

George
Mikschi
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AVIAN RESEARCH CENTER



The

SUTTON

NEWSLETTER

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

Volume 20, Summer 2003

Trapped ...



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Cover: A fenceline further defines these tallgrass prairie plots, one of which was recently burned. *Photo by David Wiedenfeld.* *Inset Left:* Burning on the tallgrass prairie. *Photo by Harvy Payne.* *Inset Above:* A Western Meadowlark posing on a handy sign. *Photo by L. Page Brown/Cornell Laboratory of Ornithology.*

Dan Reinking



Grasshopper Sparrow nest success is less affected by grassland burning than Dickcissel or Eastern Meadowlark nest success.

... in the Tallgrass Prairie

by Michael A. Patten



Dan Reinking

Vegetation will soon return to this recently burned prairie, but some birds may suffer reduced nest success and others will avoid the area.

North America's original tallgrass prairie has been devastated—only about 4% of it remains, with the remnants generally small and widely scattered. Populations of many organisms dependent on this habitat have suffered, with plummeting numbers of breeding birds being especially well documented. Although loss of habitat has obviously contributed greatly to these declines, conservationists and land managers need to identify other potential causes if we hope to preserve the remaining bird populations. In particular, we need a clearer idea of how avian productivity, not just occupancy, is affected by current land use practices.

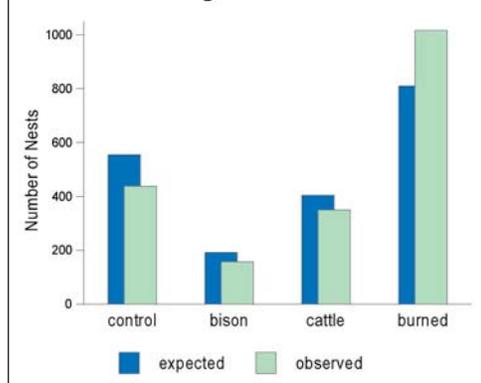
Key among current practices is burning of grasslands in spring. Fire is an integral part of the prairie ecosystem, with natural fires occurring in tallgrass prairie once or twice a decade. Most natural fires are suppressed, so fires are now either prescribed or set to produce more forage for cattle. Spring burning generates greater plant growth. In turn, burned areas typically harbor significantly greater abundance or biomass of herbivorous arthropods than do unburned areas. Burning of the prairie also affects the timing of insect emergence: in one study, grasshoppers emerged three weeks earlier on plots subjected to burns in early spring, and more grasshoppers emerged with early than late burns.

In principle, bird populations should respond positively to the abundance of arthropods following a spring burn. Yet, for some species, such a response may not occur. The spike in abundance may entice some species to nest in recently burned grassland only to suffer lower reproductive success, as spring burns may, in the words of Robert Askins, provide "a better food supply for predators." Brood parasites, such as the Brown-headed Cowbird, may also be more common in burned areas, and fragmentation and modification of habitat by humans may have already altered the distribution and relative abundance of nest predators. Prairie that is burned regularly may therefore function as an ecological trap, a phenomenon arising when cues used by birds to assess habitat quality are decoupled from the habitat's actual quality.

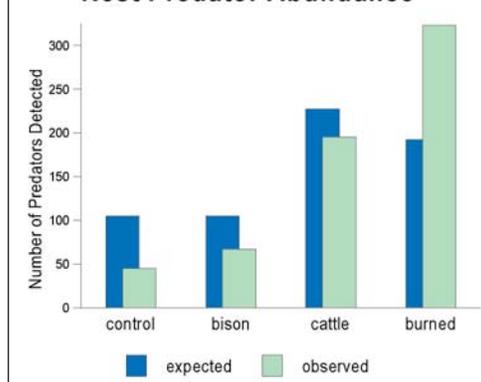
Preliminary analyses of nest data that the Sutton Avian Research Center collected over five years on and around the Nature's Conservancy's Tallgrass Prairie Preserve in Osage County, Oklahoma, suggest that spring burn-

Continued on page 3

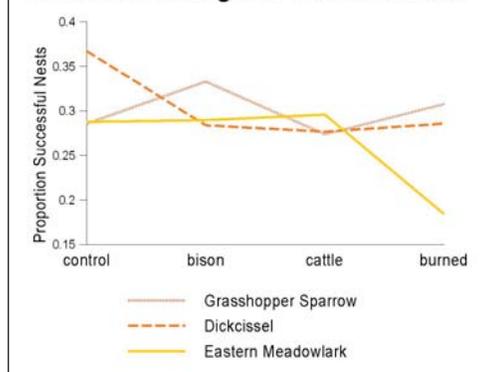
Grassland Songbird Nest Placement



Nest Predator Abundance



Grassland Songbird Nest Success



Dan Reinking

A recently fledged Dickcissel waits for an adult to bring food to its perch in the tall-grass prairie.

Sutton Adds New Members to Staff!

by Steve K. Sherrod



Kristina Kasik

Dr. Michael Patten and Don Wolfe in front of the Lesser Prairie-Chicken crew headquarters owned by James D. Weaver in Milnesand, New Mexico.

