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AVIAN RESEARCH CENTER



The

SUTTON

NEWSLETTER

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

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Attwater's Prairie-
Chickens...*

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*Cover: Face to face with an Attwater's Prairie-
Chicken. Photo by Noppodal Paothong.*

...An Update

by Mike Morrow and Steve Sherrod

Mike Morrow conducted his PhD studies and thesis on Attwater's Prairie-Chicken, is the senior APCH Refuge biologist, has been with USFWS for 15 years, and is a member of the APCH Recovery Team. Steve Sherrod is founding Executive Director of the Sutton Avian Research Center, past president of the North American Grouse Partnership, and is also a member of the APCH Recovery Team.

People often inquire about the different types of prairie-chickens. To make a long story short, prairie-chickens are found only in North America, and there are two basic groups, Greater Prairie-Chickens (GPCH) found in the tall grass prairies of the central U.S., and Lesser Prairie-Chickens found in the short- and mixed grass prairies of CO, NM, TX, OK, and KS. The Heath Hen, extinct since 1932, was a subspecies of the GPCH found along the eastern coastal prairies and scrub barrens from southern Maine to Virginia. The Attwater's Prairie-Chicken (APCH), an *almost extinct* subspecies of the GPCH (see recent genetics work by Jeff Johnson) existing only in southeast Texas, was found along the Gulf coastal prairies from southwestern Louisiana westward through southeast Texas.

There is disagreement regarding whether APCH is a species or subspecies, but undoubtedly in the company of San Clemente Shrike, Southwest Willow Flycatcher, Whooping Crane, California Condor, and Kirtland's Warbler, APCH is certainly one of the most endangered birds in the USA. Once thought to number a million, by 1937 an estimated 8,700 still existed. As of spring 2005, fewer than 50 remained in free-ranging populations at the APCH National Wildlife Refuge (APCHNWR) and The Nature Conservancy's Texas City Prairie Preserve. Loss and fragmentation of its coastal prairie ecosystem as a result of agricultural conversion, urban and industrial expansion, overgrazing, and invasion of prairies by woody species have been the primary factors driving APCH declines. In the last 15-20 years, adverse weather, reduced genetic variability, parasites, disease, and imported red fire ants have all likely contributed to the APCH's downward spiral toward extinction.

Still, a dedicated core of professional and amateur biologists, range managers, ranchers, zoo staffers, and lay persons continue a Herculean effort to prevent the demise of this magnificent bird and to encourage recovery. Impossible you think? Perhaps, but then again, perhaps not. In addition to habitat management on the 10,528 acre APCHNWR near Eagle Lake, TX, and TNC's 2,395 acre Texas City Prairie Preserve near Houston, arrangements are in progress for much needed additional habitat and corresponding connecting corridors through conservation agreements on private lands via the Coastal Prairie Conservation Initiative. This includes Safe Harbor Agreements which promote voluntary management on private property while giving assurances to landowners of no additional regulatory restrictions and involves, to date, more than 76,000 acres.

The history of captive breeding for APCH is extensive, starting at Texas A&M University and currently including other facilities such as Fossil Rim Wildlife Center, the Houston Zoo, the Abilene Zoo, the San Antonio Zoo, the Caldwell Zoo, and Sea World of Texas. These efforts are both varied and complicated. Reticuloendotheliosis virus (REV) has severely affected much of the captive population. Still, current efforts toward the development of a vaccine to prevent infection of REV as well as the formulation (by Ann Ward and Roy McClements of the Ft. Worth Zoo) of a highly refined and nutritional diet intended to produce blood vitamin levels comparable to that of wild prairie-chickens are underway by multiple entities. Studies of LPCH in both western Oklahoma and eastern New Mexico by the Sutton Research Center have provided blood from which vitamin levels and genetic variation



Heavy spring rains often flood significant parts of APCH coastal prairie nesting areas, thus causing reproductive failure. Photo by Noppodal Paothong.



LPCH's in NM and OK Sutton Center study areas (note neck transmitters) provide samples for blood vitamin analysis and genetic variation/relatedness to be compared to same for captive flocks of APCH. Photo by Noppodal Paothong.



