

Tallgrass Gazette

The Newsletter for Docents and by Docents



Spring 2012

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Calendar of Events

May 6	FOKP Spring Program
May 19	Kings Creek Hike
May 27	Docent Potluck
June 3	FOKP Wildflower Walk
June 18-23	SLTER Teachers' Workshop

Keeping the Prairie Aflame

by Karen Hummel

On a recent soggy morning, I was privileged to spend a couple of hours with Gene Towne, Konza researcher and burn-master extraordinaire, discussing the recent burns of watersheds having 20-year burn treatment regimes. Actually, I mostly sat and listened, while taking pages of notes as Gene and I traveled the K20A fireguards.

Watershed K20A burned in a 1991 wildfire, and not again until April 3 of this year. In the intervening 21 years, the watershed was gradually and steadily engulfed in woody species. Eastern red cedars (*Juniperus virginiana*), rough-leaf dogwood (*Cornus drummondii*), plum thickets (*Prunus americana*), smooth sumac (*Rhus glabra*), honey locust (*Gleditsia triacanthos*) and other woody species dominate, usurping nutrients and sunlight required for prairie grasses.

Konza burn plan records, dating back to 1972, are available online at the LTER website under the Research/Burn History tab. In 2001, the fire reversal study was initiated, with watershed 1A and 1B renamed to R20A and R20B (annual burning ceased), and 20A and 20B renamed to R1A and R1B (annual burning initiated). K4A was merged into K1B last year.

So, what changes can be expected when a now-woody watershed like K20A is burned after 21 years? Not much,



Courtesy Chod Hedinger

Burnt cedars dot K20A after the flames have passed.

according to Gene Towne. It takes a long series of consistent annual burns to make a difference in the amount of well-established woody vegetation in a watershed. Fire will burn back the above-ground stalks of woody species, but leave the extensive root systems untouched. New shoots will inevitably sprout back.

Gene cited the results of a previous burn study on another watershed. He monitored transects in a 20-year-burn watershed after it was converted to annual burn. Initially, the woody cover averaged 22%, but dropped to 16% after the first burn. After the fourth burn, woody cover dropped to 10%, and has remained at that level for the following 7 burns. Two woody species have been eradicated, including Eastern Red Cedar,

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From the Stone House ...

by Jill Haukos

Soon after I arrived in Kansas I got a chance to watch the film “*Green Fire – Aldo Leopold and a Land Ethic for our Time.*” I found this film truly inspiring and it motivated me to order a copy of Curt Meine’s book: *Aldo Leopold: His Life and Work*. My intention was simple: find out what made Aldo Leopold noteworthy. When did a regular man become ALDO LEOPOLD?

I have to admit, this book is not a page-turner. It is a pains-taking walk through one person’s life from birth, to education, to early employment, marriage and family, and on through a series of jobs. I’m about one-third of the way through the book and he hasn’t moved to Wisconsin yet. What I have found out about Leopold is that he was a regular guy who happened to have the ability to see things in his world, and most importantly (at least to me), he had the ability to effectively communicate what he saw to others.

Where I’m reading now, Leopold is working for the Forest Service (FS) and is stationed out of Albuquerque, NM. He loves this area and rides through the national forests (on horseback) regularly, looking at the quality of the trees, range, and streams. The goal of the FS at this time (WWI) was to stock as many cattle as possible to feed a hungry nation and fuel the country’s soldiers. The results of this heavy stocking were devastating. Loss of vegetation and stream-bank destruction resulted in horrific erosion. Erosion of the likes where entire roads and houses disappeared after a major rain event.

Not surprisingly, the delicate soils and vegetation of the Southwest were especially susceptible and Leopold was there to witness it. He was one of the first to draw attention to the problems of erosion and he



Jill Haukos, Konza
Environmental
Educator

was brave enough to gently suggest removing some of the cattle from the national forests as a means to curtail this erosion problem. You can imagine that cattle-owners were not excited about Leopold’s suggestions and he had a very strong challenge. When Leopold pointed out to them, quite logically, that if the stocking rates remained high then the cattlemen wouldn’t have any soil or grass left to feed their cattle. Leopold also had the audacity to point out that the land would be ruined forever, thus denying future generations a chance to make a living off the land. For the first time Leopold began using the term “ecology” and terms that were leading up to a “land ethic”.

