



# THE DOCENT NEWS

Of The Tallgrass Prairie Preserve Docent Program



# OCTOBER 2006

For the Volunteers and Supporters of the Oklahoma Chapter of The Nature Conservancy

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## DOCENT REORIENTATION 2007

—Anita Springer

Docent reorientation is scheduled for March 3, 2007. Mark your calendar! Our guest speaker is Dr. James P. Ronda, who is considered one of America's foremost scholars of the American West. He has authored many books and essays on the subject. Dr. Ronda recently retired as Barnard Professor of Western American History from the University of Tulsa. In January, 2003, as a stand-in for the President of the United States, Dr. Ronda gave the keynote address at Monticello which officially opened the Lewis and Clark Bicentennial. He has also acted as a consultant and on-camera commentator for PBS, C-Span, the BBC, and the Oklahoma Public Broadcasting Service.

When I contacted Dr. Ronda, he indicated that he was no longer accepting speaking invitations. But, my invitation contained "the magic words—HARVEY PAYNE", that convinced him to make an exception for us. Thank you, Harvey.

Mike Fuhr, The Nature Conservancy State Director, has graciously accepted our invitation to speak to us. We appreciate the time he has set aside to be with us during our reorientation meeting.

## BISON ROUNDUP

—Andrew Donovan-Shead

Ann Whitehorn told me that the bison roundup is scheduled to begin on Friday, 3 November 2006 and that the docent day will be on Saturday, 11 November 2006. However, I have heard that the roundup may be delayed because the ponds have insufficient water to sustain the corralled bison. Bob Hamilton says that he will let everyone know by 30 October whether the roundup is to proceed according the schedule or not; if not, then roundup will be delayed until we receive sufficient rainfall.

## DOCENT RECOGNITION DINNER

—Dennis Bires

The 2006 Docent Recognition Dinner will be held on the afternoon of Saturday, October 28, at 1:00 p.m., at the Ecological Research Station at the Tallgrass Prairie Preserve. Our banquet will be a midday meal this year, so we can all drive home in daylight. We'll honor those who've earned their initial Docent pin, as well as those who've reached higher summits of service. And as always the annual dinner is a great time to catch up with volunteers we see only occasionally when we share a shift, on a workday, or at Docent Reorientation.

## SEED COLLECTING AT THE NICKEL PRESERVE

—George Pierson

A group of Nickel Preserve volunteers spent a couple of very pleasant hours collecting seed heads of fishing pole grass, CHASMANTHIUM LATIFOLIUM, along the Illinois River on Saturday, October 7th, 2006. We collected about 1/2 bushel of seed heads. These will be used to introduce populations of this native grass to the Nickel Preserve.

Following lunch at the headquarters building we drove up Sawmill Hollow to the maintenance barn where Chris Wilson, Preserve Director, keeps the seed drying racks. After a few minutes instruction, we began processing already dry seed to make room for our harvest. The seed heads are worked through a wire mesh in order to reduce most of it to a size that can be planted



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by the preserve's seed drill. The rest is broadcast by hand.

If they are available, diverse native seed mixes can cost hundreds of dollars per pound! Our work that day saved the Conservancy some money and assisted in the reintroduction of a native grass to the Nickel Preserve.

After putting the seed we collected in the drying rack, we split up and toured parts of the preserve. Some of us drove the Sawmill Hollow and Pumpkin Flats roads looking for butterflies. Others went birdwatching at the new Wetlands Trail on Pumpkin Flats. See Internet address:

<http://www.oklanature.com/okla/events/2006-10-07-Nickel-Workday.html>

for this text with pictures.