USFWS personnel collect blood from an APCH wearing bands on both legs. Photo by Noppodal Paothong.



Noppodal Paothong

Cock APCH in full booming strut at the TNC's Texas City Prairie Preserve.

are analyzed and compared to that of APCH, as has John Toepfer's studies in Minnesota.

To release captive bred APCH successfully and have them survive is more complicated than just setting them free. Multiple procedures for population supplementation have been tried with varying success for the 753 birds freed since 1995. It has been found that 1) mortality during the first 30 days post-release was more than five times higher in birds acclimated in holding pens located in release fields for just 3 days versus 14 days; 2) birds released during migrant raptor seasons experienced essentially twice the mortality during their first 30 days post-release than if released when migrant raptors were absent; and 3) no difference was detected in post-release survival attributable to the age of birds at release (i.e., juveniles versus adults). Also, no clear differences could be ascertained regarding movements, habitat use, or flight speed by pen-raised versus wild-raised APCH. While first-year, post-release survival for APCH released 1996-2003 has ranged from 9-35%, the same statistic for birds released in 2004 is projected at approximately 41%, in part because of prophylactic treatment for chewing lice, which are thought to increase breeding season mortality. A corresponding, significant increase in clutch size for hens on the APCHNWR to an average 13 eggs in

2005 is hypothesized to be the result of better hen condition resulting from lice load reduction.

Poor chick production in the wild by pen-raised hens is a significant factor limiting recovery for wild APCH populations. The installation of predator deterrent fences around most nests since 2000 has substantially prevented nest depredation. Poor chick survival may be related to inadequate insect populations within habitats used by broods, to an inability by chicks to utilize available food due to a variety of causes such as inadequate hen nutrition (perhaps from hens that began as captive chicks themselves) and reduced

genetic variability, significant depredation by snakes and other predators, and difficult weather conditions including ill-timed massive amounts of rainfall. Placement of broods and hens in 4'x8' field pens for two weeks post hatch with natural food (insects swept from the prairie) and dripping water provided has shown promise for jump-starting the chicks. Of 18 chicks released by this method during 2004, 38% survived to at least six weeks. In 2005, 82 chicks were released by this method, but long term results are yet to be determined.

All in all, the re-establishment of APCH is a steep, uphill battle with little funding behind it. But, advances are now being made at a rapid pace relative to the past with solutions to significant problems arising each day. We hope there is yet enough time to save this hallmark of the coastal plain so that it does not disappear into the same vacuum as the Heath Hen.

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Wild hens with just hatched broods are surrounded by 4'x8' protective field pens and supplemented with native insects and dripping water in order to increase survival. *Photo by Donna Roach, APCH-NWR.*



Young, captive-bred APCH in holding pens at breeding sites prior to transport to field acclimation enclosures. *Photo by APCHNWR staff.*



Nearly grown, captive-bred chicks are acclimated to field conditions for weeks in release areas prior to being set free. *Photo by Grady Allen, APCHNWR.*



Wild Brew to Benefit Sutton Center!



Wild Brew is a popular annual event in Tulsa offering tastings of ales, stouts, porters, lagers, and specialty beers from more than 40 domestic and international breweries as well as the opportunity to sample signature dishes from 25 of Tulsa's finest restaurants. This year dancing will be accompanied by the ever popular Mid Life Crisis Band. Wild Brew will be held Saturday, August 13, 2005 from 4:00 to 8:00 p.m. Patrons will enter at 3:00 p.m. For ticket information call 918-336-7778. Tickets are \$40 and cannot be sold at the door.

This is the seventh year for the event that is organized and orchestrated by the all volunteer Wild Brew committee with committee heads Cassie Barkett, Tom Byers, Frances Dodson, Sara Franden, Mark Lauinger, Pam Lucas, Bonnie Minshall, Melissa Minshall, David Neff, Jill and John Powers, Caryl Raynes, Lisa Riggs, Renee Robinson, Dianne Siegfried, Mary Stewart, Sandy and Rex Thompson and Charlie Transue. Jason and Nora Percy are the 2005 Wild Brew co-chairs, and Roy and Toni Bliss are this year's Honorary Chairs.

