

## SCIENTISTS TO INVESTIGATE WIND POWER IMPACTS ON MIGRATORY WILDLIFE

“Conducting this research will help the wind industry make informed, science-based decisions about where future wind energy projects can be built, and how they can be operated to minimize the impact on migrating wildlife, while still providing much-needed alternative energy,” said Dr. John Fitzpatrick, director of the Cornell Lab of Ornithology. “It will also help flesh out specific guidelines for wind farm construction being developed by the U.S. Fish and Wildlife Service.”

Thirty top wildlife scientists have announced agreement on some of the highest research priorities to help America’s rapidly growing wind energy industry produce much-needed alternative energy—while also providing safe passage for birds and bats. This coalition of scientists from industry, government, nongovernmental organizations, and universities met recently in Racine, Wisconsin, to address unanswered questions about how continued wind energy development will affect migrating birds and bats. The meeting was hosted by the Cornell Lab of Ornithology, the American Bird Conservancy, and the The Johnson Foundation at Wingspread.

The scientists addressed the critical information that could be collected using cutting-edge tools such as weather surveillance radar, thermal imaging, and microphones directed skyward to map migrations by day and night. New research will build upon monitoring and research studies of birds and bats before and after construction of existing wind energy facilities as well as work done by other researchers. The coalition appointed working groups to move this new research agenda forward. Top research priorities identified by the coalition include: • Studying bird and bat behaviors and more accurately estimating mortality at existing wind turbines, • Using current and newly-obtained information on bird and bat population numbers and distributions to focus research on critically important migratory routes and timing, • Documenting how interactions of birds and bats with turbines are affected by factors such as weather, topography, and their distribution within airspace swept by wind turbine blades, • Establish standardized methods for pre- and post-construction studies of bird and bat behavior at wind facilities, • Conduct research on the best methods for mitigating the impacts of wind energy development on birds and bats.

*From Cornell Lab of Ornithology website July 2009 , [http://www.birds.cornell.edu/pr/wind\\_wildlife\\_pr.html](http://www.birds.cornell.edu/pr/wind_wildlife_pr.html)*

*Press Releases: Contact: Pat Leonard, 607-254-2137, [pel27@cornell.edu](mailto:pel27@cornell.edu)*

*Also see: The Nature Conservancy efforts in the Flint Hills at - [www.nature.org/magazine/autumn/2009/features](http://www.nature.org/magazine/autumn/2009/features)*

NORTHERN Flint Hills Audubon Society,  
P.O. Box 1972, MANHATTAN, KS 66505-1972



## PRAIRIE FALCON

NORTHERN FLINT HILLS AUDUBON SOCIETY NEWSLETTER

Vol. 38, No. 3 ~ NOVEMBER 2009

### Inside

pg. 2 - Skylight plus - PETE COHEN

pg. 3 - POOF! - DRU CLARKE

pg. 4-5 - Book REVIEWS

pg. 5 - TAKE NOTE

### Upcoming Events:

\*Nov. 2 - BOARD MEETING 6:00 p.m.  
(TOM & MJ MORGAN HOME)

Nov. 14 - BIRDING - KEATS PARK  
Old railroad bed 8 A.M.  
MEET AT SOJOURNER TRUTH PARK  
PATRICIA YEAGER, JACQUE STAATS

Nov. 23 - BIRD SEED SALE  
ORDER DEADLINE

\* NOTE CHANGE - BOARD MEETINGS NOW ON  
Mondays AT 6:00



## SKYLIGHT PLUS

PETE COHEN

One day, checking the weather forecast on NOAA's website, I encountered the photo of a ship almost entirely screened by a beautifully gossamer vapor and a caption proclaiming fog as a deadly danger. I suspect the ship pictured was safely in harbor with someone on some nearby unthreatening elevation to take the picture, but the point was also taken, and a reel of fog memories in my mind began to unwind.

One summer, as part of the stage crew for a performing group in Vermont, I bunked with the other male cast and crew in the emptied hayloft of a barn. Some mornings we awoke barely able to see the other end of the loft for the morning mist drifting in through the open windows.

