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DOCENT WINTER MEETING

—Andrew Donovan-Shead

Twelve persons attended the Docent Winter Meeting in the John Rogers Hall of The University of Tulsa College of Law. Saturday, 18 February 2006, was a snowy day of low temperatures and bitter wind from the north. Though it was cold and icy, it was our first snow of the year and only our second period this winter. Dennis Bires commented that he should have scheduled the meeting for January when we would have enjoyed warmer weather in the 60s.

Dennis opened the meeting promptly at 2 p.m. Our agenda was as listed here:

- Announcements
 - Re-opening of the Visitors Center is tentatively planned for 1 March.
 - A school group is planning to visit on 2 March.
- Upcoming Events
 - Prairie Road Crew: Saturday, March 4,

from 10 a.m. until 3 p.m.

- Docent Reorientation: Saturday, March 25, from 10 a.m. until 4 p.m. at the Ecological Research Station. Dr. Michael Palmer will be our guest speaker.
- New Docent Training: Saturday, April 1 & 8, from 10 a.m. until 3 p.m. at the Ecological Research Station.
- Prairie Road Crew, Cookout, and Hike: Saturday, May 13 from 10 a.m. until 4 p.m. Meet at the Visitors Center.
- Open Docent Positions:
 - Docent Reorientation Coordinator
 - New Docent Recruitment Coordinator for Tulsa
 - Work Day Coordinator
- Topics & Suggestions for Discussion:
 - Effect of gasoline price on visitorship and our service.
 - Publication of visitor and sales statistics.
 - Monthly bird pictures, like monthly flower pictures.
 - Open/Closed sign
 - Cable TV advertising

- Updated burn pattern map and research project list.
- New docent recruiting ideas.

Effect of gasoline prices: Although the price of gasoline has risen considerably and that for many docents the commute to the Preserve is above 170 miles, we decided that we would continue to operate as usual with no reductions in service. Our job is to be present to interact with any visitors that arrive at the Visitors Center. Most attendees reported that they never worked a day when they didn't receive someone. For many of us, a day with no visitors isn't wasted because it provides time to read, contemplate, and enjoy the peaceful surroundings. We were reminded that the help we provide to The Nature Conservancy is tax deductible; Dennis said:

“For tax purposes, it's not necessary to keep receipts for gasoline to deduct charitable mileage. One must keep a record of the dates one drove to the Preserve, whether to work a shift, attend Reorientation, Docent Recognition Banquet, etc., and multiply the number of trips during the year by the round-trip mileage from home, then by \$0.14. Marian and I just take our calendar off the kitchen wall at year-end and put it in our tax file, as that is where we enter our reminders. The IRS will accept that in an audit.”

Publication of visitor and sales statistics: At our winter meeting last year, we decided to discontinue publication of sales statistics because we felt that this shouldn't be made public on the web-site where we post the newsletter for download. Also, there wasn't that much interest in the statistics.

We used to receive docent visitor statistics from George Meyers, but haven't in a long time. If anyone would like to pick up the task from George then please feel free to do so. All it requires of a person is to collect the information each month from the visitor log and interpret the data in a way interesting to our readers. It is good to know who visits the Tallgrass Prairie Preserve from where in the world.

Monthly bird pictures: Van Vives regularly provides pictures of the flowers as they bloom in season for publication in the newsletter and for display on the table in the Visitors Center. Someone suggested doing the same for birds. Anyone who has the equipment and skill to photograph the birds living on the Preserve is welcome to contribute pictures to the newsletter and for display in the Visitors Center. It is a requirement of The Nature Conservancy that we give proper attribution to any pictures we use, therefore we can only publish pictures for which we have express permission to use.

Open-Closed sign: Someone proposed that we install Visitors Center open-closed signs near the entrances to the Preserve. We decided that this is somewhat impractical and likely to send the wrong message such as causing visitors to abort their journey when there is still much to see on the Preserve and at the headquarters compound. Also, signs tend to be open invitations to vandalism.

Cable TV Advertising: None of us present at the meeting had enough knowledge to discuss this topic. Dennis said that he would refer it back to the proposer for more detailed elaboration.

Update burn pattern map: A burn pattern map and research project list is located on wall by the

rack of T-shirts in the Visitors Center. We agreed that it would be useful to have this revised with more current information. Dennis said that he would talk to Bob Hamilton about the possibility of getting more current information.

New docent recruiting ideas: Dennis said that though we have about 100 docents, not all of them were active last year for various good reasons. We need more help to keep the Visitors Center open. We agreed that Van Vives did an excellent job of soliciting coverage when needed, resulting in very few unattended days.

