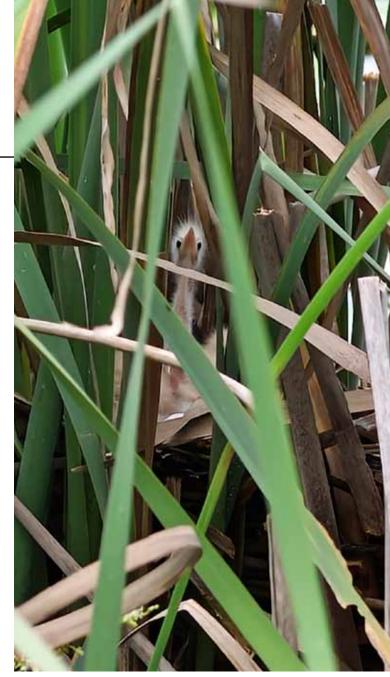
by Dan Reinking



Carolina wrens are known to be affected by winter weather extremes, and record setting cold in February may have reduced their population statewide. A suet feeder may have helped this wren survive the extreme cold snap. Photo by Dan Reinking

the 1950s to 1970s, paralleling the decline of bald eagles and occurring for similar reasons. The persistent pesticide DDT in the environment accumulated in the food chain, with small aquatic invertebrates ingesting a small dose, and larger invertebrates eating many smaller ones and therefore getting a larger dose, then themselves being eaten by small fish, which in turn are eaten by larger fish, and at each stage the pesticide levels increase, with top predators such as eagles and ospreys incorporating large doses by eating larger fishes. One effect of DDT was preventing normal eggshells from forming. Females laid eggs with unusually thin shells that could not support weight during incubation, resulting in broken eggs and widespread reproductive failures over many years. Since DDT was banned in 1972, a slow recovery began that has increased in pace, and osprey numbers are now growing relatively rapidly in the U.S. Only two well documented nest records in Oklahoma were known at the time of the first breeding bird atlas, one in the late 1950s and one in 1983. The ospreys now nesting in eastern Oklahoma likely originated from breeding populations previously established in southwestern Missouri and/or Arkansas. With many reservoirs providing foraging opportunities in Oklahoma, it seems possible that ospreys may gradually spread into central and even western Oklahoma as a nesting species if their numbers continue to increase.

It is always interesting to follow the bird news from Red Slough Wildlife Management Area in far southeastern Oklahoma. This former rice farm has undergone wetlands restoration and is now jointly managed by the Oklahoma Department of Wildlife Conservation, the US Forest Service and the Natural Resources Conservation Service. It has become a premier birding location for Oklahoma in part because it is in the small portion of the Gulf Coastal Plain ecoregion that extends into Oklahoma. The climate, vegetation and animal life have much in common with nearby portions of Texas, southern Arkansas and Louisiana. Animals not typically associated with Oklahoma are found here, including alligators and many bird species. Common and purple gallinules, anhingas, wood storks, and roseate spoonbills either nest here or make annual post-breeding appearances. The atlas project is fortunate to receive reports from David Arbour, the person who for many years has kept close tabs on Red Slough wildlife through regular bird surveys and a naturalist's passion for plants and animals. This season, he reported a high count of 149 purple gallinule adults in May, 14 neotropic cormorant nests in July, and 1,196 white ibis in July, a few of which had nested here, but most likely dispersed here from farther south after nesting. Tantalizingly, a pair of roseate spoonbills were exhibiting courtship behavior in a heronry in May; although they were not seen again, they could have nested at a location not accessible to observation, which if confirmed would be the first nest record for Oklahoma.



Red Slough Wildlife Management Area is home to many nesting species that are uncommon or absent in other parts of the state. This least bittern nestling already exhibits the ramrod-straight posture adult bitterns adopt to conceal themselves within reeds or tall grasses. Photo by David Arbour

Oklahoma (and much of the U.S.) experienced a historic cold snap in mid-February this year, with the average February temperature in Oklahoma coming in at a remarkable 11 degrees below normal. Of 120 Oklahoma Mesonet weather monitoring stations, 96 recorded all-time low temperatures on February 15 or 16. On February 16, for the first time ever, all 120 stations recorded below zero temperatures. While Oklahoma's all-time coldest recorded temperature is minus 31° F set in 2011, February 15 was the coldest day statewide in Oklahoma on record since at least 1915, with two widely separated locations recording lows of

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minus 22° F. Damage to winter crops, livestock, public water utilities and home plumbing were widespread. Wildlife, too, were undoubtedly affected through increased mortality, with many birders reporting fewer sightings of cold-sensitive species such as Carolina wrens and eastern bluebirds after the cold snap. Our own anecdotal observations here at the Sutton Center were in alignment with these reports, as our normally resident pairs of nesting Carolina wrens were absent from our grounds this past summer. A quick and basic analysis of the first two years of breeding bird atlas data supports these observations, with the number of Carolina wrens recorded per survey visit in blocks that recorded Carolina wrens dropping by 23% from the summer of 2020 to the summer of 2021. Eastern bluebirds showed an even greater decline, with the number of bluebirds recorded per visit in blocks that recorded bluebirds dropping an incredible 76% from the summer of 2020 to the summer of 2021. It will be interesting to follow the population trends of these species over the next three summers of the second breeding bird atlas project. Perhaps Oklahoma will get a multi-year reprieve from additional, exceptionally widespread and severe winter storms that will allow these species to recover, although climate change models emphasize the expectation for more and greater extremes when it comes to future weather patterns. This weather-related decline in the populations of these two species is another of many anticipated examples of how long-term bird monitoring from atlas projects will help us document and understand changes in bird populations over time.