On another occasion, sightseeing our way home from Salina on back roads, we became immersed in fog and lost our bearings on the gravel roads – all running at right angles but with no indication as to which were N-S or E-W. So we dug out the compass from the emergency pack and of course found its indications unexpected, but followed it with only tentative trust until we vaguely perceived isolated small trees all leaning in the same direction the needle pointed. So the Southwinds of other days finitely re-oriented us without the need of rescuing breezes to blow the fog away.

And there was the late twilight on a ferry, crossing the Strait of Juan de Fuca with the U.S. and Canadian shores, still lit, but in almost an instant wiped away by moist haze. The horn issued the first of its every-90-seconds blasts, passengers were ordered indoors, while one crew man, throwing on his life jacket as he hurried past us the other way, went to stand, sacrificially it seemed, alone and barely visible on watch at the ship's prow. And then that ferry, which seemed huge to our accustomed perspectives, began to heave upon sudden swells, hidden as the evening became darkness until, amid calm, invisible waters, we saw lights penetrating from the Port Angeles dock, and wondered what people did before radar and radio.

There are “steam fogs” that appear as cold air streams over warm water, “frontal fogs” produced by warm rain falling through cold air, “advection fogs” owing to warm air flowing over a cold surface, “upslope fogs” existing where air cools by expansion and thus must deposit some of its moisture on available aerosols, and “valley” or “radiation fogs” whose mechanics seem more complicated to me, resulting from the Earth radiating heat on calm, clear nights, and the cooling of near ground air by conduction, I presume from the cooler air above. Either and/or all I expect can have physiological, psychological, and ecological effects, and thus are part of nature's quid-pro-quo arrangements in which beasts can be beautiful and beauty can be beastly.

At least the beastly aspects of the cosmic parts of a clear night sky stay for the most part at some distance, meteorites and radiation showers excepted. Mars, though brightening from midnight onward as Venus gradually fades from appearing before dawn, is likely to remain just a noticeable reddish spot rising near the Moon the 8<sup>th</sup> and 9<sup>th</sup> and keeping above Regulus and the Moon on the 10<sup>th</sup>. Venus, however, does a parting dance with (to left of) Spica, in Virgo, before sun-up on the 3<sup>rd</sup>. And Spica shines below a bright Saturn and the Moon on the 12<sup>th</sup> and 13<sup>th</sup>. (*The Old Farmer's Almanac* says Saturn will be in Spica's constellation for the next three year.) The Moon and Jupiter begin the nights of the 22<sup>nd</sup>-24<sup>th</sup> by setting early in the west.

Soon after them the bold winter constellations of Taurus, Orion, and the Big Dog, with Sirius, the sky's brightest star, will be on the rise. *StarDate* would call attention to the harmless beauty of the dipper-shaped filigree of stars (a grouping much smaller than the much distinct Little Dipper curving from the North Star) on Taurus' shoulder, known as the Pleiades, or Seven Sisters, though only six of them are easily seen, while nine can be before resorting to instruments.

The Leonids will have a moonless field for whatever show they have in store for the 17<sup>th</sup>. Moon full the 2<sup>nd</sup>, 1p14; new the 16<sup>th</sup>, also 1p14.

©2009 Peter Zachary Cohen

I can see how people might believe in spontaneous creation. I mean, how is it that a platter-sized snapping turtle suddenly appeared in our north pond, which is not bigger than a modest wading pool, and several hundred yards from a dirt road AND more than half a mile from a sizable creek?

This pond frequently shrinks to puddle size, as no vegetation, no fish, and is always muddy. This must have been one desperate turtle, I thought, then remembered the bumper crop of frogs we'd had with all the spring rains: could they have been the draw to claim this insignificant water hole as home?

*Chelydra serpentina*, the common snapping turtle, is a remarkable, if unsavory looking reptile descended from a long and ancient line of turtles that lived more than 200 million years ago. Those ancient ones got as huge as 5000 – that's three zeros – pounds and had teeth to boot!

