KONZA PRAIRIE BIOLOGICAL STATION

Tallgrass Gazette

Spring 2002

"The Newsletter for Docents and by Docents"

The Konza Prairie — Worlds of Research

Konza Prairie Biological Station is used by scientists and students throughout the world and serves as a "benchmark" for comparisons with areas that have been affected by human activities.

Researchers on the Konza Prairie have been gathering data for more than twenty years. There are more than 150 ongoing projects involving scientists researching the burning and grazing of watersheds, geology, plants, animals, insects, climate, and stream ecology, making a large base of information available for comparisons. Although most of the researchers are from K-State, there are also a number of researchers from all over the country and around the world.

South Africans Study Fire Intensity

Winston Trollope during Spring 2002 burn

Winston Trollope, professor in the Department of Livestock and Pasture Science at the University of Fort Hare in South Africa, is part of a research team conducting a study on the intensity of fires and the effects of fire regimes on Konza Prairie compared to those in South Africa.

"It is a wonderful opportunity to study the effects of fire at Konza compared to South Africa, because of its high standards for research as well as the amount of grassland and prescribed burns," Trollope said. "I assure you, there are few places like this in the world."

Trollope first visited Konza as part of a research team from Kruger National Park, in May 2001. He said he had spoke with Dr. Hartnet, and discovered Konza Prairie did not look at fire intensity.

"We had done this in South Africa, and now we want to be able to compare South Africa to Konza, and whether they have the same effects," Trollope said.

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Collared Lizard Research

Collared Lizards

Eva Horne, assistant director of Konza Prairie, and instructor and research assistant for the Division of Biology at K-State, is studying the behavior of reptiles at Konza Prairie.

"There is very little that you can find in the literature about any of the species, and most of what you can find is in different habitats than the prairie," Horne said. "I want to look at them in the whole context of the prairie community."

This spring, Horne will conduct field experiments on the Collared lizard, which she said are fast and only allow you to approach them within five or six feet.

"I have a little noose made of carpet thread, - so that it doesn't cut them when the noose closes - which is tied to the end of a fishing pole," Horne said. "I get the noose over their head, and catch them that way."

Once she has caught and marked all Collared lizards at Konza Prairie, Horne will release some back to their habitat, and use the rest as intruders.

(Continued on Page 2.)

(South Africans Continued.)

Trollope is accompanied by his wife Lyn Trollope; graduate student Derek Brown; and undergraduate student, Farai Dondofenna.

To measure the intensity of a fire, they use instruments called hydro-pyrometers, which are tin cups, filled with water, and strategically placed at different heights in the middle of a fire. The team then records the amount of water that evaporates from each cup. They also measure the time it takes a fire to travel a certain distance.

The team said that the U.S. has a strong research culture compared to South Africa. "In the U.S., the general public is more aware of research," Dondofenna said. "They are also more willing to volunteer their time to research, as we've seen with the volunteers that have helped with burning at Konza."

(Collared Lizards Continued.)

"I put them in a little harness attached on the end of my fishing pole," Horne said. "I move them closer and closer to a territorial male who is defending his territory. I want to see if he actually responds and attacks that intruder."

There is a dense population of Collared lizards at Tuttle Creek damn, where there are a lot of jumbled rocks. She wants to compare that population to Konza's, where they are relatively sparse.

"I am thinking the territory will be more important to the ones at Konza, because there aren't as many territories," Horne said. "They might be more likely to defend at a greater distance than the ones out at the damn."

Prairie Patter

by Dr. Valerie Wright, Environmental Educator and Naturalist

This spring two important conferences took place. The first was a LTER Education Committee meeting in March hosted by the Sevilleta Field Station, south of Albuquerque, New Mexico. Sevilleta is one of the 24 LTER sites, just like Konza Prairie. The LTER Education Committee has met several times to organize and promote education programs on LTER sites. This meeting was for the recommendation of actions to the LTER Network Office as it develops a strategic plan for NSF on future programs and funding for science education. We shared information about our programs, gave lists and examples of successes and challenges. Future collaborations were discussed. At the front line educator level, we are organizing a meeting in September here at Konza.

