



Oklahoma City Audubon Society

OKC-AUDUBON.ORG

September 2016

Backyard butterflies: Evaluating monarch-parasite interactions across an urban landscape



Join us September 19 when Kelsey Deal will be the guest speaker at the Oklahoma City Audubon Society meeting.

Monarch butterfly (*Danaus plexippus*) populations in North America have experienced significant declines over the past two decades and this species is currently being considered for listing as threatened under the Endangered Species Act. Their remarkable migration spanning up to 3000 miles has been identified as an endangered biological phenomenon. Several factors have contributed to the monarch's decline, including habitat loss and natural predators. Kelsey Deal, a master's student in the Department of Integrative Biology at Oklahoma State University, focuses her research on monarch-parasite interactions in urban areas. Examining how landscape characteristics and environmental factors influence monarch-milkweed-parasite interactions will provide insights into the contribution of urban areas to supporting the monarch population, with important implications for urban wildlife ecology and conservation. Kelsey is primarily interested in the use of butterfly gardens and other urban green spaces to create important habitat for pollinators and other native wildlife.

Kelsey received her bachelor's degree in biology from Baylor University. She has recently presented her work on monarch parasitism at the Oklahoma Natural Resources Conference and the Oklahoma Biodiversity Network. She is scheduled to present her findings at the upcoming International Congress of Entomology in Orlando, Florida.

Our meetings are held September through June on the third Monday of each month (with the exception of January, when the meeting is held on the fourth Monday). They begin at 7 p.m. Visitors are always welcome.

Note: New meeting location

While the Garden Center is undergoing renovations, we will meet at the Will Rogers Senior Activities Center, 3501 Pat Murphy Dr, in Will Rogers Park. We have paid for and are scheduled to meet in the Senior Activities Center through Feb. 2017 at this time. That is if the renovation finishes on time.



President's Perspective

By Bill Diffin



Hi, Everyone,

It's good to have you back. The fall birding season is in full swing. Have you been out looking for migrants yet? The Myriad Gardens has been a hotspot for warblers recently, and the water levels at Overholser and Hefner have fallen enough to expose mudflats that are attracting shorebirds. A multitude of waterfowl

will be moving through soon, and the gulls and loons will start to arrive before long. It is a great time to get out!

I had a resident of Hinton, OK contact me over the summer about a wind farm development in his area. The western edge of the development will come fairly close to the center of Hinton, around 4 miles. The resident thought we should be concerned about the impact of the turbines on endangered Black-capped Vireos. There actually may be a few Black-capped Vireos in the Hinton area. There is a cluster of past sightings near Hinton in the SW corner of Canadian County and adjacent Caddo County. Also there was for many years a small colony north of Hinton in Blaine County in the Salt Creek Canyon near Roman Nose SP. An endangered species recovery plan is in place for Black-capped Vireos that includes the Wichita Mountains NWR and sites in Texas, but not any of the areas just discussed. Nevertheless the possibility of an impact on the species prompted me to do a more in-depth investigation of the potential hazards posed to wildlife of Oklahoma's burgeoning wind power industry.

Quite coincidentally, since we just had a presentation on bats in the June meeting, bat fatalities are generally much greater than bird fatalities at wind farms. The numbers vary a great deal from place to place, but annual fatality rates can be as high as around 100 bats per turbine-year as occurred at the Pinnacle Wind Farm in WV. Compared to birds, bats are long-lived with low reproductive rates, but their detailed ecology and population dynamics are poorly understood. This combination of factors is often cited in the literature as a reason for more investigation on the possible impact of wind power on bat populations. In most locations the greatest fatalities are experienced by three migrant tree-roosting bat species, Eastern Red Bat, Hoary Bat and Silver-haired Bat. However cave-roosting bat species can also contribute significantly to carcass counts if the wind farm is located near a cave. For example Mexican Free-tailed Bats were a significant portion of carcass counts in a fatality study done by OSU at a wind farm near Woodward, OK.

