



Special Docent Roundup Enjoyed by All!

A special Fall Docent Round up was held Sunday, October 22 at Hokanson Homestead. This strictly social event (wheel barrows, rakes and shovels were out of sight!) was enjoyed by 43 docents and spouses, including Dr. Eva Horne and Dr. John Blair. In the Hokanson barn, Sue Hunt manned sales of the one-of-a-kind KEEP 10th Anniversary t-shirts and guests nibbled on kettle corn, cheese and crackers, hot cider, and wine prepared by Ann Murphy and Sue Hunt.

To celebrate the 10th Anniversary of KEEP, guests gathered in the outdoor seating area to hear Dr. Valerie Wright and Phoebe Samelson reminisce about the beginning of the Konza Prairie Docent Program in 1992 and the Konza Environmental Education Program in 1996. In special recognition of Dr. Valerie Wright's 10th year as Konza Prairie's Environmental Educator and Naturalist, the KEEP 10th Anniversary Committee presented her with a commemorative sign on behalf of the docents. Proudly displayed on the Hokanson Shed, the sign names the driveway as "Wright Way" or as Earl Allen, Docent Committee Chair, quipped, "There is a wrong way and then there's the "Wright Way"!".



(left to right) Larry Loomis, Earl Allen, Sue Hunt, and Valerie Wright.



(left to right) Charlie Given, Jean Craig, Ann Feyerharm, Myron Calhoun, Wilton Thomas, Joe Gelroth, Phoebe Samelson, Carol and Hoogy Hoogheem.

In addition, fourteen docents were recognized for their continued active role in the program since before its inception: Jocelyn Baker, Glenn Busset, Myron Calhoun, Jean Craig, Ann Feyerharm, Joe Gelroth, Charlie Given, Hoogy and Carol Hoogheem, Ruth Lynn Hooper, Nancy McClanathan, Jan Olewnik, Phoebe Samelson and Wilton Thomas.

Prairie Patter

by Dr. Valerie Wright, Environmental Educator and Naturalist

The 10th Anniversary Committee has been busy with special programs this year. The committee sponsored Roy Beckemeyer to give a field experience in dragonflies and damselflies in July. We saw about a dozen species in ponds and running water. It was a hot day for both insects and observers but ended on a nice note with a lunch by Cindy Quinlan with help in the kitchen from Sue Hunt.

This summer Annie and I chalked up more than 1700 miles visiting teachers around the state to set up their native prairie sites. We were next to the Colorado border, near Oklahoma at Wichita, close to Nebraska at Baileyville and next to Missouri at Shawnee Heights. All of the teachers have excellent prairies to work in with their students. Jan Alderson had a nice patch adjacent to her school. Joe Pickett has already taken 5 classes of middle school students to Akin Prairie. Lyle Jones and Chitra Harris have collected grasshoppers at a Nature Conservancy site.

During the workshop Cindy Quinlan logged many hours in the kitchen cooking for teachers, docents and staff. This fall at the Docent Graduation she was recognized as the "Konza Super Chef" with an apron exclaiming "Cindy Cooks!"

Graduation for the Docent Trainees is an annual event. This year 19 trainees received their Konza Patches and nametags, designating them as official representatives of KPBS. The patches have a new design depicting tallgrass, fire and a big lubber grasshopper replacing the bison as the grazer of choice. The Class of 2006 recognized Steve



and Karen Hummel as Trainees of the Year for their step-right-up attitude and the many volunteer hours they had already spent in learning native plants, helping with preparation for classes and working with groups. The Docent Committee chose Joc Baker as Docent of the Year. Since her retirement as a teacher, Joc has doubled her commitment to KEEP as well as becoming involved in other prairie projects. The Leadership Awards went to Gordon Cunningham and Gerry Snyder for their long-term work on the Tallgrass Gazette and to Chod Hedinger, Nancy Goulden and Earl Allen for mentoring docents with extra trail hikes. Ben and Annie Windholz were recognized for their 10th Anniversary t-shirt design.

Congratulations to the Docent Class of 2006.

