

September 2003

# THE DOCENT NEWS



Published by the Tallgrass Prairie Preserve Docent Program

Distributed to Volunteers and Supporters of the Oklahoma Chapter of The Nature Conservancy

## The Last Great Places

- **Tim Grogan**  
**Executive Director**  
*Oklahoma Nature Conservancy*

Wow! What an exciting month September was for the Conservancy.

On a perfect fall day at the Tallgrass Prairie Preserve, we honored our Founder's Council by unveiling a new monument to them, their vision, and their courage in starting it all. I had the privilege of standing next to visionaries like Joe Williams, Frederick Drummond, Len Eaton, and Frank McPherson and hear them speak of, as Joe put it, the "leap of faith" they took in establishing the preserve nearly 15 years ago.

Appropriately in a Zen sort of way, the Board then balanced their tribute to the past with a bold action for the future by a unanimous and enthusiastic approval to acquire the Four Canyon Preserve in Western Oklahoma. At 3,400 acres, Four Canyon will protect more threatened species than any of our current preserves. It also achieves one of our

major goals: To acquire the Conservancy's first preserve in the entire Western half of our state, from which we can leverage conservation results across no less than three separate ecoregions.

On top of all that, Four Canyon is simply a visually stunning place.

Congratulations to Chris Hise, our Western Oklahoma Conservation Specialist, for his perseverance, vision, and just plain hard work.

Congratulations also to Grant Gerondale, director of our Oklahoma Freshwater Initiative (OFI) which was chosen as a case study for a global Conservancy conference on water issues. OFI is on the cutting edge of water policy and action in OK. We are presenting a paper on water issues to OK leaders in November, and were invited to work with the authors of a coming statewide water bill.

I invite you to get out to one of our preserves this fall. They are especially magical as they transition to their winter clothing. Check out our calendar for special opportunities, or just pack a

lunch on a crisp Saturday head on out.

Thank you for your continuing support in helping us in *Saving the Last Great Places*.

*Tim*



## Mark Your Calendar with these Important Dates!

### Prairie Road Crew October 11, 2003

Meet at the headquarters at 9:30  
Contact: [Dennis Bires](#),  
(918) 341-3908

### Tree (Trans)Planting November 15, 2003

Meet at the headquarters at 10:00  
Contact: [Dennis Bires](#),  
(918) 341-3908

### 2003 Round-Up November 15, 2003

Meet at the headquarters at 1:00  
Contact: [Jerry Wagener](#),  
(918) 341-3908

### Docent Recognition Dinner November 22, 2003

Hampton Inn, Sand Springs  
Contact: [Monica Murray](#)  
(918) 587-3701

## What's Blooming? - Van Vives

Did you find the puzzler in last month's newsletters? I was surprised that no one called my attention to it! The pictures for the Snow-on-the-Mountain and the Flowering Spurge were inadvertently transposed.

Besides the wild flowers listed last month, the following are also in bloom now.

**Cardinal Flower:** *Lobelia Cardinalis*, bellflower family. There are at least 100 plants with brilliant red flowers along the north ditch about 25 yards west of the walking trail parking lot entrance. Due to reworking of the ditch area last year there were none in bloom. It is great to see them make a comeback.



*Cardinal Flower*

**Leavenworth Eryngo:** *Eryngium Leavenworthii*, carrot family. This is not a thistle, as many people think. It is often associated with limestone areas. John Fisher

found an area on the east side of the TGP, which has a large population of Leavenworth Eryngo.



*Leavenworth Eryngo*

**Slender False Foxglove:** *Agalinis Tenuifolis*, snapdragon family. This plant likes moist soil and can be seen in great numbers in the ditches. It is partially parasitic on roots of other flowering plants and likes acidic soil derived from sandstone.