There are several inherent problems with bird and bat fatality surveys at wind farms. Searcher efficiency is lower than one might first expect, and carcass removal by scavengers tends to be rapid. Surveying is time consuming.

30 minutes per turbine is close to a minimum requirement, and a survey might include 50 turbines. Therefore one complete survey by a single individual may take three days. Mean carcass removal time by scavengers is often only one or two days. Searcher efficiency trials generally show that probability of detection of a carcass declines with the time a carcass is on the ground due to the easiest to spot carcasses being found first, weathering of carcasses and other effects. Fresh carcass detection rates can vary from 10-60% in a test search. In many studies fatality surveys are conducted weekly which means a long interval compared to the scavenging times cited earlier. Estimating the real fatality rate from the field data is a significant technical problem. The field protocols and mathematics used for the estimates have improved over the approximately 20 years of intensive study, but there is still not a widely accepted correct method.

Wind energy experts state a relatively low impact on birds compared to other anthropogenic causes of avian mortality. However the overall numbers don't capture the sometimes high impact in localized areas where the turbines are sited, nor do they attempt to project the escalating impact as a relatively high proportion of a large land area is populated with turbines. As one example, the turbines in the Altamont area in northern California were reported to have reduced the Golden Eagle population in northern CA by 80%. Migrating birds travel at high altitudes, often thousands of feet, but they almost all stop at intervals to rest. The technological trend in wind turbines is to larger turbine rotors and taller towers. The larger rotors turn at lower rpm but have comparable tip speeds to the smaller rotors they are replacing. There is some belief that the lower rpm will allow soaring birds, mainly raptors, to better avoid the blades. However the combination of a taller tower and longer blades leading to overall heights approaching 150 meters has the potential to cause greater impacts to birds (and bats) of all kinds including during migration. Birds passing over ridge lines and hill tops populated by wind turbines might be particularly vulnerable.

The wind power industry in Oklahoma is characterized by no state regulatory oversight and no transparency to the public. In order to avoid potential regulatory problems with the USFWS, wind power companies are directed by USFWS guidelines to conduct pre-construction wildlife surveys and post-construction fatality surveys. The surveys are voluntary and are almost always conducted by outside contractors, e.g. WEST (Western EcoSystems Technology, Inc). Many post-construction fatality surveys are available on the internet, but none from Oklahoma. It is reasonably certain that the surveys are conducted for most of the projects in Oklahoma, but are just not published in any public forum. This seems to constitute the agreement that has been struck between USFWS, ODWC and the wind power industry, i.e. that the companies will cooperate with surveying and monitoring protocols and share results as long as they are protected from public scrutiny.

(continued on page 7)

Bird of the Month

By John Shackford



From what I have read the male **Rufous Hummingbird** (*Selasphorus rufus*) is a beautiful little gem of a bird. To the best of my recollection (not too trustworthy these days) I have never seen this hummer. *Selasphorus* means “to bear a flame...the males of this genus have iridescent gorgets that make them appear to be carrying a flame on their throat” (J. E. Holloway, 2003.

Dictionary of Birds of the United States). *Rufus*, of course means rufous.

The adult male Rufous Hummingbird is very distinctive, with its rufous back and a throat that glistens red in good light; but some males have green backs and, in our part of the range, are not safely told from male Allen's Hummingbirds. Females and young Rufous Hummers have green backs, a spotted throat and buffy-orange on the sides of the breast and at the base of the tail. Again, in our part of the range, they are not safely told from female and young Allen's Hummingbirds.

The Rufous Hummingbird has an interesting relationship with Oklahoma, including central Oklahoma: According to Sutton (1967, *Oklahoma Birds*) it has only been found in Oklahoma as a

“late summer visitant and fall transient recorded from July 1 to November 3; no spring record.” *Date Guide to the Occurrences of Birds in Oklahoma* (J. A. Grzybowski, 2009) gives the occurrence of the species, in every part of Oklahoma except the southeast, as a rare fall migrant from July 22 to November 20. So this featured Bird of the Month should be watched for now at your hummingbird feeders. Several days after I had decided to write about the Rufous Hummingbird for September, one was reported on the OK Bird net. Also note that they have been reported up to November 22, a long time after our usual hummers have left. That brings up an interesting point—if you do leave your feeder up into the late fall, any hummer you might see then is likely to be a rarity.