On Visitors' Day 53 docents participated in various jobs that covered more than half of the work to be done. Hurrah for docents! Some even talked their spouses to working. It was a beautiful day with close to 1200 people attending. The special events for children were well attended with Clyde Ferguson, Gary Harter and Darren Gunderson



Darren Gunderson and grasshopper kids.

supervising most of the kids wielding sweep nets and grabbing grasshoppers. We filled three terrariums with many dozens of diverse hoppers for other visitors to see. Ray Hernandez, Jan Olewnik, Ann Feyerharm, Diane Barker and Chris Ross took turns at the Bison Table. Ray added his own stories and knowledge and spent most of the day at that table. The Junior Ecologist program attracted about 60 kids, many of whom met ecologists, asked questions and earned a certificate for their efforts. We all sat down to a bisonburger afterwards and recounted our day.



Jan Olewnik and Ray Hernandez.

Spotlight! on Gayle Bennett

By Annie Baker

Gayle Bennett is a 1999 docent graduate and for four years served on the Friends of Konza Prairie (FOKP) Board and coordinated FOKP merchandise sales. She especially enjoys the Flint Hills in autumn and feels privileged to be a Konza Prairie docent.

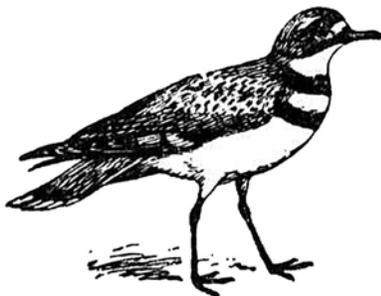


Growing up in rural northwest Iowa, Gayle spent many hours playing outdoors and especially enjoyed time spent on her grandparents' farm with her older twin brothers and two younger sisters. After high school, Gayle followed her brothers to South Dakota State University, where she met husband Tom, an engineering student. Gayle and Tom married, and after Tom graduated, the couple moved to Topeka, Kansas, where Gayle continued her undergraduate degree at Washburn University, and Tom worked for the highway department. Gayle received a Bachelor of Science in Language Arts Education from Washburn and taught junior high for two years before staying home to raise two daughters. During this time as homemaker, Gayle commuted to Manhattan, Kansas, and earned a Master's Degree in Guidance and Counseling from K-State. After nine years in Topeka, Gayle's family moved to Manhattan, where Gayle taught English at Manhattan High School for twenty-two years.

In 1999, Gayle left formal teaching after her classroom experiences began to leave her more frustrated than fulfilled. She was eager to volunteer in the community and had long loved Konza Prairie, so the Docent Program was the perfect opportunity in line with her teaching background. Gayle's favorite docent activity is guiding Nature Trail hikes for elementary-aged students. Gayle specializes in interpreting the prairie to third, fourth and fifth graders through stories, humor, memory games, quizzes and group sharing. Gayle enjoys the little kids who make her laugh and said, "I wish every kid in this part of Kansas could spend a morning on the trail. We are all richer for these experiences shared together".

In addition to her commitment to Konza Prairie, Gayle is very active in the Sunflower CASA Project as a Court-Appointed Special Advocate for children. Gayle has advocated for nearly thirty children who find themselves in the court system due to neglect and abuse. She is also active on the Manhattan Arts Center (MAC) Board of Directors (Past President) and MAC Children's Theatre and Fundraising committees, the Ogden Friendship House Board and as a volunteer for Shepard's Crossing.

In her spare time, Gayle enjoys quilting, including collecting antique quilt tops and vintage fabrics. She also travels to Ohio whenever she can to visit her daughters' families, including two grandchildren. Husband Tom is currently Vice President of BG Consultants, and the couple celebrates their 39th wedding anniversary in December.



Tallgrass Gazette Editors:

Gordon Cunningham - cunningham@networksplus.net,
Gerry Snyder - gsnyder@ksu.edu

Seeds, Seeds, and More Seeds

By Jocelyn Baker

This summer I worked as an intern for the Chicago Botanic Garden collecting seeds from native prairie plants in Eastern Kansas. These seeds are destined to travel from Kansas, through Chicago, to the seed bank at the Royal Botanic Gardens (RBG) in Kew, England. The Kansas seeds are collected under the auspices of both the Seeds of Success project in the United States and the Millennium Seed Bank (MSB) project, an international conservation project developed and managed by the RBG. The primary goal of the MSB project is to conserve 10% of the world's seed bearing flora by 2010, concentrating on dry land seeds.