*Slender False Foxglove*

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### TGP Docent Contacts

#### Program Coordinator

**Jerry Wagener**  
 (918) 742-2566 - home  
 (918) 636.6361 - cell  
[Jerry@Wagener.com](mailto:Jerry@Wagener.com)

#### Tour Coordinator

**Dick Baker**  
 (918) 747-2495  
[Dbakertul@aol.com](mailto:Dbakertul@aol.com)

#### Docent Scheduler

**Kara Morgan**  
 (918) 272-9433  
[morgan1477@aol.com](mailto:morgan1477@aol.com)

#### Newsletter Coordinator

**Kim Hagan**  
 (918) 494-8892  
[kimhagan@sbcglobal.net](mailto:kimhagan@sbcglobal.net)

#### New Docent Recruitment

**June Endres**  
 (405) 356-9645  
[Ridgetree@worldnet.att.net](mailto:Ridgetree@worldnet.att.net)

#### New Docent Training

**David Turner**  
 (918) 333-7864 - home  
 (918) 661-4287 - work  
[drenrut@aol.com](mailto:drenrut@aol.com)

#### Reorientation and Kickoff

**Don Bruner**  
 (580) 237-4199 - home  
 (580) 213-9217 - work  
[dbruner@groendyke.com](mailto:dbruner@groendyke.com)

#### Docent Awards

**Monica Murray**  
 (918) 587-3701 - home  
 (918) 556-5327 - work  
[monica.murray@oden-ins.com](mailto:monica.murray@oden-ins.com)

#### Nature Room

**Doris Mayfield**  
 (918) 743-6922  
[dbmayfield@mindspring.com](mailto:dbmayfield@mindspring.com)

#### Workday Coordinator

**Dennis Bires**  
 (918) 341-3908  
[dennisbires@lycos.com](mailto:dennisbires@lycos.com)



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**Tick Trefoil** *Desmodium Canadense*, bean family. Also known as stick tights or beggar's lice.



*Tick Trefoil*

**Large-Flowered Gaura:** *Gaura Longiflora*, evening primrose family. This plant, with its pink/white flowers is quite prominent on the prairie now. It is sometimes called butterfly flower.

**Pink Weed:** *Polygonum Pensylvanicum*, smartweed family. This plant is prominent in the horse corral north of the gift shop. It looks like a member of the clover family, but is not. If one chews on a leaf one finds out why it is a member of the smartweed family; the lips and tongue begin to burn. Livestock generally do not eat it, although white-tailed deer do eat it. The seeds are known to have been a prehistoric food source. Birds and small animals eat the seeds.

**Broom Weed:** *Amphiachyris Dracunculoides*, sunflower family. The broom weed is almost in full bloom. European settlers tied bundles

of dried plants to sticks and used them as brooms



*Pink Weed*

**Blue Sage:** *Salvia Azurea*, mint family. This is another plant seen often on the prairie now. The color of the flower is one of the purest blues seen in wild flowers. The leaves are the sage commonly used in cooking.

**Sneezeweed:** *Helenium Autumnale*, aster family. The yellow flower petals have 3 lobes at the end. The dried flower heads were used as snuff by the pioneers.



*Sneezeweed*

**Boneset:** *Eupatorium Altissimum*, aster family. Boneset has a small white flower, but is not prominent. Tall boneset has opposite leaves and 3 veins. False boneset has alternate leaves with one central vein. Common boneset has opposite leaves, wider than those of the tall and false boneset and the leaves are toothed.



## Science in Action

- Andrew Donovan-Shead

After the cool break in the early August weather, summer returned with a vengeance in three digits. With it came an email from Dr Michael Palmer requesting volunteer research assistance for his colleague, Professor Jose Ramon Arevalo, who is mapping the damage caused by the tornado in the southwest section of the preserve. Again I thought I should take the opportunity to see science in action, lend a hand where I could, and experiment with my limits.

Jose teaches at the Universidad de la Laguna, in the Canary Islands, and is a researcher in forest science. He and Mike Palmer were colleagues on research projects in Minnesota where they studied the effect of tornadic damage to forested areas. Apparently, this kind of

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research has never been performed in Oklahoma, the center of most tornado activity. So, the tornado that passed through the prairie earlier this year created a scientific opportunity. Mike invited Jose to participate.