We’re seeing a young (35-36 years old) man coming to terms with his upbringing (hunting and bird-watching), education (grow trees to make money), and personal ethics (the land as a whole is worth something, and is worthy not just for humans but for all living species). It’s a fascinating journey.

In the next issue of TGG I plan to elaborate on how Aldo Leopold’s journey can be reflected in the Konza Environmental Education Program and your role as a docent at Konza. But that’s for next month. See you on the prairie!

Discovery Center Blessed, Doors Open

by Colleen Hampton

Amidst the gusts of a strong south wind, and looming thunderstorms on the horizon, the dedication and opening of the Flint Hills Discovery Center was celebrated on Saturday, April 14, 2012. Attendees included local and state dignitaries, as well as many local and regional residents interested in seeing the long-awaited displays and multimedia productions when they finally were able to walk through the doors to the Discovery Center at the end of the dedication. With Manhattan City Manager Ron Fehr as the master of ceremonies, the hour-long celebration that began at 10 am included music selections from several artists and vocal groups, speeches from the governor and local dignitaries who were involved with the creation of the facility in Manhattan's south redevelopment district, and a cultural blessing and dance courtesy of the Kaw Nation representatives. The concluding event



Photo courtesy the Flint Hills Discovery Center

The Flint Hills Discovery Center shares the story of the Kansas Flint Hills and the last stand of the tallgrass prairie.



Photo courtesy the Flint Hills Discovery Center

Visitors learn about the underground root system of prairie grasses.

was the ribbon cutting in front of the Discovery Center. The morning's event began in the Blue Earth Plaza, named for the Blue Earth Lodge Village, a Kaw tribal settlement that was about a mile east of the Discovery Center in the late 1700s through the early 1800s. As a lasting tribute to the role these Native Americans played in the history of the Flint Hills, four identical Kaw Nation plaques decorate each of the sides of the outdoor stone fireplace of the Blue Earth Plaza. A gently curving "stream" alongside the concrete sidewalk by the fireplace completes the depiction of the Kaw tribe's village at the confluence of the Blue

and Kansas rivers more than 200 years ago.

and Kansas rivers more than 200 years ago.

Governor Sam Brownback recognized the importance of identifying and preserving the rich diversity of flora and fauna the Flint Hills region. "One of the things that we represent in Kansas is the last stand of the tallgrass prairie. We've got it and we're going to protect it. We're going to celebrate it and we're going to show it off. And we're going to make it such that people can celebrate it and enjoy it and understand it better," Governor Sam Brownback told the crowd that filled the Plaza. Fehr reminded the crowd that a large portion of the funds to build the Center came from the Star bonds provided by the State of Kansas.

In the Kaw tradition of asking permission to dig into the Earth, two tribe members briefly spoke to the crowd about the history of the tribe in the region before the Plaza was blessed by Curtis Kekahbah in the native language of the Kanza Tribe and in English. A little later, a male, two females, and two children of the Kaw Nation performed a traditional dance in

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Discovery Center Opens its Doors to Flint Hills

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native costumes around the Plaza. The strong wind from the south was a fitting tribute to the Kanza tribe, the “People of the South Wind” that morning.

Musical selections were performed by the K-State student group In A Chord (“Star-Spangled Banner”), the Western Music Association (“Home on the Range”), and Kelly Hunt (“Heartland”). Hunt’s song is also part of the 15-minute presentation film shown inside the theater of the Center.

The multi-media “Immersive Experience” presentation was the main reason that anxious attendees needed a free “timed ticket” to enter, and a line quickly formed outside the theater. While waiting, visitors could also enjoy the various exhibits that showcased the geological, historical, and ecological aspects of the Manhattan area, the tallgrass prairie, and the Flint Hills region. A local bank led several activities throughout the Center, and a children’s area offered the youth an interactive experience with various facets of the Flint Hills. A future edition of the TGG will highlight some of the exhibits within the Center.