Any suggestions for recruiting new docents will be welcome. Because we only train new docents at the beginning of each season, we should concentrate our recruiting efforts in the three months prior to the beginning of each season. Cable TV advertising would complement this effort, if it can be done for little or no cost. A cadre of speakers willing to give presentations, when requested by organizations in need of guest speakers, might be another way of making our need known.

We agreed that for those docents who don't like working alone they should form teams to help, especially during public holidays. Most visitors go to the prairie on the third day of a three-day weekend when they are at a loss for something to do. A visit to the prairie is better than a visit to the mall – that might be the beginning of an advertising slogan.

Other business: Dennis asked George Pierson to review the web-site with us and Andrew Donovan-Shead to talk about the newsletter.

George demonstrated the sign-up procedure

and reset the passwords for those of us who had forgotten them. If you cannot remember your password then send George an email so that he can reset it for you.

George paged through the web-site and noted that though much of the information has aged by a year or more, it is still valid. He said that it is worth our while to review the contents of the web-site as it will help us to remember useful information. It is also worthwhile giving visitors the web-address of the pages.

Access to the web-site can be from the top at www.nature.org, thus:

www.nature.org/
[wherewework/](http://www.nature.org/wherewework/)
[northamerica/](http://www.nature.org/northamerica/)
[states/](http://www.nature.org/states/)
[oklahoma/](http://www.nature.org/oklahoma/)
[preserves/](http://www.nature.org/preserves/)
[tallgrass.html](http://www.nature.org/tallgrass.html)

At this point, click on the Docent Program button that you can see highlighted in the screen-shot here:



An alternative method is more direct through our local web-site: www.oklanature.com/prod/docents.html.

Andrew talked about the newsletter, saying that the deadline for submissions is the 10th of each month, which gives him time to prepare the newsletter for publication on the 15th. You are all encouraged to contribute, even if it is only a sentence or two; we are particularly interested in learning about your individual experiences with the Preserve itself and your interactions with visitors to the Preserve.

Anyone with interesting digital pictures and a story or anecdote to go with them should send them to Andrew for inclusion in the newsletter. You must own the copyright to the pictures and give permission for them to be published; The Nature Conservancy is very sensitive to intellectual property rights.

Dennis Bires closed the meeting at 3:35 p.m.

BIOFUELS

—Van Vives

When President Bush mentioned biofuel from switchgrass in his State of the Union message, he piqued the interest of many people. Alternative fuels are becoming more important with the general thrust being to relieve the country's dependence upon foreign oil. We cannot satisfy our appetite for energy from "local" oil reserves and from coal deposits. The total amount of petroleum in the earth is finite and cannot be replenished. The push for less air pollution adds another dimension to the search for cleaner alternative fuels.

Research has been going on in many laboratories across the country, including Oklahoma State University, to find the "plentiful, economic, and clean biofuel." The use of a blend of ethanol and petroleum fuel is well known and is

available in parts of the country. The problem with such a blend, which produces less pollution, is how do we produce the ethanol. Presently it is made mostly from corn and grain sorghum. That means that there is competition for the corn as a food source and a fuel source, not to mention the production of "drinking spirits."

It makes sense that we should be searching for renewable fuel sources. Biomass is a logical solution since it can be used as a combustible fuel as well as a raw material for production of a biofuel, such as ethanol. Another advantage is that biofuel uses carbon dioxide from the air during its growing cycle, so one can say that carbon dioxide is recycled.

Switchgrass, *Panic verbatim*, is a warm season perennial grass that grows throughout prairie country as far north as Canada. It is easily seeded and can be harvested with a combine. Solid pellets of the dried grass can be used as a combustible fuel.

To produce ethanol the grass has to be mechanically or chemically broken down. Enzymes can be used to break it down further into glucose and pentose molecules. A fermentation process then produces alcohol from the mass and the alcohol is separated by distillation.

According to the Oak Ridge National Laboratory 20 pounds of dry switchgrass can produce 1 gallon of ethanol, which weighs 6.59 pounds¹.

Not all researchers are touting biofuels. David

¹ By way of contrast, general aviation fuel such as 100LL weighs 6 pounds per gallon and water weighs 8 pounds per gallon. In England, water weighs 10 pounds per gallon and occupies a volume of 1 cubic foot. —Editor.