After a volley of email, we decided to meet early morning, Sunday, August 24<sup>th</sup>. Mike and Jose had already started work the day before. We met at the Visitor Center at 0800 hours and were joined by students Fumiko Shirakura and Kiyoshi Sasaki. We were an international group from the USA, Spain, England, and Japan. I felt quite at home and liked my companions immediately.



*Tornado Damage on TGP  
Photo Credit: Dr. Mike Palmer*

As you probably know, Oklahoma is an interesting place that boasts diverse habitats from those in the four to five thousand foot elevations at Black Mesa in the northwest to those at a few hundred feet above sea level in the southeast, with all that lies between. In our area there is a coexistence of prairie grassland and cross-timbers woodland, the interaction of which is still

mysterious. It is this that Mike Palmer and Jose Ramon hope to demystify by their research.



*More Tornado Damage TGP  
Photo Credit: Dr. Mike Palmer*

Mike explained that it is possible to deduce the power of a tornado by the damage it wreaks. By studying the damaged environment it is possible to see how it recovers. In woodland, like the crosstimbers, it is desirable to see whether it recovers as woodland or prairie. Mike ventured the thought that the heavy fuel load on the ground will create extremely hot, long lasting fires during the burn season next year that may tip the balance toward a recovery to prairie. Also, there are some questions about recovery of trees that have an effect on the validity of tree-ring dating; obviously stuff gets blown over through the ages, so are we measuring data from first or later growth trees?

In the evening of May 8<sup>th</sup> this year, a category 4 tornado, on a scale of 1 to 5, cut a swath through 500 meters of the crosstimbers in the southwestern section of the preserve. Mike estimates that

around 200 trees were destroyed, with many more badly damaged. In his proposal for State Wildlife Grant Funding he lists reasons why the damage is a unique opportunity for the study of natural landscape change:

- ◆ The usually slow dynamics of crosstimbers forests are likely to be very rapid after catastrophic disturbance.
- ◆ Even though Oklahoma is famous for its tornados, Mike knows of no study of the effects of tornados or any other windstorms on Oklahoma forests.
- ◆ The storm path is clearly defined, with untouched trees on either side, enabling ready comparison between damaged and undamaged crosstimbers. Mike points out that very few studies of windstorms have this characteristic.
- ◆ The damaged landscape consists of clumps of crosstمبر trees in a grassland matrix. Most existing studies on windstorms involve contiguous forests, which he says are less relevant for the study of major habitat change.
- ◆ Although most of the TGP Preserve is managed on a random burning schedule, the tornado area is part of a study on patch burning.

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The principal investigators of the patch burn study, Sam Fuhlendorf and Dave Engle, are allowing him to plan prescribed burns specifically to evaluate the interaction between fire and storm damage.

- ◆ Mike points out that the flora of the Tallgrass Prairie Preserve is well known, and there are good facilities for performing the research.
- ◆ Both Mike and Jose were principal investigators on a catastrophic windstorm in Minnesota and so bring their experience to bear on the research at the TGP Preserve.
- ◆ Several wildlife species of special concern are documented on the TGP Preserve that may be affected by the disturbance. They are: Rattlesnake, Master Borer Moth, Prairie Mole Cricket, Regal Fritillary, Northern Bobwhite, Greater Prairie Chicken, Henslow's Sparrow, and Iowa Skipper.

We drove from the Visitor Center to the research site. When we arrived, Mike gave us a short orientation explaining that we are in process of transecting the study area into 10 meter quadrants using the Universal Transverse Mercator (UTM) coordinate system. This meant that we had to correct

our magnetic bearings by two and a half degrees, the magnetic variation of the TGP Preserve. We did the transects the old fashioned way with compasses and 100 meter tapes.

