

# Tallgrass Gazette

The Newsletter for Docents and by Docents



Winter 2011

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## Calendar of Events

- January 15, 9 am  
Docent Roundup
- January 30, 3 pm  
FOKP Winter Event
- February 19, 9 am  
New Docent Orientation

## 2011 Docent Committee

- Nancy Calhoun
- Jerry Freeze
- Carol Gadbury
- Chod Hedinger (chair)
- Karen Hummel
- Jim Mayhew
- Dennis Toll (editor)
- ex-officio members:*
- Annie Baker
- Vicki Clegg
- Charlie Given
- Phoebe Samelson
- Valerie Wright

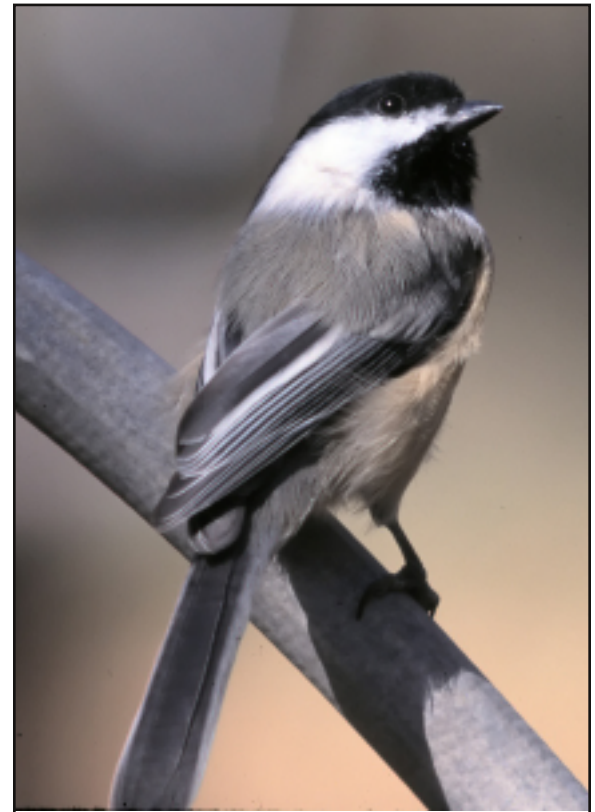
## Bird brains at Konza Prairie

By Dennis Toll

Chickadees enjoy a pretty good life at Konza Prairie, maybe too good. You might say it's a "birds life" for Konza chickadees.

All right, that's not the *real* conclusion of a study of black-capped chickadees from Konza Prairie Biological Station, but the mild environmental conditions of Kansas, as opposed to chickadee living conditions in Alaska, played an important role in research that was performed by Timothy C. Roth and other researchers from the Department of Biology at the University of Nevada. Their study, published in the *Proceedings of the Royal Society*, online edition June 2, 2010, titled, "Learning capabilities enhanced in harsh environments: a common garden approach," focused on the learning abilities of black-capped chickadees and the influence of living conditions on those abilities.

The short, and simplified, version of their conclusions is that chickadees from the harsh environment of Alaska have better problem-solving skills than chickadees who live in the milder conditions of Kansas. The days and growing season are shorter in Alaska, and the temperatures are cooler. That means food is often scarcer in Alaska than in Kansas. So the northern population of chickadees have to work quicker and smarter in finding food than those in Kansas.



Black-capped chickadees enjoy a cushy life at Konza, since it is along the southern edge of the birds' distribution. (Photo courtesy of Dave Rintoul)

It's not quite like saying chickadees from Alaska have to hunt for food, while Kansas birds can just shop at Dillons, but you get the idea.

The suggestion of the study is that some kind of natural selection has taken place over time as generations of chickadees have lived in separate habitats. It takes more problem-solving skills to live in Alaska and selection over time has

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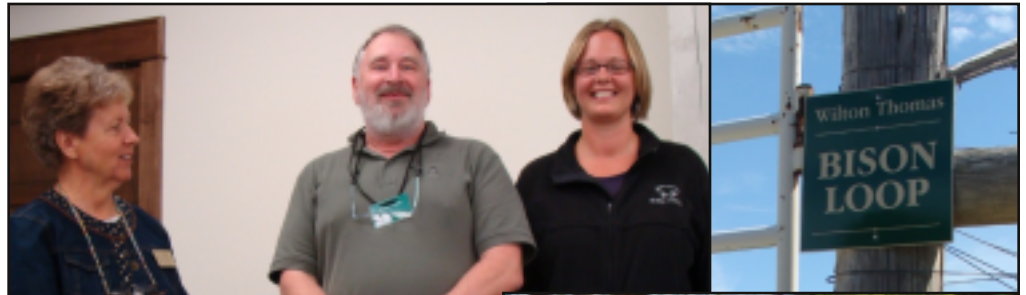
# Prairie Patter: Activities Report Fall 2010

