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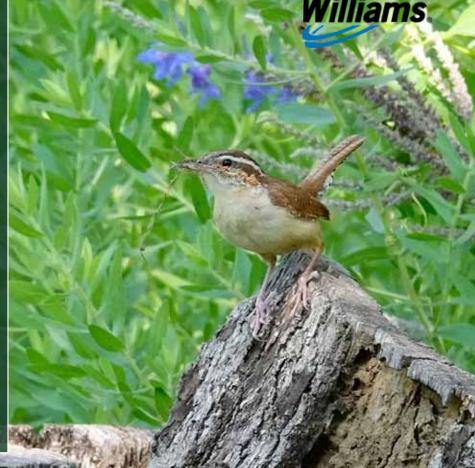
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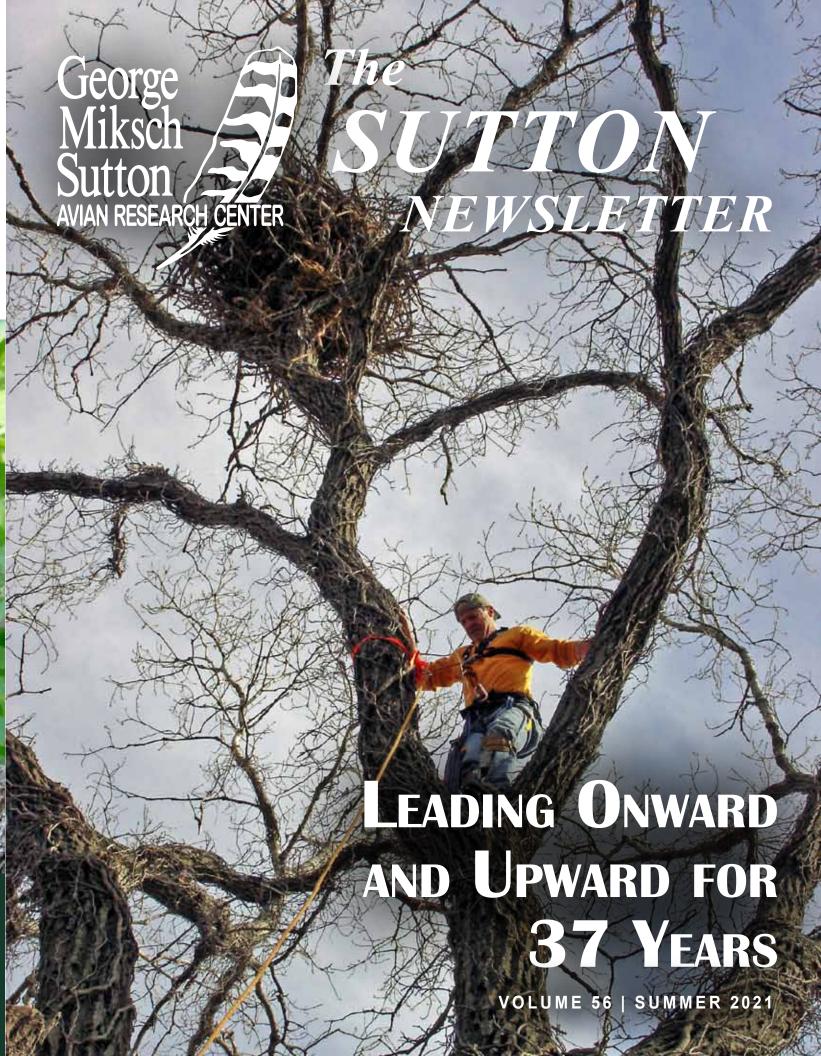
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Your generous donation helps us with our mission of "finding cooperative conservation solutions for birds and the natural world through science and education." Join us in protecting our natural heritage for the next generation!



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



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ON THE COVER:

Steve Sherrod has been leading the way at the Sutton Center for 37 years. Here he ascends a tree to install a bald eagle nest camera for our website.

Photo by Dan Reinking

A Letter from the Executive Director



Sutton Center staff poses with our new van at the 2020 Christmas party.

Dear Sutton Center friends,

We are excited to share that the wild Attwater's prairie-chicken population is now the largest that it has been since 1993! The all-time low was after Hurricane Harvey, so a rebound to at least 178 birds demonstrates how rapid population growth is possible when the conditions are favorable. I just returned from the second of two trips to our collaborators in Texas, who work with us on the recovery of the Attwater's prairie-chickens. We transferred eggs that are close to hatching, and they will supply additional genetic diversity to the breeding flock at the Sutton Center.

It will be such a relief when we can stop bringing masks everywhere we go, and I hope that time is not too distant now. It's a comfort knowing that the Sutton staff has received COVID vaccination; a few caught the disease but luckily experienced relatively mild symptoms and did not spread it to others. When taking the group picture of the prairie-chicken breeding facility team for this newsletter, it was interesting to notice how mask wearing has become such a habit that taking the mask off among others felt strange.

The Sutton Center staff was masked up for our Christmas lunch (photo above), which we were able to enjoy outdoors on a beautiful December day. At the end of 2020, Sutton Center's former Executive Director Dr. Steve Sherrod officially retired. I want to take this opportunity to thank Steve for all he has meant to the organization and everybody involved. The Sutton Center could not have achieved all the successes without a lot of teamwork and support of each other, and being in charge is not easy. It takes courage to accomplish what Steve has been able to as the executive director.

"Friction" over the best course of action can be very stressful, especially when it comes to something as crucial as working to save a species from extinction. That is when it is very important to show your gratitude and throw in some humor, to remind us that the argument is for the solution and not personal. Those are some of the qualities that I admire in Steve.

He expresses sincere appreciation, has great compassion, and a quirky sense of humor that could be taken the wrong way, but almost always ends up lifting the mood instead. Another quality is enduring friendship, which you who have worked close with Steve realize blurs the line between colleague and comrade.