Pimentel, professor of ecology and agriculture at Cornell, concludes that there is no energy benefit in using biomass for liquid fuel. He made a study of the total fuel energy required to produce liquid biofuel. He took into consideration the energy required for producing pesticides, fertilizer, running machinery, irrigating, grinding, transportation, and distillation. With all these factored in he concluded the following:

- Corn requires 26-percent more fossil energy than the fuel produced;
- Switchgrass requires 45-percent more fossil energy than fuel produced;
- Wood requires 57-percent more fossil energy than the fuel produced;
- Soybean plants require 27-percent more fossil energy than fuel produced.

It is not evident whether he estimated the amount of fossil fuel needed to produce the fossil fuel.

Pimentel does advocate using the burning of biomass to produce thermal energy. An important factor to consider is that biomass is renewable and petroleum is not.

The energy output-input for producing alcohol from corn is 1.2. The net gain from corn ethanol is 21-percent. The energy output-input ratio for ethanol from switchgrass is 4.4, or a net energy gain of 334-percent. Researchers now are looking for special species of grasses that may give higher yields of alcohol. Switchgrass is a good start!

TALLGRASS PRAIRIE RETREAT
—Andrew Donovan-Shead

Dr. Michael Palmer invited me to attend the

First Annual Tallgrass Prairie Retreat at the Research Station on Thursday, 9 March 2006. I took a day of vacation from my work and drove out to the prairie.

In his opening remarks as the Retreat Chairman, Dr. Palmer said: “There are several goals for the retreat, including showcasing research conducted at the Tallgrass Prairie Preserve, exploring new collaborations, informal networking, and just having a good time amongst the bluestems and bison. I hope the retreat will inspire you to think about the future potential of scholarly work at the preserve, and about how the existing field station can be developed in the future.”

Sponsors for the event were Oklahoma EPSCoR, the Oklahoma State Regents for Higher Education, and the National Science Foundation. EPSCoR is an Experimental Program to Stimulate Competitive Research. Federal EPSCoR and the Institutional Development Award (IdeA) Programs “provide funding for science and technology research to states that historically have been less competitive for federal R&D funding. The programs are merit-based initiatives geared to improve research competitiveness. Oklahoma is one of 27 states/jurisdiction participating in EPSCoR programs administered by the National Science Foundation” and others. In fiscal years 2004 and 2005, active Oklahoma awards exceeded \$100-million.

In his oral abstract for *Scholarly Opportunities at the Tallgrass Prairie Preserve*, Dr. Palmer said: “The Tallgrass Prairie once covered vast areas of the United States, but is now restricted to a tiny portion of its original range. Oklahoma is unique

in having substantial acreage of this endangered biome. The 40,000-acre Tallgrass Prairie Preserve (TGPP) in Osage County represents the largest protected tract of intact prairie. Since The Nature Conservancy (TNC) acquired it in 1989, the preserve has been managed for its biological resources using a combination of bison grazing and prescribed burning, which mimics the natural processes that have shaped the prairie for eons.”

“The preserve represents an unparalleled natural laboratory. The unique dynamic nature of the management coupled with high biodiversity in a relatively intact landscape allows us to ask scientific questions we are unable to address elsewhere. Over 100 personnel in multiple institutions have used the TGPP for scholarly activities, and this research has led to at least 70 publications, including at least a dozen dissertations and theses.”

“There is reason to believe that future scholarship will exceed past accomplishments. The key to future knowledge is collaboration, and the transcendence of disciplinary boundaries.”

As Bob Hamilton pointed out in his presentation, *The Tallgrass Prairie Preserve – A*

Natural Laboratory, the Tallgrass Prairie Preserve is at the southern end of the five-million acres of the Greater Flint Hills tallgrass prairie that is also of conservation interest. At the northern end of the Greater Flint Hills is the Konza Prairie Biological Station nearby Manhattan, Kansas.

Our day was divided into fifteen-minute segments that enabled the participants to cover broad subject matter that included eco-architecture; plant virus biodiversity and ecology; history, art and literature on the Great Plains; fire history of the Flint Hills since the early 19th Century; and stream ecology research and education, to mention a few of the topics. We will look at some of these in more detail in future editions of the newsletter. Differences between the Konza Prairie Biological Station and our own Prairie Preserve are interesting, for example.

Overall, the First Annual Tallgrass Prairie Retreat was efficiently run and appeared to be successful in attaining its objectives. I managed to corner Dr. Glenn Collier and get news of his experimental work at the Keystone Ancient Forest Preserve that we talked about in a previous newsletter; we will revisit that in a future edition.

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