Many participants who attended Saturday morning’s events would agree that the proceedings were a fitting tribute to the area’s cultural and ecological roots. Even the weather cooperated, with the ominous storms happening later that day, reminding citizens that weather is a major contributor to the survival of the tallgrass prairie ecosystem. For those yet to see the Discovery Center, it is both an educational and inspiring experience.



Photos courtesy Chad Hedinger
Above: The prairie roots exposed.
Left: The Kanza tribe revealed.
Below: The Bison herd encountered.

Tallgrass TV: Sam Easterson Pays Tribute to Konza Prairie

by Diane Barker

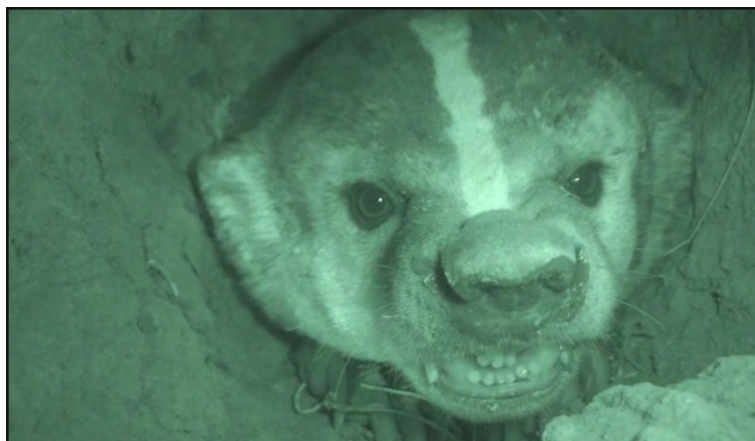
When Sam Easterson came to tour Konza, he didn't bring a camera. When asked why he said, "I don't want a camera in the way. I want to put the images in my head." This set the tone for our relaxing ramble through the Bison Loop, complete with quiet time at Konza Falls. He is immanently aware that a camera can be a barrier to experiencing nature, which makes his work as a successful video naturalist fraught with ironies.

In his talk at the Beach Museum, Tallgrass TV: Tuning in to Nature, Easterson explained that he no longer attaches cameras to tarantulas, wolves, or armadillos. He decided instead to collect and catalogue the work of others out there "capturing remotely-sensed wildlife imagery." Easterson and his wife will be opening a bricks and mortar Museum of Animal Perspectives in 2013. As Senior Media Producer for the Nature Lab at the Natural History Museum in Los Angeles, his current work includes wiring the landscape of the new urban wilderness on the grounds of the museum. Their stationary cameras have already captured the nighttime activities of some resident opossums collecting nesting material and dragging it home wrapped in their tails. These surprising discoveries about the lives of animals are the reason he got involved in this work.



Photos courtesy the Beach Museum of Art

Above: Burrowing Owl. Below: Badger. Bottom left: Swift Fox.



"I just can't resist trying to empathize with animals and plants. I think that in the process of attempting to learn what it's like to be an animal or plant, I learn more about what it means to be human."

When Beach Museum of Art director Linda Duke invited Easterson to bring a show to Manhattan in honor of Konza Prairie Biological Station's 40th anniversary, he began selecting videos focusing on prairie animals. What they put together is a very sophisticated presentation. Six televisions line the walls in the gallery with three videos of different animals on each.

The QR codes beside each television screen lead to images of plants and other prairie dwellers like the gray tree frog, plains pocket gopher, and one of my favorites, the slender glass lizard. These images help

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Tallgrass TV: Konza Prairie

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provide the sense of the larger context of the prairie and its complex web of life rather than isolated species hung on a wall. The multidimensional aspects of the show are typical of the exceptional job the staff at the Beach Museum always performs. They take their mission as a regional Art Museum seriously and work hard to help people connect the creative process with landscape, weather, the flora and fauna of our prairie environment. They also place their work in the context of community. Easterson's show opened to the public during the Martin Luther King Day-On Event which included local Boy Scouts from Troop 75 serving as guides to the exhibit and presenting posters on prairie animals and conservation initiatives like Konza Prairie. The week's donations to the museum went to The Nature Conservancy for designated Kansas prairie projects.