UTM coordinates are oriented to true north with the origin at the intersection of the International Date Line and the equator. UTM provides a straight forward X, Y coordinate system that is also used by the Geographic Information System (GIS). All data for the Tallgrass Prairie is cataloged using GIS. Various data are stored on individual layers. Users can see relationships between the data by switching the layers on and off.

It was a lovely morning as we got busy. Each transect took us through hip deep vegetation, across gullies, and through piles of dried brush. Every ten meters we installed an orange flag with the coordinate written on it. At one point Mike noticed that one of our lines was a long way off and realized that the steel oil tanks nearby were affecting the compass readings. We corrected the line by taking another perpendicular measurement from an adjacent transect. Mike pays attention to detail because for a scientific researcher the devil is usually in the details. It is important to get this fundamental work done accurately because everything else about the project will build upon the layout of these quadrants.

The going wasn't as rough as when I was out earlier in the year with Hunter Anderson in the southeast. Mike was as active and energetic as a mountain goat. The temperature rose with the sun. BY noon I was pooped and had to quit, leaving the remainder of the team to finish the layout of the study area.



*Professor Jose Ramon Arevalo  
Photo Credit: Dr. Mike Palmer*

So what is going to happen once the transect of the site is complete? A map will be made. The flags will be replaced by rebar rods driven into the ground. Each quadrant will be analyzed, and the changes noted during the critical three year life of the program. However, this is a long term project that will continue for decades documenting longer term changes. This study will provide unique data and analysis that will augment the published literature and assist wildlife managers in the future. It is also an integral part of the broader initiative taken by the Ancient Crosstimbers Consortium, of which I will tell you more in the next issue.



## Visitation Notes - George Meyers

594 visitors signed-in during August, a decrease of 13.3% from August 2002. The downward trend in visitation continues. Visitation is down 18.9% for the year-to-date compared to 2002. There were 233 visitors from 31 other states, with Kansas (28), Texas (23), Missouri and Arkansas (30 each), and Ohio (25) leading. Visitors from Delaware finalized all 50 states being represented this year. 25 visitors came from eight other countries: Germany (6), England and India (4 each), Switzerland (3), and Canada, Japan, Singapore and Spain (2 each). Japan, India, Singapore and Spain are on this year's list for the first time. 336 Oklahomans visited the preserve this month.

Saturdays and Sundays had more visitors, as 50% of the month's visitors came on those days. An additional 14% came on Mondays. Visitation was relatively even Tuesday through Friday. 6.1% of the visitors came between 11:30 a.m. and 3:30 p.m. with an additional 22% after 3:30. 56% of the foreign visitors were first timers, along with 57% of other state visitors and 47% of Oklahomans.

Fewer visitors made comments in August. On August 1<sup>st</sup>, four groups commented "WHY NOT OPEN?!!" Other comments included "Great.

Reintroduce ELK!", "Awesome and great service", some Texans "Love it – Are Bisons Really Dangerous????", "It Rained, Hard", "WHOA", "Gorgeous", "Perfect", "An experience", "Gravel Road!!", "Great facility", "Grass is coming back", "Need black top road", "Totally tubular", (Author's comment: Tubular?). This month "Beautiful", "Great", and "Wonderful" were the most popular comments.



## Fairy Circles - Van Vives

Did you notice the large mound of toadstools that sprang up over the rotting stump of the large hackberry tree in front of the Headquarters Building? The cooler, wet weather has been ideal for toadstool production. Many yards are experiencing nature's phenomenon of *fairy circles* or *fairy rings*. What are they and why the circular pattern?

One often sees, as a precursor to toadstool appearance, a ring of dark green grass. In some cases the area inside the circle turns brown and the grass dies. A fungus develops in the ground, perhaps because of a piece of rotting wood. Thread-like mycelium begin to grow outward from the central fungi, thus producing the circular pattern. The outer edges of the mycelium cause increased nutrient production, which

forms the dark green circle. If the mycelium inside the circle become very dense, they may prevent the grassroots from receiving adequate moisture and may also choke their root system. This causes the brown area to form.