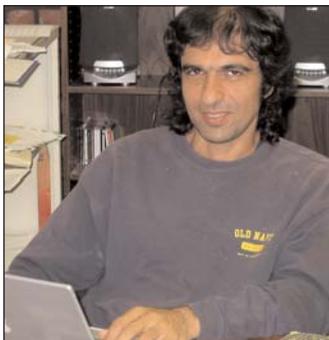
We are pleased to announce the addition of Dr. Michael A. Patten to the Sutton Center staff as our new Director of Research. Michael is exceptionally well qualified for the position, with a diversity of experience. He received his PhD at University of California, Riverside, where he worked on speciation in Song Sparrows, and he recently served as a postdoctoral researcher at Dartmouth focusing on breeding ecology of birds in the fragmented sage scrub vegetation of southern California. Michael has an extensive history of publications, is an expert birder, has managed field crews, and is well qualified as an expert statistician. Michael and his wife Brenda have now settled into life in Bartlesville, and he has already begun to dig into the volumes of data we have backlogged (see cover story).

Michael grew up in California where his childhood was spent exploring everything from rocks to plants and from insects to reptiles before his interest shifted, and he became focused primarily (although not exclusively) on birds. He has worked as a biological consultant, statistician, research assistant, field biologist, and frequently as a lecturer. He is the Associate Editor of *Western Birds*, a Research Associate for the

San Diego Natural History Museum, and now, is an adjunct professor at the University of Oklahoma as well. Michael is focused on conservation, and we are exceptionally happy to have him join our staff!

But that is not all! Dr. Eyal Shohat who recently finished a postdoctoral fellowship on the Long-Term Central Arizona Ecology Project at the Center for Environmental Studies, Arizona State University, began another postdoctoral position with the Sutton Center in April. Eyal has a PhD from Ben-Gurion University in Negev, Israel, and is highly interested in avian ecology, habitat fragmentation, human socio-economics and the environment, and, yes, spiders. Eyal has joined our staff to help sort through the masses of data we have accumulated on prairie birds ranging from nesting ecology of prairie passerines to extensive year round studies on Greater and Lesser Prairie-Chickens.

The Sutton Center welcomes both Michael and Eyal, and we are glad to have them on board. There is plenty to accomplish, and fortunately, they are looking forward to accomplishing great things in the field of grassland and avian conservation!



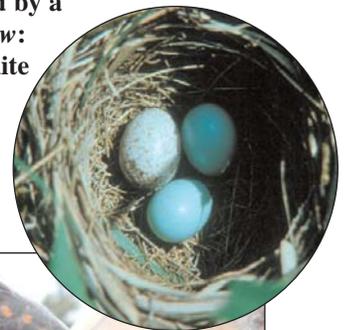
Dan Reinking

Dr. Eyal Shohat is assisting with data analysis and report writing.

Continued from page 2

ing may indeed be creating an ecological trap. Common grassland songbirds, notably the Grasshopper Sparrow, Dickcissel, and Eastern Meadowlark, place many more of their nests on burned plots than one would expect if these birds placed their nests at random on available sites. But the burned plots harbor many more nest predators, particularly colubrid snakes and box turtles, than one would expect. Brown-headed Cowbirds are also more often noted on burned or grazed plots than on control plots. These factors combine to spell trouble for two common grassland passerines: despite nesting more often on burned plots, both the Dickcissel and the Eastern Meadowlark enjoy much higher nest success on the control plots. Curiously, the Grasshopper Sparrow—the one species of the three with a distinct predilection for burned sites—does not appear to do particularly better or worse on any of the types of plots. Further analyses will doubtless provide greater insight into the working of this fascinating ecosystem.

Right: A Dickcissel nest parasitized by a Brown-headed Cowbird egg. Below: Box turtles have proven to be a quite common predator of prairie birds and their nests.



Dan Reinking



Oscar Pack

A Few Words from the Executive Director...

This May 4, 2003, I was sitting on a lonely dirt road listening to Greater Prairie-Chickens booming in the adjacent field. This fascinating spring ritual, as well as similar, perhaps more miniature rituals by smaller, less-recognized, prairie songbird species, has taken place for eons out there in the magnificent prairie grasslands. Some such rituals, however, appear to be coming ever so slowly to a permanent end. It is documented in black and white by the declines of both Lesser and Greater Prairie-Chickens and by declines of prairie songbirds as well.

Why, you ask? Well, the answer is not simple, really. And frankly, it is not only not simple, but what I am about to discuss might even be perceived as politically incorrect in areas of the country heavily utilized for ranching and energy (for decades, oil and natural gas, and more recently, planned, broad-scale, wind development and coalbed methane) extraction. **BUT HEAR ME OUT, BECAUSE THERE ARE TWO SIDES TO EVERY STORY, AND YOU AND I ARE PERHAPS ON BOTH SIDES--- AT LEAST, I KNOW I AM.** The large tracts of land comprising ranches that exist throughout the Great Plains are the greatest salvation for Greater and Lesser Prairie-Chickens, as well as in part, for Sharp-tailed Grouse and even Greater and Gunnison Sage-Grouse. Of course similarly expansive tracts of public land such as that controlled by BLM are especially important to the last three species. How these lands, both private and public, are managed is the key to survival for the wildlife that depends on the massive landscapes of the plains.