Also, Steve has always strived for excellence, including in writing (he always uses commas where I don't bother). So, thank you Steve for doing your utmost and being in the vanguard for bird conservation in the grasslands of Oklahoma and beyond! You can be very proud of your legacy, and the Sutton Center will continue to work hard to find cooperative conservation solutions to sustain biodiversity.

Thank you to all our supporters who are part of our collective mission to conserve birds and the natural world!

Sendamon

Lena Larsson, Ph.D. Executive Director



These Birds of a Feather CAN'T WAIT to be TOGETHER!



WILD BREW 2021

November 13 Cox Business Center 5:00-8:00 With more tastings from local restaurants than ever before and even more beer and spirits than you can possibly sample-The Greatest Party Ever Hatched is BACK!

Plus, the November date gives you one more thing to be thankful for...early Christmas shopping!

Drink a Beer, Save a Bird and Jingle All the Way!

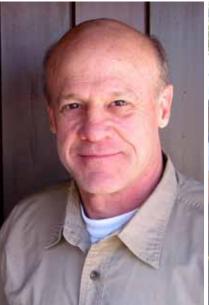
Online Auction and Raffles, NEW Brewery Market, Wild Brew Merchandise and Local Art

Tickets available beginning August 1 (numbers will be limited so don't delay in purchasing yours!)

Sign up for updates at wildbrew.org

All proceeds support the wildlife conservation efforts of the Sutton Avian Research Center

A Tribute to Dr. Steve K. Sherrod





Steve Sherrod educating supporters at Sutton Center picnic.

George Miksch Sutton Avian Research Center's former Executive Director and until recently Director of Conservation, Dr. Steve Sherrod has retired. This article is an account by four people who have known and worked with Steve Sherrod in the creation and ongoing evolution of the Sutton Center.

Warren Harden, founding board member and former **Sutton Board Chairman:**

After moving to Oklahoma, I met Dr. George Miksch Sutton, a retired professor at the University of Oklahoma, who became my friend and ornithological mentor. Dr. Sutton considered Oklahoma a crossroads for birds. This led to my believing Oklahoma should have a bird research center. Other like-minded people and I formed a taxexempt corporation for that purpose. Harold Price of Bartlesville was interested in financing the endeavor, but we needed a leader.

Dr. Sutton recommended a former student Dr. Steve Sherrod, an assistant to Tom Cade, director of the Peregrine Fund. Meetings with Steve convinced me he could do everything a center needed. He became the Executive Director and insisted on us being named the George Miksch Sutton Avian Research Center. Harold Price, a supporter of Steve, donated his house and property south of Bartlesville for our headquarters.

Steve set our flagship project as the reintroduction of the bald eagle into the southeastern United States. His strategy was so successful that he received an invitation and attended a White House ceremony with then president Bill Clinton when the bald eagle was removed from the Endangered Species List.

Steve's vision and political acumen garnered support from civic leaders, foundations, government agencies, the general public, an

President Bill Clinton and Steve Sherrod at the Bald Eagle Recovery Event. Photo by Craig Koppie



Biologists Craig Koppie (on left) and Mark Causey (on right) also attended the event at the white house.

active board of directors and helped amass a talented and mission-driven staff. Four board members plus George Sutton are members of the Oklahoma Hall of Fame. Steve initiated projects, raised funds, oversaw construction, spurred development of a live bird education program, raised falcons, all while raising daughter Alison and son Scott with his wife Linda.

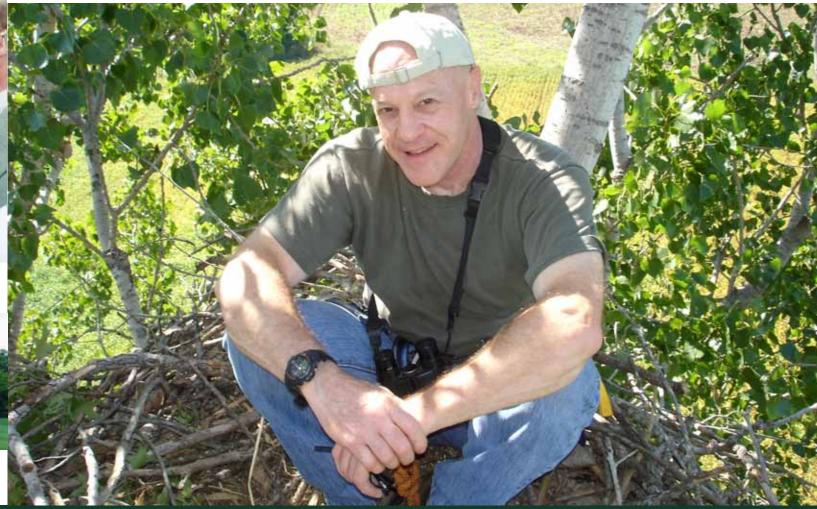
Our worldwide travel experiences led to many conversations. We travelled together with other Sutton supporters to Alaska and to the monarch butterfly preserve in Mexico. I regret that we never lived close enough for frequent personal contact. The Sutton Center would not exist without Steve. He was the driving force behind the Sutton team's success in our finding cooperative solutions to conservation problems here and around the world.

Don Wolfe, Sutton Center Senior Biologist:

I first met Steve in 1983, when I was a biology lab assistant at Bartlesville Wesleyan College (now Oklahoma Wesleyan University), when he would occasionally drop by the biology labs to talk with my professors or to use or borrow some equipment. When I graduated in spring 1984, I contacted him about possible employment, and his response was "bring me a resume, but I will let you know that I have a stack of applicants about 6 inches high." Well, I turned in a resume, and a couple of weeks later, Steve started offering a few odd jobs, such as digging out the ditches along the driveway and painting our administration building. Later that year, we received four Cape griffons, and Steve put me in charge of their care. As things started to come together for the first season of the bald eagle recovery program, more and more opportunities to assist developed, including going on the first egg collection trip in December 1984 to monitor incubators during collection and the long drive back to Bartlesville.