An immature bald eagle (left) and an osprey soar over Oklahoma. Both species declined dramatically in the 20th century and are making a comeback, with bald eagles now approaching 300 nests in Oklahoma and ospreys starting to become established in eastern Oklahoma.



Habitat Selection and Sage-Grouse

by Aaron Pratt

In recent newsletters I have described some characteristics of a field-based research project on sage-grouse. From how grouse are captured, to how they are processed in the field after capture, to how marking them with a transmitter is the typical reason for capturing them, and how transmitters allow you to relocate individuals. So, what is the value of collecting locations on wildlife? One of the most common reasons for collecting locations is to investigate wildlife-habitat relationships. For example, how do we know sagegrouse habitat is made up of sagebrush? Besides the obvious reason that 'sage' is in its name. Or, phrased another way, why is it a sage-grouse and not a spruce grouse or a prairie-chicken? Because we have observed them more frequently in the sagebrush ecosystem than in other ecosystems. Sagebrush is the dominant component of a sage-grouse's diet, especially during the winter months. The vast majority of sage-grouse nests are located under a sagebrush rather than any other species of shrub. Sage-grouse fill the grouse niche in the sagebrush ecosystem because they are

adapted to live there. Correspondingly, spruce grouse live in coniferous forest ecosystems (including spruce trees) and prairie-chickens are found in mixed-grass or tallgrass prairie ecosystems. The history of study in wildlife-habitat relationships started by a simple description of where animals were found. The first written records of locations of sage-grouse (and some other kinds of grouse, too) occurred during the Lewis and Clark expedition.

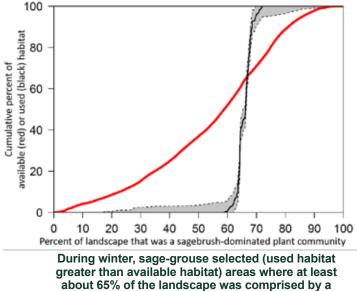
One of the earlier, more formal studies measuring wildlife-habitat relationships was on moose habitat use relative to a forest fire in Minnesota (Neu et al. 1974. J. Wildl. Manage. 38(3)). They observed that only 56% of moose observations were either in the middle of burned areas or the middle of unburned areas even though 80% of the study area was comprised of these two habitat types. In contrast, 44% of moose locations were within a quarter mile of the burned/ unburned forest edge even though only 20% of the area was this habitat type. This behavioral process by

which an organism chooses aspects of its environment is called habitat selection. Habitat selection is the disproportionate use of a habitat characteristic compared to what is available. Moose were actively selecting burned forest edge habitat and avoiding non-edge habitat. Research studies like this are termed habitat use vs. availability studies. If the moose locations were randomly located across the landscape (i.e., moose do not have a preference), then use of each habitat type would be equal to the availability of that habitat type in the area.

There are multiple ways to record presence of an animal so that the used habitat characteristics can be measured: visual detections, auditory detections, genetic detections (e.g., in water samples or with hair snares), or detections of animal sign such as tracks or feces. One of the most common ways to record wildlife observations, including sage-grouse observations, is by locating individuals using transmitters. An example of sage-grouse winter habitat selection using grouse location data collected with GPS transmitters showed that sage-grouse in Wyoming selected areas during winter when sagebrush-dominated plant communities made up at least 65% of a landscape. This figure represents some preliminary results from a large collaborative project involving data and funding from multiple federal and state agencies,



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sagebrush-dominated plant community.

universities, and private organizations. The X axis in the figure is the indicated amount of landscape that is a sagebrush-dominated plant community. The Y axis is the cumulative proportion of grouse locations (used habitat) or study area (available habitat). The red line is the cumulative proportion of available habitat that has the indicated amount of sagebrush

Habitat Selection and Sage-Grouse (Continued)

by Aaron Pratt

or less. So, about 50% of available habitat had less than 60% of the landscape comprised of sagebrushdominated plant communities. The black line is the cumulative proportion of used habitat (dotted lines are a confidence interval). You can see that the proportion of used habitat is less than (i.e., avoidance) available habitat when sagebrush plant communities make up less than 65% of a landscape. In contrast, the proportion of grouse use was greater than available once sagebrush plant communities were greater than 65% of a landscape. So, about 65% of a landscape comprised of sagebrush-dominated plant communities would be a minimum threshold for sage-grouse selected winter habitat. This is important information to know when making winter habitat management decisions. This can help identify areas that already meet the minimum sagebrush requirements, and should be protected if you are limiting negative impacts to winter habitat. It can also help identify areas that should be prioritized for restoration activities trying to restore winter habitat

after surface disturbance (e.g., from a gas well, mining haul road, wildfire, etc.) reduced it below the threshold.

All sagebrush-dominated areas are not equally valuable as sage-grouse habitat. There are also other habitat characteristics that are important. Areas with more grass that provide concealment cover around nests, areas with more forbs and insects for food resources during the brood-rearing season, areas with persistent soil moisture that provides green forage during the hot and dry days of late summer, and gentle topography facing southwest that creates a warmer microclimate during winter are a few examples. These other characteristics make one sagebrush-dominated area higher quality habitat than another sagebrushdominated area. As you can see, collecting grouse location data helps us understand how grouse interact with their environment.