By Valerie Wright

September and October are always our busiest months for K-12 groups. Just in these two months 1124 students and 163 adults came to Konza Prairie for hikes, science and bison tours. The students came from 14 different schools and differed in age from 6 to 18. SLTER students (662) collected data about grasshoppers and stream critters, biomass, insect galls and effects of fire. A total of 75 docent/persons were involved in 20 SLTER activities. One hundred fifty docent/persons helped with all these activities.

Kids always think Konza is awesome and often say in thank you notes that "they learned a lot of stuff they didn't know," like the big four grasses and limestone rocks. One child said: "I learned so much my parents were impressed!" Another wrote: "I loved the part when we got to the top of the hill, when I looked down all the fall colors popped out at me, the reds, greens, oranges and yellows." Prairie appreciation is part of our mission.

The grant from the Caroline Peine Charitable Foundation allowed us to offer payment for the bus and driver required to bring USD 383 classes to Konza Prairie. This fall eight groups totaling 379 students took advantage of this opportunity. Their teachers (16) were all new to the Konza experience. Teachers from three additional schools have already



**Clockwise from top:** Charles Pearce, flanked by Valerie and Annie, graduated from the 2010 docent training class. • New signs for the Wilton Thomas Bison Loop. • Jerry Freeze, Chod Hedinger, and Jim Mayhew spread wood chips. • A crew of docents worked in Kings Creek with students. • Students went after grasshoppers.



scheduled visits for spring. A total for all of 2010 is 913 students brought to Konza with this grant.

In total KEEP educated 1491 persons by reservation September 1 - October 31 including these additional groups:

- Public/Adult: 73
- KSU Conference groups: 131
- Presenters Bureau: 56
- Other Outreach: 115

In September there were three

Saturday morning docent trainings, attended by 19 docents and one Sunday Hokanson Homestead workday with 20 docent helpers. In October two Friday plant inventories had 10 participants and three docents (Hedinger, Mayhew and Freeze) spent 30+ hours covering the Hokanson Homestead trail with wood chips donated by Asplundh.

**Continued page 4 ...**

# Spotlight on Jocelyn Baker

*Compiled by Annie Baker*

## **What motivated you to become a Konza Prairie docent?**

After we moved from Georgia to Manhattan in 1995, we did a lot of hiking on the Konza Prairie. The prairie was completely different from the coastal salt marshes and barrier islands near Savannah where we spent a lot of time. As a biology teacher, becoming a docent was a unique opportunity to learn about the tallgrass prairie ecosystem, and a chance to share my new-found appreciation of the Flint Hills with school children as well as other groups who visit the Konza Prairie Biological Station.

## **What has been the best part of being a volunteer at Konza Prairie?**

Volunteering with the student groups has enabled me to interact with school children after my retirement from teaching. I would never have been able to learn so many details about the prairie geology and biology without the help and encouragement of folks in the docent program. It is also a great opportunity to meet people with like interests who volunteer in the education program, to take part in the bison round-up, and to see the burn team in action.

## **Briefly describe your "life story."**

I was born and raised in Melbourne, Australia. I received an MS Degree in Plant Pathology from



Jocelyn Baker graduated from the docent program in 1997 and was awarded *Docent of the Year* in 2006.

the Waite Agricultural Research Institute in Adelaide. My thesis involved the fungal symbionts of the Sirex wood wasp that was devastating pine plantations in Tasmania. In 1965, I took a research position in the Entomology Department at the University of Wisconsin-Madison studying ambrosia beetle-fungal interactions. While in Madison, I met Jim, who was completing his Ph.D. in insect physiology. We left for Savannah, Georgia, in 1971, and I began a high school science-teaching career in the Savannah school system. I taught courses in both the physical and biological sciences but especially enjoyed teaching AP Biology. In 1995, Jim was transferred to Manhattan. I moved here a year later and was able to get a position at Manhattan High School teaching astronomy, geology, and biology. I

retired in 2005 after a 30-year career. We have 3 children, our oldest daughter is an orthopedic surgeon in Virginia, our youngest daughter is an ER nurse in Montana, and our son is a Naval Officer. We have one granddaughter who has spent a lot of time in Manhattan during our son's deployments.