The Oklahoma Chapter of The Nature Conservancy has been the recipient of the proceeds from this social event for the first six years, but because of an overloaded schedule, TNC has given their blessing for the passing of the baton to the Sutton Research Center. We are delighted to become the beneficiary of this exciting event to which nearly 4,000 participants flock annually. Thanks to TNC and to The Wild Brew Committee for helping provide much needed support for our continued conservation efforts!!!

Migrating Southward: Potential Future Research on Mexican Birds

by Michael A. Patten

Over its twenty-plus years, most research conducted at the Sutton Avian Research Center has focused on birds of the south-central Great Plains. And with good reason: the Center and the University of Oklahoma sit near or in tallgrass or mixed-grass prairie, habitats extensively converted to human use and now existing in fragments. Many area waterways have also been encroached upon or disturbed. Conservation concern for these vanishing habitats has thus motivated the Center's attention on Greater (*Tympanuchus cupido*) and Lesser (*T. pallidicinctus*) Prairie-Chickens, Bald Eagles (*Haliaeetus leucocephalus*), and a myriad of grassland passerines, notably the Dickcissel (*Spiza americana*), Henslow's (*Ammodramus henslowii*) and Grasshopper (*A. savannarum*) Sparrows, and Eastern Meadowlark (*Sturnella magna*).

But the Center also has a modest history of research in Neotropical America, from studies of nesting Peregrine Falcons (*Falco peregrinus*) in northern Mexico to parrot populations dynamics in Nicaragua to the winter ecology of Dickcissels in Venezuela. While the Center's primary focus will continue toward efforts within the United States, it now appears that the Center will once again head southward. My own extensive travels in Mexico have yielded several opportunities for future research, several avenues of which I am pursuing fully.

These potential studies span the country. Eduardo Palacios of the Universidad Autónoma de Baja California Sur plans to head a series of expeditions to study the avifauna of the remote Sierra de Laguna, an isolated range in that peninsula's cape that harbors a number of endemic birds. During the seasonal inventories, I hope to conduct playback experiments on the Northern Pygmy-Owl (*Glaucidium gnoma hoskinsii*) endemic to these mountains. This owl has a different voice from owls in the other two subspecies groups, one of which occurs the Pacific states from southern California northward, the other of which is in the Rocky Mountains south through the Mexican Plateau. Vocal differences have led some to conclude that the owl is in fact a distinct species, but no one knows if the birds will actually respond to vocalizations from the other subspecies. This study would also entail similar playback experiments along the Pacific Coast and in mainland Mexico.

With Héctor Gómez de Silva Garza of the Instituto de Ecología at Mexico City's Universidad Autónoma Nacional de México, I plan to study morphology, voice, and ecology of a recently discovered population of the Song Sparrow (*Melospiza melodia*) in central Sinaloa. The birds may represent an undescribed subspecies and certainly can teach us more about geographic variation and evolution in this widespread species, which occurs from the Aleutians to Labrador through the southern

United States, but only spottily in Mexico.

Lastly, Tammo Hoeksema of Pronatura's office in San Cristóbal de las Casas is interested in studies of migratory birds in the highlands of Chiapas. Such studies could include community ecology of the endangered Golden-cheeked Warblers (*Dendroica chrysoparia*) that winter there with flocks of other temperate warblers like the Hermit (*D. occidentalis*), Townsend's (*D. townsendi*), and Black-throated Green (*D. virens*). These studies and others like them will not only provide a deeper understanding of ecology, biogeography, and evolution of these species involved, but also further the Center's mission to conserve bird populations in ever-dwindling natural habitats.

Top: Northern Pygmy-Owl, photo by Steve Metz. **Right:** Golden-cheeked Warbler, photo by Bill Horn. **Bottom:** Song Sparrow, photo by Bill Horn.