Even More Prairie-Chickens Raised in 2021

by John Hoolihan



Crew in front of trailer holding the Attwater's prairie-chickens ready for the road (from left to right): Lena Larsson, Morgan Anderson, Hayden Ring, Michelle Morgenstern, Gavin Nuttall, Hannah Caster, Anna Baker, Daniel Harris, Cara Brown, Fumiko Sakoda, Kevin Jarrell, John Hoolihan. Photo by Audra Fogle

Another prairie-chicken breeding season can be added to the records, and there are now more people who have first-hand knowledge of its intensity. Startup was a bit tense as our aviculturists and interns, with the exception of lead aviculturist Cara Brown, were new to breeding and raising difficult prairie-chickens in captivity. Cara worked diligently to ensure everyone understood protocol and procedures. We had 206 eggs hatch from artificial incubators for a 76% hatchability rate. In total, 95 chicks survived to eight weeks of age, representing a 44% production increase over 2020.

Tending to the needs and idiosyncrasies of all these chicks required a herculean, labor-intensive effort. Sutton management were greatly appreciative of all the long hours and hard work put in by staff and volunteers to achieve this success. A special thanks is extended to Eric Lynch, developer of our new Avidata management software, and to Rod Harwood for spending countless volunteer hours converting our Attwater's prairie-chicken (APC) data into digital format.

The seven greater prairie-chickens (GPC) still at the facility raised five chicks on their own in 2021. The whole GPC flock will be transferred to the Toledo Zoo, Ohio to start a new breeding program there. The space gained by their departure will provide greater housing capacity for APC chicks in 2022.

Noppadol Paothong is a nature/conservation photographer and an associate fellow with the International League of Conservation Photographers (iLCP). The iLCP is an elite group of world's top wildlife, nature, and culture photographers around the globe.

For over 20 years, he has been documenting rare and endangered species, primarily grassland grouse and their fragile habitat, and has published two largeformat national award-winning books, *Save the Last Dance* (2012) and *Sage Grouse, Icon of the West* (2017).

His images appear regularly in many national publications, such as *Audubon, Nature Conservancy, National Wildlife, Ranger Rick,* and many more.

For more of Noppadol's beautiful photography, please go to his website **npnaturephotography.com**. His extraordinary books can be purchased through his store.



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APC captive rearing activities during 2021 were exciting and eventful. The process began with observing adult courtship behavior with males booming, collecting and setting eggs in the incubators, observing the eggs hatch and rearing the young until they were large enough to move outside, and eventually culminating in the transfer of the birds to USFWS biologists for release in Texas.

We had two transfer days where all personnel arrived in the early morning and set up an assembly line process to conduct weighing, medical exams and treatment, feather inspection, and radio transmitter attachment. The first batch of 41 chicks was transferred on 5 August to the Goliad County, Texas release site, while the second batch of 41 chicks was transferred on 2 September to the Attwater Prairie Chicken National Wildlife Refuge in Eagle Lake, Texas.



Even More Prairie-Chickens Raised in 2021 (Continued)

by John Hoolihan

Overall, the 2021 APC breeding season was a great success. There is a lot of personal pride and fulfillment experienced by staff and volunteers who stepped up to face the challenges of raising this critically endangered species. Favorite moments and accomplishments varied between individuals. We are sharing some thoughts and memories from our staff.



Cara Brown Lead Aviculturist

"Working with Attwater's prairie-chickens is full of great moments and it's not easy choosing just one highlight of the 2021 season. That said, one area that was special for me was egg incubation. Through the process of candling, shining a light through the egg to monitor embryo development, we could see the chicks developing and watch as eyes became visible and feathers appeared. When an egg had been incubating for only five days, we could see a tiny alien-like embryo floating in a network of branching veins. Even more exciting was how the developing embryos reacted to the light! Watching the endangered Attwater's develop in the egg reminded me how important this captive breeding program is to keeping this species alive."







"Before joining the staff at Sutton as an aviculturist for the APC captive breeding program I was working with the Attwater's prairie-chicken on the National Wildlife Refuge in Texas. Having the opportunity to work with an endangered species in both a wild and captive setting is not something many people can say they have had the chance to do in their career. Transitioning from the fieldwork to captive care was exciting and allowed me to see a side of the recovery program that I had only heard about. One of my favorite things about being part of the breeding program has been having the chance to see more of the courtship and breeding behaviors up close because much of this is not seen in the wild."

Michelle Morgenstern Aviculturist

"Coming from the lush forests of the Pacific Northwest to the vast prairies of Oklahoma has been a challenging, but rewarding experience. Attwater's prairiechickens are unlike any species I have ever encountered and it has been amazing working with the team to observe them up close on a daily basis. For relatively small birds, they have big personalities. I feel like I am always learning something new, like what kind of food they prefer, where they like to explore, and how they interact with each other. These birds inspire me to *learn more about prairie ecology and ways* to improve on their needs while under our care and beyond."