## **What are some of your hobbies & interests?**

I am a member of Kansas Native Plant Society and serve on its Board. I enjoy trying to confirm the identification of uncommon plant species. Recently I spent a summer collecting seed from a variety of prairie plants in eastern Kansas for the Chicago Botanical Gardens. I have also been maintaining a plant list for our farm southeast of town. Apart from hiking on the prairie my primary interest is teaching dog training and competing with my two Border Collies at high levels in dog agility, obedience, and tracking. As a family, we enjoy biking, mountain backpacking, and canoe trips in the Boundary Waters region.

## **What brings you the most joy in your life?**

Training dogs has become a real passion for me. I belong to several dog training clubs and really enjoy traveling and competing in many AKC events. I love gardening, photography, crafts, and helping with our cattle during summer grazing.

# We Likin' Lichens

By Jim Mayhew

On a recent *Konza Quest*, we discovered the world of Lichens. When you come across lichens on your next guided field trip, here are some facts to share:

- Lichens are two kinds of life forms living together, fungi and algae.
- The fungus gives the algae a good place to live.
- The fungus also collects water and minerals and protects the algae from getting too much sunlight.
- The algae makes food from water and carbon dioxide in the air. This feeds both the algae and the fungus. This is called a symbiotic relationship.
- Lichens live in some of the harshest environments in the world, including the Arctic, Antarctic, and in deserts.
- There are more than 15,000 species of lichens and over 430 in Kansas.
- Birds use lichens to build nests. Spiders and moths use lichens for homes. Turkeys eat lichens, as well as Reindeer.
- Scientists use lichens to determine the age of glaciers and rocks.
- Some lichens, sensitive to sulfur dioxide (a product of industrial emissions) are an indicator of air quality.
- Lichens growing on limestone rock on Konza Prairie have a crustose, or flat, growth form.
- Look closely at the lichen-covered trunk of a hackberry tree for the Grizzly Spur-Throat Grasshopper, which uses the lichen as camouflage.
- For more information, see "Lichens in Kansas" from the Spring 2008 Kansas Native Plant Society newsletter, which can be found at <http://www.kansasnativeplantsociety.org/newsletters/newsletter2008spring.pdf> and "Lichen" from Wikipedia, <http://en.wikipedia.org/wiki/Lichen>.

*Konza Quest* is held every Friday afternoon from 3-5 at Konza Prairie. Come out and join us every Friday as we explore Konza and discover something new.



Lichen, growing on the bark of a tree at Konza. Photo courtesy of Jim Mayhew.

## Prairie Patter: Activities

### Report 2010 ...

From page 2 ...

On Visitors' Day, September 25, 36 docents participated along with faculty and staff offering hay wagon rides for 105 people, bison tours for 309, Hokanson tours for 71 and Butterfly Hill hikes for 29. And that for only half a day! The storm cut off the afternoon activities. Junior Ecologist pins were given to 30 little graduates. Only six pins were handed out in 2008, the first year of the program. In each year about 80 activity booklets were given to children on Visitors' Day.

In November three classes were lucky to have good weather for activities on Konza. Amanda Arnold Elementary brought 85 students on two days for trail hikes and Junction City High School participated in data collection for the Fire Reversal Study. The Boy Scouts of America conducted a trail hike to recruit new members on November 20. They reported that 243 scouts, parents and siblings attended. LEAVE NO TRACE is their motto. Afterwards you wouldn't have known they were there!

# Bird brains at Konza Prairie ...

## From page 1 ...

avored birds in the harsher environment with greater problem-solving skills. There are, of course, several provisos and disclaimers to the conclusions. The study is careful to say this does not mean northern birds are generally more intelligent than their southern cousins and there could be some factors other than environmental conditions that play into the results. The implication, however, seems reasonably clear that selection will favor the birds that learn to adapt better to harsher conditions.

Black-capped chickadees (*Poecile atricapillus*) are found in wooded areas and shrub islands at Konza. Konza Prairie is situated in the southern edge of their distribution area, which runs across North America from sea to sea and from Kansas and Colorado up to Alaska. They have a black cap and bib, with white cheeks and grey wings. They are tan or buff along the sides and usually white along the belly.