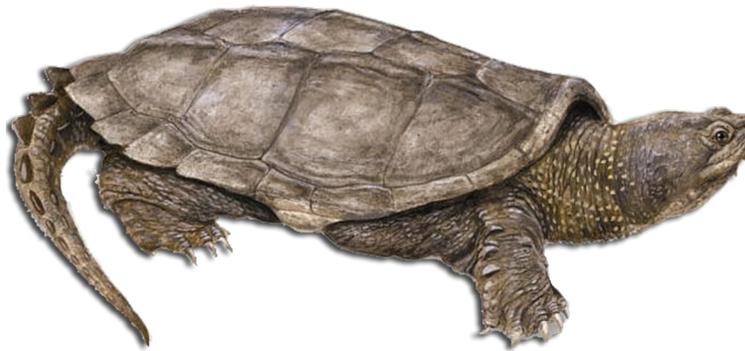
Today, the snapper has hooked (but toothless) jaws that can deliver a nasty bite capable of amputation of digits. Its carapace or top shell is spiky and armor-like when young, becoming smooth as it ages, its tail ridged like a gator. This one's tail was colored lemon yellow beneath, sharply contrasting with the milk chocolate-colored water. In water, you usually see only the snout when they rise to breathe, unless they are basking on a rock or a limb, as our resident was.

If you see them on land, usually on a road, they are crossing to lay eggs in some nice, soft soil. If all goes well, the eggs hatch in three months, and baby turtles scurry to find cover in a nearby body of water. Witnessing such a mini-migration is a memorable experience. While in Puerto Rico at a conference, our group was partying at dusk under a cabana on a beach

when suddenly shouts went up that baby turtles (in this case, loggerheads, a species of sea turtle) were hatching. This normally rowdy group fell quiet and drifted into a semicircle around the sandy nest, then formed an aisle to the water, each one spellbound by the struggling babies as they flapped helplessly toward the surf.

One man, whom I've known for years as a strong, no-nonsense science educator, stood with tears rolling down his cheeks. He told me later that he had talked about this many times with students, but had never witnessed it personally, and he was, understandably, quite moved by it.

Snappers, fresh water inhabitants, begin their lives in a similar manner, and can grow to as much as forty pounds if they survive the gauntlet of predators they encounters. They eat a wide variety of meats, being carnivores, and we, in turn, used to eat them, and some still do. I remember buying canned snapper soup; enhanced by liberal amounts of sherry, it was deliciously rich, even “umami” in flavor.



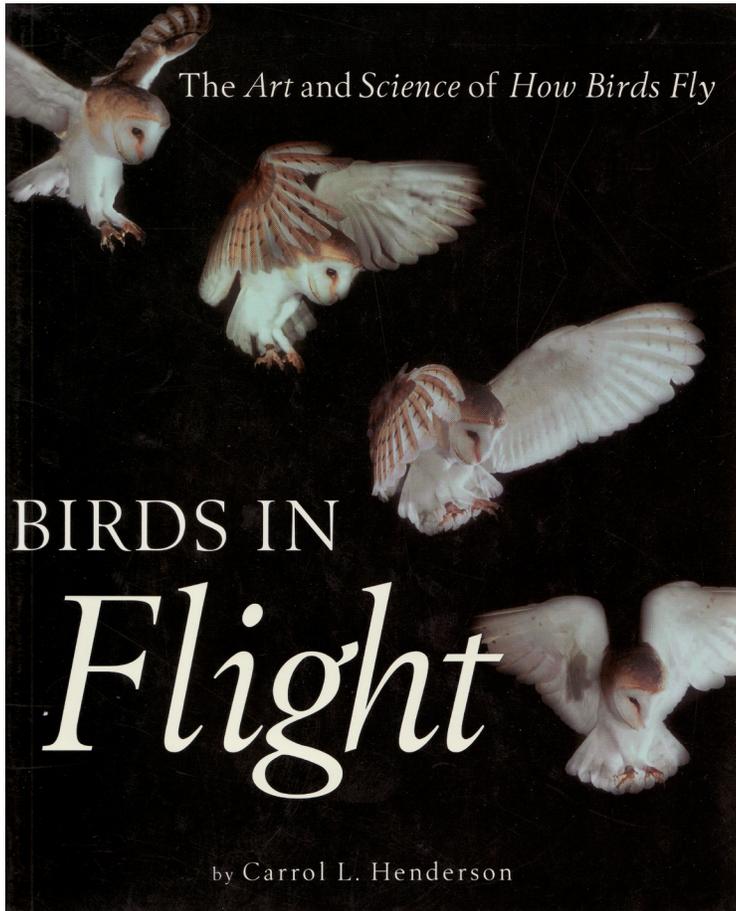
Our turtle will suffer no such fate, and will pig out on amphibians for the rest of the summer and fall, dropping into the mud when winter arrives, to hibernate until next

spring.