Although I was hopeful at the time that it would become a long-term position, little did I know that this would be a start to 37 years and counting of bird research and conservation efforts. I will be forever grateful to Steve for taking a chance on me, and overlooking my many shortcomings as a young biologist straight out of college with no experience. Ultimately, I think I gained his respect, which, for those of you that know Steve, is not always easy to do.

Over the years, I have since had to coordinate large research and conservation projects, including overseeing construction and renovation efforts, hiring lots of personnel, ordering tens of thousands of dollars'



A Tribute to Dr. Steve K. Sherrod (Continued)

worth of equipment, managing field fleets, etc., and when I now think back to the overwhelming tasks that Steve undertook during the first few years, I am truly amazed, especially considering the fund-raising and coordination with agencies and other partners that was so essential at that time. I can't imagine that there was or is anyone else with his knowledge, skills, and determination to make everything come together. Steve certainly set the standard for perfection and tenacity that all of us here now, or that have served in previous roles, continue to show, which has ultimately led to a wide diversity of bird research and endangered species recovery efforts.

Indeed, anyone who has ever worked under or with Steve closely became a much better technician, biologist, supervisor, fund-raiser, writer, or spokesperson for conservation. Without his leadership, we would not be writing these accolades today or have the respect of so many peers as well as various state and federal agencies; in fact, the Sutton Avian Research Center may not be in existence as a conservation organization if it was not for Steve Sherrod.

Dan Reinking, Sutton Center Senior Biologist:

The year was 1992 and I was a young intern studying birds in California and looking for a full-time job. Hearing about a grassland bird research project in Oklahoma led to an application and eventual phone calls about the advertised position helping coordinate this major new study. Whether it was my persistence in inquiring about the job, or desperation by Steve to find someone to fill the job as field work was about to begin, I was soon moving halfway across the country to Bartlesville. Specialization exists among ornithologists just as it does among doctors or tradespeople. I found that this lifelong raptor biologist had found and talked to the right people and come up with a well thought out study to be implemented on Oklahoma grassland songbirds.

Over the subsequent years (now 29 for me at the Sutton Center) I would come to find that Steve was always open to new ideas and projects, even if they did not involve his beloved birds of prey, and he had the drive to help fund these projects and ensure that they could succeed. Following five years of grassland bird studies, his support enabled me as a young biologist to jump right into organizing and coordinating Oklahoma's first breeding bird atlas, a major statewide survey of Oklahoma's nesting birds. Oklahoma had



Steve Sherrod and Alan Jenkins banding a bald eagle during the bald eagle re-introduction project.

lagged behind most other states in implementing these long-term bird atlas projects because of the size and complexity and expense involved, and were it not for the Sutton Center and Steve's fearless willingness to take on large and difficult projects, Oklahoma might still be without a breeding bird atlas.

Success brings more success (or at least the opportunities for it), and the breeding bird atlas later led to a first-inthe-nation winter bird atlas for Oklahoma, and currently a second breeding bird atlas project now in its second of five years, right on schedule about two decades after the first project. Long-term monitoring of birds is important for conservation, enabling interventions to restore or maintain populations before they become endangered and much more difficult to save. The Sutton Center under Steve's leadership was always willing to undertake long or ambitious projects if they were of practical value for conserving or restoring declining or endangered birds, something that continues today by the Sutton Center having leading roles in captive breeding programs for not just one but two of the most endangered birds in North America.

David Riggs, board member and former Sutton Board Chairman; attorney; former Oklahoma State Senator:

In his classic essay "Self Reliance," Ralph Waldo Emerson wrote "An institution is the lengthened shadow of one man." I don't know of any institution which is a better example of this than the Sutton Avian Research Center, which has become an institution, thanks to Steve's unwavering dedication and international reputation.

I first met Steve back in the 1990s, when he asked me to assist him in obtaining recognition of the Sutton Center's achievements and financial support from the

Oklahoma Legislature. We were successful in doing that and later in securing an association with the University of Oklahoma, which continued for several years, adding additional stature to our organization, especially given the fact that our namesake, George Miksch Sutton, did his world renowned ornithological work at OU.

Our efforts in securing state funding and the relationship with OU led to my close friendship with Steve. He and I, and sometimes our families, have traveled together to some of the most wonderful places on earth, including Patagonia and the heart of Africa.

Steve is not an academician because he is too much of a "hands on" worker to be called that, but he certainly has the academic credentials necessary to have been entrusted with the financial support and authority needed to enable the organization to achieve successes which have made notable people, such as Harold Price, happy to have been associated with the Sutton Center.

I sincerely believe there would not have been, and there would not still be, a Sutton Avian Research Center if there had not been a Steve Sherrod.

Few people can truly say they have made a change in the world. Steve Sherrod has made a difference and the existence and accomplishments of the Sutton Center are a tribute to his tenacity, drive, and passion for the natural world.



Steve (left) surveyed Altai falcons in Kazakhstan.



David Riggs and Steve Sherrod on one of their shared family trips.

Bald Eagle Nest Cameras

by Miranda Adams



Our last newsletter featured the exciting unveiling of an additional bald eagle nest camera to our website. Avid viewers may have noticed the unfortunate lack of nesting eagles present on these nests. As disappointed as we are that they are not nesting on camera, we are happy to announce that both bald eagle pairs are using alternate nest sites within their nesting territories and are raising chicks!

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. The Sequoyah bald eagles chose an alternate nest this season, perhaps due to the failure of their nest as they were attacked by a rival eagle the previous season, or due to the fact that their old nesting tree is now dead. The Bartlesville nesting pair chose a nest approximately 500 yards away, and we know they were successful in hatching young. However, we cross our fingers that they return to nests where the cameras are next season!