They do not migrate, but will flock during migrating season. Insects in the summer and seeds and berries the rest of the year make up their diet. They nest in holes in trees and have a distinctive “high-low,” two-note song.

For the study, researchers collected chicks from Konza and from Alaska at approximately 10-days of age. They were hand-raised at the sites until they were 18 days old, then shipped to research labs at the University of Nevada. All chicks were given the same diet of wax worms, meal worms, and a porridge of dog and cat food. Yum, yum. As much as possible, to reduce all other variables in the experiment, the chicks were raised in identical conditions.

Testing began when the birds were about five months old. Researchers tested for problem-solving skills and response to novelty. For problem-solving tests, researchers put wax worms in holes drilled into a board and covered the holes with plastic-covered

washers. Not all the holes contained a worm. The birds had to figure out how to move the washers and get to the worm. Alaska-born birds were quicker to figure out the problem than their Kansas-born cousins.

Novelty tests involved giving the birds a different kind of feeder than what they had previously grown accustomed. Again, the Alaska-born birds were quicker to adapt to something new in their environment. They were much quicker to approach the new feeder and start eating. The Kansas-born birds took longer to adjust. Sorry to disappoint you who were rooting for Kansas over Alaska in these games. The Alaska-born birds were quicker to learn and quicker to adjust to changes in the environment.

The study concludes, “Our results suggest that selection has produced variance in the ability to learn, ... as the chickadee population from the more harsh environment (AK) were (*sic*) faster in problem-solving and less neophobic relative to their southern conspecifics (KS) despite being raised in identical environments since age 10 days post-hatch. Thus, there seems to be the possibility of an inherited component ... to the speed of problem-solving and habituation to novelty within this species.”

So the next time you are on the trail at Konza and come across a black-capped chickadee, you can share how KPBS and its chickadee population played a significant role in this research. Also, don't forget to console the chickadee for his poor showing and encourage him to do better next time.



# Burning, burning, burning, keep those fires burning

One of the major areas of research at Konza Prairie Biological Station is related to fire and its effects on the tallgrass prairie. Changes in the management of the different burn areas on Konza will take place in 2011. Here is a summary of some of the changes taking place in the 2011 burn plan:

- The patch-burn plan will continue to develop. This involves an investigation on the effects of burning in a three-year cycle with cattle free to graze in burned and unburned areas. As part of this plan, C4D has become C1A and will be burned annually. The C4A became C3A and was burned last year. The area C1B became C3B and will be burned this year. The old C1C became C3C and will be burned in 2012.

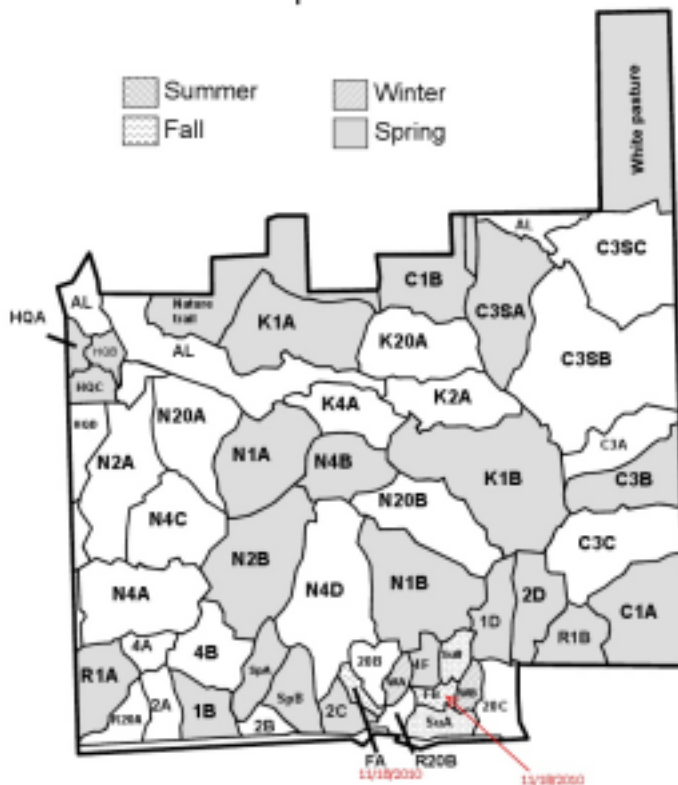
- This year, as part of the patch-burning experiments, the old Texas Hog Pasture will become C1B and will be burned annually as a control. What was SA becomes C3SA and will be burned this year, while old SB will become C3SB and will be burned in 2012. The old SC will become C3SC and will be burned in 2013.