Although most of the population of this hummer winters in southern Mexico, a small number winter every year along the coast of the southeastern U.S.; these birds—headed for the southeastern U.S.—probably account for most, if not all, of the birds found in Oklahoma in the fall. It is somewhat curious to me that there are no spring records for Oklahoma. One would think that if the bird sometimes migrates through our state in fall, a few winter survivors of this population might take a similar path northward in the spring—through Oklahoma. The explanation may be that the birds that migrate over Oklahoma to the southeastern coast of the U. S. do not survive the winter—or perhaps so few do—that they have been absent or too thin to be picked up in our state in the spring. Another explanation may be that “our” birds move westward south of us in the spring and rejoin their more routinely transient birds heading north in the western U. S.

The nesting information that A. C. Bent (1989, *Life histories of North American cuckoos, hummingbirds and their allies*) gives on this species was quite interesting to me. The Rufous Hummingbird nests further north than any other hummer, reaching Alaska and southern Yukon. Its breeding range goes southward from there, on the west side of the Rocky Mountains and westward to the Pacific Coast, to southern Oregon and northwestern Wyoming. As a breeding bird (according to Bent) it is sometimes colonial, “as many as 10 nests in a small patch of gorse. The nest is near the ground as a rule....being placed on the lowest branch... that has a sharp downward bend...” (I only had a vague understanding of the plant



Male Rufous Hummingbird. © Terri Underhill

named gorse; when I looked it up it is a non-native plant—brought over by an Irishman wanting a bit of home; it has become a very noxious plant in parts of Oregon at least; it has inch long thorns that form nearly impenetrable thickets, is evergreen, grows up to about 6 feet tall, and is extremely hard to kill.)

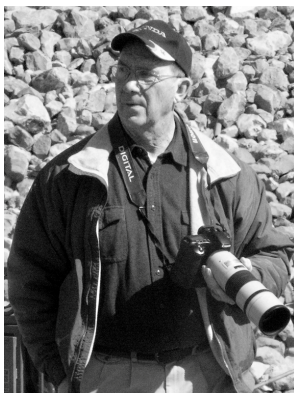
The Rufous Hummingbird, during migration (again according to Bent), “is sometimes very abundant at high altitudes, wherever it can find flowers in bloom; it has been seen as high as 12,600 feet” in elevation. Watch for this Oklahoma migrant at your feeders this fall, and let us know about it if you see one

Saving America's Pollinators Act of 2015

By Dave Woodson, conservation chairperson

Last year the American Bird Conservancy (ABC) wrote: "It's time for EPA to get serious about neonicotinoid pesticides!" requesting us to write our Member of Congress and ask her or him to cosponsor H.R. 1284, the *Saving America's Pollinators Act of 2015*.

This bill directs the Environmental Protection Agency (EPA) to suspend registration of a toxic group of pesticides called neonicotinoids, or "neonics," which are causing serious damage to birds, bees, and aquatic life.



In researching this bill, I located the congressional web site (<https://www.congress.gov/bill/114th-congress/house-bill/1284/all-info>). I learned 62 Representatives have co-sponsored this bill but not one from our great state of Oklahoma. I believe the bill is still active but as

of 09/05/2016 no related bill information has been received.

American Bird Conservancy did report that "It's a great day for birds, bees, bats, and butterflies! The Home Depot has agreed to eliminate neonicotinoid pesticides in its garden plants." Since this pesticide is harmful to all pollinators, the world's largest home improvement retailer is removing 80 percent of this bee-killing pesticide from its plants and will remove the rest by 2018. Kudos to everyone who urged Home Depot to act in favor of nature.