The **BAD NEWS** is that suddenly we are nearing catastrophic conditions with regard to impacts on natural landscapes and, in my opinion, among the most impending threats today to survival and reproduction by prairie grouse and prairie-nesting songbirds are 1) mismanaged grazing operations, 2) inadequately planned coal bed methane gas extraction, and 3) misplaced wind energy development. The **GOOD NEWS** is these impacts can all be largely averted through appropriate siting and management-before too much is invested in bad designs!!!

In brief, spring burning of thousands of acres of the same grasslands every year at approximately the same seasonal time (by April 15 in this part of the country, and sometimes followed by spraying of herbicides) in order to promote new, green growth for intensive grazing manages primarily for monotypic, uniform stands of grasses. Late spring burns function to eliminate many forbs essential for healthy grassland bird food and nesting cover. The elimination by burning of so much prairie-chicken nest and brood cover at once results in numerous chicken nests being concentrated in the few remaining, areas of unburned habitat. In these conditions, nests, chicks, and even adults are much more vulnerable to predators, and the absence of forbs means that small insect populations, essential to hatchling survival are greatly reduced. **BUT, WAIT!! THERE ARE ALTERNATIVES.** Dr. Sam Fuhlendorf at Oklahoma State University and his crew have shown it possible to burn only 1/3 section of land, place the same number of yearlings on the full section as if it were entirely burned, and get comparable weight gains to cattle stocked on pastures that are entirely burned. By using this method, 1/3 section is burned each year resulting in 3 different seral stages that support all different kinds of prairie birds from prairie-chickens to Henslow's Sparrows. This remaining "old growth" grass also serves as an insurance policy for the rancher in case traditional spring rains do not follow spring burning and do not, therefore, result in tremendous new growth. In the latter case, overgrazing can be the only alternative if you are caught in a drought with too many head and a dying market. Fire is essential for prairie health, but not annually, and it can take place most productively for the prairie at various times of the year as well as in the spring.

Brian Obermeyer of TNC relates that another alternative gaining popularity in Kansas is called "rotational partial rest" in which only two-thirds of a pasture are burned annually with the unburned third rotated to a new area each year. It is not as positive for wildlife as patch burning, but still it is an improvement over annual blanket spring burns covering thousands of acres. Still another strategy is to rotate different types of management through a ranch such as season-long stockers without burning one year, cow-calf without burning the next year, and the third year with complete burn and short-season stockers. Any of the above management schemes help improve wildlife habitat.

The rush to install coalbed methane extraction fields and wind energy complexes has resulted in inadequate long term planning that is less than environmentally sound. Often, gas rights belong to others than own the land, a factor that can significantly complicate matters. Such pumps can be planned for installation as regularly as every 40-60 acres, and various arrays of tank batteries, compressor stations, associated infrastructure, and service roads are required to service the wells. Millions of gallons of water associated with the layers of coal beneath the soil must be pumped out in order to release methane gas that is trapped there. Often the water is brackish, some is highly toxic, and yet, in fairness, some is as pure as water in clean streams. If immense amounts of water are pumped out on top of the soil, they can have a very significant impact completely altering ecosystems. Depending on the amount of moisture normal for the region and the spacing of the water flows, it can allow trees to invade or can result in myriad wetlands. Trees are raptor perches and can thus encourage increased predation on ground nesting birds; prairie grouse do not live in wetlands. In cases where the water is toxic or brackish, the land can become contaminated, barren, or massively scarred. An apparent solution is deep-well re-injection of the water, but that is more expensive. Another problem is the sound emanating from coalbed methane pumps and especially compressor stations. Because they are in the "country" there is often little consideration given to placing mufflers on the engines. The noise from un-muffled engines at such regular distribution over the landscape is a major hindrance for acoustic communication by prairie-chickens, sage-grouse, and sharptails on their display grounds as well as by other birds in their courtship displays. Mufflers are essential to have on coal bed methane extraction pumps and compressors, but few have them. It is more expensive.

The fragmentation caused by methane pumps, service roads, power lines, associated buildings, presence of service personnel, and increased traffic is significant. All of these influences have been shown to have detrimental effects on ground-dwelling birds. It is now possible, however, to monitor pumps by radio telemetry, and it is possible, as well, to place much of the pumping apparatus under ground. Again, this is more expensive and cuts profits.

What about wind energy? After all, it's clean; it's green. And am I against that too? Not at all (and by the way, please be clear that I am not against ranching, burning, or methane extraction either), but we must be wise in our placement of wind farms. Ground-nesting birds avoid vertical structures because in their instinctive minds, these serve as raptor perches. Studies in Southwest Minnesota show significantly reduced prairie songbird activity in the immediate vicinity of wind generators, and Professor Bob Robel from Kansas State, an old guard and nationally recognized prairie-chicken expert, suggests avoidance by prairie-chickens is likely within 1 mile of a commercially-sized wind generator. Ground nesting birds in general are afraid of shadows that alert them to death from above; the turning blades of wind generators produce shadows known as the "flicker effect" that will likely make birds such as prairie-chickens avoid the surrounding area. There is sound too, as well as significant habitat fragmentation issues associated with wind farms as if extra-terrestrials were marching across the landscape. Problem is that much of the 8% of the remaining Lesser Prairie-Chicken habitat and a significant portion of Greater Prairie-Chicken habitat, as well, is slated for wind farm placement. (see also NY Times, 6/5/03-Windmills Sow Dissent for Environmentalists; 6/15/03 A Mighty Wind).