How it will survive during the coldest months is by lowering its metabolism, slowing its heart rate, obtaining what oxygen it needs by absorption through the colon (and in some turtles, through special pores in the skin of the neck). How this particular snapper arrived at our pond will remain a mystery, getting here by a “poof!” or by a very long walk.

©2009 Dru Clarke 6/09

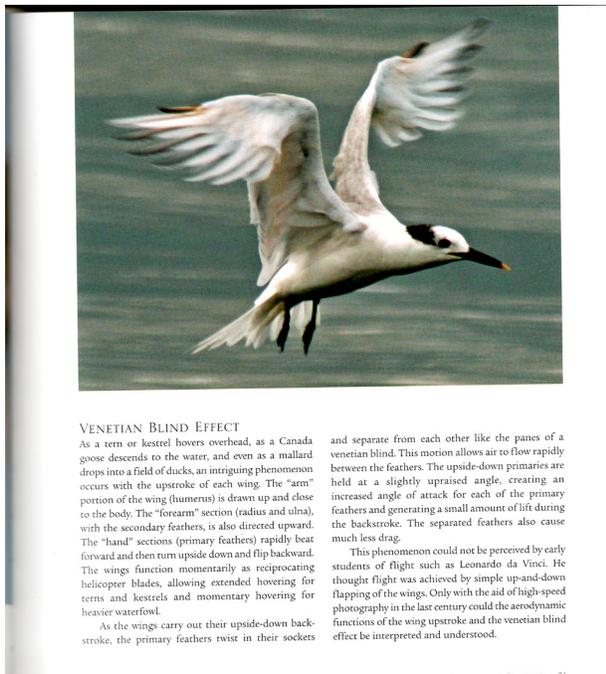
# BOOKS



## BIRDS IN FLIGHT THE ART AND SCIENCE OF HOW BIRDS FLY CARROL L. HENDERSON

HOW DO THEY DO IT? I WONDER AS I WATCH A BIRD TAKE FLIGHT. IT SEEMS SO EASY - EFFORTLESS.

THIS IS THE BOOK THAT EXPLAINS THE MAGIC OF FLIGHT. THE DIAGRAMS SHOW THE SCIENCE - HOW IT WORKS, AND THE PHOTOS SHOW THE BEAUTY OF THE MAGIC.



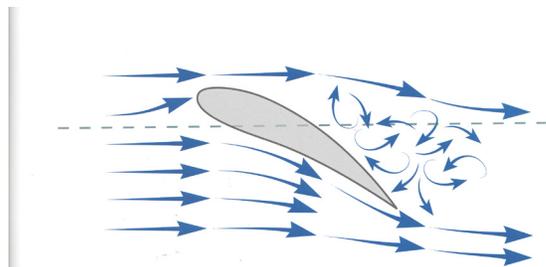
### VENETIAN BLIND EFFECT

As a tern or kestrel hovers overhead, as a Canada goose descends to the water, and even as a mallard drops into a field of ducks, an intriguing phenomenon occurs with the upstroke of each wing. The "arm" portion of the wing (humerus) is drawn up and close to the body. The "forearm" section (radius and ulna), with the secondary feathers, is also directed upward. The "hand" sections (primary feathers) rapidly beat forward and then turn upside-down and flip backward. The wings function momentarily as reciprocating helicopter blades, allowing extended hovering for terns and kestrels and momentary hovering for heavier waterfowl.

As the wings carry out their upside-down backstroke, the primary feathers twist in their sockets

and separate from each other like the panes of a venetian blind. This motion allows air to flow rapidly between the feathers. The upside-down primaries are held at a slightly upraised angle, creating an increased angle of attack for each of the primary feathers and generating a small amount of lift during the backstroke. The separated feathers also cause much less drag.

