



The Effects of Brown-headed Cowbird Parasitism on Bell's Vireo

By Karl L. Kosciuch, PhD candidate, Kansas State University

If you have gone for a hike on Konza Prairie on a May morning and passed by some shrub-encroached habitat, you've probably heard a Bell's Vireo (*Vireo bellii*). This small-bodied migrant songbird has a squeaky call and is more often heard than seen. Despite its secretive nature, Bell's Vireos on Konza are heavily parasitized by Brown-headed Cowbirds (*Molothrus ater*).

The Brown-headed Cowbird is common throughout North America and is an abundant brood parasite on Konza. The female cowbird lays her eggs in the nest of another species and abandons parental care to the foster parents. Many host species that have evolved with cowbirds have adaptations to reduce the cost of brood parasitism, and some eject cowbird eggs or abandon parasitized nests. However, many Bell's Vireos accept cowbird eggs and parasitism by cowbirds has contributed to the population decline of the federally-endangered Least Bell's Vireo in California. When a vireo accepts a parasitic cowbird egg the pair typically fails to fledge any of their own young because the cowbird egg hatches before the vireo eggs. The cowbird nestling acquires most of the food and the vireo nestlings starve.

My research on Konza focused on determining if Bell's Vireos can recognize cowbird eggs as different from their own, and to what extent cowbird parasitism reduces vireo reproductive success. I have discovered that vireos do not recognize cowbird eggs and use other cues to abandon nests and that cowbird parasitism has population level consequences for vireos breeding on Konza. On average, vireos do not produce enough young to replace themselves, despite seasonal declines in parasitism. Most losses are due to parasitism, but predation by snakes and mammals also contributes to the low nest success. Despite the poor productivity on Konza, cowbird parasitism is less common elsewhere in the vireo's breeding range and reproductive success is likely much higher.



A parasitized nest containing three Bell's Vireo eggs (small eggs) and one Brown-headed Cowbird egg (large egg).



A parasitized nest that contains one large Brown-headed Cowbird chick and one small Bell's Vireo chick. The cowbird hatched three days before the vireo and acquires most of the food brought back to the nest by the parents. Eventually, only the cowbird will remain.

Prairie Patter

by Dr. Valerie Wright, Environmental Educator and Naturalist

Half a year has gone by and it's time to thank so many of you that helped make the spring season go well. Thirty-six docents were active for school and other groups. Many of you participated in other ways, including workdays and personal learning experiences. I hope you enjoyed the programs we offered and will continue to come out for special activities this 10th Anniversary Year. Several docents helped with prescribed burns (Myron and Nancy Calhoun, Martin Pankratz, Earl Allen, Joc Baker). Others helped collect data at the Fire Reversal Study (Karen Hummel, Sue Hunt, Chris Ross). Setting up for Stream Geomorphology were Bob Davis, Larry Loomis, Martin Pankratz, Franz Samelson.



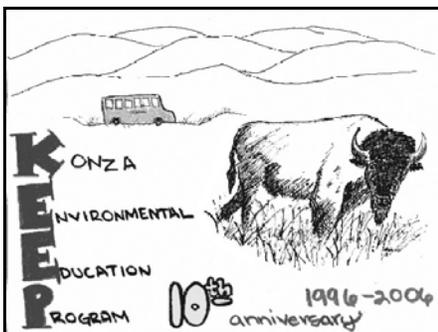
Recently it took three afternoons to organize and put away the grasshopper specimens from last fall's inventory. Several docents participated and learned how to identify a few hoppers. Ted Hopkins was actively sorting specimens and showing important characteristics. The lubber lovers included Ruth Lynn Hooper, Howard and Liz Beikmann, Nancy Goulden, Marsha Cooper, Shauna Dendy, Ann Murphy, Martin Pankratz, Margy Stewart, and Gary Mott.

News Briefs: John Blair, LTER Lead Investigator, was named University Distinguished Professor. Jocelyn Baker was hired by the Chicago Botanic Garden as their Kansas technician for the Millennium Seed Bank Project. Jeff Shoop has joined the Peace Corps and will be stationed in Thailand. Congratulations! Annie and I participated in KATS Kamp at Rock Springs and Valerie spoke about butterflies at the Idalia Society meeting in Kansas City and about Konza Prairie for the Town & Country Garden Club of Manhattan.

The Annual Wildflower Walk was held on June 11 for more than 160 participants, a record number. This year an extra attraction was an FOKP event featuring the barn renovation plans and music by Eugene Friesen, the CelloMan. Twenty-four volunteers, almost all of them docents or FOKP Board members, helped out. Thank you all!

Announcements

The Committee for the 10th Anniversary of KEEP chose the winner of the T-shirt Design Contest. There were entries by students and adults, even docents sent in some ideas. The winners were Annie and Ben Windholz, children of Mary Windholz, docent class of 2005, who combined their efforts to draw a bison, the Flint Hills and most importantly, included a bright yellow/orange school bus in the background. They will be recognized at the Annual FOKP Meeting, September 29th, where each child will receive a t-shirt with their design. 10th Anniversary T-shirts will be on sale in August.