Making quality seed collections is a matter of finding large populations of a species, and following the developmental processes that lead to seed production in that population. Details of the collection process can be found in links provided at the Chicago Botanic Garden website (<http://cbgseedbank.org>). At least 50 plants must be sampled for genetic diversity, but no more than 20% of available seed can be collected. For most species, we collected between 10,000 and 20,000 seeds. Most collections were made at the Konza Prairie, but many trips were taken to the Tallgrass Prairie National Preserve at Strong City, the Flint Hills Tallgrass Prairie Preserve east of Cassoday, and the Welda Prairie in Anderson County.

Insect Predation - A Major Biotic Factor. Considering the number of insect predators associated with the fruits and seeds of nearly every species we sampled, it is amazing that many of these plants can reproduce at all. I think they are only saved by the massive amount of seed produced. Because of the extremely high rate of predation in *Baptisia australis* (false blue indigo), collections of 5,000 seeds were accepted. *Asclepias sullivantii* (smooth milkweed) is also a challenge to collect because so many pods are infested with caterpillars, and the pods that do open are attacked by milkweed bugs that devour the ripe seeds.

Species Collected. Since mid May, we have collected seeds from 52 species. A complete list of species, their location, and collection times is being prepared for uploading on the Konza website. As one would expect, some species are much easier to collect than others. One of the more difficult is *Mirabilis linearis*, narrow-leaf four-o'clock because only one seed is produced per fruit and the seed drops easily when the plant is touched or blown by high winds. Many seeds did not appear to be fertilized and were not filled out. To add to the difficulties, many seeds were destroyed by beetles and a ubiquitous pink-lined caterpillar.

Asclepias tuberosa, butterfly milkweed, showed a very unusual adaptation to survive this year's hot dry summer. Plants flowered early in June; however, very few plants produced seedpods even by late July when other milkweed seeds were maturing. In early August we had some good rains, about 10 inches, and soon after many small pods were forming on nearly all the butterfly milkweed plants on the Konza. The pods were mature by the end of September and seed dispersal began in early October.

One of my favorite plants is *Hieracium longipilum*, long-bearded hawkweed, which grows and produces seed like an oversized dandelion. The population of this plant had problems too. A number of plants lost their flowering heads, apparently eaten by deer.

Flower of the Year. Based on my observations, *Linum sulcatum*, grooved flax, should be named the wild flower of the year 2006. Grooved flax was so common on rocky hillsides that the small, delicate yellow flowers colored the prairie yellow in the morning light, but later the petals dropped. This species had the longest flowering time beginning in May and continuing through September.

This was an interesting summer. We had pans of seeds drying all over our house. I had fun learning many new plants as well as the biology of fruit and seed production that frequently goes unnoticed. I wish to thank all those who helped and encouraged me: Betsy Allen - coordinator of the MSB project at the Chicago Botanic Gardens; Valerie Wright - Konza Environmental Educator; Billy Robb - Manager at the TGPNR; Carolyn Ferguson - KSU Herbarium; Gene Towne, Division of Biology, KSU; and docents Nancy Goulden and Earl Allen. [Note added: the October 2006 issue of Discover magazine has a nice illustrated article about the MSB project at Kew].



Asclepias tuberosa -
Butterfly milkweed with
late Sept. follicles



Packera plattensis -
Prairie groundsel with
seeds ready to collect

Book review

By Glenn M. Busset

Prairie Dog Empire— A Saga of the Short Grass Prairie

(Adapted from the book by Paul A. Johnsgard. University of Nebraska Press 2005)

Like the animals and plants that now live on it, the land composing the surface and substrata of the North American Great Plains (and the Konza Prairie), nearly all came from somewhere else. Some of the region's parts were carried by westerly winds as volcanic ash from mountains a thousand miles or more to the west. Others were blown in as dust-sized particles from areas up to several hundred miles northwest. Most of what geologists call the Great Plains Region was carried in and deposited by rivers and streams originating in the Rocky Mountains, or was randomly strewn in as glacial-carried materials from the north. Much of the limestone deposits that we see all about us came in on those storms from the west.

In simplest form, the present day Great Plains may be thought of as a poorly constructed table top, slightly tilted downward toward the east/southeast. Until about 20 million years ago, all of what we call the Great Plains lay beneath a vast inland sea when the North American continent began a gradual uplift progressively exposing the sea bottom. As rapidly as the western mountains rose, rivers formed to erode the surface layers carrying sediments away to the more easterly vegetated plains. There a variety of plant-eating and carnivorous dinosaurs were dining about 65 million years ago on what would essentially become their final meals.