A Brief History of Marking and Tracking Sage-Grouse for Research

by Aaron C. Pratt

In recent newsletters I described how we capture and process sage-grouse for a field research study. Equipping the grouse with a transmitter was usually the main reason for capturing it. The transmitter allows you to uniquely mark each individual and to locate it repeatedly in order to monitor important biological information such as movement behavior, habitat use, survival, and reproductive success. This information can then be used to guide management and conservation actions.

There has been a long history of using various marking techniques to identify individuals and to collect location data for birds in general and for sage-grouse specifically. Sophistication of research questions and understanding has improved as technology has improved. Before any individual marking techniques were utilized, understanding was more limited and there were numerous erroneous beliefs and folklore early on. For example, Aristotle (circa 350 BC) made some of the earliest recorded observations of avian movements when he recorded the seasons of departure for several species; however, Aristotle also believed that robins turned into redstarts and vice versa with the change in seasons. In reality, robins were migrating from locales farther north to spend the winter at locations that redstarts were just leaving for their own southern wintering grounds. Another example was bird hibernation theories that were common until the 1800s. In Europe, popular belief was that swallows hibernated underwater and barnacle geese hatched from barnacles. These geese were never observed breeding in the area, so where else could they come from?

Advances in understanding occurred with new technology, in the form of banding, which was used by John James Audubon in the early 1800s. Before being able to uniquely identify individuals, the questions that were being asked were limited, restricted to the distribution of populations. With the different techniques in marking individuals, there

is a tradeoff between size of the mark (weight) and its performance (accuracy, data storage, fix rate, and battery life), which has limited which species could be studied at higher spatiotemporal resolution and scales; therefore, restricting which questions can be answered. Banding and other passive marking techniques were the first attempts at marking and being able to identify individuals. They are inexpensive, which allows accumulating a large sample size of individuals. Retention times for passive marks are also usually very long, with many being permanent, so they are not restricted temporally by a limited battery life. However, recaptures are required and return rates are very low which severely reduces the initially large samples. Even though banding was invented in the early 1800s it was not used extensively with decent return rates until the mid-1900s.

 ${f R}$ adio transmitters were the next major advancement in technology used to mark individuals for monitoring purposes. Radio transmitters are moderately priced, resulting in decent sample sizes. They allow for precise locations but the observer effort required is intensive, which limits relocation frequency. However, they are a momentous improvement over passive marks because you can repeatedly locate the individual under most circumstances. Monitoring radio transmitters are limited in space since someone needs to actively go out in the field within range of the transmitter, so most long-distance movements are not documented. Also, certain times where environmental conditions make field work more difficult (usually at night and during winter) have been understudied using simple radio transmitters. Radio transmitters were initially quite heavy but became progressively smaller. Global Positioning System (GPS) transmitters are an improvement over radio transmitters in that they still get precise locations at a much higher frequency with their onboard GPS receiver and data recorder without frequent field visits. However, they are more expensive and heavy, so their use has been limited to certain studies with smaller sample sizes. The cost and size of GPS transmitters has progressively decreased as did those of radio transmitters before them. Continued technological advancements have allowed individually marking smaller and smaller species with higher and higher performing marks resulting in more questions being answered.

For sage-grouse, initial population monitoring is based on the locations and changes in the size of strutting grounds (leks) which makes male sage-grouse more visible during spring while displaying. These lek counts combined with hunter harvest information in the fall provide information on the status of the population and how population change can be affected by gross habitat change or other factors. However, identifying the specific demographic rates and specific factors influencing those rates wasn't really possible until researchers started marking sage-grouse with radio transmitters. For example, with a radio transmitter you can follow a female to her nest and monitor its hatching success to see if nest success is driving population change. If nest success is identified as the limiting demographic rate, then you can investigate the habitat conditions around all the monitored nests in the population to determine if the state of the habitat is what is influencing success. For many years, sage-grouse research projects were dominated by the use of radio transmitters, but this has slowly shifted to the use of GPS transmitters since about 12 years ago when the first GPS transmitters were made small enough for use on grouse. Using GPS transmitters allows you to collect the same data as using radio transmitters but while collecting a much larger sample of locations. Having a larger sample size means the data collected more precisely represents reality, giving you more confidence in your conclusions. As GPS transmitters are more expensive, you have to decide whether it is more important to get a large sample of locations on a small sample of individuals with GPS transmitters or a small sample of locations on a large sample of individuals with radio transmitters. More



Female greater sage-grouse with necklace-type radio transmitter. Photo by Holly North



Female greater sage-grouse with solar-powered rumpmount-type GPS transmitter and a 5-week-old chick. Photo by Holly North



Locations (8,400) collected by a GPS transmitter on a female greater sage-grouse with brood over the first 5 weeks after the nest hatched compared to only 5 locations (1/week) which is typical if the hen had been wearing a radio transmitter.

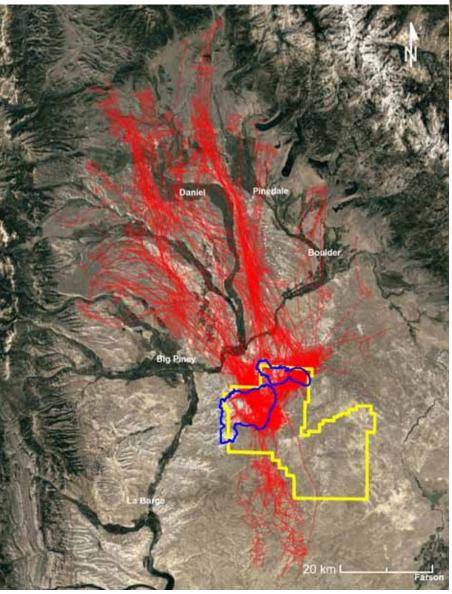
A Brief History of Marking and Tracking Sage-Grouse for Research (Continued)

by Aaron C. Pratt

individuals are always preferable to fewer individuals, but your final decision will depend on the objectives of the project. As technology continues to improve, it should become easier to select the option that gives you many locations on a lot of individuals.

