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aikorns
AIKEN AUDUBON SOCIETY

FLOW-THROUGH VENTILATION

by Leslie Holzmann

I WATCHED AS A SKEIN OF GEESE FLEW NORTH FOR the summer, individuals arranged in a typical V-shape, each bird pumping its wings up, down, up, down, hour after hour after hour. Just watching them, knowing how many hundreds, thousands, of miles they had to go before they reached their destination, made me exhausted.

Then there are the songbirds, which migrate so high that we don't even notice them. How do they travel such long distances, exerting themselves where the air is so thin? Even more, they can fly and vocalize at the same time. (When I'm hiking at high elevations, it's all I can do to gasp for air; I can't even talk, much less sing!)



Wondering turned to some research, and I learned at least one bird secret for sustained, high altitude flight. Their lungs don't work like ours do.

Like all mammals, we breathe in, then breathe out, then in, then out, in, out, in, out. We can develop a larger lung capacity, or up the rhythm when we need more oxygen, such as during exercise, but there is a limit to how fast we can breathe. All that air that we breathe in has to be pushed back out again before there is room for a new lung-full. Given that we don't completely empty our lungs with each breath, fresh air mixes with the remaining stale air, reducing the efficiency of each inhalation.

Birds don't work that way. Like us, they have nostrils, a trachea, and two lungs, but they also have air sacs (nine in most species). Birds have hollow, air-filled bones, too. These air spaces are all interconnected. While the air sacs and bones aren't involved in gas exchange as the lungs are, they do serve a purpose.

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PRESIDENT'S MESSAGE

CONSERVATION - THE GOOD, THE BAD AND THE UGLY

Conservation has been on my mind of late. According to my old Webster's dictionary, part of the meaning for conservation is "protection from loss, waste, etc." But the word means many things to many people. It can stir up passions, especially when linked with politics.

What does the word mean to you? For me, it can be as simple as recycling as much as possible. It means turning off the lights in rooms not in use. It means supporting an organization which works to preserve lands or wildlife, either on a local basis through the Palmer Land Trust or nationally through the National Audubon Society. It means

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Coming programs

MARCH 12 (2ND WEDNESDAY)

Volunteering Your Obsession

Eric DeFonso

APRIL 16

Beyond Birds: The Rewards of Bugwatching

Presented by Eric Eaton

MAY 21

Birds of Borneo

Presented by John Drummond

NO SUMMER PROGRAMS.

See you in September!

Newsletter articles

Articles, announcements, or other items of special interest to Aiken Audubon members are welcomed for consideration. We'd love to hear from you!

Deadline for the May/Summer 2014 issue of *Aikorns* is Wednesday, April 16.

Contact the editor, Leslie Holzmann, at aikenaudubon@gmail.com, or call (719) 964-3197.

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MARCH 12 / ERIC DEFONSO VOLUNTEERING YOUR PASSION

IN 2011, ERIC DEFONSO SPENT SIX MONTHS VOLUNTEERING FOR CONSERVATION organizations, nature reserves, and ecolodges throughout Ecuador, Peru, and Brazil. More than just indulging his own interest in birdwatching, he wanted to use this opportunity to give something back to the birds that have so greatly enriched his life over the years.

In both the Amazon and the Mata Atlantica of southeastern Brazil, Eric arranged to spend months assisting in conservation efforts and learning the workings of ecologically-based tourism. Although considerable planning and pre-arrangement was required to bring this year to life, he discovered a new mode of adventure travel, one that expanded his awareness of the magic of rainforests as well as the severe challenges they face towards their preservation. In this presentation he will discuss the wildlife monitoring projects he worked on, agro-forestry, his bird-guiding and surveying efforts, and more.

Eric began birdwatching 20 years ago as a casual hobby, but his interest has now turned into a consuming passion. He has a Masters degree in Atmospheric Science from the University of California, Davis, and worked in the private sector in computing for several years before changing course and following his love of birds wherever it leads him. He has since become a certified Master Naturalist for the City of Fort Collins, served on the Board of Directors for Fort Collins Audubon, and worked as a volunteer educational bird handler at the Rocky Mountain Raptor Program. Currently he works as a seasonal field biologist for the Rocky Mountain Bird Observatory. In addition to photography he also has become an experienced nature-sound recordist. His recordings can be heard online at xeno-canto.org and at the website for Cornell's Macaulay Library of Natural Sound.