My experience of the exhibit, as a museum docent, has been informed by taking numerous first grade and a few kindergarden classes through. Before we take classes into the museum, while they are in the lobby, we give them an introduction to the prairie environment. The children have an opportunity to talk about grass, roots, wind, drought, fire, and animals, especially burrowing animals for this exhibit. We have done our work of providing a context for what the kids are about to experience. One of the brilliant aspects of Easterson's show is that there is no commentary, only the animal and any noises it makes. This makes it seem like you are alone with the animal and free to experience whatever you have the awareness to notice. Once the children sit down in front of the screens and see the animals coming at them, they go

wild. The energy unleashed in that room is difficult to describe.

They also often don't understand quite what's going on. A kindergardener asked in a worried whisper, "Can they hear us?" That might have been the result of my selfish attempt to get them to be quiet. I stopped the class outside the gallery, lowered my voice to ask, "What do you have to do if you want to see a wild animal?" "Be quiet," was the ready answer. So we snuck up on the animals in the gallery. Another often asked question was, "Is this (happening) now?" With the advent of all the nest and zoo cams, this is a reasonable question, but in this instance the children were confused by the larger than life images coming at them. "Can they see us?" Kindergardeners looked behind the TV screens. First graders raise a din of squeals, shrieks, and laughter that echo through the museum. Teachers struggle to get the noise level down, but it soon climbs back into the upper decibels.



Photo courtesy Karen Hummel

Second graders from Theodore Roosevelt Elementary who attended the show and created the art on page 7.

To determine if the children really processed what happened on screen I asked questions like, "Did the wolf eat the snake that slithered across its paw?" "What is the wolf eating that's in the mud?" "How many baby squirrels are in the nest?" "What is the horned lark taking away from the nest. Why would she do that?" Mostly the children were simply thrilled to be in the presence of moving images of animals. They sat on the floor looking up at the screens, pointed and chattered, told stories of when they had seen animals outdoors. The drama of the Swift fox coming around the corner in its den, already alert because it smelled the camera/intruder, cautiously withdrawing, held them rapt. The cameras on the bison, pheasant, turkey and ducks didn't hold

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Tallgrass TV: Konza Prairie

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their interest as well. Wading through tall grass and watching the backs of other ducks and bison wasn't as gripping as the animal in the burrow looming towards the camera.

When the children go to the art room afterward, they make wonderful pictures full of animals and grass, tunnels and textures. They have certainly had fun, learned something new about animals and made art they can take home and share with their parents. Adults also come away with changed sensibilities. People oohh and awww at the baby American Red squirrels in their nest, at the burrowing owl, and swift fox. Children mimicked the baby badger's snarl when I asked them which animal they liked the most. They wrinkled their noses and growled or hissed. There was nervous tittering as the gray wolf jammed its muzzle into the roots and moss at the base of a tree, inhaled loudly and deeply and tore into the ground with its paws. People gasped as the wolf kept after the scent. No one wanted to witness the predator catch the prey. Most people made noises as they watched the videos. People responded physically to the show.

One woman remarked that watching the ducks made her tired, "They're always on the move." Another said it was a new perspective to be in the grass looking up at the sky. After viewing birds feeding their hatchlings, people understand more clearly that life is hard for wild animals. Easterson told a first grade class, "that video of the black footed ferret is actually quite rare. If the animal goes extinct, that will be one of the only records we have of it."

Which brings us to the "fraught" bit. Jerry Mander gave us the definitive critique of television in 1977 with his book *Four Arguments for the Elimination of Television*. In order to survive and thrive, every biological creature must be wired to detect and respond to any change in its environment. We notice every flower that blooms on the prairie because that electric flash of color is new. Noticing something new like color or motion could mean survival, which is why neurologically TV is so seductive. It capitalizes



on our fascination with the new and immediate by firing non-stop images into our nervous system. Because of our biology we become overwhelmed by visual candy, passive, incapable of responding. We trade real life experience for numbing acceptance. If watching Tallgrass TV inspired you write to the Logan County commissioners and demand that they stop poisoning prairie dogs and instead support the reintroduction of the endangered black footed ferret in that county, you are an exception. What is far more common and dangerous is that you would feel comforted and numbed by the charming ferret face on the flickering screen and simply accept the marginalization of animals and wilderness.