Want to do more? TAKE ACTION and urge Congress to protect species like the Western Meadowlark:

<http://support.abcbirds.org/savepollinators>

Big Year 2016: Four over 700

By Nate Swick (aba.org)

This year has been exceptional for Big Year birders. Not only have two birders broken the previous ABA Area Big Year record set by Neil Hayward in 2013, but this year also marks the first in which four birders have cracked 700 in the ABA Area.

John Weigel comes in at 758. With few, if any, remaining ABA Area breeding species left for him, whether or not he reaches the heretofore unthinkable total of 770 depends on how many vagrants turn up in the ABA Area this fall.

Olaf Danielson sits at 752, also having passed Hayward's mark. Danielson broke the record with Wood Sandpiper and added a handful of other Bering Sea species, the last of which was Gray-tailed Tattler.

Laura Keene has made a significant push past 700 in the last months currently sitting at 713. Laura becomes the second woman to pass 700 in one year, after Lynn Barber's 723 in 2008.

Christian Hagenlocher also topped 700 at the end of July, making him the youngest ever to break 700 in one year. He is currently sitting at 718. His Big Year is as much about his project of interviewing birders as it is about seeing lots of birds.

Welcome:

The Oklahoma City Audubon Society welcomes new member
Nicole Newcomer, Edmond, OK

Oklahoma City Audubon Society

Officers 2016

President	Bill Diffin	722-3778
Vice President	John Shackford	340-5057
Secretary	Sharon Henthorn	521-9958
Treasurer	Nancy Vicars	831-1945
Parliament	Ted Golden	354-3619
Programs	Warren Harden	364-3491
Recorder	Esther M. Key	735-1021
Conservation	Dave Woodson	601-622-3467
Field Trips	Mark Delgrosso	403-5655
Newsletter Editor	Pat Velte	751-5263
Publicity	Doug Eide	495-8192
Historian	Vacant	
Refreshments	Sue Woodson	601-622-3467
Webmaster	Pat Velte	751-5263

The Oklahoma City Audubon society is neither a chapter of nor affiliated with National Audubon.

For up-to-date Oklahoma City Audubon news log onto:
OKC-Audubon.org

Will the ABA add Hawaii?

Excerpt of article by Jeff Gordon, ABA president

The question of adding Hawaii to the ABA Area, the area covered by the ABA Checklist and the basis for many of the lists kept by birders throughout the United States, Canada, and beyond, is one that has been debated at length, including numerous times right here on this (aba.org) blog. The matter was even a key part of a non-binding referendum we sent to the membership in 2012, where 53% of ABA members responding



favored adding Hawaii, versus 36% who opposed it (7% were neutral; 4% did not indicate a preference).

We are now officially calling that question. It's time for you—if you are an ABA Member in good standing as of October 28, 2016—to vote to officially revise the

ABA's Bylaws to add Hawaii to the ABA Area, or to stick with the current definition.

The ABA Board of Directors and I, the ABA President, hope that you will vote "Yes" to accept Hawaii into the ABA Area. We believe that not only is this the best course of action for the ABA community, it is also the one most likely to benefit Hawaii's magnificent and imperiled native birds, which are a local, national, and global treasure.

Proposed wording of Section 8(a):

(a) Checklist Committee. The Checklist committee shall assemble for publication a master checklist of the birds of North America **the ABA Area**. For purposes of the checklist, "North America **the ABA Area**" shall be defined as the continental United States (including the Districts of Columbia), **Hawaii**, Canada, Saint Pierre and Miquelon, and adjacent waters to a distance of 200 miles from land or half the distance to a neighboring country, whichever is less. In the western Gulf of Mexico, the latitude of the Mexican border at the coast shall be taken as the southern limit offshore. The checklist shall be revised from time to time by the committee, and shall serve as the basis for all North American **ABA Area** Life lists and other types of lists recognized by the Association for areas that include, or are included by, North America **the ABA Areas** as delineated herein. The committee shall consist of five or more members and shall file its report annually with the board of directors.

Minutes OCAS June 20, 2016

Meeting was called to order by President Bill Diffin.

Treasurer Nancy Vicars reports \$5758.71 in cash account.