We are so grateful for the funding support by Mohamed bin Zayed Species Conservation Fund since the inception of this program in 2013. Their support was instrumental in the acquisition, construction and operation of our purposefully designed, state-of-the-art facility for the captive raising of endangered prairie-chickens. The Fund had hoped to continue support of our Attwater's prairie-chicken conservation, but we have now received the unfortunate news that pandemic-related regional strain means we can no longer expect their funding for this important work. We have been building momentum and seeing success over the past several years with this challenging endangered species recovery program, and we are actively seeking additional sources to help ensure recovery of this enigmatic native coastal prairie grouse.



The young Attwater's prairie-chickens are transferred outside when they are fully feathered and can handle the environment without a mother's protection. Photo by Hannah Caster

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Aftwater's prairie-chickens are transferred outside



Daniel Harris holds a prairie-chicken getting prepared for transport to Texas. Photo by Lena Larsson

The Sutton Award **Returns to the Hive**

Celebrate Oklahoma's talented young artists at the Sutton Award Showcase and Reception in January 2022

We are proud to honor the memory of George Miksch Sutton, who skillfully blended art with science, and we are grateful for the ongoing financial support and partnership with NatureWorks that makes the Sutton Award possible. Since 2005, the Sutton Center has been encouraging and inspiring young people to appreciate the beauty of wildlife diversity and to learn to communicate conservation through art.

The Sutton Award is comprised of up to \$20,000 in cash prizes, which will be distributed to selected winning students and their instructors. Through conversations with former winners, art teachers, parents and judges, we know that the Sutton Award can open up career paths, awake a passion for a lifetime of wildlife conservation, and have ripple effects that inspire students and others to protect our natural world.

The Sutton Award is free to enter and open to all high school students in Oklahoma.

For more information and entry details: www.suttoncenter.org/art



Students gathered outside of the Hive Gallery in Jenks, OK.

National Wildlife **Refuge Bird Surveys**

Counting birds in flooded forests by Dan Reinking



Sutton Center intern Richard Hasegawa manages to reach a very soggy point count location on a Texas wildlife refuge. Photo by Jim Mueller

During 2021, the Sutton Center conducted bird surveys for the U.S. Fish and Wildlife Service that are designed to monitor priority bird species found in bottomland forest habitats on two national wildlife refuges. One refuge in northeastern Oklahoma and one in northeastern Texas needed surveys as part of long-term monitoring of bottomland forest breeding birds on refuges in the southeastern U.S. A total of 70, 10-minute point counts at specific locations on the refuges were to be conducted during the early breeding season when breeding bird singing activity is at its peak. Surveys start near sunrise and can continue for several hours during the peak singing time in the morning. When one point is completed, there is travel time to the next randomly selected location. It sounds simple enough, but eastern Oklahoma and eastern Texas both had heavy spring rains, leading to extensive flooding on these low-lying refuges, and creating access problems that repeatedly delayed the work. We were fortunate to have Richard Hasegawa, an avid and skilled birder, as one of our masked bobwhite summer interns. Richard's persistence and bird identification skills enabled the counts to be completed on time. It takes a good deal of effort to conduct long-term monitoring of wildlife populations, even on the local scale of two refuges. This is something we are currently in the midst of on a much larger scale with the second Oklahoma Breeding Bird Atlas described elsewhere in this issue.

Will you join the fight against extinction?

Become a member and get an inside look at critical conservation efforts

The new Sutton Center Membership Program gives monthly and annual donors the opportunity to truly become insiders. We offer five membership levels at varying price points to fit any budget, with monthly memberships as low as \$10 per month. Members receive welcome gifts, perks and special discounts, as well as access to exclusive digital content. Our members-only email newsletter provides quarterly updates, giving members an inside look at the progress of our programs. Member contributions support the Sutton Center's efforts to conserve wildlife through education, research, and captive breeding. If you would like to join the fight against extinction, please consider becoming a Sutton Center member. Your monthly or annual support truly makes a difference.

Stay tuned to our Facebook, Instagram and Twitter pages for more announcements about our membership program!

To learn more, please visit our webpage.



If you were a member...you might already know that the staff gets a little crazy on transfer days after preparing Attwater's chicks for release! APC staff pictured from left to right: Michelle Morgenstern, Anna Baker, and Hannah Caster. Photo by Audra Fogle

2021 WILD BREW POSTPONED

After consulting with the local committee and our city partners, it was concluded that hosting a large indoor event was not in the best interest of our community this fall. Wild Brew is the annual fundraiser for the Sutton Avian Research Center and we depend on revenue from the event to support the vital wildlife conservation work in Oklahoma and across the country. While the decision to postpone the event was painful, we value our community's health and look forward to an in-person event next year. We have reclaimed our wildly popular summer event time at the Cox Business Center for August 27th, 2022. Thank you for your support and we hope you'll plan on "flocking together" for the GREATEST PARTY EVER HATCHED this coming summer! Donations in lieu of this year's Wild Brew are gratefully accepted on the suttoncenter.org website or by returning the enclosed envelope. If you or your company would like to make plans to sponsor the event in 2022, please contact afogle@suttoncenter.org.