This phenomenon could not be perceived by early students of flight such as Leonardo da Vinci. He thought flight was achieved by simple up-and-down flapping of the wings. Only with the aid of high-speed photography in the last century could the aerodynamic functions of the wing upstroke and the venetian blind effect be interpreted and understood.



### Stalling Angle

When a bird's angle of attack becomes acute, the airstream over the back is disrupted and the air becomes turbulent, ruffling the feathers over the back. This stalling normally occurs just prior to landing.

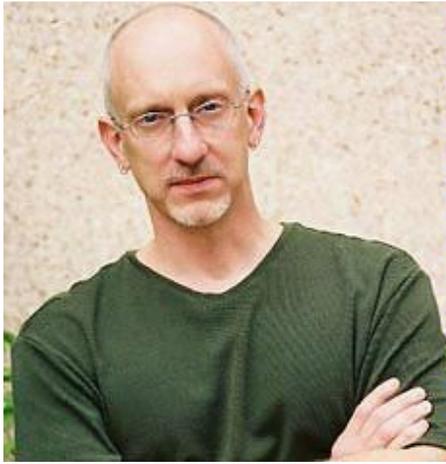


A snowy egret of Costa Rica lands with a steep angle of attack, causing the bird to stall and disrupting the airstream over the top of the wings. Turbulence ruffles the feathers over the back.

### THE SECRET OF THE ALULA

There is a small bone on the leading edge of the wing at the wrist joint, comparable to the human thumb. It is called the alula. It serves as the anchor point for two to six short, stout, convex feathers. When a bird significantly increases its angle of attack prior to landing, these feathers are elevated and prevent premature stalling. The alula is explained in greater detail in Chapter 4.

Some birds can raise their angle of attack to nearly 70 or 80 degrees above horizontal by using their alulas and then going into a stall. At this point, the airstream over the back of the wings breaks loose and the feathers are pulled upward by the turbulence. Photos of great egrets and brown pelicans landing capture this moment of seeming levitation. With their large wings outspread like parachutes, they descend gracefully onto the tree branch of their choosing.



## AND ANOTHER BOOK

### **THE FALLEN SKY: AN INTIMATE HISTORY OF SHOOTING STARS BY CHRISTOPHER COKINOS**

“Nature writer Christopher Cokinos’s unusual book appears at first to be a layman’s guide to the science of meteorites, which provided important information on how the Earth and other planets formed. At its heart, though, *The Fallen Sky* is about the people who collect these

bits of planetary history. They are a subculture of cosmic beachcombers, dreamers infected with a strain of interplanetary fever. In the 1880s, Eliza Kimberly, a Kansas farm wife, had the bug so bad that the growing pile of black rocks in her yard earned her the derisive local epithet of “the rock woman.” But when academics started coming by to inspect the pile, and, better yet, started paying to lug the rocks away to their labs, Eliza had the last laugh. Her farmstead, renamed the Kansas Meteorite Farm, provided the Kimberly family with a new cash crop – gift, as it were from on high.” *Natural History, September 2009*

“If you’re looking for depth, rather than a broad history of the science of meteorites, this is the book for you.”  
*www.NewScientist.com*

Check out Chris Cokinos website for more: <http://www.christophercokinos.com/>

---

### **ALL NFHAS MEMBERS: CALL FOR PROPOSALS! (STILL OPEN)**

NFHAS Board members have targeted this year to fund a reader-initiated project. We are now soliciting ideas from our membership and will be posting the application guidelines in the next few months. So be thinking! What would you like to see your Audubon chapter underwrite? Habitat conservation, biology field work scholarships, support for an endangered bird species, research funds, a collaborative preservation project with another agency or group? We welcome creative, innovative and unusual approaches to wise spending of monies. We will ask that the project selected have a responsible party who will agree to write brief updates for the *Prairie Falcon*, perhaps twice a year, on the project as it unfolds. This person may also be asked to attend NFHAS board meetings from time to time. This would be the extent of any administrative duties.