There will be no planned field trips this summer. A working group is being formed to plan future field trips.

The fall OOS meeting will be October 7-9 at the Jenks High School; the fall meetings are dedicated to bird research technical papers from ornithology graduate students.

Guest Bonnie Pollack of OKC was introduced and is a novice birder.

The summer picnic was enjoyed at the Muzny household on June 18th and was appreciated by all attendees.

The Breeding Bird Surveys are in full swing until early July. Volunteer data gatherers are busy around the state. If recorders are needed for upcoming surveys, Sharon Henthorn volunteered to participate.

Nancy reported that the Will Rogers Park Garden Center will be renovated this year. Beginning in September, the meetings will be third Monday of the month at the Will Rogers Seniors Activity Center. Meetings will be at 7pm-9 pm. Next meeting will be September 19th, as there are no scheduled meetings in July and August.

The group was entertained by a very informative and fun presentation by Wildlife Diversity Biologist Melynda Hickman with the Oklahoma Department of Wildlife Conservation. She presented a talk comparing the habits of the bats of Oklahoma. Who knew? Twenty-four species of insectivorous bats inhabit the state, living in trees, man-made structures and of course caves. We were encouraged to attend a Bat Watch on private property under supervision by staff of the Alabaster Caverns State Park.

Sharon Henthorn, Secretary

Recorders Report

Summer 2016

Exploring Central Oklahoma Birds

Several interesting birds visited Central Oklahoma this summer and were located by diligent birdwatchers in the field. For the year three counties have reported over 200 species (one at 245) but four counties have less than 100 species. Only 31 species have been reported in all 12 counties. There are still lots of areas for bird exploration and reporting.

JUNE

On the 3rd in Logan County Brian Stufflebeam spotted a Yellow-crowned Night Heron at Mineral Wells Park and a Broad-winged Hawk at Guthrie Lake. On the 4th in Lincoln County Michael Beifuss saw a Horned Lark at the Iowa Tribe Pow Wow Grounds, and at Lake



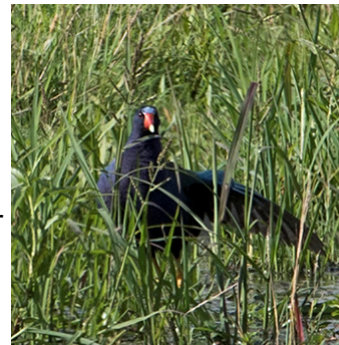
Thunderbird Emily Hjalmarsen had a Yellow-throated Vireo. On the 7th the Yellow-billed Loon on Lake Hefner was last reported by Jerry Taylor. On the 8th Scott Loss recorded Kentucky Warbler, Pine Warbler, and Yellow-throated Warbler at Lake Carl Blackwell while Deb Hirt found a Yellow-

breasted Chat at Boomer Lake Park.

On the 11th in Pottawatomie County Joe Grzybowski reported Yellow-billed Cuckoo, White-eyed Vireo, Summer Tanager, and Zach DuFran heard a Fish Crow. In Kingfisher County Esther Key identified Blue Grosbeak. On the 12th Zach Poland came across a White-rumped Sandpiper at the John Marshall School Pond. On the 14th a Black-bellied Whistling-Duck was detected at Arcadia Lake by Jeff Tibbits. On the 16th a Yellow-breasted Chat was seen at Stinchcomb Wildlife Refuge by Thomas Buehl Jr, and on the 17th Megan Downey counted a Baltimore Oriole in Garvin County. On the 18th Emily Hjalmarsen located at Purcell Lake a Least Tern; in Pauls Valley a Warbling Vireo; and at Whitebead a Summer Tanager. T K documented a Kentucky Warbler at the Dave Blue Creek area at Lake Thunderbird.