Tallgrass Gazette Editors:

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

Spotlight! on Dr. Valerie Wright

By Annie Baker



This year we celebrate the 10th Anniversary of the Konza Environmental Education Program and commemorate the hiring of the program's first Environmental Education Coordinator, Dr. Valerie Wright. Dr. Wright's unique personal history and educational training helped her design a benchmark environmental education program at Konza Prairie Biological Station (KPBS).

Growing up in rural Chicago, Valerie's favorite childhood memories were of exploring her family's two acre homestead. A love for tallgrass prairie and the natural world were infused in her from a young age. Throughout her K-12 education, Valerie's interest in the biological world grew and was encouraged by an excellent high school Biology teacher. She received a B.S. degree in Biology from Gustavus Adolphus College in Saint Peter, Minnesota. As an undergraduate, Valerie was mentored by a faculty Entomologist who inspired her to pursue both a Master's and Ph.D. in Entomology and Plant Pathology from the University of Minnesota. While living in Minnesota, Valerie designed and built a home on forty acres and enjoyed blazing trails and watching wildlife on her property.

In 1979, Valerie accepted a position at Kansas State University's Food and Feed Grain Institute for the departments of Entomology and Grain Science. The USAID funded position was two-fold: researching the ecology and biology of stored grain insects, and teaching grain facility management. In ten years, Valerie traveled regularly between six continents, working with and educating small farmers in developing countries. During this time, research on a grain pest took Valerie to Zamorano in Honduras, a learning-by-doing agricultural college where the students gain practical, hands-on experience from the farmland. Through her research at Zamorano, Valerie met College President, Dr. Simon Malo. Coincidentally, Simon had a K-State connection with the College of Agriculture and planned a one-year sabbatical there. Valerie and Simon were married in 1988, and Valerie moved to Honduras where she helped Simon establish the International Center for Seed and Grain Science at Zamorano. After four years in Honduras together, Simon retired early and the couple moved back to Kansas where Valerie had previously designed and built a home off McDowell Creek Road.

Not long after returning to Kansas, Valerie was hired to spearhead the Konza Environmental Education Program, which within 10 years has grown into a benchmark environmental education program impacting more than 4,000 community members and school children each year.

Working for a field research station focused on prairie ecology, providing hands-on learning-by-doing educational experiences, and the opportunity to develop a new environmental education program prompted Dr. Valerie Wright to apply for the new position of Konza Prairie Biological Station Education Coordinator. Hired in 1996, Valerie was already a trained docent and experienced guide familiar with Konza Prairie's informal docent training program and educational opportunities. During her first year as coordinator, the new program generated tremendous response from the community and accommodated over 5,000 people, of which Valerie personally lead 50 tours. Expanding the docent training program became a top priority, and Valerie added formal field and classroom sessions, developed more comprehensive content, including handouts and guides, and scheduled social events for docents, and off-season volunteer opportunities. In addition to the research-based content, Valerie also emphasized natural history of the prairie



during docent training and education programs. To educate herself, Valerie spent much of her free time walking Konza Prairie, observing, photographing, and interpreting tallgrass prairie ecology. Discussions and interactions with KPBS researchers were also very important in Valerie's early education and program formation.

To sustain the environmental education program, grant money is vital and Valerie is constantly searching for new funding opportunities. In 1998, the National Science Foundation funded the Konza Prairie Schoolyard Long-term Ecological Research program. Valerie worked closely with KPBS researchers to develop science activities and protocols parallel to on-going prairie research that could be understood and carried out by students and teachers. Valerie continues to improve and expand the SLTER program. As Education Coordinator, Valerie's proudest accomplishments include the renovation of Hokanson Homestead, the phenological lists, the KEEP website, and Butterfly Hill Trail.

Valerie's personal interests and her career are entwined. She is a strong advocate of prairie stewardship and spends a lot of time managing and improving her tallgrass prairie property. As a Konza Prairie docent, Valerie enjoys leading trail hikes, and her favorite ages are 4th-5th grades and high school students. Her prairie interests include studying interactions within the food chain, especially an organism's interactions with the plant community, and "mining" prairie research for information to pique student and public interest. Valerie is a member and past president of the Kansas Native Plant Society. She enjoys reading, traveling, photography, and hiking. Her house plant collection has numbered over 100 and includes a Jade plant purchased in 1968. Valerie especially values her friendships with Konza Prairie docents and enjoys spending time with them on and off Konza Prairie.

Let's celebrate the 10th Anniversary of the Konza Environmental Education Program and commemorate the hiring of the program's innovative designer and first Environmental Education Coordinator, Dr. Valerie Wright.



Boots, buckets, and bugs

By Sue Hunt

For the past three years, I have been acting as part-time equipment manager for the KEEP program. With the increased number of participants in the science activities in the SLTER program, along with larger classroom participation, the demand for obtaining supplies for these activities has grown.