APRIL 16 / ERIC EATON BEYOND BIRDS: THE REWARDS OF BUGWATCHING



Greater Angle-wing Katydid

than it is with any other organism. Please join us for a rare look at some of Colorado's most watchable "bugs," and an entertaining explanation.

Eric R. Eaton is principal author of the *Kaufman Field Guide to Insects of North America*. He has also been published in *Birds & Blooms*, *Ranger Rick*, *Missouri Conservationist*, *Orion*, and other popular journals.

INSECTS ARE WILDLIFE, TOO! WE MAY CONSIDER MOST insects to be garden-eating, garbage-infesting, blood-sucking pests, but the truth is the overwhelming majority are vital to our lives, and the cornerstones of healthy habitats.

While we have traditionally neglected to look at insects the way we watch birds, that culture is changing. Butterflies, dragonflies, and even tiger beetles are rising in popularity among naturalists. Sure, there are barriers to "bugwatching," like needing different equipment, and changing one's search image, but the rewards are well worth the effort and minor inconvenience. Insects are beautiful, diverse, and the chances of making new discoveries about them is vastly greater

Aiken Audubon programs are free and open to the public. They are held at the Colorado State Division of Wildlife building located at 4255 Sinton Road. Coffee and socializing is at 6:30 pm and programs begin at 7 pm. Please use the back entrance. **NOTE:** Sinton Road runs parallel to I-25 on the east side, between Garden of the Gods Road and Fillmore Street.

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Aiken Audubon Field Trips & Events

Everyone is welcome on Aiken field trips, regardless of experience level or membership in Audubon. Contact trip leader for details and to let them know you are coming. Don't forget to pack your binoculars, scope (if you have one), field guide, water, snack or lunch, hat, rain gear, sun screen, bug spray, camera(?), and some gas money for the drivers. No dogs are allowed on Aiken trips.

Note: In cases of extreme weather, trips may be cancelled. If this might be a possibility, please contact the trip leader an hour before the scheduled meeting time. To receive e-mailed reminders of upcoming field trips and notices of last-minute cancellations, send your name and e-mail address to AikenAudubon@gmail.com.

SUNDAY, MARCH 2, 9 – 11:30 AM BLUEBIRD "HUNT" AT TURKEY CREEK RANCH

Last year we were greeted by hundreds of Western, Eastern, and Mountain Bluebirds at Turkey Creek Ranch. Hopefully they'll all be there this year too.

We also saw Ladderback and Hairy Woodpeckers, Northern Flickers, Steller's Jays, many Western Scrub-Jays, Kestrels and Red-tailed Hawks. Additional birds included Townsend's Solitaires, Dark-eyed Juncos, and one lone American Goldfinch.



When everyone has arrived, we'll drive to the north end of the property to the large meadows where the birds are often seen. After searching the north end, we'll walk through the south meadows and the archery range.

Dress in layers for the Colorado March weather, bring water, and plan for a fun morning.

Directions: Go south of Colorado Springs on CO Hwy 115. The entrance to TCR is 10 miles south of the main gate to Fort Carson (also the main entrance to Cheyenne Mountain State Park). Turn left off CO Hwy 115 and follow the entrance road to the "T" at the horse stables. Turn right and you will see the main picnic area and parking.

For more information and to sign up, contact leaders Mel and Jeanne Goff, melgoff@comcast.net, 719-591-1155 (home).

MONDAY – FRIDAY, MARCH 24 – 28, 9AM – 3PM SPRING BREAK NATURE CAMP

This event is sponsored by Fountain Creek and Bear Creek Nature Centers, and is listed here for your information.