Before the age of scientific enlightenment these strange circles caused great wonder and speculation. Even Shakespeare wrote about them in *The Tempest*. "You demi-puppets that by moonshine do the green sour ringlets make...". Henry More wrote in his *Antidote to Atheism* in 1653 that he wasn't sure whether the fairy rings were made by witches, or by those little puppet sprites, which they call elves or fairies.

In Wales children were sternly warned to keep away from fairy rings and *never* to enter a ring because some great misfortune would descend upon them.

It was thought that the dancing fairies that produced the rings appeared more often to an uneven number of persons and oftener to men than to women. One of the dancing fairies was usually bigger than the others and they talked in a noisy, jabbering way.

Some people blamed love-crazed hedgehogs that chased each other in circles in a mating ritual.

In the 1700s the blame was  
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 put upon underground moles running in their circular tunnels. Their feces, rich in nitrogen, made the grass grow luxuriantly. Others explanations included starlings flying close to the ground in circular patterns, or horses or other farm animals tied to a central stake, and moving around it.

It was said that only sheep eat the grass that grows in the fairy rings, hence the superiority of Welsh mutton.

Somehow the explanation of fungi causing the circles seems so much more unimaginative and dull.

Sources: University of Illinois Extension; Great Moments in Science; <http://www.sacred-texts.com>; <http://www.which.net/gardeningwhich/advice/fairyings.htm>



**GIFT SHOP SALES SUMMARY**

\$ 4,055.73	August 2002
\$ 3,596.55	August 2003
\$40,033.44	Year-to-date 2002
<u>\$32,240.38</u>	Year-to-date 2003
<b>&lt; \$7,793.06 &gt;</b>	Year-to-date decrease in sales



**TNC Oklahoma Chapter Preserve Updates**

**Tallgrass Prairie Preserve**  
 - Bob Hamilton

**Fire:** Conducted the final 100 acre summer burn in the bison unit, and responded to a wildfire on a neighboring ranch to the north of the preserve. Tallgrass staff replaced the bad diesel engine and transmission in our 2 1/2 ton fire truck.

**Bison:** Construction of new boundary fence now stands at 5 3/4 miles with 2 3/4 miles left to go. This new fence will allow the addition of 7,000 acres to the bison unit after roundup this fall. Participated in a bison management planning

session at the National Park Service's Tallgrass Prairie National Preserve, Cottonwood Falls, KS.

**Noxious and Invasive Plants:** Spot-spraying of the noxious weed sericea lespedeza continues, now totaling 900 man-hours to sweep across 5,900 acres since June. ATVs pulling small trailer-mounted sprayers are used in this search-and-destroy mission. Local contractor initiated cutting of trees invading upland prairie in the southern part of the preserve, using a bobcat skid-loader with hydraulic clippers.

**Conservation Outreach:** Hosted the Wagoner County

Cattlemen's Association bus tour of 50 people, with special emphasis on OSU's patch-burn cattle research. Construction on the new Tallgrass Prairie Ecological Research Station is moving quickly, with the addition of exterior rock and interior wall framing.

**Weather:** After a very hot and dry July and August, we received a tremendous soaking rain of 8.1" over Labor Day. This prompted a nice autumn showing of many yellow and blue wildflowers.





## Conservation Plan Completed for the Nickel Preserve

- Chris Wilson

Conservancy staff have finalized the Conservation Area Plan for the Nickel Preserve. The plan establishes conservation elements, identifies key threats, and develops strategies to ensure conservation success. The 15,000-acre site is the Oklahoma Chapter's second largest preserve, and is the largest privately-owned conservation area in the entire Ozarks Ecoregion.