Whether you like animals up close and personal or remote and distant, this exhibit raises important questions about our relationships with animals, and ultimately, ourselves. Thank the people at the Beach Museum and Sam Easterson for another incredible and challenging exhibit.

A Good Day's Work at Hokanson

by Karen Hummel

Many thanks to the 25 folks who showed up and worked hard at the Hokanson workday! It was a really good crew, and perfect working weather. Teams organized into work groups, with a team leader providing suggestions to guide the work for each team.

Doreen Towne was in charge of the Hokanson Barn and the OWLS viewing area. Jan Gordy joined her in cleaning out the areas, sweeping, and cleaning windows. Ken Stafford and Bob Davis provided the tools to unfasten the plexiglass nesting box covers, so those areas could be cleaned and refreshed for this year's fledglings.

Brent Gordy repaired the squirrel guards on the bird feeders. Dean Stramel has moved to Hays, but he and daughter Anna were on hand to help with the cleanup.

Jerry Freeze managed the crew distributing trail chips from the chip piles Jim Morrill had moved up the hill. Jill and Kaitlin Haukos joined Jerry and Kathy and crew, refreshing the woodchips on the upper Hokanson trail. Myron Calhoun, Ole Olson and Millie Schroeder worked on the lower trail area.

The music of chain saws provided background accompaniment throughout the couple of hours, as Jim Mayhew and Gary Harter worked with teams to clear brush and deadwood into burn piles. Karen Hummel worked with numerous volunteers to clear the area around the barn, springhouse and OWLS shed. The results of those teams were a noticeable cleanup.



Left: Warren Slocombe and Ken Stafford select tools to maintain nest boxes.

Below: Chod Hedinger serves up the dutch oven cake.

Photos Courtesy Karen Hummel



Jim Mayhew brought some newly constructed birdhouses and stored them in the workshed, ready to install.

Chod Hedinger's dutch oven peppermint cake was done just as the trail crew deposited the last wheelbarrow of chips onto the trail. Mike Clarke and Earl Allen noticed a small snake on a tree branch, observing us silently throughout the afternoon.

This year's Hokanson cleanup crew were Jim Mayhew, Jill and Kaitlin Haukos, Jerry and Kathy Freeze, Ken Stafford, Jim Morrill and Marilyn Whitley, Earl Allen, Doreen Towne, Ole Oleson, Myron and Nancy Calhoun, Dean and Anna Stramel, Bob Davis, Gary Harter, Brent and Jan Gordy, Warren Slocombe, Millie Schroeder, Chod Hedinger and Karen Hummel.

Topeka Boy Scout Troop Hikes Konza

Cub Scout Troop 103, from Topeka Kansas, participated in an outing to Konza Prairie on Saturday, March 31. Troop Master Jack Wagnon prefaced the Nature Trail hike with a review of the Aldo Leopold Land Ethic principles.

This was a family experience, with parents and siblings participating in the outing. Fifty enthusiastic hikers headed out on the Nature Trail on a glorious sunny morning. Docents Joe Mosier, Diane Barker, Jerry Freeze and Karen Hummel led the hiking groups. The flora and fauna added to the enjoyment, as we saw collared lizards, a snake, turkeys, and lots of songbirds. Ground plum, parsley, groundsel, sorrel, and violets were among the blooms we encountered.

One docent commented that this was a particularly enjoyable hike because it included so many family groups, and that they were obviously enjoying each other, being out in nature, and learning about the prairie. The accompanying photo shows docent Diane



Topeka Cub Scout Troop 103 and docent Diane Barker enjoy a sunny day on the nature trail at Konza Prairie.

Barker with her group. Thanks for coming, Troop 103. We hope to see you back at Konza.

Upcoming Events

May

5: Saturday, 9:00 a.m. at the Education Center. We'll visit several research sites near Headquarters and the USGS water monitoring site.

6: Sunday, 2:00 - 4:00 p.m. in the Historic Barn Conference Center. FOKP Spring Program. Ken Warren will talk about the work of The Land Institute in Salina.

19: Saturday, 9:00 a.m. at the Education Center. We'll hike the Kings Creek Trail (3.1 miles) and enjoy some new vistas. Emphasis will be on spring wildflowers and plant identification.