We now have buckets filled with all the supplies needed for each activity. There is one for every station in the Fire Reversal and Stream Geomorphology programs. Other docents have commented that the buckets are easier to carry to the site and keep the equipment corralled.

For the very popular stream activities, we have 48 pairs of rubber boots. On every outing, at least a few are completely submerged, covered with mud, and need to be cleaned and dried before the next use.

The invertebrates and grasshopper activities also need equipment — from magnifying glasses to pinning supplies. Annie and I have managed to organize areas in the Ed Center for each type of equipment. That enables us to set up work stations quickly, and then clean and replace everything efficiently at the end of an activity.

I have enjoyed thinking of ways to make care and storage of equipment easier in our very limited space in the Education Center. However, I am looking forward to the larger storage area after the barn renovation is completed.

We are moving into the summer season when we take a bit of a breather from the busy SLTER program schedule, but the fall season is only a few weeks away. If anyone is interested in doing some behind-the-scenes work, likes to keep things organized, and does not mind a little physical labor, please tap me on the shoulder and I'll introduce you to "buckets and boots."

2006 PAK Teachers' Workshop

The 2006 Prairies Across Kansas Workshop was held from June 19-27. Ten teachers and three volunteers learned about Konza Prairie and prairies in general. A new aspect this year was the incorporation of volunteers brought by the teachers. They will assist those teachers from distant areas who do not have the privilege of a well-trained cadre of docents to help when their classes go to the field to collect data. These volunteers met our Konza Prairie docents several times during their 10 days here. Docents helped with the workshop by preparing meals, leading hikes, assisting with activities, taking volunteers on tours around Manhattan and conversing with the teachers and volunteers about our program.

Docents who participated were: Cindy Quinlan, Chief Cook for evening meals; Sue Hunt, Chief of Lunches and FOKP sales; mealtime crews were Ann Murphy, Bob Davis, Lewis Browder, Karen & Steve Hummel, Mary Cain, Jan Evans, Verlyn Richards, Gary Mott, Larry Loomis, Doris Burnett, Glen Busset, Jim Morrill, and Liz Beikmann. Docents who participated in trail hikes and bison tours were Charlie Given, Jeff Neel, Mary Cain, Megan Kennelly, Chod Hedinger, Larry Loomis and Glen Busset. Assistants with activities and preparation included Jan Evans, Karen Hummel, Ted Hopkins and Darren Gunderson. Verlyn Richards, Sue Hunt and Dru Clarke led special tours for the volunteers. Ted Hopkins started off the grasshopper activity with an informal lecture and helped with the field collection and identification. Darren Gunderson was a major part of the workshop, teaching most of the technology sections, assisting with activities and acting as a resource for the teachers and staff. Stormy and George Kennedy set up a book sales table for the convenience of the teachers.



Jan Evans and family receive gifts in appreciation for her work with KEEP. They are moving to Arizona.

All of this volunteerism impressed the workshop participants. Their comments throughout the workshop were very positive. They left a thank you card for staff and docents. Some of their comments are given here.

"You all made Konza come alive and your knowledge is amazing! Keep up the good work! "

-- Heather Stewart.

"Thank you for making a difference within the Konza Program. You amazed us all."

-- Jan Alderson.

"What an excellent experience! Thank you for sharing your knowledge with us."

-- Joe Pickett.

"I can only hope to have volunteers half as good as you guys. You have given 200%. Thanks."

-- Erika Downing.

"We volunteers have had royal treatment. In addition to the opportunities to learn through the field and classroom, we volunteers enjoyed the cultural and historical enrichment."

-- Sally Frederick.

"You're all the backbone of this program, and truly make it the success that it is."

-- David Clements.

Valerie and Annie would like to add their thanks to all of you who helped to carry out this very successful teachers' workshop.



Tallgrass Gazette

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

KEEP 10th Anniversary Events!



The **KEEP 10th Anniversary Committee** — Larry Loomis (chair), Cindy Quinlan, Jocelyn Baker, Ann Murphy, and Sue Hunt — has a special event planned each month July through the end of the year. All docents are urged to participate in as many events as possible. The schedule follows:

July 15 — Dr. Roy Beckemeyer from Wichita will lead a tour to find dragonflies and damselflies. Dr. Beckemeyer presented information on these insects at the annual docent roundup held in January. Everyone enjoyed his presentation and at that time he expressed a desire to return during the summer to locate and identify dragonflies and damselflies on Konza. A light lunch will be provided after the tour.

August (date to be announced) — A night hike to look at stars through a telescope.

September 30 — KPBS Open House.

October 22 — Fall Docent Roundup at Hokanson Homestead, a social event with wine and cheese.

November 19 — Reception at Hulbert Center for 2006 education speakers, KEEP sponsors, FOKP board members, current and new docents.

December 3 — Holiday gathering at Hulbert Center.

Watch for more information regarding time, where to meet, etc. prior to the date for each event. Mark your calendar, save these dates, and help us celebrate this milestone in the KEEP program.