We are currently involved with a greater sage-grouse research project with the University of Wyoming, University of Montana, Wyoming Game and Fish Department, and Jonah Energy, LLC in western Wyoming using GPS transmitters to investigate the response of sage-grouse to development of a natural gas field in winter habitat. We chose to use GPS transmitters because we wanted a large sample of locations to precisely measure habitat selection and the factors affecting survival relative to the human-caused changes on the landscape. The GPS transmitters will give us a high-intensity collection of location data without having a significant field presence that could create additional disturbance during the sensitive period when grouse are concentrated on winter range. Using GPS transmitters will also allow us to easily collect a large sample of locations with less time in the field during the rest of the year to determine if what they are exposed to during winter also influences their non-winter survival and reproductive success. The location data collected so far by the GPS transmitters has revealed a wide variety of breeding range destinations and the routes taken to get there even though all the grouse were captured together on winter range in our study area. The precision of information collected on the habitat used during each of these seasons and especially for movements between seasons would not have been possible using radio transmitters. I have gained an even greater appreciation of location data representing animal movements since using GPS transmitters. I am one who can get distracted looking at maps for hours. This is definitely the case when perusing an interactive map of locations collected from

grouse equipped with GPS transmitters depicting their fine and large scale movements. Being able to collect a lot of data with less time in the field will bring advancements in our understanding of the natural world. However, I say this with the caveat that understanding wildlife will always be limited if one stays in front of a computer screen. I have acquired the most knowledge from experiences obtained while actively tracking grouse in the field. Scouring maps of grouse locations is more meaningful if you have been to those places and can visualize what the habitat conditions are like.



Year-long tracks of 75 greater sage-grouse in western Wyoming all captured together on winter range (blue polygons; relative to natural gas field project boundary as yellow polygon) depicting the variety of movement behavior only discoverable by using GPS transmitters.

Habitat Improvements for Masked Bobwhite

by Don Wolfe



Overall view of the area of habitat improvement effort, with the San Luis Mountains in the horizon. Areas of dense mesquite often need thinning, sometimes with over 75% of the trees removed. Photo by Richard Song



Loose rock dams across small ravines slow water flow and allow water infiltration after rain events. Photo by Richard Song

As reported in the previous Sutton Newsletter, 2020 was certainly a tough year for the masked bobwhite recovery efforts as summer monsoons never developed and arthropods were extremely scarce, resulting in poor survival of the birds released. How do you respond to a set-back year like 2020? A) Keep plugging away on the production side, and B) attempt to further enhance and improve habitat so the released birds have a better chance of survival, even if drought conditions persist through another year. Actually, although 2020 was the driest July and August on Buenos Aires National Wildlife Refuge (BANWR) for many decades, that phenomenon also led to some improvements. A major one was that the refuge incorporated some extended water line/drip distribution systems, that although were perhaps too-little-too late to have much benefit last year, they are now in place and can be made functional immediately if the summer rains are late, infrequent, or once again non-existent.

Also, over the past few months, we have been able to do more habitat improvement efforts. BANWR staff has been greatly reduced over the past year, due in part to staff working from home during COVID-19. Additionally, where some recovery team members would often do a few days of habitat work in connection with recovery team meetings, those meetings have been virtual since early 2020. But, in February, Don Wolfe, Richard Hasegawa (masked bobwhite intern), and Steve Corbett (volunteer) delivered 85 juvenile and adult masked bobwhite to BANWR for winter/spring releases, and were able to improve habitat on a few hundred acres adjacent to some release sites, which ultimately will lead to better connectivity between suitable areas. In April, Don again travelled to BANWR for further habitat work with volunteers Richard Song, Marissa Adamson, and Dave Moore. Sutton board member Ryan Pitts also joined us on site. Additional volunteers from the Southern Arizona Quail Forever chapter and the Arizona Wildlife Federation, along with Dawn Brown (BANWR habitat biologist) and Kiera Kauffman (recent MSc graduate from Oklahoma State University, now working for the Gila River Watershed Partnership), and long-time Sutton volunteer Brian Fennern came to help. In all, we ended up having 18 person-days of habitat improvement work near an area that was used for releases in 2020, and moving closer to connectivity to other areas used for releases these past three years. While progress is slow, we should soon have full connectivity through a habitat patch 6 miles long by 1 ½ miles wide in the northern portion of BANWR, in addition to some even larger patches of suitable habitat to the south.

T hese habitat improvement efforts generally include three main methods. In deeply incised ravines, as well as many smaller, shallow gullies that feed into larger arroyos, loose rock dams allow for sediment build-up, reduced downstream

Habitat Improvements for Masked Bobwhite

(Continued)



Don Wolfe and Dawn Brown (USFWS) discussing habitat improvement ideas at BANWR. Photo by Richard Song

erosion, and increased infiltration of water after rain events. Brush dams built from downed trees and branches across larger drainages also accomplishes the same, and are especially effective where the span is too wide for rock dams. They can even increase in size as more branches and other vegetation piles against them in more major flow events. The third technique we use is half-cutting of mesquite, where smaller branches (usually less than 2 inches in diameter) are cut partially through and bent down to the ground. This leads to the tree growing outward rather than just up, thus not only providing immediate cover close to the ground, but also continued expansion in diameter. Another benefit to these half-cuts is that both herbaceous and shrubby vegetation is protected, and can become guite lush under these improved structures after 2-3 years. Mesquite trees have also been removed by BANWR staff from some of the denser areas to create open spaces with scattered shrubs surrounded by woody edges. The end result is that with each passing year, there are hundreds, if not thousands more acres suitable for the masked bobwhite.