27: Sunday, 6:00 p.m. at the Education Center. We will enjoy a **potluck picnic and bisonburger barbecue**. **Staff, experienced docents, docents-in-training, family and friends are all invited!** Please RSVP (keeped@ksu.edu; or phone 587-0381).

June

3: Sunday, 6:30 p.m. until sunset. FOKP Annual Wildflower Walk.

18-23: Schoolyard LTER Teacher's Workshop. Docents are encouraged to take part in workshop activities, such as lectures by researchers, discussions, hikes, SLTER science activities and other special events. Come for one event, one day or the entire workshop. Workshop participation is considered in-service training. Also, volunteers are necessary to assist with SLTER activities, meals and evening hikes. Schedule pending.

Keeping Konza Prairie Aflame

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which can be destroyed with a good burn at any time of year. Other woody species are contained, but not eradicated. Results suggest that, after a long period of annual burning, a 20-year burn watershed will eventually re-establish grassland dominance, although many woody species will still remain in a herbaceous growth form.

Prescribed burns require dried grasses and dry ground litter in order to spread the fire. Without this fuel, the fire dies out. This was evident in looking across a ravine in K20A. The headfire had traveled down the hill assisted by a north wind, but stopped in the bottom of the ravine before it could travel up the opposite slope, because there was no combustible material on the ground in the ravine, and the fire died out. Grasses cannot compete well with dense woody vegetation, and dry creek beds are notoriously rocky. The K20A burn was slow-moving, and took a long time.

Infrequent burning favors the woody species and many annual plants, but seasons of burning can also affect the plant composition. In 1994, seasonal burns were introduced, with 10-year-burn watersheds changed to summer burns, and some 4-year-burn watersheds changed to seasonal fall, winter, or spring burns.

What is the effect of seasonal fire on individual plant species? Research on Konza shows trends based on long-term data acquisition and a variety of burn treatments. Gene shared the following information:

Indiangrass is stimulated by annual spring burning and is neutral to fall and winter burns. It took seven years of annual burning before Indian grass started increasing.

Big Bluestem is favored by burns during any season. Little Bluestem is limited by or neutral to a spring burn, but is favored by fall and winter burns. Switchgrass cover does not change in response to summer burning, but is favored by annual burning in any other season. Consequently, summer burning may be a good tool for tallgrass restoration plots, because it inhibits switchgrass expansion and increases diversity of prairie species.

Sedges increase with summer, fall and winter burns, but declines with annual spring burning. Prairie Junegrass is favored by fall and winter burns, but decline with annual spring burning. Kentucky bluegrass will eventually be eliminated with annual spring burns, but will remain at low levels in fall and winter burned sites. Sideoats grama and Tall dropseed gradually decline in response to burning in any season.

Burning will not eliminate established gallery forests, honey locusts, elms, oaks, hackberries, and other tall trees that have become established in unburned grasslands.

Eastern red cedars can be killed with a single burn in any season, if much of the tree is affected by the burn. These trees tend to shed needles, which can dry and help to provide tinder to ignite the tree.

Fire will kill much of the above-ground stalks, but will not eliminate smooth sumac, unless the burn occurs in mid-June. Unfortunately, that is also when the C4 warm season grasses are at the point of lowest metabolic reserve, so they would also be damaged.

Buckbrush can be controlled with a normal April burn. Annual burning in any season will eliminate most annual plants, although some annuals, such as daisy fleabane, snow-on-the-mountain, and annual ragweed can persist. Asters increase with fall and winter burning. Canada goldenrod, and Prairie lespedeza are the only forbs that increase under spring burning. Ironweed is burn-neutral.

Records from 1926 show that the most prevalent grasses in upland tallgrass prairie were Little Bluestem and Prairie Junegrass, indicating that fall and winter burning was an early practice a hundred years ago. The succession of grasses to the present time may be related to land management practices, including the burning regime.

Two-year burn watersheds tend to maintain relatively stable plant population distributions in ungrazed areas, but woody species increase in grazed two-year-burn watersheds. Gene fears that the 20-year-burn watersheds in the native grazer area, N20A and N20B, will eventually be overtaken with woody species and be unusable by the grazers if the burn frequency treatment does not change.