BENSAR, born at Sutton Center, now 28 years old, is always the star of the show. Photo by Dan Reinking



Won't it be nice to "flock together" again? Photo by Dan Reinking

Operating debt free for more than 37 years



Weighed, vaccinated, measured, and prepared to travel safely in custom transport crates, Attwater's prairie-chickens are being loaded into the climate-controlled trailer to make the nine-hour trip from Oklahoma to Texas for release. Photo by Audra Fogle

Since our beginnings, the Sutton Avian Research Center has continued to serve as one of the most influential and effective bird conservation organizations across the nation. While our captive breeding and statewide monitoring projects lead the way for conservation, our funding continues to be impacted by the fallout from COVID. In the midst of the raging Delta variant, we made the decision, after consulting with city officials, to postpone our annual indoor festival for the safety of our community. At a time when Sutton's recovery programs are celebrating the most Attwater's prairie-chickens and masked bobwhite in the wild in 30 years, and we are surveying 583 atlas blocks across the state for nesting birds, every financial gift helps to keep the momentum moving forward so that progress is not lost. There are many goals to celebrate, and much to be done to build on the success! In 2021, not only have we transferred more than 1,000 masked bobwhites to Arizona, monitored Oklahoma's birds for a second breeding atlas season, delivered 82 Attwater's prairie-chickens for release in Texas, and added a red-tailed hawk and assistant educator to our ambassador education program to work hand-in-hand with our Oklahoma educators, but we have also worked with citizen scientists to catalog another record number of bald eagles in our state. Your generous support makes it all possible!

Conservation by the numbers...

1 - Sutton Center lead biologist, Don Wolfe, named Masked Bobwhite Recovery Team Leader

2 – roseate spoonbills exhibiting courtship behavior during surveys for Oklahoma's second breeding bird atlas, suggesting the possibility of a first nest in the state

3 – projects in three states, by Richard Hasegawa as he surveyed birds for the atlas project and on wildlife refuges, in between working with masked bobwhites

16 – bald eagle pairs that raised three chicks in 2021 (compared to four in 2020)

230 – productive Oklahoma eagle nests monitored by the BEST (Bald Eagle Survey Team) volunteers

544 – bags of collard greens and kale consumed by our Attwater's chicks this season

720 – invasive redcedars removed from Oklahoma pastures to use for cover in prairie-chicken enclosures

767 – bills paid

1,153 – endangered birds transferred for release into the wild

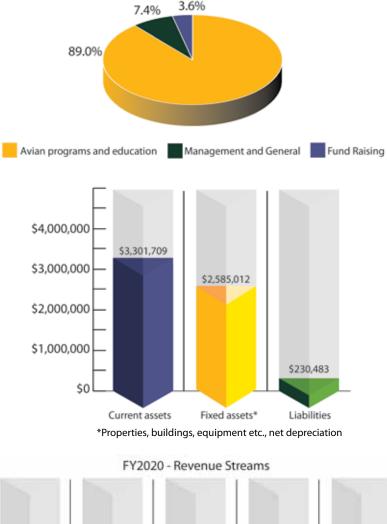
3,345 - learners experienced Sutton Center's education programs

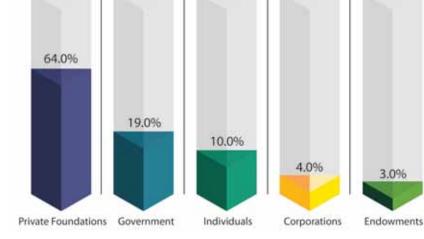
11,449 – miles driven by breeding bird atlas field technician RJ Baltierra as he surveyed blocks in 16 counties across the state while living in a pickup truck

2.1 million – locations collected from 190 GPS-equipped greater sage-grouse for three research projects



From fiscal year 2020 income tax report







Is the majestic roseate spoonbill moving into Oklahoma? Photo by Jay Pruett

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Leave a Lasting Legacy

We're so grateful for your giving!

Your donations make a difference with every pair of birds we breed, every egg we lovingly care for, every chick we hatch, every bird we study and every child we inspire. And there are so many ways to provide giving that goes hand in hand with your long-term financial planning.

We make it uncomplicated and transparent. Ask your financial advisor to include the gift you choose – whether it is a financial donation, stocks, life insurance benefits, or property – as a bequest to the Sutton Avian Research Center in your will. Or ask about establishing an annuity or remainder trust that benefits Sutton.

Our partnership with the Tulsa Community Foundation, Green Country's experts in helping nonprofits make the most of long-term gifts, means your legacy charitable giving is easy and straightforward. Their expertise will help ensure what you give in your will is powerful and transformative for years to come.

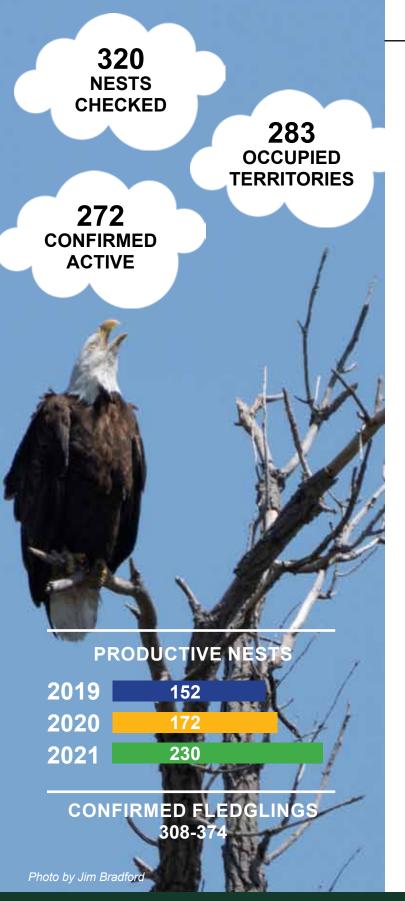
With the rapid changes happening to our plants, insects and animals, our world needs us to lend a helping hand. When we all come together to protect our landscape and our wildlife, our planet will benefit for generations to come. Adding a charitable gift to your financial planning can help us ensure your grandchildren and greatgrandchildren enjoy our beautiful natural world.