Planners established five major conservation elements that best capture the biodiversity of the preserve. Because these elements are natural communities or ecosystems, they encompass numerous *nested elements* such as rare or declining birds, mammals, fish, amphibians, and plants. Conservation elements are:

1. **Oak-pine Forest:** Occurs on bottomlands and north and east facing slopes and has a variable herbaceous ground cover of ferns and woodland forbs.
2. **Pine-oak Woodland and Savanna:** Occurs on ridges and south and west facing slopes, characterized by scattered pine and fire-tolerant oaks amid a prairie-like herbaceous community
3. **Riparian Forest:** Occurs along rivers and streams,

characterized by generally closed canopy and well developed understories with vines common.

4. **Stream Ecosystem:** Includes fish, mussels, salamanders, and invertebrates associated with rivers and streams.
5. **Cave Ecosystem:** At least seven caves occur on the preserve, some of which harbor a number of Ozark endemics.

The Oklahoma Ozarks are impacted by many threats, the *most critical* of which are: 1) Primary home development, 2) Conversion of native vegetation for cattle grazing, 3) Fire exclusion and 4) Invasion by sericea lespedeza. The first two of these contribute greatly to loss and fragmentation of all terrestrial elements, and contribute to the degradation of both streams and caves. The last two contribute to the degradation of habitat quality in terrestrial elements. In order to abate these and additional threats, the plan recommends we employ strategies that:

- ◆ Restore fire regimes within the natural ranges of variation in oak-pine forest, pine-oak woodlands, and riparian forests.
- ◆ Restore 1,200 acres of native pine-oak woodlands and savanna communities (native herbaceous layer and seedling/sapling trees).

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## TNC Preserve Contacts

### Tulsa Office

State Director  
**Tim Grogan**  
 (918) 293-2929

Director of Operations  
**Eileen Jobin**  
 (918) 293-2920

Director of Philanthropy  
**Deirdre McArdle**  
 (918) 293-2912

Director of Environ. Affairs  
**Grant Gerondale**  
 (918) 293-2922

### Oklahoma City Office

(405) 858-8557  
 Assoc. Dir. of Philanthropy  
**Kevin Virgillio**  
 Land Protection Specialist  
**Chris Hise**

### Tallgrass Prairie Preserve

(918) 287-4803  
 Preserve Director  
**Harvey Paine**  
 Director of Stewardship  
**Bob Hamilton**

### J.T. Nickel Family Nature & Wildlife Preserve

(918) 456-7601  
 Preserve Director  
**Chris Wilson**

### Pontotoc Ridge Preserve

(580) 777-2224  
 Manager  
**Jim Erwin**



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- ◆ Control or eradicate sericea lespedeza, *Lespedeza Cuneat*, along woodland edges and within restored areas of oak-pine forest and pine-oak woodlands.
- ◆ Restore bottomland hardwood forest to all converted areas.
- ◆ Protect all caves in the core area from human intrusion.
- ◆ The plan outlines methods for assessing our effectiveness in reducing threats and improving biodiversity---mostly by monitoring progress toward established goals.



## Crosstimbers Update

- Jim Erwin

The ADA trail at Pontotoc Ridge Preserve is coming along and is now about half-way completed. Rebecca McCulley from Duke University has been out at the preserve taking soil samples for carbon concentrations. She is using Pontotoc because of the different soil types on it's prairies. Pontotoc has also been selected to participate in a prairie examination by a Chicago group called Conservation Design Form. This group is working on a restoration project and wants to use some of our prairies as a blueprint



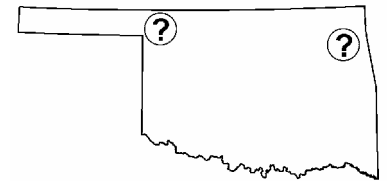
of native grasses. We are also working on a couple of trade land projects which we hope will turn out. We look forward to having a group of Boy Scouts visit the preserve on September 27<sup>th</sup>. And we've noticed rattlesnakes almost everyday headed back to the dens, another thing we've been looking forward to.

At Cucumber Creek we are talking to the Forest Service about purchasing 160 acres that has been clear cut and rock quarried for the past few years and is now for sale. TNC and the Forest Service borders the property on three sides. The Forest Service has shown some interest in the land, so we'll keep our fingers crossed. We are also talking with neighbors and law enforcement officials about illegal poaching of deer and black bears on the preserve. And we should be close to completing a burn agreement between TNC and the Forest Service. Burn season will be upon us soon.