Children 1st through 5th grades will discover the world around them through playtime in the woods, building forts, fishing, games and how to be stewards of the environment. Limited spots available! For information, visit <http://adm.elpasoco.com/CommunityServices/RecandCulturalSvc/Pages/NatureCamp.aspx> or call (719) 520-6745.



SATURDAY, APRIL 12, 8AM KETTLE CREEK LAKES

Come enjoy a spring morning on this easy walk on the Air Force Academy property. You never know what will turn up.

Take Academy Blvd. north to the South Gate entrance to the academy. Just before you get to the academy entrance you will turn right (north) on Airfield Road. Go to the end of the road and park; we'll meet there.

Contact trip leader Risë Foster-Bruder at riseref@comcast.net for more information and to sign up.

WEDNESDAY, MAY 7, 8 AM – EARLY AFTERNOON CHICO BASIN RANCH

John Drummond will lead this spring migration trip to Chico Basin. In addition to migrants, other Chico specialties include thrashers, quail, towhees, waterfowl, raptors, woodpeckers, shrikes, and more.

Scopes are very helpful for viewing the ponds. Bring a two-way radio if you have one.

To carpool, meet at the Woodmen & I-25 Park-n-Ride at 7am sharp, or join the group at the Hanover fire station on Peyton Hwy. at 7:45. The trip ends after lunch. Bring a snack or lunch to be eaten while birding.

Reservations required; trip limited to 16 birders. (There will also be a waiting list.) There is a \$10 fee to bird at the ranch (\$15 if the group numbers fewer than 5). Contact Mel Goff at melgoff@comcast.net for more information and to sign up.

SUNDAY, MAY 18 PRIVATE PROPERTY TOUR

Save the date for this trip with Dave Elwonger. Details tbd.

More trips online!

For the latest information on field trips and events:

www.AikenAudubon.com

AUDUBON ROCKIES MONITORING 2014 COLORADO LEGISLATIVE SESSION

by Jackie Heyda

AUDUBON ROCKIES APPRECIATES THE SUPPORT FROM ALL COLORADO Audubon groups and looks forward to working together to support policy action in Colorado for the birds, wildlife, habitats and future generations. To that end, they have contracted with Jennifer Boulton to be Audubon's policy lobbyist for the 2014 Colorado legislative session.

Here are a few of the bills that are coming up in this year's session:

WATER BILLS:

- A water conservation bill that will focus on low flow fixtures (toilets and shower heads, but not dishwashers)
- Streamline the point of diversion for those impacted by floods (such as where the water has jumped banks)
- A bill to try and prevent NGOs from participating in water court proceedings (only water right holders would be able to object). We will object to this.

ENERGY EFFICIENCY BILLS

- Issues surrounding renewable energy versus fossil fuels
- Bill (s) trying to increase the local ability to influence oil and gas development
- Incorporation of large-scale hydroelectric into the renewable energy standard (currently, they don't get extra credit in the energy standards).

As the legislative season progresses, Audubon Rockies plans to send a Colorado policy report, prepared by Jennifer Boulton. ☞

THE SAGEBRUSH ECOSYSTEM



AUDUBON ROCKIES—The unbroken Sagebrush country that provides crucial habitat for the Greater and Gunnison Sage-grouse is one of the most awe-inspiring landscapes of the Rocky Mountain West. The sage encompasses approximately 120 million acres and stretches from eastern Washington to

central Wyoming and down to northern New Mexico and Arizona. It is home to a plethora of species, including 297 species of birds, 87 species of mammals, and 63 fish species.

This fertile but fragile landscape has been fragmented, degraded, and, in some areas, completely eliminated by many different human activities. By some accounts, the sage-brush steppe habitat has declined by 50 percent from its levels just a century ago.

Learn More About the Sagebrush Ecosystem at <http://conservation.audubon.org/sagebrush-ecosystem>. ☞



HUMMINGBIRDS AT HOME—

AUDUBON'S NEW CITIZEN SCIENCE PROJECT

Every spring we eagerly await the arrival of our beloved hummingbirds. They visit our yards to breed, looking for nectar from our gardens and feeders. They captivate us with their magical feats of flights and their showy colors. The Continental US is breeding home to 14 species, with a few others making rare appearances.