There **IS AN ENVIRONMENTALLY SOUND ANSWER**, however, and that is to place wind farms in already fragmented areas, such as plowed, agricultural fields. In these areas, the habitat is already destroyed. Yes, these might not always have the absolutely most effective wind currents, the feeder lines to the power grids might be longer and thus more expensive, and power companies might have to deal with more farmers' wind contracts than that of the single rancher who owns one massive spread, and I guess that leads to the next topic---efficiency.

The problem with humans is that we are just too darned good at what we do, and often without looking very far down the line-so good that we eliminate all other competition in the process of being efficient. Our forefathers started by hand hoeing the earth, a farming method that left plenty of wildlife habitat in the process. That has progressed to corporate farming from road to road including the borrow ditches, a process that leaves little if any native wildlife habitat. Instead of thinking "high intensity" and "maximum production", maybe we need to think "optimal production." We are so efficient that we will learn some way to use every square inch of habitat, but what will the end result be when all is said and done? I cannot help but ponder the story below about the peasant fisherman. I do not know the original source, but I do know it is a good story that illustrates what I am trying to say.

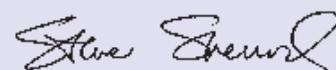
An American investment banker was at the pier of a small coastal Mexican village when a small boat with just one fisherman docked. Inside the small boat were several large, yellow-fin tuna. The American complimented the Mexican on the quality of his fish and asked how long it took to catch them. The Mexican replied, "Only a little while." The American then asked, "Why didn't you stay out longer and catch more fish?" The Mexican said he had enough to support his family's immediate needs. The American then asked, "But what do you do with the rest of your time?" The Mexican fisherman said, "I sleep late, fish a little, play with my children, take siesta with my wife, Maria, and then each evening I stroll into the village where I sip wine and play guitar with my amigos. I have a full and busy life."

The American scoffed, "I am a Harvard MBA and could help you. You should spend more time fishing. With the proceeds, buy a bigger boat, and with the proceeds from the bigger boat you could buy several boats. Eventually you would have a fleet of fishing boats. Instead of selling your catch to a middleman, you would sell directly to the processor, eventually opening your own cannery. You would control the product, processing and distribution. You would need to leave this small coastal fishing village and move to Mexico City, then L.A. and eventually N.Y.C., where you will run your expanding enterprise." The Mexican fisherman asked, "But, how long will this all take?" To which the American replied, "15-20 years." "But what then?" The American laughed and said, "That's the best part. When the time is right you would announce an IPO and sell your company stock to the public and become very rich. You would make millions." "Millions...Then what?" asked the fisherman. The American said, "Then you would retire and move to a small coastal fishing village where you would sleep late, fish a little, play with your grandkids, take siesta with your wife, stroll to the village in the evenings where you could sip wine and play your guitar with your amigos."

I started this article with my observations of prairie-chickens on May 4. This was the same day astronauts who had been stranded in the International Space Station after the Challenger disaster were ferried to ground landing in the steppes of Khazakhstan via a parachuted Soviet space capsule. I had listened with interest when one of the Americans was queried about whether he was anxious while waiting two hours to be picked up after landing some 300 miles off course. His comments were something to the effect that on the contrary, it was so nice after having been away in space for so long to have landed on Earth and to have been able to simply smell the dirt, see the grasses blowing, and yes, listen to birds singing.

I know it is not really so simple for any of us. My house is heated by methane, I drive a truck that runs on gas and oil, and I use electricity for a variety of reasons daily...and what's more, I like all these things including hamburgers and leather boots. Still, today in our country any kind of efforts to resist waste, to be economical with our resources, to conserve anything are at the very best embryonic. We take it all for granted. But if there were (an effort toward conservation), I am wondering how much we would really need that extra energy to light up yet another neon sign in yet another fast food joint to produce a diet we know to be unhealthy for us. Like the song says, "We're in a hurry but don't know why." We're in a race to use energy so we can develop and grow technologically so we can blast off into space but then race back in order to hear the birds sing and to experience the environmental roots we are in the process of destroying at a break-neck pace so we can race again and use more energy. Does that make sense to you?

I know I will probably be labeled with a newly coined term for writing this. How does "Weed Huger" sound? Well that's OK. All I really want someday is for you and me to be able to take our grand kids to watch prairie-chickens booming and sage grouse strutting, fish a little, take a nice siesta, and visit in the evenings with our amigos.