Please watch future issues for proposal guidelines, which will be brief but require standard components like purpose, scope, budget, contact names. If you are wondering about the feasibility of an idea, please email Patricia Yeager, NFHAS President, at [pyky@flinthills.com](mailto:pyky@flinthills.com), just with ideas/inquiries. The more formal proposal will come later. We would love to fund a project unique to our area and arising from the passionate commitment of our membership.

---

### **TAKE NOTE**



**E-NEWSLETTER:** If you wish to opt out of the “paper” *Prairie Falcon* newsletter and get it on-line as a pdf - send your name and email address to Jacque Staats - [staats@wildblue.net](mailto:staats@wildblue.net)



NORTHERN FLINT HILLS  
Audubon Society  
P.O. Box 1932  
MANHATTAN, KS  
66505-1932

PRINTED ON 100% POST-CONSUMER  
RECYCLED PAPER

NON-PROFIT ORGANIZATION  
U.S. POSTAGE PAID  
PERMIT No. 662  
MANHATTAN, KS 66502

**RETURN SERVICE REQUESTED**

Published monthly (except August) by the Northern Flint Hills Audubon Society, a chapter of the National Audubon Society.  
Edited by Cindy Jeffrey, 15850 Galilee Rd., Olsburg, KS 66520. (cinraney@ksu.edu)  
Also available on-line at [www.ksu.edu/audubon/falcon.html](http://www.ksu.edu/audubon/falcon.html)

**Subscription Information:** Introductory memberships - \$20/yr., then basic membership is \$35/yr. When you join the Northern Flint Hills Audubon Society, you automatically become a member of the National Audubon Society and receive the bimonthly Audubon magazine in addition to the Prairie Falcon newsletter. New membership applications may be sent to Treasurer, NFHAS, P.O. Box 1932, Manhattan, KS 66505-1932. Make checks payable to the National Audubon Society. Membership renewals are handled by the National Audubon Society and should not be sent to the NFHAS. Questions about membership? Call 1-800-274-4201 or email the National Audubon Society [join@audubon.org](mailto:join@audubon.org).

If you do not want to receive the national magazine, but still want to be involved in our local activities, you may subscribe to the Prairie Falcon newsletter for \$15/yr. Make checks payable to the Northern Flint Hills Audubon Society, and mail to: Treasurer, NFHAS, P.O. Box 1932, Manhattan, KS, 66502-1932.

**RARE BIRD HOTLINE:** For information on Kansas Birds, subscribe to the Kansas Bird Listserve. Send this message <subscribe KSBIRD-L> to <[list\\_serve@ksu.edu](mailto:list_serve@ksu.edu)> and join in the discussions.

**NFHAS Board**

President:	Patricia Yeager	776-9593
Vice Pres.	MJ Morgan	
Secretary:	Annie Baker	375-4633
Treasurer:	Carla Bishop	539-5129

**COMMITTEE chairs:**

Membership:	Jacque Staats <a href="mailto:staats@wildblue.net">staats@wildblue.net</a>	537-3664
Programs:	Kevin Fay	
Conservation:		
Northeast Park:	Jacque Staats	
Butterfly Garden:	Susan Blackford	
Education:		
Land Preservation:		
Bird Seed Sales:	Annie Baker	375-4633
Newsletter:	Cindy Jeffrey <a href="mailto:cinraney@ksu.edu">cinraney@ksu.edu</a>	468-3587
Fieldtrips:	Patricia Yeager, Kevin Fay	776-9593
At-large:	Tom Morgan	
Audubon of Kansas Trustee:	Hoogy Hoogheem	

Contacts for Your Elected Representatives ( anytime) Write, call or email:

Governor Mark Parkinson: 2nd Floor, State Capital Bldg, Topeka , KS 66612.

KS Senator or Representative: State Capital Bldg, Topeka, KS 66612. Ph# (during session only) Senate - 785-296-7300. House - 785-296-7500. U.S. Senator Roberts <[Roberts@senate.gov](mailto:Roberts@senate.gov)> U.S. Senate, Washington DC 20510. or Brownback <[Brownback@senate.gov](mailto:Brownback@senate.gov)> U.S. Capital Switchboard 202-224-3121.