1,000 Prairie-Chickens and Counting

by *Don H. Wolfe*

When our Lesser Prairie-Chicken crews began spring trapping on 23 March, the Sutton Center was 65 birds short of capturing our 1,000th individual. I thus knew it would only be a couple of weeks before we passed another milestone. Because we were trapping birds in both Oklahoma and New Mexico, determining WHICH bird was the actual 1,000th might be difficult. On 6 April we stood at 998. I was at the western Oklahoma study site that morning with high expectations. Unfortunately, the weather turned bad, and we shut the traps down soon after sunrise in the pouring rain. No doubt the New Mexico crew, averaging about 5 birds per day for the previous two weeks, would succeed where the Oklahoma crew and I failed. After all, they had definitely earned the right. As it turned out, the New Mexico crew caught only one bird, a recapture, that day. So on the morning of 7 April I was trapping with Fumiko Sakoda in Ellis County, while Amy Williams and Beth Lesar were trapping another lek nearby. The activity level of the cocks on the lek was exceptional and for good reason, as there were at least three hens on the lek. At 6:55 AM, we captured our first bird of the day, a hen; at 7:27 AM we had our second. We caught three hens and two cocks that day. The "official" 1,000th bird was an adult hen, band number 952. As it turned out, the New Mexico crew, composed of Apple Wood, Matt Proett, Ryan Grube, and Whitney Howeth, also caught five new birds that day. For those of you even more geographically challenged than me, there is a time zone change as you cross from Oklahoma or Texas into New Mexico. Thus, we had predetermined that times from New Mexico (MDT) would have to be converted to CDT. The first two birds in New Mexico were captured at 7:12 and 7:20 MDT, which converts to 8:12 and 8:20 CDT (much to the displeasure of the awesome NM crew). But, there is little debate. The first bird in New Mexico that day was captured 45 minutes after hen #1,000). When we ceased trapping on 1 May we had reached 1,048 total individuals (including Greater Prairie-Chickens). It took over eight years to reach that mark. It will most certainly be a long time, if ever, before we reach another such milestone. Is there any significance to being 952 birds away from our 2,000th bird when our 1,000th bird received band number 952? Perhaps.

Hen number 952 attempted to nest about a mile from where she was captured. She was killed away from the nest by a raptor the following month. Not only did I have the opportunity to capture her, band her, radio her, and take a blood sample from her, but I also accompanied Kathy Dawson on recovering what remained of her carcass exactly six short weeks after first making her acquaintance.



The 1,000th bird — 7 April 2005



The 1,000th bird — 19 May 2005

Eagle Head Puppets

by *M. Alan Jenkins*

Although the Sutton Avian Research Center is not in the manufacturing business, we sometimes get requests from other conservation organizations for materials or advice that are not otherwise available to them from any other source. So it seems to be with our Bald Eagle head puppets, the ones we made up to rear newly hatched eagles and imprint them on the proper Bald Eagle images, rather than allowing them to think they were people as do our educational eagles Sequoyah and BENSAR. Our puppets were designed and the first few manufactured by Tulsa wildlife artist and falconer, Gary Hale. They are very well rendered, and I'm sure that was an important factor contributing to our eventual success in the eagle reintroduction project.

The Institute of Wildlife Services (IWS) recently asked us to make them a puppet. They are doing important conservation work on Bald Eagles along the southern California coast, at Catalina Island. Pesticides that continue to leach out from nearby ocean sediments continue to devastate that population; the pesticides originated in the effluent of a now-defunct chemical plant in Los Angeles which once manufactured DDT. The eagles on Catalina Island lay thin-shelled eggs because of the high pesticide levels still present in their diet. To restore this population the IWS takes the eggs from the nests, sometimes by lowering a brave biologist, dangling from a helicopter, onto the cliffside nest (don't try this at home!). So far, the helicopter has come back with the same number of biologists attached as it left with.

The delicate eggs are incubated and hatched in the laboratory where they can be given more TLC than they might receive in the nest. The young eaglets are fed with the puppet, our puppet, until they are old enough to be returned to the nest. We wish the IWS continued success in their eagle restoration project, and we are proud to have had a minor part in it.