Recent science reports that flowers are blooming earlier and earlier, due to climate change. The impact on migrating and breeding hummingbirds is unknown.

Launching on April 10, a family-friendly program—"Hummingbirds at Home"—will allow you to log hummingbird sightings, as well as the flowering plants and feeders they visit, with free mobile technology or on desktop computers. You can also view hummingbird sightings online in real time. The data collected will allow scientists to better understand how hummingbirds are impacted by feeders, non-native nectar sources in gardens, shifting flowering times and climate change.

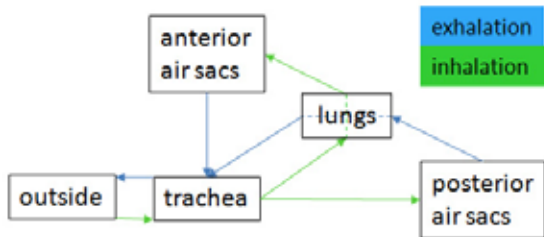
To get started visit Audubon's website at audubon.org/citizenscience and click on "Hummingbirds at Home." ☞



In the U.S., free-roaming domestic cats kill an estimated 1.4-3.7 billion birds and 6.9-20.7 billion mammals. For perspective, consider that 1.4 billion is equivalent to the entire human population of China, the most populous country in the world. ☞

Flow-through Ventilation, cont'd from front page...

When a bird inhales, air goes to the “incoming” air sacs (in the body) and the lungs, while the air already in the lungs moves to the “outgoing” air sacs (in the head). When the bird exhales, the air in the incoming sacs moves to the lungs, while the air in the outgoing sacs is expelled through the nostrils. Inhale again, new air enters the lungs and incoming sacs, while stale air moves to the outgoing sac. Exhale, and the lungs get the fresh air waiting in the body’s air sacs, while the stale air all goes out through the nostrils. Thus



The benefit of this arrangement is that air moves in a circle, rather than back and forth. Both inhaling and exhaling bring a full load of fresh air to the lungs. In fact, it’s almost a continuous flow, allowing much more oxygen to be absorbed and carbon dioxide to be eliminated.

To add to a bird’s respiratory effectiveness, its air capillaries are ten to a hundred times smaller than our alveoli, with thinner membranes, allowing for more efficient gas exchange.

Interestingly, birds also lack a diaphragm. Rather, they use contractions their rib muscle to contract and expand their lungs and air sacs.

This “flow-through ventilation” also helps explain how birds can call while flying, or sing so long without seeming to stop for a breath. Because they can control their lungs and air sacs independently, they can breathe in and out at the same time. When expert musicians practice “circular breathing,” they’re merely mimicking what the birds have been doing for ages.

This respiratory system is so efficient that birds breathe much more slowly than mammals of comparable size. No wonder they can perform such amazing physical feats! ☘

it takes two breathes to move air all the way through the system.

You can see how it works in this simple graphic (courtesy of WikiCommons):

President’s Message, continued from front page

responsible pet ownership by keeping cats indoors and dogs on leashes when visiting parks and open spaces.

It can also mean getting involved more actively. You can sign up for any number of “action alerts” that let you know what is happening on the state level or the national level, with any number of bills which could affect our wildlife and our wild lands. Jackie Heyda, our Conservation Chair, can help you if you are interested in participating in this way. She can also provide guidance on how to contact our elected officials.

On the state level, there are additional ways to get involved. The Audubon Colorado Council has a conservation committee that still needs participants. Did you know that Colorado is in the midst of creating the Colorado Water Plan, which will attempt to balance the statewide gap between water supply and water demand? The health and sustainability of our streams and rivers must be protected. This could affect areas where you bird on a regular basis. You can get involved by attending public meetings for the Basin Roundtables. Contact me for more information.

Ultimately, as birders we should all be involved in some way with conservation. When we care for the wild life and the environment surrounding us, we protect the spaces and the birds we love. I encourage you to get involved at whatever level is most comfortable to you.