Not too much is happening right now out at Boehler Seeps. The beaver pond is full of water and the lilly pads are in full bloom. The Willow Oaks and Blue Jack Oaks have lots of acorns this year. The area where we cut all the red cedars is now Little Bluestem and Indian grass. We've still got more burning to do and more cedars to cut on the south end.

## Western Oklahoma - Chris Hise

The Arkansas Darter is a small fish endemic to the Arkansas River Basin of the southwestern U.S. In Oklahoma, the Arkansas Darter has a rather unusual distribution, with isolated populations occurring in cool, spring-fed tributaries of the Grand (Neosho) River in northeastern Oklahoma, and clear sand-bottom springs and marshes along a handful of tributaries to the Cimarron River in northwestern Oklahoma.



*Arkansas Darter Oklahoma Distribution*

While populations are apparently stable in parts of it's range, groundwater withdrawal and diversions for irrigation have led to widespread loss of habitat for the Arkansas Darter in the High Plains area of Oklahoma, Kansas, and Colorado. The specialized spring-fed habitat requirements of the fish also make it quite susceptible to harm from drought.

The Arkansas Darter is currently considered a *candidate* for listing under the Federal Endangered Species Act. Conservation efforts for the Arkansas

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Darter include protection of occupied habitat from sand and gravel mining, water use modifications to improve spring flow, and establishing riparian buffers to control pollutants from agricultural runoff.



*The Arkansas Darter*



## Osage Plains / Flint Hills Prairie Ecoregion Description

### Tallgrass Prairie Preserve

#### Preserve History/Size

The Nature Conservancy purchased the historic 29,000-acre Barnard Ranch in November 1989. Current preserve size is 38,695 acres managed (36,831 acres plus 1,864 acres leased in-holdings), with an adjacent 5,950 acres protected by conservation deed restrictions. The preserve site design is focused upon the protection of the Sand Creek watershed.

#### Stewardship

The primary ecological goal of the preserve is to protect and maintain the indigenous biological diversity by restoring a functional

tallgrass prairie landscape. Managing for a patchy landscape is the core idea, thus providing habitat opportunities for the complete array of native plants and animals.

A herd of 2,100 **bison** currently occupies 14,400 acres, and is growing towards an eventual target (3-4 years) of 2,600 head on 25,000 acres. The fire-bison management regime allows the herd free-ranging access year round to an ever shifting array of burn patches. Randomly located burns are conducted to simulate the original fire frequency (3 year fire-return interval) and seasonality (spring, summer and fall). The result is a dynamic mosaic of landscape patches. The herd is not supplemented (no protein or energy) and is gathered annually to cull surplus animals and maintain a strict disease prevention program.

Seasonal **cattle** grazing is conducted under a lease arrangement with a local rancher on the bulk of the preserve not yet under bison management. An intensive early stocking program is used, with approximately half of the cattle acreage burned in the spring.

**Fire** is a major aspect of the Tallgrass Prairie Preserve management plan. Approximately three dozen prescribed burns are conducted each year totaling 15,000 to 20,000 acres. Since 1991, 300 prescribed burns

have been conducted totaling 180,000 acres. In addition, we have assisted neighboring ranches burn 120,000 acres and helped suppress 40 wildfires.

#### Research & Science Export

More than a dozen research projects are active on the preserve, and over 60 publications in scientific journals have been produced. An exciting *patch-burn* study was initiated with Oklahoma State University in 2001 on 7,300 acres. This study is testing the wildlife, plant community and cattle gains in patch-burn versus completely burned cattle pastures. The objective is to achieve similar conservation benefits as those documented in the fire-bison unit by patch burning in cattle units to diversify the landscape. In March 2003, construction of a new research station with the University of Tulsa was initiated to better support field research and on-site environmental education.