Legacy giving is something anyone can do, for any amount. Every gift makes a difference!

For more information, please contact Audra Fogle at afogle@suttoncenter.org or by calling 918-336-7778.

3.0%

2021 Bald Eagle Nest Monitoring Data



Education Program Ready to Soar!

by Miranda Adams

This summer saw big changes for Sutton Center's education program. After a year of acquiring all new animal ambassadors and lots and lots of training, we were ready to "take flight" once more! For the first time since 2016, live animal ambassadors left Sutton Center grounds to inspire and wow our community. Our inaugural flight was hosted by the Bartlesville Public Library where we preformed three showings of our newly reimagined All About Birds! program. Audience members discovered what makes our feathered friends so incredible and their vital connection to our environment, culture, and economy through interactive activities and demonstrations. With our fledgling stage behind us, we are ready to soar! Check our website or follow us on Facebook for upcoming programs.

The mission of the George Miksch Sutton Avian Research Center (Sutton Center) is "finding cooperative conservation solutions for birds and the natural world through science and education." With a 37-year history of statewide, national and international leadership in avian research and conservation, we are excited to share our expertise with your students! Our outreach programs are carefully designed to be educational and fun. Each program combines science and environmental education with other content areas including fine arts and history brought to life through interactive presentations, activities, and live animal ambassadors. Our programs encourage curiosity about our world while helping students become environmentally conscientious and scientifically empowered scholars. If you are an educator interested in hosting a Sutton Center outreach program, reach out to madams@suttoncenter.org.



Turbo the golden pheasant impresses the audience during a program at the Bartlesville Public Library.

Meet Sutton Center Board Member Ryan Pitts, D.O.



Sutton Center board member Dr. Ryan Pitts is an avid upland bird hunter and fly fisherman.

 $^{\prime\prime}M_{\rm V}$ desire to be a board member was the result of learning about the Sutton Avian Research Center's cooperative conservation mission as well as giving back to nature. I have been an avid upland bird hunter since I was a child and even though I have given donations in the past to help avian conservation, I wanted to be more directly involved in the process. The Sutton Center seemed to be the perfect opportunity! Their long-standing history of restoring threatened and endangered species as well as their dedicated involvement in habitat restoration was the decisive factor for me. Recently, I had an opportunity to spend a couple days in Arizona at the Buenos Aires National Wildlife Refuge helping to restore habitat for the endangered masked bobwhite. Spending time with people from different organizations and learning how they became involved in the conservation of these magnificent birds AND all that goes into trying to save a species from extinction helped me to understand the collaborative nature of Sutton Center's work. It felt great to be involved, albeit in a very small way. Knowing that any habitat improvements made for a particular species of bird will also benefit other species of birds as well as other indigenous animals is very fulfilling.

Sutton Board.

l enjoy being hands-on "in the field" as well as helping to obtain funding for the development of current and future conservation projects. It was an easy decision to get involved with the Sutton Center. It goes without saving, but, I feel blessed and privileged to be able to give back to all those who helped me develop my passion for wildlife by being involved in ways that can be useful to preserve and protect our natural world now and for the future."

 ${f R}$ van moved to Tulsa in 2001 to start his medical practice. He is married, has a precocious 10-year-old daughter, and three beagles. Dr. Pitts is an unabashed sports enthusiast and fly fisherman. We are happy to have him serve as one of Sutton Center's board members!

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Born and raised in Wichita, Kansas, Dr. Pitts brings a passion for wildlife and a lifetime of conservation awareness to the

Immediate Needs -**Can You Help?**

Donations for the following items would really help us share conservation messages. Donations can be made by check or by phone or online through our website. Just include a comment to earmark your gift. We thank you for making our visitors' experiences better!

\$60 to \$400 helps us to purchase additional 6-foot and 8-foot folding tables for our educational programs and for meetings and conferences that we regularly host.

\$800 helps us purchase a larger TV for our group tour room to allow those seated in back see the screen better during our tours and educational programs. We will move our existing TV screen to our conference room to replace a broken TV there.

\$1,000 helps us purchase a wheeled folding chair rack and 20 or more padded folding chairs for meetings and educational programs.



Sutton Center's

Recent Scientific Publications:

Chester R, Johnson L, Sesnie S, Goodwin J, and **Wolfe D.** 2021. Masked Bobwhite Habitat Implementation Plan. Version 1.0. U.S. Fish and Wildlife Service, Southwest Region Division of Biological Sciences, Arizona, USA.

Pratt AC, and Beck JL. 2021. Do greater sagegrouse exhibit maladaptive habitat selection? Ecosphere 12(3): e03354.

Wolfe DH, Sakoda F, and Patten MA. 2021. Longevity of the Lesser Prairie-Chicken. Grouse News 61:21-22.