Steve Sherrod, Executive Director

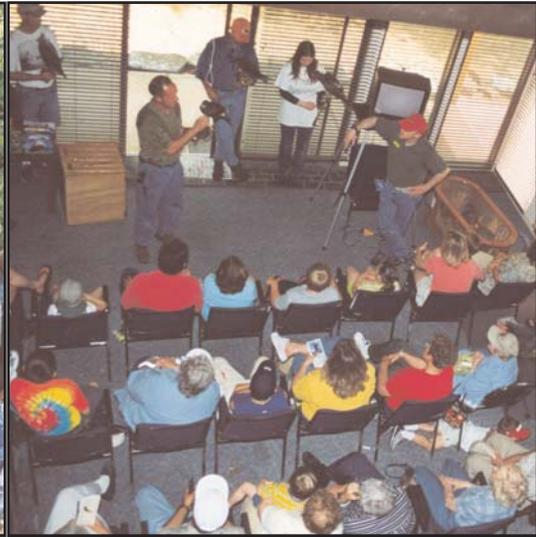


Sutton Center Picnic/BBQ/Edu May

by Steve K

Yes, it rained, but only for about 30 minutes, and still some 250 Sutton Center guests and supporters made the scene!!! It was a fun time for all!!! Thanks to the generosity of the American Christian School, guests parked vehicles in the ACS parking lot and were shuttled to the Sutton Center in vans personally supplied by David Delahay of Conoco-Phillips, and driven by Lee Holcombe, Kris Koepsel, Greg Alberty, and various volunteers from Riggs-Abney Law Firm in Tulsa. Ken Adams of Ken-Ada Ranches near Bartlesville, Trey Abraham of Marrs Distributing in Tulsa, and many from Riggs-Abney helped supply and serve the liquid refreshments. Gary Neal of Riggs-Abney and Jerry Parkhurst of Mrs. DeHaven's Flowers and The Gadget Company in Tulsa were the chief cooks (and bottlewashers), and did they ever dish up some fine BBQ!!! Jean Little and company of the Little Ranch furnished hay bales for sitting spots, and Steve Riley and Verdigris Valley Electric financially supported the affair which was kept light and lively by the ever-entertaining Country Heart Band (Suzanne Pottebaum, Nancy Godsey, Ken Ackley, and John Lanford). Sutton Board Members, staffers, and friends showed up as helpers to include Steve Adams and Vicki Williams, Sam Daniel, Becky and Jennifer Dixon, Tuss Erickson, Bonnie Gall, Karen Kilbourne, Warren and Rita Harden, Lee Holcombe, Sally Jenkins, Carol and Joe McGraw, Brenda Patten, Lisa





Educational Migratory Bird Day 10,2003

K. Sherrod

Riggs, David and Arlene Riggs, Tom Sears, Linda Sherrod, too many Sigma Chis and Riggs-Abney volunteers to list and more.

Sutton staffer Dan Reinking with assistance from Drs. Eyal Shohat and Michael Patten gave an interesting presentation about netting and banding birds and what can be learned from this exercise, including how hard a "just netted" Northern Cardinal can bite (got a Bandaid anyone?). Steve Belanger provided tours showing just what it takes to raise 40,000 Coturnix quail per year. Alan Jenkins and Steve Sherrod presented live Bald Eagle educational shows including the Sutton Center's key contribution to the recovery program for our national symbol. Falconers David Bell, Tim Gillum, Lauren McGough, Oscar Pack, Greg Stipp, and Steve Trent were part of a falconry presentation that included Peregrine Falcons, Gyrfalcons, Harris' Hawks, and Red-tailed Hawks. Don Wolfe and Luke Bell guided young and old alike as guests searched for a "treasure nest" using the same radio telemetry equipment that is used in our prairie-chicken studies.

We cannot thank everyone enough for coming and participating in our affair. Hope we all can make it an even greater success next year, and we hope to see YOU there!!!!

Photography by Alan Jenkins, Dan Reinking and Linda Sherrod



A Nesting Bald Eagle Survey of Lake Hudson, Oklahoma

by M. Alan Jenkins



Dan Reinking

BENSAR speaks out! He was the star of the show once again at the Sutton Center BBQ on May 10, 2003.

ter. As far as I know Lake Hudson has not been systematically surveyed for Bald Eagle nests.

On 18 April, I met GRDA helicopter pilot, Bob Billingsley at the GRDA office in Vinita, Oklahoma. Beginning with Big Cabin Creek we proceeded to visually check the shoreline and adjacent habitats around Lake Hudson for eagles or eagle nests. I also made note of what areas contain suitable eagle nesting habitat.

Our survey was somewhat hampered by the late date of the flight. The majority of the trees in the area had leafed out which made seeing eagle nests more difficult than it would have been if the flight had been made earlier in the spring. In Oklahoma, Bald Eagles begin laying eggs in January, so surveys for eagle nests are best conducted between mid-January and the end of March. We conducted this survey at approximately 100 feet above the ground and at approximately 50 knots indicated air speed. Although I have flown in helicopters before, this was my first eagle nest survey using one. Now I want one for my birthday (in case my wife reads this). The visibility and, of course, the maneuverability is unsurpassed, short of learning how to levitate.