On the 19th T K got a Black-and-white Warbler at Lake Thunderbird's Alameda Bridges. On the 20th Andrew Barndt tallied an Upland Sandpiper east of Stroud, and on the 21st a Bell's Vireo at the Oklahoma Baptist

University. On the 22nd John Tharp recorded an American Bittern along South Jenkins. On the 23rd Mike Yough reported the final sighting of the Purple Gallinule on Coyle Road. On the 25th Pat Popper determined there was a Yellow-breasted Chat at the Quality Inn in Shawnee. On the 30th Brian Stufflebeam encountered the Black-chinned Hummingbird at Mitch Park in Edmond.



JULY

On the 2nd T K noticed a Northern Parula at the Lake Thunderbird Dave Blue Creek area, and W S Barbour saw a Prothonotary Warbler at Lake Carl Blackwell. In Kingfisher County on the 4th Zach Poland spotted a Green Heron near Dover and at the N2890 Road Marsh a Common Yellowthroat and Pileated Woodpecker. On the 10th Megan Downey had a Chimney Swift east of Lindsey in Garvin County. On the 16th T K saw a Yellow-headed Blackbird at Ten Mile Flat near Norman and on the 17th Jack Hurd had a one at Rose Lake.

On the 22nd Hal Yocum discovered a juvenile **Rufous Hummingbird** in his yard in Edmond; a Stilt Sandpiper was found at Lake Hefner Prairie Dog Point by Roy McGraw; and the Neotropic Cormorant at Boomer Lake Park was last reported by Deb Hirt. On the 25th Corey Riding turned up a Louisiana Waterthrush at OSU. On the 27th Jenny Clark came across a Pileated Woodpecker in Chandler in Lincoln County. On the 31st Scott Loss tallied Greater Yellowlegs and Stilt Sandpiper at the Dolese Sand Pit in Guthrie; and Esther Key got a Chuck-will's widow near Maysville in Garvin County.



AUGUST

On the 1st Jason Shaw spotted Wild Turkey at the USAO Habitat Area in Grady County. In Payne County at Dunkin Road on the Cimarron River, Scott Loss had a Stilt Sandpiper. On the 3rd Scott Dawson discovered a Broad-winged Hawk in Shawnee. On the 5th Zach Poland identified a Peregrine Falcon in downtown Oklahoma City. On the 6th Cameron Carver came across a Long-billed Dowitcher at the John Marshall School Pond.

(continued on page 7)

Recorder's (cont.)

On the 7th Roy McGraw found a **Piping Plover** at Lake Hefner's Prairie Dog Point, and T K detected a Sora Rail at the Lexington WMA. On the 8th Deb Hirt saw a Caspian Tern at Boomer Lake Park, and Mike Yough had a Common Yellowthroat at the Teal Ridge Wetland. Along South Jenkins, John Tharp documented on the 10th a Yellow-throated Warbler; on the 11th a Yellow Warbler; and on the 12th a Prothonotary Warbler. On the 12th Roy McGraw got a Green Heron at the Shannon Springs Park in Grady County, and Zach Poland located a Black-necked Stilt in the Yukon playas.



On the 13th at the Goldsby Sod Farm in McClain County T K noticed Swainson's Hawk and Loggerhead Shrike, and Deanne McKinney had an Eastern Screech-Owl in her yard in Oklahoma City. On the 14th Dala Grissom recognized a Rufous Hummingbird along Waco Road in Pottawatomie County. Karen Crews turned up American Kestrel and Belted Kingfisher in Newcastle. In Kingfisher County Zach Poland reported a Broad-winged Hawk in Hennessey. Jerid Patterson verified a Snowy Egret at Taylor Lake in Grady County, while Nathan Kuhnert counted a Semipalmated Plover at the Lake Overholser's Coffey Dam.



On the 15th John Tharp encountered a Common Yellowthroat along South Jenkins. On the 16th Zach Poland discovered a Barn Owl at his home in Logan County. On the 18th John Hurd spotted a Red-eyed Vireo and Summer Tanager in Canadian County just across the street from Caddo County and on the 20th he reported the Common

Loon was still on Lake Hefner. On the 21st Scott Dawson saw a House Wren in Shawnee. Zach Poland came across a Solitary Sandpiper in Okarche and at Lake Elmer a White-winged Dove.