Sutton Center's Recent Scientific Presentations:

Beck JL, Street P, Hennig JD, **Pratt AC**, Scasta JD, Powell C, and Smith KT. 2021. Feral horse impacts on greater sage-grouse nest site selection and success. WAFWA Sage and Columbian Sharptailed Grouse 33rd Workshop. Oral presentation.

Hennig JD, Scasta JD, **Pratt AC**, Powell C, and Beck JL. 2021. Resource selection and occurrence overlap between feral horses, pronghorn, and greater sagegrouse. WAFWA Sage and Columbian Sharp-tailed Grouse 33rd Workshop. Oral presentation.

Gelling EL, **Pratt AC**, and Beck JL. 2021. Linking microhabitat, home range, reproductive stage, and behavior in greater sage-grouse during broodrearing season. WAFWA Sage and Columbian Sharp-tailed Grouse 33rd Workshop. Oral presentation.

Gelling EL, **Pratt AC**, and Beck JL. 2021. Natural and anthropogenic landscape features influence greater sage-grouse seasonal habitat selection in Carbon County, Montana. Montana Chapter of The Wildlife Society. Oral presentation.

Lautenbach JD, Beck JL, and **Pratt AC**. 2021. Brood habitat quality predicts lek occurrence and male lek attendance in Columbian sharp-tailed grouse. WAFWA Sage and Columbian Sharp-tailed Grouse 33rd Workshop. Oral presentation.

Smith KT, **Pratt AC**, and Beck JL. 2021. Management recommendations for greater sagegrouse winter concentration areas. WAFWA Sage and Columbian Sharp-tailed Grouse 33rd Workshop. Oral presentation.

Bald Eagle Nest Camera

by Miranda Adams

Avid viewers may have noticed the unfortunate lack of eggs and eaglets present on our bald eagle nest cameras last season. Bald eagles will select and defend a nesting territory of approximately one square mile (though this can be much smaller in high demand areas), often with multiple nests for the eagles to choose from. Our first Bartlesville camera nesting pair selected one of these alternate nests last season, successfully raising their young off screen. Not wanting to miss the action again this season we figured we might as well join them!

On September 23rd we installed our second official Bartlesville bald eagle nest cam! With the help of our sponsors coming together for round two, we were able to evaluate their other nest tree and place an additional camera in it. Since they have proven to be a mobile pair, we still have a camera on their original nest and have the ability to stream from either nest depending on where they decide to settle. An eagle has to have good options, after all!

The very next day after installation, we caught footage of one of our eagles evaluating the nest and making small repairs in preparation for the breeding season. They have regularly been spotted at the nest between 6:30 and 7:30 in the morning, which is a very good sign that they will be nesting in this location! The live stream can be viewed on our website at https://suttoncenter.org/live-bald-eaglenest-camera/

A huge thank you to our generous supporters; Duke Renewables, City of Bartlesville, VVEC, Holtz Electric, American Electric Company, United Rentals. Thank you for your continued support as we work to bring these extraordinary birds into homes and classrooms everywhere.



The Bartlesville bald eagle nest with newly installed camera.

Volunteers Help Update Database of Nesting Bald Eagles in Oklahoma

by Miranda Adams

To help restore the southern bald eagle population, the Sutton Avian Research Center released 275 captiveraised bald eagles in Oklahoma and four other states from1985-1992. This project increased the number of nesting bald eagles in Oklahoma from no known nests in 1984 to almost 300 nests today! We continue monitoring nesting bald eagles in Oklahoma with help from our "BEST" volunteers, the Bald Eagle Survey Team. Nest monitoring allows us to ensure the safety and long-term success of this species, as the Sutton Center is frequently consulted regarding the presence of eagle nests when areas are planned for development projects. These citizen scientists observe nests in their area, as well as scouting out new nests reported through our website and filling out a form for each nest they monitor. For most of our BEST volunteers, the work ends there and they excitedly await the results of this season's monitoring, while here at the Sutton Center the work is only just beginning.

Cheryl Cavert first learned about the Sutton Center in 2008 after taking a photo of a "strange looking hawk" while hiking along the Arkansas River in mid-town Tulsa; that hawk was quickly identified as a juvenile bald eagle. Like many area residents, she never knew that we had bald eagles nesting in Oklahoma, and with the spark ignited she met Sutton Center's former assistant director Alan Jenkins and a couple of other eagle enthusiasts in 2009, which eventually resulted in the formation of the BEST in 2013. Cheryl, with the help of another volunteer Rod Harwood, have taken on the daunting task of entering over 325 submitted nest monitoring forms into our database this year, building on a comprehensive collection of bald eagle nesting data reaching back to 1997.

Together they match the nest on the form with the nest in the database, verify GPS coordinates, record numbers of offspring, and resolve any discrepancies by looking at the past history and/or reaching out to the nests' monitors. Rod acts as a second pair of eyes, verifying that everything is imputed correctly as Cheryl works; the database is large and it is very important for it to be accurate. Both have the perfect background for the task, with Cheryl having been involved in research, data entry and analysis through her Master's degree and subsequent years of research in psychology at The University of Tulsa, and Rod via his PhD in geology and long career with Phillips working with GPS. In total they have dedicated over 30 hours on data entry and over 40 hours verifying the information. Cheryl describes the project as detective work, tracking down the right information and piecing together stories for each nest. Some monitors include photos and extra details that are very helpful, and she often feels transported directly to the nest.