En route to the Lake Hudson project areas we found an apparent (based on its large size) Bald Eagle nest west of Big Cabin Creek. The latitude and longitude data were taken with the helicopter's Global Positioning System readout while hovering in the vicinity of the nest. No eagles were seen around this nest, so I classified it as "unoccupied." At the time of this survey an occupied eagle nest should have contained young eagles. It couldn't be determined if the nest had been occupied earlier and failed. Although this nest is outside GRDA lands, any eagles nesting here would surely use nearby GRDA lands to obtain their food (mainly fish).

After we reached Lake Hudson at the mouth of Big Cabin Creek, we turned south and flew along the west shore of the lake to Robert S. Kerr Dam. In between we explored any tributaries to Lake Hudson which appeared to have possible Bald Eagle nesting habitat.

After reaching Kerr Dam, we flew a few additional miles downstream where we found a nest that had been previously reported to me near Pryor, OK. We found this nest to be occupied with two adult Bald Eagles on it. Because of the leaves, we could not see well enough into the nest to determine if there were young in the nest, but it is likely there were. I will be checking this nest for productivity (the number of fledged young eagles produced) in a few weeks as part of my usual Bald Eagle nest survey project. The eagles using this nest probably use GRDA property to catch fish. Oklahoma Bald Eagles often use the discharge areas of dams to catch stunned fish that come through the tailraces and generator turbines of dams.

Then we flew up the eastern shore and drainages of Lake Hudson to Pensacola Dam. There we saw an immature Bald Eagle (estimated as being 1 year old based on its plumage) flying just below the dam. This sighting illustrates again how important the outflow areas of GRDA dams are to Bald Eagles. The best nesting habitat I saw was below the dams where there is food and suitable nesting trees (large with open canopies).

Many thanks are due to GRDA pilot Bob Billingsley, who was professional, accommodating, helpful, and above all safe.



Alan Jenkins

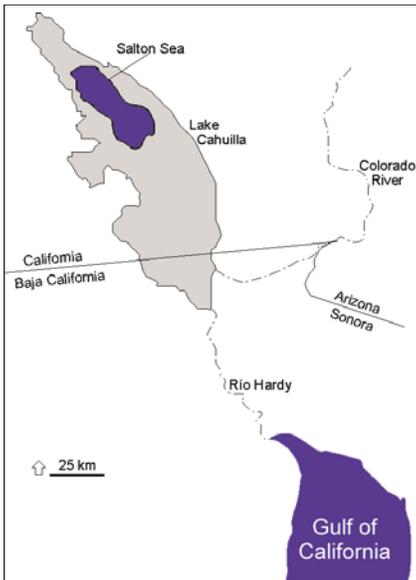
Alan's latest and now favorite means of surveying for Bald Eagle nests.

The Salton Sea

Imperiled Avian Hotspot of the California Desert

by Michael A. Patten

(Dr. Patten has just co-authored with Guy McCaskie and Philip Unitt the book "Birds of the Salton Sea: Status Biogeography and Ecology," University of California Press, Berkeley, 363 pp.)



The Salton Sea—a large (72×27 km, covering an area of $\pm 1,150$ km²), shallow (25 m at its deepest), saline lake—lies in arid southeastern California. Before the Colorado River was dammed extensively, its periodic floods gushed into the Salton Sink, creating a vastly larger body called Lake Cahuilla, which formed naturally as recently as the mid-1600s, with lesser floods continuing to carry water to the sink as recently as 1891, when a small lake formed. Although the birth of the Salton Sea was aided by the river's flooding of irrigation channels under construction in 1905, during the campaign to bring agriculture to the Imperial Valley, the sea is just the latest in a long series of lakes that have occupied the region over the past forty millennia.

Situated in the heart of the western Sonoran Desert, the Salton Sink—a basin lying below sea level, with the Salton Sea at its heart—is characterized by extreme heat. Despite occasional thunderstorms, summers are particularly hot: daytime temperatures exceed 100°F on 110 days per year in the Imperial Valley and often exceed

120°F in July and August. Rainfall is scant, averaging a mere 7.6 cm per year at the wettest locale, with no measurable rainfall in June since 1914. But it is not a dry heat, as high rates of evaporation from the Salton Sea and surrounding irrigated lands keep humidity elevated.

These conditions may sound bleak, yet the Salton Sea is home to some of the largest numbers of waterbirds to be found anywhere in North America. The sea is not only a desert oasis, but the low-lying basin cradling it lies on a key juncture of the Pacific flyway, a major thruway for North America's migratory birds. Collectively, millions of grebes, pelicans, cormorants, herons, geese, ducks, shorebirds, gulls, and terns occur at the sea annually. The region has hosted over 400 native bird species, a total exceeding that found in many American states. Local breeders exceed 100 species, including the Brown Pelican, Gull-billed Tern, and Black Skimmer, all oddities in the landlocked desert Southwest.

Yet the Salton Sea is in trouble. Water quality has deteriorated and scads of native habitat have been lost, particularly mesquite thickets and riparian woodlands. Salinity is on the rise, as are concentrations of harmful metals (e.g., selenium) and chemical pesticides (e.g., DDE, a metabolite of DDT). Anoxic conditions each summer kill thousands of fish, whose corpses dot the shore, only adding to the specter of death, to say nothing of the odor. Massive dieoffs of birds have become commonplace, initially sparking quiet concern, later sparking urgent pushes to preserve this important ecosystem before it is lost. Conservation requires understanding. Perhaps information in two forthcoming publications, *The Birds of Salton Sea: Status, Biogeography, and Ecology* (2003, University of California Press) and an issue of *Studies in Avian Biology* (2003 or 2004, Cooper Ornithological Society) devoted to the Salton Sea and northern Gulf of California, along with that in a special issue of *Hydrobiologia* in 2002, will provide enough baseline data to formulate an adequate and rapid management plan.