On the 23rd in Logan County John Hurd discovered a Summer Tanager and Dickcissel in Coyle. On the 25th Jason Shaw had a Barred Owl at the USAO Habitat Area; John Bates identified a Western Sandpiper along the Canadian River; and Scott Loss recorded a Black-bellied Plover at Boomer Lake Park. On the 26th William Diffin documented

an American Avocet, Long-billed Dowitcher and Stilt Sandpiper at Lake Hefner's Prairie Dog Point.

On the 27th Nathan Kuhnert found a Northern Waterthrush at the Myriad Botanical Gardens; John Polo noticed an Eastern Wood-Pewee at Babcock Park; while at Whittenberg Park Scott Loss located a Least Flycatcher and the next day a Willow Flycatcher. On the 28th Dala Grissom heard a Fish Crow at Meeker Lake in Lincoln County. John Hurd verified Lesser Yellowlegs, Willet, Black Tern and Osprey at Lake Hefner's Canal Inlet. C H Hemphill recognized a Northern Harrier in Stillwater, and Scott Loss turned up an American Avocet and Black Tern at Boomer Lake Park.

In the Central Oklahoma area during the summer **161** species were reported with **2** first of the year reports bringing the year's total to **273**. I appreciate those who help provide the history of central Oklahoma birds and can be contacted by e-mail at emkok@earthlink.net. Esther M. Key, Editor.

President's Perspective (cont.)

The wind power generated in Oklahoma is not necessarily sold to the Oklahoma market. A project currently under construction in the Arbuckle mountains will sell power to the Lincoln, Nebraska utility. The irony is that the wind resource near Lincoln is at least as good as that in the Arbuckles. However the public oversight in Nebraska is much more in evidence than it is in Oklahoma. There is nothing in Oklahoma to compare to the following wind energy website for Nebraska, <http://snr.unl.edu/renewableenergy/wind/tools.asp#overview>

I have it from a couple of different sources that the number of wind turbines in Oklahoma would double if the projects currently in the planning stages came to fruition. The turbines in these new projects would be significantly larger than the ones already present in the state. The larger turbines will allow exploitation of the less potent wind resource in the mountains of southeastern and central eastern Oklahoma in addition to more development in western and central Oklahoma. At some point in the future we could have a dense band of turbines across the entire state from west to east. A look at a wind resource map suggests that there will also be a dense area of exploitation from western Kansas down through the Oklahoma panhandle and the Texas panhandle due to the high quality wind resource in those areas. The Clean Line project which will export power to the east is apparently based on that assumption. When reasonable projections for Kansas, Oklahoma and Texas are assembled, the result is rather alarming when considering the bird species that migrate almost exclusively along the Central Flyway. It seems likely that the wind

(continued on page 8)

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President's Perspective (cont.)

resource and the central flyway are correlated, that the wind power companies are exploiting the same wind patterns that the birds use for migration.

Wind power has some important beneficial outcomes. It will potentially reduce global warming caused by carbon dioxide emission, and it may reduce the need to involve our military in Middle Eastern conflicts that endanger oil supplies. Landowners receive \$3000-\$5000 per year in royalties for each turbine. The construction, maintenance and operation of the farms makes a small contribution to employment in Oklahoma. However much of the power and the sales revenue from it go outside Oklahoma. Yet the tax incentives provided to the industry, including state tax subsidies, are said to pay for 40% of the investment cost.

Will there come a point where the costs to Oklahomans outweigh the benefits? Will anyone want to live in a state where the majority of the land area is covered by a forest of wind turbines and high voltage power lines? Will we have to write off the Central Flyway bird and bat migrants as acceptable collateral damage? The biggest problem one encounters in attempting to answer these questions is the lack of transparency of the industry.

Oklahomans have a right to know how wind power is effecting the wildlife in the state. Oklahomans should be making decisions about the long term trajectory of wind power in the state with full knowledge of the possible consequences of unlimited growth.

The refreshments for the September meeting will be provided by: Terri Underhill and Patti High; drinks and ice by Jimmy Woodard