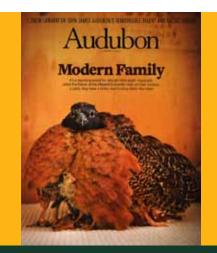
Cutting partially through small branches of mesquite, and bending those toward the ground provides cover for the bobwhite, and also protects other vegetation, leading to lush growth.

Photo by Dave Moore

Masked Bobwhite in Audubon Magazine

The spring 2021 issue of Audubon Magazine included a feature article on the masked bobwhite recovery effort, which even included the cover photo. The electronic version of the article can be viewed here:

https://www.audubon.org/magazine/spring-2021/the-decades-long-effort-save-masked-bobwhite



Bald Eagle Survey Team Annual Meeting

by Miranda Adams and Lena Larsson



The Bald Eagle Survey Team workshop provides a chance for new volunteers to learn about the program, current volunteers to stay up to date on bald eagle news, learn the results of the previous nesting season, and sign up for bald eagle nests to monitor. New volunteer "fledglings" can be paired up with mentors in their area. We are grateful to the mentors who share their experiences in the field, which will help the new citizen scientists with future monitoring.

We hosted our annual workshop on November 18th virtually this year. Director Lena Larsson and Educator Miranda Adams co-hosted, long term BEST member (and database helper) Cheryl Cavert presented on bald eagle age determination and nest identification, and eagle biologist Kirsten McDonnell from Division of Migratory Birds, U.S. Fish and Wildlife Service, presented on the protection and importance of monitoring eagles. We had an excellent turnout and the event was recorded for incoming volunteers to be able to watch in the future. One of the BEST that has been helping with Sutton Center's nest monitoring program 'before it even started' ended up with the most nests monitored for 2020; Betsy Stewart aka "Nesty" reported several new nests and she turned in a record of 38 nest reports!

Sutton Center's BEST volunteers received a patch as a token of our great gratitude for your efforts that makes this monitoring program possible. We hope you are able to wear your patches when you are out in the field. We could not do it without all of you – THANK YOU!

Welcome Artemis



Artemis the red-tailed hawk.

Photo by Miranda Adams

Our flock is growing! Welcome Artemis, our newest animal ambassador in our growing education program. Artemis is a red-tailed hawk who came to us from the World Bird Sanctuary in St. Louis. Red-tailed hawks are one of North America's most wide-spread species, residing in 49 states, Canada, and Mexico! Unlike many more specialized species, red-tailed hawks have adapted incredibly well to human activity and urbanization and can often be spotted along roads and highways perched at the tops of trees or telephone poles. They use these high vantage points to scan for their prey (mice, rabbits, and other birds) along the embankment of the road. While this can be a highly successful tactic for a hungry bird of prey it can also lead to disaster as vehicle collisions are one of the greatest causes of injury to these birds. Luckily for us and the students of Oklahoma, Artemis survived one such encounter but with permanent blindness in one eye, making her ineligible for release but a perfect candidate for our program. Follow her journey on Facebook and Instagram with #suttonhawk.

Adoption day: January 25th 2021 **Favorite treat:** Squirrel

Weight: 3 lbs

Fun fact: red-tailed hawk calls are often used

Loves to: Play with her enrichment (hol-ee-roller is her favorite!)

Conservation status: Least Concern

Meet our Conservation Director

by Miranda Adams







Meet Dr. John Hoolihan, our newest conservation director of the Attwater's prairie-chicken breeding facility. His job is to ensure that our aviculturists have the support they need to provide husbandry for these critically endangered birds, as well as grant and report writing for the project.

John's journey to the Sutton Center began as a falconer going to school at the University of California Davis in the poultry program, which was the closest he could get to raptor biology at the time. There he received a degree in poultry science and moved to Colorado to work with The Peregrine Fund. The Peregrine Fund is a similar program where they breed once-endangered peregrine falcons and other birds for release into the wild. During this time, he also spent six months in the United Arab Emirates helping with the captive breeding of falcons. That project led him to Texas where he worked on genetics of endangered species at the University of Texas System Cancer Center. While in Texas he spent time in the fall and spring banding wild peregrines. He soon returned to the United Arab Emirates where he helped Dr. Kenton Riddle oversee the design, construction and operation of a falcon research hospital. John spent the majority of his time there carrying out clinical diagnosis and surgeries on falcons. Later, John pursued the study of sailfish in the Arabian Gulf while working for the Environmental Research and Wildlife Development Agency. During this period, John attained a master's degree in environmental management from the University of London (UK), and a Ph.D. in marine biology from the University of New South Wales (Australia). He returned to the U.S. in 2006 to work for the National Research Council studying movement and migration, age analysis, behavior, and population dynamics of sailfish, marlins, and yellowfin tuna. John continued this work in Miami through 2019 while employed by the Cooperative Institute for Marine and Atmospheric Studies as a contractor for the National Marine Fisheries Service (NOAA).

John's favorite part of his career journey has been the field work. Being able to observe and study animals in their natural habitat and later analyze data from trapping, banding, and tracking to figure out where they are going is very interesting to him. John is excited to meet the challenge of working with something as tenuous as the population of the Attwater's prairie-chicken, and to devise methods to ensure that the Attwater's prairie-chicken survives so that we can help bring the population to sustainable levels. However, John feels that the best thing about the Sutton Center is the comradery amongst the staff and the dedication expressed to be able to meet the objective.



Q&A with John Something most people don't know about you?

I've visited Timbuktu. Funny story, I didn't know I was going there until I landed in a Soviet made cargo plane with 100 other falconers. I had no idea where I was, but there was a building with Timbuktu scrawled on the side.

What do you like to do when not working?

I have a dog named Sadie, and we travel around. Most of my free time is spent in competitive shooting.