The second was the National Association of Interpreters Regional Workshop in Baton Rouge, Louisiana. This organization is made up of people who interpret sites to the public, like park rangers, museum guides, docents and educators, like myself. Sue Hunt, Doris Burnett, Ann Feyerharm and I traveled by car with the plan to do some bird watching along the way. The workshop was excellent with lots of ideas for future programs and great field trips to bayous and antebellum estates. On field trips we traveled with a specially arranged police escort with lights flashing and side roads blocked so our busses never had to stop for cross traffic. Only in Louisiana!

Valerie, Ann, Doris, and Sue

Last weekend there was a workday at the Hokanson Homestead to spread new wood chips on the Homestead Trail. Twenty-two people helped, mostly Boy Scouts and their families. A big thanks to Sue Dwyer and her family, Bob Hudgens and Anni McCloud, the Walker family and many others who all worked very hard.

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Special thanks to Travis Hochard for helping with this issue as part of his KSU student project.

The Konza Prairie — Worlds of Research

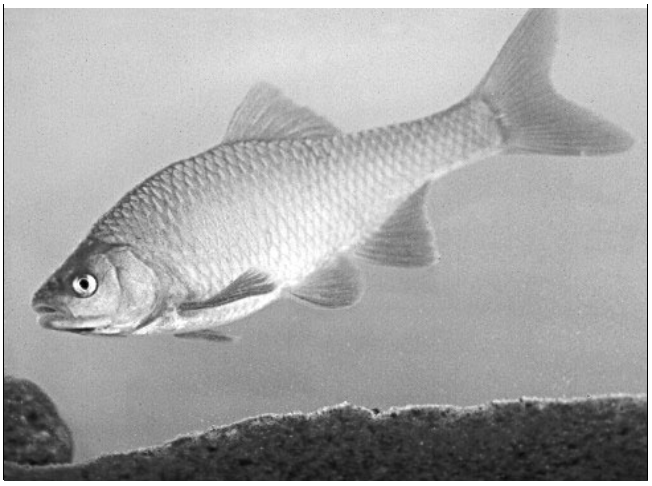
King's Creek Fisheries

Last August, Keith Gido, assistant professor of Biology at K-State, took over the long-term monitoring of fish assemblies in King's Creek. "It's interesting because the stream dries up during the fall, and some species will persist and others will colonize and then go extinct," Gido said.

According to Gido, King's Creek has several branches, and when the water dries up it loses connectivity, leaving areas isolated. These areas found down stream are called sources, and remain wet throughout the year. They have good habitats and environmental conditions that allow fish to reproduce and sustain their population. Other habitats, like springheads, are called sinks and contain poor conditions with small populations, which only exist because they have colonists from the source.

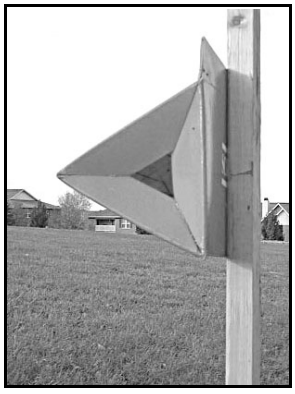
"As far as conservation biology goes, that's really important, because you need to know which areas are sources and which areas are sinks," Gido said. "If you want to maintain the fish populations, it's important to protect that source."

Gido takes fish counts in designated study sites four times a year, using a standard method called backpack electro-fishing, which uses electricity to stun the fish. "You start down stream and you've got this thing on your back with a generator, and a probe in the water," Gido said. "You just move up stream, stunning fish as you move along, and people are netting up the stunned fish. Then you put them in buckets and they come back to life." Once Gido has collected all of the fish into buckets, he and his team identify them, record their measurement in length, and then release them back into the stream. He said the four most abundant species found in King's Creek are the Central Stone-Roller, the Southern Redbelly Dace, the Creek Chub, and the Orange Throat Darter, all of which are very small species.



Red Shinner

Grain Insect Study



Pheromone Trap

Mike Mullen and Jim Campbell, research entomologists at USDA, are studying the populations of stored product insects at Konza Prairie.