Happy Birding!

Christine A. Bucher,
Aiken Audubon President

RESPONSIBLE PET OWNERSHIP

by Christine Bucher

What does responsible pet ownership mean for birders? Most of us are aware of the importance of keeping domestic cats indoors. The American Bird Conservancy works to educate cat owners about the benefits to both cats and wildlife—including birds—through their “Cats Indoors” program. You can visit their website at abcbirds.org for more information, including downloadable brochures.



But, have you considered what responsible dog ownership entails? How many times have you walked through a city or county park and seen dogs running off leash? What do you do? What is the law concerning off-leash dogs?

In the City of Colorado Springs and in El Paso County, dog owners are required to keep their dogs on leash except in designated off-leash areas, including at Garden of the Gods, Palmer Park and Red Rock Canyon Open Space. There are also fenced dog parks, such as the popular one at Bear Creek Regional Park. The City of Colorado Springs website under

the “Parks” link at springsgov.com provides detailed information on rules and locations.

The El Paso County Division of Animal Law Enforcement provides animal control services in the cities of Colorado Springs, Fountain and Monument, and in areas of unincorporated El Paso County. Their primary function is to enforce the law regarding domesticated animals. If you have concerns or questions, contact them at (719) 473-1741.

So, if you are out birding and see off leash dogs, what should you do? Consider safety first. Do the dogs seem aggressive? What about the owner? Do you feel comfortable approaching the owner and reminding them of the leash laws? You may not win all the battles, but with a gentle approach and a bit of education, we can make all of our county and city parks an enjoyable place for everyone in the community to use. ☘



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You do not have to be a member to participate in Aiken's activities.

BLACK SWIFT WINTERING GROUNDS DISCOVERED

WE KNOW THAT BLACK SWIFTS BREED IN COLORADO, but where do they go for the winter? Aiken Audubon supports the Rocky Mountain Bird Observatory, so we can celebrate with them regarding this important discovery:

Last week, the Black Swift was added to Brazil's official bird list. This is very exciting news for RMBO and its partners at the U.S. Forest Service and Colorado Parks and Wildlife who study Black Swifts.

We tracked the species to its wintering grounds in Brazil using geolocators. The results of this research were published in *The Wilson Journal of Ornithology* in 2012. The Black Swift is on Brazil's "secondary" list for now since no documentary evidence exists (skin, photos, etc.), but it's still pretty cool.

Much of this research is donor-funded. If you'd like to contribute, visit our Chip In page and designate your gift to the Levad Fund. Future plans include deploying and recovering more geolocators on swifts outside Colorado, a diet study and genetic research.

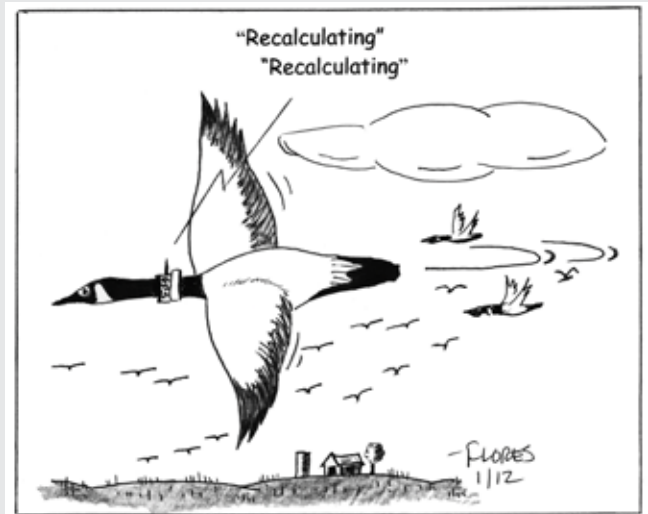
Tammy VerCauteren
Executive Director



Look for the
Aiken Audubon Society
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Flores' Funnies



Artist Rick Flores, a Nature Center volunteer, enjoys sharing his views of happenings at Fountain Creek and Bear Creek Nature Centers.