Proudest moment?

Arriving here. I started moving in October for a December start date but I broke my leg while loading for the move. As I got better I got stuck in a big winter storm trying to come up to Oklahoma, causing further delay. It's a relief to have finally made it!

Best career lesson learned so far?

Give proper attention to staff training and then trust them to carry out the work successfully.

Advice for others in your profession?

Captive breeding programs for endangered species usually entail long hours, short deadlines, and expectations that result in elevated stress levels. So, remain calm and stay the course.

EAGLE BARN UPDATES

by Audra Fogle

Thanks to the challenge issued by the Lyon Foundation and donors like you, we successfully raised 100% of the funding needed to make renovations and updates to the education barn. Because of your efforts, our education building has an office and food prep room, internet, brighter lighting, running hot and cold water, a bathroom, viewing windows, secure enclosure doors, and topping it all off; a van to transport the animals to programs!

These renovations make it possible for our education program to better care for our animals and use the facility for on-site and virtual programming. The van opens up the possibility to take conservation related trips and to transport our masked bobwhite and ambassador animals safely. The van made its maiden voyage to take masked bobwhites for release in Arizona in February, and returned there in April with a team focused on habitat restoration.

The renovation of the education building forced us to find a new home for our critical fire truck and to consolidate the tools we use daily. So, for the first time in 37 years, we will have a much-needed shop and garage. Being able to make repairs in house helps us be good stewards of donor funding and conserve our resources. The Sutton Center regularly experiences significant fire threats to our facility and the birds that depend on us for survival. A garage that allows us to keep the fire truck ready for immediate action could make the difference in an emergency situation.

We can't express our appreciation enough to the Lyon Foundation and all the donors who rose to the challenge to make these improvements possible.

Quote from Miranda Adams, educator

"With the renovations complete we are excited to welcome visitors for onsite classes, where they can experience our ambassador animals via the newly installed viewing windows, as well as remotely with the expansion of highspeed internet for virtual programming. With a strong foundation secured, Sutton Center education programs are ready to soar!"



The new office and lab are equipped with stainless steel countertops, bright lighting, and hot water!

These modifications allow us to better care for our ambassador animals.



The updates to the education barn include updated lighting, large observation windows, a bathroom and access to the internet, making it easier to host groups both at the Sutton Center and to a larger virtual audience.

Booming, Eggs, and Soon Chicks at the Prairie-Chicken Facility

Morgan Anderson, Anna Baker, Cara Brown, Hannah Caster, Kevin Jarrell, Daniel Harris, John Hoolihan, Lena Larsson, Michelle Morgenstern, Gavin Nuttall, Aaron Pratt, Hayden Ring, Fumiko Sakoda, Gary Tweedy

The greater prairie-chickens seemed to

enjoy the winter storms in February.

Their adaptations as a northern



An Attwater's prairie-chicken hen is inspecting a grass grid with dirt as a nesting option in her breeding chamber.

Photo by Hayden Ring



Our seven greater prairie-chickens adjusted well in new outdoor pens. Photo by Cara Brown

You might think that the winter months would be relatively calm at the prairie-chicken breeding facility, right? The majority of prairie-chickens went for release receive in decrease.

relatively calm at the prairie-chicken breeding facility, right? The majority of prairie-chickens went for release, the remaining adults grow new feathers and increase in weight after the hectic breeding season, while the young ones mature. Well, our plans to increase the Attwater's prairie-chicken (APC) breeding flock meant that we needed to completely sanitize the breeder barn where we had kept the greater prairie-chickens (GPC). The greaters were moved to outside enclosures, which they did not seem to mind at all. We changed the setup somewhat so there are now a total of 22 large and 4 smaller enclosures in the two breeder barns. After washing nets and changing out literally tons of sand, we moved the Attwater's in before Christmas. As there was an ice storm in October, they had to temporarily squeeze into a chick building so we could lower the outdoor enclosure nets to prevent them from breaking from the added weight of ice.

The pairings were delayed by a couple of weeks due to the severe winter storms in early February. There has been some shuffling around of the breeding pairs, as sometimes the ideal couple (in terms of the genetics of small populations) does not get along. The males started their booming and courtship displays later than last year, so we were getting a little anxious when March 19 (day the first egg was laid in 2020) arrived and several males were not displaying yet. But they have since gone into high gear and the first egg was laid on Easter Sunday!

We hope to get eggs from 18 hens, which could result in well over 250 eggs. We were fortunate to receive in-depth advice from an incubation specialist, John Seabury, who has decades of experience with hatching threatened birds in the Old World and works for the Emirates Center for Wildlife Propagation. He recommended using Brinsea Ovation incubators that keep a very stable temperature, and we are using these for the first time this season. We heat-mapped them to determine temperature variations at each individual egg position. In addition, we are directly measuring egg shell temperatures on a daily basis. These steps will help refine and improve our artificial incubation process to promote maximum hatchability and survivability of chicks.

We put up two more acclimation pens to have room for chicks when they are big enough to be outside (without a mother to keep them warm and dry). The APC Recovery Team's Nutrition Working Group have been meeting monthly, and nutritionist experts Drs. Ellen Dierenfeld and Al Hollister suggested some additional tweaks to the prairie-chicken diets. The chick pellets now include meal from black soldier fly larvae to provide a good insect source of protein and calcium. We are also scheduled to undertake feeding trials using the commercial poultry product GroGel. With the addition of water, powdered GroGel transforms to a green colored granular gel-like substance. The color acts as an attractant, encouraging chicks to peck and start eating. The water content provides an additional



The Attwater's prairie-chicken flock geared up later this spring than last year, but most of the males were booming and stomping by the beginning of April. It is a thrill to hear the booming across the property.