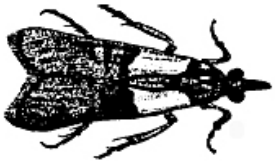
"We want to compare the number of insects we trap here in town, to those in agricultural areas, and at Konza Prairie, which provides a more pristine, natural environment." Mullen and Campbell are specifically looking for three types of insects including the Indian Meal Moth, Lesser Grain Borer, and the Warehouse Beetle, all of which are common insects.

"We used insect traps that were baited with an attractant called pheromone, which tells other insects of the same species that there is an opportunity for food and mating," Mullen said. During a one-week sampling period in September of last year, they said they put out approximately 150 traps over all of these different areas.

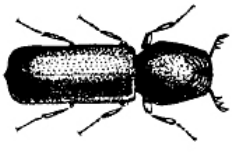
"These insects can fly great distances. We did find them at Konza, but the relative numbers were much lower," Campbell said. "We still don't know if the ones we are finding out at Konza are just some sort of long-distance dispersal from urban areas or whether there are some populations breeding out there in different burrows and nests."

He said they found that the number of Indian Meal Moths and Warehouse Beetles were much higher in urban areas than at Konza Prairie, and that they were more intermediate in agricultural areas. However, the lesser Grain Borers, which are more of a pest in whole grains, tended to be more in agricultural areas than in town. These insects have a major economic impact on crops, food storage, grain elevators, and retail stores. They said they want to develop recommendations for managers and farmers about where these stored product insects come from, so that they may better target management practices.

"A lot of times a grain elevator won't have these stored product insects in them, but eventually they will build up in numbers. We are trying to figure out where exactly they come from," Campbell said.



Indian Meal Moth



Lesser Grain Borer

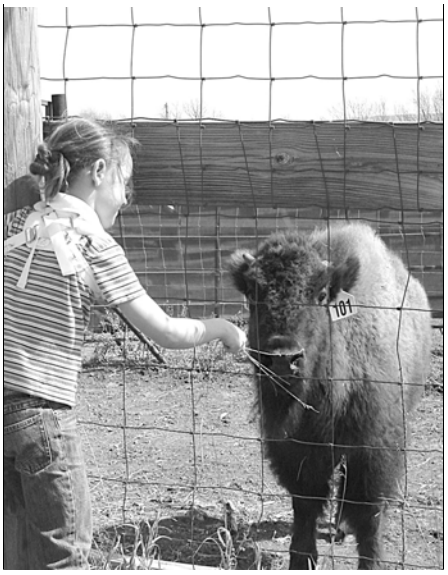
Docents Announcements

Sunday, April 28: Friends of Konza Prairie.
Guest Speaker Rex Buchanan, Kansas Geological Survey
"Springs of the Flint Hills" 7:00 p.m. in the Barn
All docents and their families are invited!

Saturday, June 1: Annual Docent PotLuck for you and your family. Bring a dish to share with others. Bison burgers and drinks will be provided. Jean Craig is our Hospitality Coordinator. She is looking for helpers during the PotLuck, since she will not be able to attend herself. If you can help set up, cook burgers, etc., please call Jean at 539-3907. Thanks!

PLEASE NOTE THE FOLLOWING DATE CHANGE!
Sunday, June 2: Wildflower In-service Training.
Brush up or learn more of our spring wildflowers. Mendy Smith will be with us again this year. She is defending her thesis on June 7 so we changed to an earlier date. Meet at the Hulbert Center at 6:00 p.m.

Sunday, June 9: Friends of Konza Prairie Annual Wildflower Walk. After your training on June 2, you will be ready to volunteer for this event! Or come as one of the 80 -100 people we expect. FOKP members and docents enter free but everyone else pays $5. If you are willing to help Gayle Bennett with the sales of Konza logo items, please call her at 776-4248.



Marley Evans and new bison Daisy

Prairie of changes:
Our last issue featured a story on a well liked bison named Buffy. Regrettably, she passed away this past Winter but her spirit lives on through one of our new residents named Daisy (tag 101). Orphaned last year she is out-going and loves people.

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