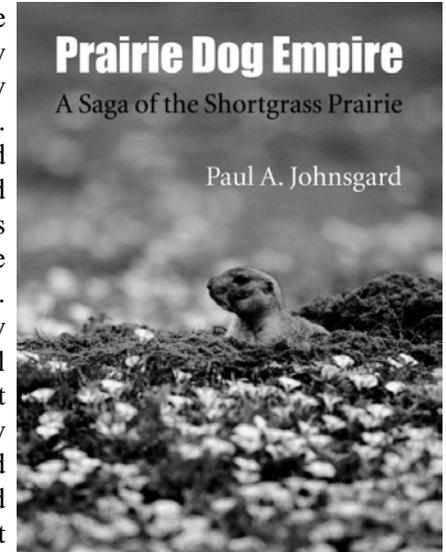
Now, moving ahead briskly a few million years, on the southeast tilting plateau east of the Rocky Mountains we find a vast grassland and many large grazing mammals. About five million years ago, a new period of uplifting occurred causing new cycles of river down-cutting and depositions. The Missouri River had previously flowed northeast into the Hudson Bay. But now it found a new course southeast close to its present route as the uplifting tilted the land and changed the drainage pattern.

Then about two million years ago, the first of a series of continent-wide glaciation developed across northern North America. With the glaciers came a host of cold-adapted mammals. Somewhere in that vast epoch and into historic times, the Great Plains were converted from a tropical lowland (there are twelve foot deep coal beds in Wyoming and adjoining states from that earlier tropical time) to more drought- and cold-resistant forms, and gradually converted into completely open grasslands.

This is a short explanation as to how we got to where we are today on the Konza. For the benefit of those who like to conduct the bison loop tours, perhaps it might be well to speculate how bison came to be the dominant mammal species on the Prairie Dog Empire east of the Rockies (at least in size, if not in numbers). Those brown, woolly-coated animals that we see as we conduct bison loop tours evolved over the past 10,000 years near the end of the last ice age. They evolved in the high latitude steppes of northern North America. Their immediate ancestors were larger and stronger Arctic-adapted animals with massive horns and more powerfully muscled humps that helped them extend their stride while running. Although our bison today look slow and awkward, they can gallop up to 35 miles an hour for a half mile distance.

Bison developed as a matriarchal society and we can see it in our herd today. Mature females were the accepted leaders and by their choice, males were ejected from the herd for much of their lives. Males were prone to gather in small groups where food was often more abundant. The female-led groups favored hard, level ground where visibility was unobstructed and running to escape from wolves or other dangers was more feasible.

Although visitors to Konza never see prairie dogs, they were at one time numerous and played an important role on the Great Plains despite the poor press they got from ranchers and farmers. The place of the black-tailed prairie dog in the Prairie Dog Empire may be considered in a future issue.





Tallgrass Gazette

Konza Prairie Office
Division of Biology
232 Ackert Hall
Kansas State University
Manhattan, KS 66506-4901
308

KEEP Volunteer Opportunities

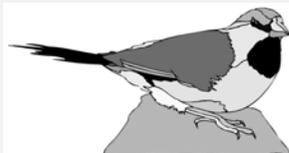
A variety of volunteer opportunities are available November through February. Please contact Valerie konzaed@ksu.edu or Annie bunny@ksu.edu if you would like to help, (785) 587-0381.

If possible, complete by Thanksgiving:

- ▶ Ranch House and Homestead gardens, trim back stalks
- ▶ Repair Hokanson Homestead birdfeeders
- ▶ Repair Hokanson Homestead birdhouses
- ▶ Move KEEP equipment from stone barn to Hokanson shed

Group Workdays to be announced by Valerie and Annie:

- ▶ To organize pinned grasshopper specimens
- ▶ To organize SLTER activity equipment



More projects:

- ▶ Hulbert Center Library organization, double check book list
- ▶ Prairies Across Kansas game cards, cut and laminate
- ▶ Xerox docent training handouts
- ▶ Create interpretive posters for kiosk, research topic, write-up text
- ▶ Construct weather-proof bulletin board for kiosk
- ▶ Identify pressed plant specimens and mount
- ▶ Create a list of fall plants to collect and press for mounted collection
- ▶ Create a scrapbook of Konza Prairie photographs
- ▶ Add newspaper clippings to notebook
- ▶ Compile Nature Trail register annual report
- ▶ Web-based data entry from 2006 SLTER activity datasheets