Sutton Center Scholarship Goes to Bartlesville Student; Teacher Honored

by Steve K. Sherrod

The Sutton Avian Research Center, in cooperation with F&M Bank in Tulsa, recently presented the first annual Sutton Scholarship Award in the category of Art, first runner-up, to Sarah Elizabeth Barnes of Bartlesville High School. Sarah's work featured a "Handprint of Humans on the Earth" portrayal and an accompanying short, poignant, essay. Miss Barnes received a \$1,000 U.S. Savings Bond, and her art teacher, Ms. Claire Robertson, was also recognized for her guidance in helping Sarah. The grand prize winners were Dax Gray of East Central High School in Tulsa for his giant Jackson's chameleon sculpture, "Big, Bad John," and Whitney Lechner of Booker T. Washington for her claymation film short "Recycling in Action." Winners are those students who best succeed in communicating a current conservation topic in a compelling way through a movie, photo essay, fine art, or advertising.

A total of \$9,000 in scholarship funds to Oklahoma high school students and an additional \$5,000 to the schools of the grand prize winners are available annually through the Sutton Scholarships. Information on the scholarships can be found on the Sutton Center's website (www.suttoncenter.org). The scholarship series is sponsored by the F&M Bank and Trust Company of Tulsa, with assistance from Public Service Company of Oklahoma, Riggs, Abney, Neal, Turpen, Orbison, & Lewis, the Holmes Organization, Intervest Properties, Frisco Title Services, and Acron.

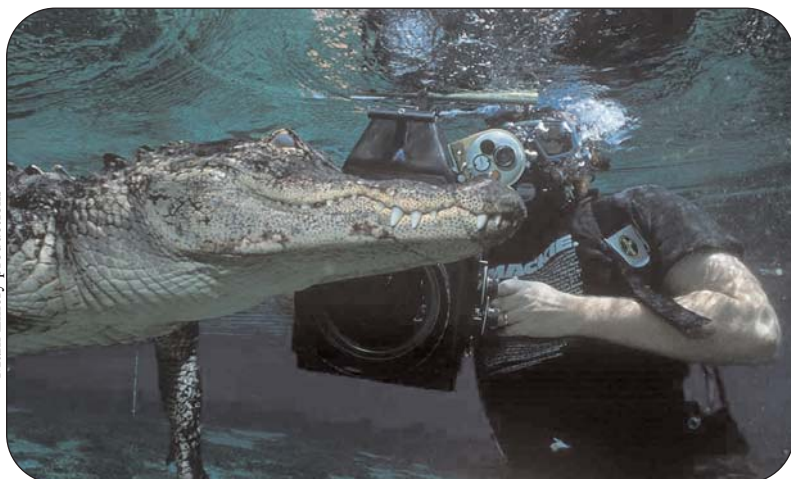
This year Mark Emery, world-renowned cinematographer, whose special titled "Season of the Salmon" was featured on the PBS series Nature, was the honored speaker and presenter at the third Sutton Natural History Forum. The forum provides the public and students alike with presentations by outstanding conservation communicators about current conservation topics. In addition to PBS, Emery's cinematography has appeared in National Geographic films and on the Discovery Channel, and his still photos have been seen in *Newsweek*, *Outdoor Life*, *National Geographic* and a variety of other publications. Underwater film work on alligators, crocodiles, and whales is especially difficult, but Emery's footage is absolutely spectacular. On top of that, he is a talented musician who composes the scores for many of his own and other's films. If that is still not enough, some years ago Mr. Emery was the state kickboxing champion of Florida.

During the week of presentations, Mark Emery addressed about 7,000 students in northeastern Oklahoma. Unfortunately, due to bad weather in Atlanta and his ensuing late arrival to our state, this year's presentation to Bartlesville and surrounding area students had to be cancelled. Next year, however, the Sutton Center Natural History Forum will again present a notable environmental communicator at the Bartlesville Community Center just as it did in 2003 and 2004. Mr. Emery also made presentations at Holland Hall in Tulsa and at the Sam Noble Oklahoma Museum of Natural History in Norman.