#### Public Use

Approximately 20,000 visitors tour the Tallgrass Prairie Preserve each year. The headquarters gift shop/education center is staffed by a dedicated pool of 150 volunteer docents.



### Adopt-A-Bison

A great idea for the holidays! Call the Tulsa office for details at (918) 585-1117.

## TNC Oklahoma Chapter Calendar

<p><b>By reservation</b></p> <p>Through late October</p> <p>Contact Dick Baker for reservations and more information (918) 747-2495</p>	<p><b>Tallgrass Prairie Guided Tours</b>          Enjoy the wide open spaces <a href="#">Tallgrass Prairie Preserve!</a>          All tours originate in Tulsa and are conducted by an experienced guide.</p> <p><b>SEE...</b></p> <p><b>THE BISON HERD</b>  <b>THE FLOWERS AND GRASSES</b> (hundreds of seasonal varieties)  <b>THE WILDLIFE AND BIRDS</b> (both native and migratory)  <b>THE HEADQUARTERS</b> buildings of the legendary Chapman-Barnard ranches (built in 1920 and restored in 1990)  <b>EXPERIENCE.....</b>  <b>THE HISTORY AND CULTURE OF THE OSAGE</b> (and surroundings), as defined by the oil industry, cattle ranching, and the Osage tribe  <b>THE EXPANSIVE PRAIRIE</b> (38,600 acres in the preserve and onto the horizon)  <b>THE GOALS</b> of The Nature Conservancy at the Preserve</p> 	
<p><b>October 3</b></p> <p>For further information and reservations, call (405) 858-8557</p>		<p><b>Wild Spirits 2003</b> at Coles Garden, 1415 NE 63rd St. (across from Cowboy Hall of Fame) in Oklahoma City!</p> <p>A casual event offering the opportunity to sample domestic and international beers, ales and wine from outstanding microbreweries, as well as signature dishes from Oklahoma City's finest restaurants.</p>
<p><b>October 4</b></p> <p>For further information call (918) 585-1117</p>		<p style="text-align: center;"><b>Seed Harvest</b>          at the Nickel Preserve          Come join in the seed-harvest fun.          Bring your lunch.</p>
<p><b>October 8</b></p> <p>For further information call (918) 585-1117</p>	<p style="text-align: center;"><b>Seed Harvest</b>          at the Nickel Preserve          Come join in the seed-harvest fun.          Bring your lunch.</p>	
<p><b>November 8</b></p> <p>For further information call (918) 585-1117</p>		<p style="text-align: center;"><b>Seed Harvest</b>          at the Nickel Preserve          Come join in the seed-harvest fun.          Bring your lunch.</p>



**OCTOBER**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
			Pat Jaynes Jenk Jones, Jr. TG	Deana Brewster Dennis Brewster	Larry Hicks	Beverly Atteberry Richard Burton
<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>
Susan Albert	Kim Hagan TG Irene Ward	Irene Ward	Dave Dolcater		Don Baird Larry Myers	Don Bruner TG Jim Deming
<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>
Doris Mayfield	Rose Whitekiller		Marilyn Keefer		Larry Hicks Jenk Jones, Jr. TG	John Fisher TG
<u>19</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>23</u>	<u>24</u>	<u>25</u>
Maureen Forsythe Steve Forsythe	Loretta Vives Van Vives	Larry Hicks	George Brenner	Bill Rinehart	Dick Baker Sally Baker	Van Vives TG
<u>26</u>	<u>27</u>	<u>28</u>	<u>29</u>	<u>30</u>	<u>31</u>	<u>1</u>
Nicholas Delgrosso	Betty Turner David Turner	Larry Hicks Rose Whitekiller	Kim Hagan		June Endres	Beverly Atteberry

**NOVEMBER**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
Jenk Jones, Jr. TG	Maureen Forsythe Steve Forsythe					Don Bruner TG
<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>
Susan Albert		Jo Brooks	Dave Dolcater			Jim Deming John Fisher TG