After the unprecedented extreme cold, ice and snow during the month of February 2021, we were all expecting the worst for the eggs and young eaglets still vulnerable in the nests. With Cheryl and Rods' help we are able to see that not only did most nests still successfully fledge young but there were even more nests with three young than ever before! Such success during difficult conditions is a testament to the bald eagles' survival abilities and spirit of resilience. With the bulk of the data entry behind them, Cheryl and Rod are blurry eyed and excited to see the results!



Rod Harwood and Cheryl Cavert entering bald eagle nest records. Photo by Lena Larsson



Cheryl Cavert scoping out a nest.

VOLUNTEERS

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Brian Fennern Helen & Nathan Foster Debra Gallagher Neil Garrison Ashton Gacsal Tom Gilbert Pat Gwin **Ping Hackl** Jim Harman Vonceil Harmon Sarah Harren-Varnell Rod Harwood John Hays Katie Heiman Brent Hemphill **Glen Hensley** Zara Howerton Mark Howery June Hunt Michael Husak Michael Isaacs Shi Ann Ingalls **Cammie Jeffries** Jaron Johnston Barbara Joyce Victoria Kamp Sherri & Bob Kelley Esther Key **Rance Kingfisher** Patty Kirk Jake Kirkland Echo & Willi Kopp

Jarrod Kopp Nathan Kuhnert Gunner Labyer Doug Latham Seinna, Matt, & Christy Leach Kirby & Genny Lehman Jacob Logan Scott Loss Linda Maholland Matthew McCormick Coleman Miller David Moore Patricia Muzny Liz Nichols Ashley Novar Tim O'Connell Brian Orr John & Linda Peaden Mark Peaden Don Pearson Mark Peterson **Rvan** Pitts Zach Poland Iohn Porter Jay Pruett Jeff Pursley Cynthia Reese Mia Revels Lisa Riggs & Gary Meek **Kyle Riggs** Justin Roach Ianet Roden

Emma Sanderson Carla & Mike Schnake Lynn Shambles Edward Shane Feather Smith Wade Smith Richard Song Randy Soto Whitney Spencer Laura Stanfill John Sterling Betsy & David Stewart **Courtney Stookey** Judd Strom Kait Taylor **Rex Thompson** Sandy Thompson Sierra Thompson Nancy Vicars Mandy Wade Lori Walderich Stephanie Williams Avarie Wilson **Jim Winner** Kenn Womack Doug Wood Jimmy Woodard Connie & Ron Yott Mike Yough Gene Young

Over the last 6 years I've had the good fortune to get to know and work with the Sutton Center staff on their statewide high school student art program. As a sculptor and member of the Oklahoma Sculpture Society and with assistance from Sutton I have been able to offer workshops and teaching for students pursuing the same interest. Along the way I was able to introduce young aspiring artists to Sutton's program. I am most hopeful this opportunity will continue in the future. - Larry Waid, VP, OSS

"I've always loved animals (especially birds!), so I was very excited to volunteer for the Sutton Center's education program. I enjoy assisting with the caretaking and training of the ambassador animals. It's a lot of fun to interact with the birds (and Stella the skunk!) and to see them become more comfortable around you over time."

- Katie Heiman - Education volunteer

Interning here at Sutton has taught me so many new things about ecology and has been a wonderful experience! Don, Lily, and Morgan have shown me the inner workings of rejuvenating endangered bird species populations including proper bird care for the masked bobwhite quail and the plant life that helps conserve their environment and population. I've also learned many things from Miranda about training animals and maintaining healthy diets for them. Everybody here are so kind and amazing to work with, and I can't wait to see what experiences this internship brings me throughout the year!

- Emma Sanderson, Bartlesville High School - Masked bobwhite and education intern

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Thank you to Our Loyal Sutton Supporters! October 1, 2020 to September 30, 2021

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Memorials and Honoraria

In loving memory of a brother who loved all animals: Judith A. Cox. In honor of Ronald Harden for Christmas: Warren Harden. In honor of Lee Holcombe: Joe and Dottie Allen. In honor of Thad and Linda Holcombe and Family, Steve and Susie Holcombe, Joe and Kathy Holcombe and Family, Scot and Kim Holcombe and Family for Christmas: Lee Holcombe. In honor of the birthdays of Andy Lehman, Danette Cassetty, and Rob Leak: Kirby and Genny Lehman. In honor of Danette and Dr. Chris Cassetty Family, Dione and Dr. Rob Leak Family, Drs. Brenda and Kenneth Lehman and Family for Christmas: Kirby and Genny Lehman. In honor of Carol Littleton and John Bailey for Christmas: Charlene Lingo. In memory of Janet McGee: Ruby Murphy. In honor of Mother's Day: Kimberlie Mann. In honor of the wedding of Amy Nickel and Sean Cochran: Jim Harman. In honor of Mark Peterson and to honor the anniversary of Mark and Mary Peterson: Harold Peterson. In honor of our Uncle Dan Reinking for Christmas: Annalyn & Coralee Ufen. In honor of the birthday of her Uncle Haydon: Crista Waehler. In memory of my sweet cousin, Echo Sons: Kim Webb. In memory of John Toepfer: Jim and Marjorie Thiel. In memory of Don Wells: Leslie Daniel.