- All of the "C" watersheds will be stocked with a cow/calf herd from May to October and all watersheds, except for C1A and C1B, will be burned once every three years.

- In other developments, the old 10-year burn watersheds have been eliminated, with 10A merging with SpA and 10B merging with 2B.

- In 2011, K4B and K1B will be merged into K1B.

2011 burn plan



14 September 2010

- White pasture will now be burned three years out of five, as early as possible.

Director John Briggs will discuss the burning plan in more detail at the Docent Roundup on Saturday, Jan. 15. More information can also be found at <http://kpbs.konza.ksu.edu/burnplan2010.pdf>.



# Announcements

## Docent Roundup

Circle **Saturday, January 15** on your calendars. Use a big red marker to highlight the day. That is the day of the 2011 docent roundup, which will be held from 9-12 Saturday morning in the historic headquarters barn at Konza. As always, this event will be the perfect way to kick-off 2011 on Konza. Expect an interesting program of information about Konza and the ongoing research programs by our guest speaker, Dr. John Briggs. This event is for Docents only.

## FOKP Winter Event

Have you ever wondered what it meant to be Friends of Konza Prairie? Many docents are already part of FOKP, but not everyone. Here is a chance for FOKP members to get together and enjoy an afternoon at Konza with music and refreshments. Docents who are not members are also invited to attend and learn more about this important association that supports educational and public-outreach programs at KPBS. The event will be held **Sunday, January 30** in the headquarters barn from 3-5 p.m. Since this is also the day after the state of Kansas' 150<sup>th</sup> birthday (January 29 is our state's sesquicentennial!) we will learn more about Kansas and Konza history. If you plan to stay for the soup & bread, please R.S.V.P. Barb Van Slyke at [bvs@ksu.edu](mailto:bvs@ksu.edu) or call (785) 587-0441 by January 25.

## Docent Training Begins

If you know anyone that wants to become a docent, or if you are interested in reviewing your own docent skills, then the 2011 Docent Training Orientation Day is the perfect opportunity. Invite a friend and come to the Hulbert Education Center on Saturday morning, **February 19** from 9-12. New Docent Orientation gives an introduction to Konza Prairie Biological Station and the Konza Environmental Education Program. Come find out about the Docent Program, preview program materials and the upcoming training schedule, meet experienced docents and Konza Prairie staff, and view a presentation about Konza Prairie.

## Presenters Bureau

Several opportunities are on the horizon to represent Konza Prairie and the mission of KEEP and KPBS at public meetings. If you are willing to help as a member of the Docent Presenter's Bureau, please send an e-mail to Valerie at [konzaed@ksu.edu](mailto:konzaed@ksu.edu).

## Smoke 'em if you've got 'em

Fire and the health effects of the smoke produced by burning the prairie have become a big topic in recent months. Folks at the Kansas Department of Health and Environment have created a proposal for a Flint Hills Smoke Management Plan. The committee that formulated the plan included many prominent Flint Hills ranchers. Consultation with Konza researchers also took place. The plan will seek to regulate when ranchers can burn pasture land in an effort to minimize health effects in urban areas of Kansas. You can read a press release and find a link to a copy of the draft of the plan at [http://www.kdheks.gov/news/web\\_archives/2010/12172010.htm](http://www.kdheks.gov/news/web_archives/2010/12172010.htm).



## Stay in touch

Be sure and get the latest docent news and announcements at <http://keep.konza.ksu.edu/docents>. You can also find out what is happening at Konza by finding us on Facebook. If you Facebook, then be sure to "like" the FOKP Facebook page at <http://www.facebook.com/supportKonzaPrairie>.

# Photographer's Corner

We have some great photographers within our docent family. On this page, we intend to show off their work.

The two works presented in this issue are from the camera of *Chod Hedinger*. The shot on the right will get you in the mood for warmer weather. The shot below reminds you just how impressive winter can be on the prairie.



If you have photographs you would like to submit to the Tallgrass Gazette, please send JPEG photos by email to the TGG editor, Dennis Toll, at [dennistoll@gmail.com](mailto:dennistoll@gmail.com). The editorial staff and publications committee of the Friends of Konza Prairie will select images to share in future editions.

Please direct all questions regarding the *Tallgrass Gazette* to the editor's attention at the email address above.