Photo by Hayden Ring

Our first Attwater's prairie-chicken egg for 2021, being examined here by aviculturist Hayden Ring, was laid on Easter Sunday, April 4. Photo by Gavin Nuttall

Renovation of the first breeder barn to house more Attwater's prairie-chicken pairs took a big chunk of the off-season to complete.

Photo by Cara Brown

source of needed hydration. GroGel will be placed on top of dry feed and offered to newly-hatched chicks for two days. Small LED spotlights have been rigged over the food so chicks can easily find it during the night. In addition to commercially formulated dry feed, our APC are offered a variety of leafy green plant material and insects. Arugula and kale are examples, but the offerings are quite varied. In addition, chicks are provided supplemental fruit and vegetables. Insects such as crickets and mealworms are readily eaten by both young and adult APC. This season, with the help of his former entomology professor Dr. Astri Wayadande, Kevin Jarrell started a leaf hopper colony that will provide an additional source of insects to feed our chicks.

We are implementing a new data entry system developed by Eric Lynch. Eric used to work as a Sutton Center aviculturist 2016-2017, but he now lives in Arizona and works with programming. Eric named the program AVIDATA, with which we can record and analyze data related to all aspects of APC husbandry management. AVIDATA works on desktops as well as phone/tablet interfaces so we can use it throughout the facilities, whether inside or outside.

Expansion activities are underway with the planning and construction of a new quarantine building. Bids

are being evaluated for various aspects of construction, and a general contractor has been hired to oversee project management. Building material shortages resulting from the pandemic have delayed the onset of construction, but we are hoping for a completion date by fall 2021.

Transitioning into the 2021 APC breeding season at the Sutton Center has been hectic with the arrival and training of new aviculturists and seasonal interns. John Hoolihan has taken over the position of Conservation Director following the retirement of Steve Sherrod. The role of lead aviculturist has been assigned to Cara Brown. Aviculturist Hayden Ring moved over from the masked bobwhite breeding program to work full time at the APC breeding facility. Fumiko Sakoda, who worked over a decade and half on our lesser prairie-chicken field research, splits her time working at the Sutton Center to provide additional assistance during the busy APC breeding season. We welcome new aviculturists Hannah Caster and Michelle Morgenstern, as well as seasonal interns Gavin Nuttall, Daniel Harris, Morgan Anderson, and Anna Baker. Conservation technicians Gary Tweedy and Kevin Jarrell continue to help out with maintenance, construction, and overall operation of the breeding facility.

The prairie-chicken breeding facility would not exist if it were not for the support of the Mohamed bin Zayed Species Conservation Fund, U.S. Fish & Wildlife Service, and the National Fish & Wildlife Foundation. We have many more to thank for their collaboration and advice. Key partners include the Attwater Prairie Chicken National Wildlife Refuge, Dr. Ellen Dierenfeld, Dr. Al Hollister, John Seabury, Kim Huckaby D.V.M. and her staff at Bent Arrow Veterinary Hospital, the members of the Attwater's Prairie-Chicken Recovery Team, Houston Zoo, Fossil Rim Wildlife Center, Caldwell Zoo, the Emirates Center for Wildlife Propagation, Texas Parks & Wildlife Department, The Nature Conservancy, and private landowners in Goliad County. Also thank you to volunteers and supporters who are helping us along the way!

Sutton Hosts Digital Sutton Award

by Audra Fogle

Coming to viewers from USA Today's BEST City Park in the country, the Gathering Place in Tulsa, the long running art award made virtual lemonade out of socially distanced lemons to host the 17th annual show online in April. And, despite the challenges to students and teachers, the entries were outstanding! The digital format did allow viewers to see the artwork and hear commentary from our OSU and UCO judges. We are thankful to our partners, NatureWorks and American Heritage Bank for their financial support and to Nothing Bundt Cakes and Nouveau Chocolate for providing treats to our judges and class parties. As a fun addition for 2021, a random drawing for all participating schools resulted in "Bundtini Parties" for the Bartlesville High School, Metro Christian Academy and Covington Douglas art departments. Since the Sutton Award's inception, more than 2,940 students have been celebrated for their contributions to wildlife conservation.



ODWC Special Award \$250 Hannah Mason Alva High School



1st Place 2D Rebekah Springer **Victory Christian School**



1st Place 3D **Emma Plunkett Union High School**



1st Place Photography **Jackson Morgan** Oklahoma Bible Academy



2nd Place 2D **Ashley Olinske Victory Christian School**



2nd Place 2D **Jayden Hristov Victory Christian School**



2nd Place 3D Myra Wilmoth Metro Christian Acad.



3rd Place 2D Estili Barrera



3rd Place 3D Elizabeth Scheer Northwest Technology Center Edison Preparatory High School

VOLUNTEERS

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"When one tugs at a single thing in nature, he finds it is attached to the rest of the world." J. Muir

Sutton's endangered species work past and present benefits other life forms. The healthy habitat that supports Masked Bob's, also supports other species indigenous to that habitat. It's all connected!

I was fortunate to work at the Arizona Buenos Aires Refuge and will continue to give my money and time to Sutton.

- Steve Corbett | Volunteer

"Volunteering with the masked bobwhite quail has been an extremely rewarding experience. I started volunteering at Sutton when I was 15, and it felt amazing to know that I was playing a small role in conserving an endangered species. The masked bobwhite breeding facility is fantastic and taught me it takes hard and dirty work to save a species."

- Ella Humphrey | Masked bobwhite volunteer

"Working with the Sutton Center has allowed myself the opportunity to collaborate with some of the most knowledgeable and conservation minded bird experts to ensure their population recovery. Not only is the Sutton Center on the forefront for the masked bobwhite quail conservation, but the researchers also expose and train many of our future conservation biologists to avian conservation. The Sutton Center staff is not only making a difference now, but ensuring the passion, knowledge, and conservation efforts will continue for generations of both birds and conservationists to come."

- Mark Peaden, Ph.D. | Professor, Rogers State University