As first runner-up in the art division for the first annual Sutton Scholarship award, Sarah Elizabeth Barnes accepts a \$1,000 U.S. Savings Bond from Sutton Center executive director Steve Sherrod. Her teacher, Claire Robertson of Bartlesville High School, was also presented with a certificate.

Dan Reinking



Mark Emery productions

Swimming with alligators is all in a day's work for filmmaker Mark Emery.

Sutton Hosts 3rd Annual Picnic

Some 250 attendees were present on May 14 at the 40 acre facility of the Sutton Center atop Circle Mountain south of Bartlesville. The Center is a non-profit conservation organization and is part of the University of Oklahoma through the College of Arts and Sciences' Oklahoma Biological Survey. Participants were transported to the facility via shuttle buses from Alberston's on Highway 75 to avoid parking problems. Karen Kilbourne of the Sutton staff registered attendees and ushered them to the first event.

A stormy night preceded a beautiful day for the picnic that began with netting local songbirds in huge mist nets (similar to giant hair-nets) strung between poles in likely flight paths. Expert birder, past president of the Oklahoma Ornithological Society, and editor of the recently published *Oklahoma Breeding Bird Atlas* (available at book stores or at www.oupres.com), Dan Reinking, with help from Sutton Director of Research Dr. Michael Patten and Postdoctorate Dr. Eyal Shochat, demonstrated how small songbirds were captured and then tagged with tiny aluminum, coded bands on their legs. When later recovered, the migratory movements and life histories of these individuals can be tracked. The youngsters attending were delighted when the tiny feathered creatures were gently placed in their hands and delicately released.

Next on the schedule were two radio-telemetry Easter egg hunts in which young attendees were required to find a series of hidden radio transmitters, each providing signals to the next, and ending with a giant nest containing candy-filled eggs which the participants divided among themselves. Led by Sutton biologist Don Wolfe and OSU grad student Luke Bell, this was fun for parents as well as kids. In between events, the giant but docile Silcata tortoise from Aldabra Island that roamed among guests was quite a hit. Or, some chose to tour the large administration building.

After a lunch of hamburgers, hotdogs, and all the fixin's along with lots of cold drinks, executive director, Dr. Steve Sherrod, accompanied by master falconers, Oscar Pack, Greg Stipp, and Steve Trent, gave a presentation on falconry. Trent then flew his falcon in front of the guests to illustrate how the birds are trained, and the falconers then answered a series of questions from the crowd.

Finally, Sherrod brought out BENSAR, one of three Bald Eagles maintained at the Center, and gave a talk about our national bird and how the Center had been involved in re-establishing the Bald Eagle as a nesting bird not only in Oklahoma but also in North Carolina, Alabama, Georgia, and Mississippi. Eggs were collected from Florida nests (where the parents recycled and laid more eggs), brought to the Sutton Center, incubated and hatched, and the chicks were then raised behind one way glass with the use of puppets. Once to flying age, a two month process is employed to release the young eagles from special, 30-foot towers to which they home back for food until independent and instinctively catching fish and other prey on their own. The Center released 275 young eagles over 8 years in five states using this method, and over 50 pairs now nest in Oklahoma where none nested when the Sutton Center began its program. Sutton representatives were invited to the White House to recognize their accomplishment.

The picnic was a wonderful success on grounds nicely manicured by Steve Belanger, and Mother Nature provided a delightful spring day. A great time was had by all, and next year's event is already being planned.



Dan Reinking

Above: Steve Sherrod lectures to the crowd regarding techniques Sutton used in re-establishing the national bird as a nesting species in the southeastern U.S. **Below:** Some 250 attendees to the Sutton Center Annual Picnic watch intently as a trained falcon flies to a leather lure swung on a cord.



Dan Reinking



Oscar Pack

Above: A young bird bander watches intently as a Sutton Center biologist, carefully places a "just netted and banded" Tufted Titmouse in her hand for release. **Below:** Treasure hunters used a series of radio-telemetry signals to finally track down this giant nest containing treat-filled, plastic eggs which were divided among the young trackers.



Dan Reinking

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