California has already lost over 95% of its wetlands. Demand for water to sate urban southern California's increasing thirst may foreshadow the ultimate demise of the Salton Sea. When the sea goes, with it will go millions of birds.



Michael Patten



Michael Patten

Eared Grebes sometimes number in the millions at the Salton Sea, though disease and toxins take their toll on the population. These beached birds are likely succumbing to one or both.



Michael Patten

Snowy Plovers, a federally threatened species, at the Whitewater River mouth, Salton Sea.



Deb Davidson

The Cattle Egret is the most numerous heron to nest around the Salton Sea.



Oklahoma's Largest Woodpecker

by Dan L. Reinking



Quick—what is Oklahoma's largest woodpecker? The answer to that question really depends on what the definition of is is. At one time, the largest woodpecker in Oklahoma (and the U.S.) was the Ivory-billed Woodpecker, now very likely extinct due to unrestrained logging of old growth bottomland forests in the southeastern U.S. during the 19th and 20th centuries. The demise of this spectacular animal, once known colloquially by the name Lord God Bird because of the dramatic impression it made on the people who saw it, means that the Pileated Woodpecker is currently the largest woodpecker in Oklahoma.

Essentially non-migratory, Pileated Woodpeckers mate for life and inhabit mature forest, especially river bottom forest, where their loud calls and stentorian drumming announce their presence. Mature forests are required, in part for the very practical reason that Pileated Woodpeckers are big, and they therefore require large trees in which to nest and roost. Often described as "crow-sized," Pileated Woodpeckers are nearly 17 inches long and have a wingspan of nearly 30 inches. Males have a red forehead and moustache, while these areas are black on females. The red crest, along with white head and neck stripe, are prominent features, as is the large white underwing patch visible in flight. Indeed, one of the most impressive views one can have of a Pileated Woodpecker is when it is flying across a forest opening. Its size becomes particularly evident, and its broad wings seem to move in slow motion, giving the impression that it may fall from the sky at any moment.

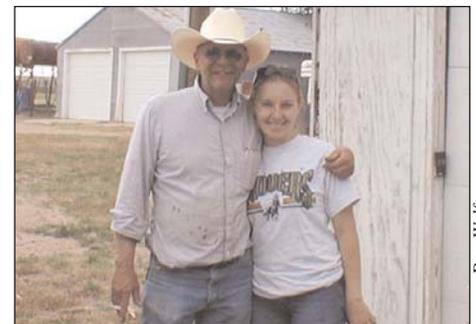
The strong, chisel-like bill of the Pileated Woodpecker makes it an efficient and powerful excavator. Nest cavities are chiseled in a dead tree by both sexes, though mostly by the male, in 3-6 weeks. The oval-shaped entrance typically measures about 3.5 inches wide by 4 inches tall. A clutch of eggs, often 4 in number, is incubated by both sexes for about 18 days, and young leave the nest in another 24-28 days. Nest cavities are rarely reused for nesting, though they may later be used for roosting.

The chiseling ability of this species helps it specialize in eating carpenter ants and wood-dwelling beetle larvae, though it also consumes seasonal fruits and nuts. Pileated Woodpeckers have themselves served as food for a number of animals. Though John James Audubon described their flesh as being unpalatable, Pileated Woodpeckers were shot for human food and even sold in markets in the 19th century. A 1910 observation suggested that a "huge wildcat" had captured one unlucky woodpecker as it foraged on a low stump. More commonly, avian predators are responsible for capturing this species. Coopers Hawks, Northern Goshawks, Great Horned Owls, and Barred Owls are all known or suspected predators of Pileated Woodpeckers. Writing in 1930, George M. Sutton described personally witnessing a Peregrine Falcon in Pennsylvania "pursue and with ease strike down a pileated woodpecker that had started to fly across the river...A cloud of feathers burst from the body of the victim as it collapsed."

Occasional predation notwithstanding, the main threat faced by this species today is loss or fragmentation of its mature forest habitat. Paying a visit to a nearby woods may reward you with a glimpse of this impressive bird, and perhaps cause you to reflect on the loss of Oklahoma's true largest woodpecker.

USFWS Intern

The services of Naomi Burnes, an Intern for the U. S. Fish and Wildlife Service, were loaned to our Oklahoma Lesser Prairie-Chicken research site for two weeks in May 2003. Naomi is a Junior at the University of Science and Arts of Oklahoma (USAO), Chickasha. During her stint at our study site, she had the opportunity to assist trapping and banding prairie-chickens, radio track prairie-chickens, conduct vegetation sampling, and even search for missing birds from an airplane. Many thanks to Erich Langer, USFWS, for allowing her to spend part of her internship with us, and to the entire USFWS Tulsa Ecological Services office for their continued support of our research.



Dan O'Hair, an area rancher who has been very helpful to our field crews, poses with intern Naomi Burnes.

Recent Prairie-Chicken Publications and New Challenges

by Don H. Wolfe

Over the past few months, two significant manuscripts on our prairie-chicken research have been published. The first one was published in the journal *Wilson Bulletin* (Vol. 114, pages 142-144), and presents the results of a range-wide survey for reticuloendotheliosis viruses in prairie-chickens that we coordinated in 1999 and 2000. The second manuscript was published in the journal *Molecular Ecology* (Vol. 12, pages 675-683), and presents the results of genetic surveys that we carried out on Lesser Prairie-Chickens, in collaboration with geneticists Ronald Van Den Bussche and Steven Hoofer at Oklahoma State University. Both of these manuscripts are available electronically, and we can provide them upon request.

While we are pleased that neither reticulotheliosis nor loss of genetic diversity appear to be major threats for prairie chickens at this time, new ones loom. Researchers from Texas A & M University have recently found another disease of concern, Infectious Bronchitis Virus in Lesser Prairie-Chickens in the Texas Panhandle. The results of some of their findings can be found in the *Journal of Wildlife Diseases* (Vol. 38, pages 834-839). Another new threat, one that everyone has been hearing about a lot over the past few years is West Nile Virus. Although West Nile Virus has not yet been found in Lesser Prairie-Chickens, the effects in other birds, horses, humans, and even reptiles is certainly alarming. For the latest on West Nile Virus spread and effects, please see the Centers for Disease Control web site (<http://www.cdc.gov/ncidod/dvbid/westnile/>).

To give some background on West Nile Virus, we would like to share what was seen in Oklahoma over the past year. Before July 2002, West Nile Virus had not been found in the state even though the Oklahoma Health Department had been testing bird carcasses throughout the state for several months prior. From July through December 2002, West Nile Virus was found in 438 individuals of 28 bird species in Oklahoma. There were also 954 horses in the state infected, as well as 18 humans (two of whom died). As bad as that sounds for Oklahoma, it was much worse in other parts of the United States. In fact, nationwide, there were 15,745 bird cases, 12,038 horse cases, 3,989 human cases, and 259 human deaths. As with many issues in the past (e.g. DDT), birds have proven to be good indicators. In 10 of 13 counties in Oklahoma where there were human cases of West Nile Virus, the disease was first found in birds. Thus, we are concerned about what impact West Nile Virus might have on already rare species, and continual surveillance for this and other bird diseases is certainly warranted.

Dr. Dean Amadon, dies at 90

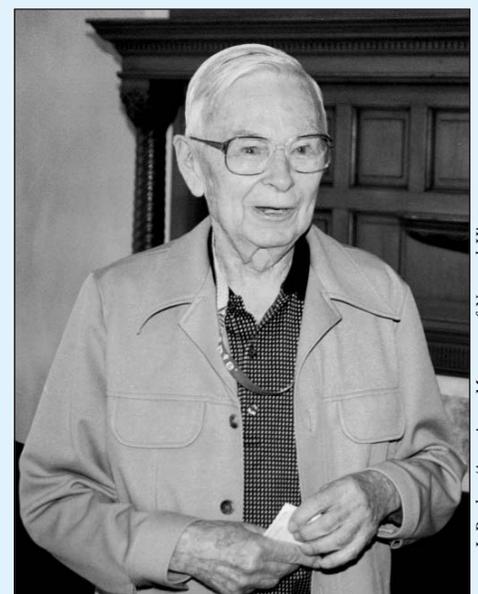
(excerpted from *The New York Times*, Wednesday, January 15, 2003)

Dr. Dean Amadon, a renowned authority on birds of prey and former Lamont Curator of Birds at the American Museum of Natural History, died Sunday at his home in Tenafly, N.J. He was 90.

Starting in 1937, Dr. Amadon spent his professional life with the museum, traveling to exotic places for field work, writing books and articles and giving his expert advice well into retirement. He was Lamont Curator from 1955 to 1973 and was active in the museum's work and as a consultant after taking emeritus status. During his tenure, he was responsible for the museum's bird research center and custodian of the million bird specimens of the museum collection. From 1957 until 1973, he was also chairman of the department of ornithology.

The author or co-author of 400 publications, he had his name on books considered classics by naturalists and bird lovers. Among them was the two-volume "Eagles, Hawks and Falcons of the World", an encyclopedic treatment of the behavior and natural history of raptors. He compiled "Birds Around the World: A Geographical Look at Evolution and Birds" and was co-author of the richly illustrated "Land Birds of America."

Dr. Amadon did field research in Africa, Australia and the South Pacific. He spent weeks in the Galapagos Islands, and in Mexico with the wildlife artist Don R. Eckelberry. He was a past president of the American Ornithologists' Union, the John Burroughs Memorial Association and the Linnaean Society of New York. He was a fellow of the American Association for the Advancement of Science and a director of the Explorers Club.



J. Beckett/American Museum of Natural History

Dr. Dean Amadon generously donated part of his ornithological library to the Sutton Avian Research Center.

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