## BIOENERGY

—Andrew Donovan-Shead

Judging by the breathless news reportage today, one can be forgiven for thinking that fuel production from biomass is the new wave of the future. On 9 September 1943, the Kansas City Star newspaper printed an article entitled UNITED STATES IS FAR BEHIND IN USE OF CORN COBS FOR CAR FUEL that said, in part: "Gasolineless automobiles and other vehicles—run on 'producer gas' generated by such things as coal, wood, charcoal, corncobs, coffee husks, nutshells and grape seeds—are growing in number in almost every country in the world except the United States." Ethanol was, as most of you may remember, introduced during the Organization of Petroleum Exporting Countries (OPEC) induced oil shortages of the 1970s, but had the unfortunate effect of rotting the magnesium, aluminum, and rubber parts in the fuel delivery systems of cars. Modern Flexible Fuel Vehicles (FFV) can today run on E85 fuel, which is 85-percent ethanol and 15-percent gasoline, especially in the Midwest where corn is the primary feedstock for ethanol production. Historically, a variant of the Ford Model-T was the first FFV designed to run on ethanol produced by farmers locally.

Heightened interest in biofuels is now cause for concern, especially for Dr. Mike Palmer of the Botany Department at

Oklahoma State University. He reports that the rush into biofuels production is likely to cause serious degradation of the environment, leading to significant reductions in biodiversity through vast monocultures of switchgrass and corn.

Maize, commonly known as corn, requires the ground to be prepared by plowing which increases respiration of the soil that will contribute to global warming. Plowing requires diesel fuel for the tractors. Corn requires inputs of fertilizer that is usually made from oil feedstock. Corn is susceptible to drought. Any irrigation of corn will require supplies of increasingly scarce water. And a corn monoculture is susceptible to the rapid spread of plant diseases. These are a few of the potential problems with corn.

According to Dr. Palmer, switchgrass has advantages over maize. It is adapted to our environment. It has high genetic variation that makes it resistant to the spread of disease. Switchgrass makes highly efficient use of water and nitrogen. It is perennial unlike corn which is an annual. Also, switchgrass is good at preventing erosion of the soil. A monoculture of switchgrass would be problematic too because there would be fewer nitrogen-fixing legumes present, as with corn.

Dr. Palmer is concerned by the risks associated with genetic engineering of switchgrass. An article in the NEW YORK TIMES for 8 September 2006 reported that the California biotech company CERES is genetically modifying switchgrass to maximize yield. The chief executive of CERES was reported as saying: "You could turn Oklahoma into an OPEC member by converting all its farmland to switch grass." Dr. Palmer is concerned that it would be impossible to stop the transgenes crossing from the engineered to the native switchgrass that is abundant in much of North America.

As Dr. Palmer explains on the Laboratory for Innovative Biodiversity Research and Analysis (LIBRA) web-site at:

<http://ecology.okstate.edu/Libra>

"Natural or restored grasslands have numerous advantages as a source of biofuel feedstock, including:



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- ▶ “As native hay meadows are a traditional form of land management, there is already a production infrastructure in place.
- ▶ “Biological diversity remains high.
- ▶ “Hay meadows have multiple uses, including for biodiversity conservation, livestock, and honey production.
- ▶ “The native species are already adapted to local climates, obviating the need for genetic manipulation.
- ▶ “No tilling means less soil respiration.
- ▶ “Fertilizer, watering, and pesticides can be minimized, thus decreasing energy inputs and environmental damage.
- ▶ “Complete crop failures are unlikely in species mixtures.
- ▶ “The presence of legumes can allow natural nitrogen fixation, enhancing yield with little cost.
- ▶ “Regular cutting will prevent invasion by woody plants and associated environmental degradation.
- ▶ “Vegetation scientists already know a great deal about the ecology and productive capacity of grasslands.”

In email correspondence, Dr. Palmer said that “...work on the farm bill will begin

immediately after the election. There is already lobbying for genetically engineered switchgrass going on. For the rest of 2006 and 2007, the people who need to be reached the most quickly are those in politics, and those likely to influence politicians.”

As citizens, you can help by learning about the pros and cons of the various biofuels and discussing the merits and demerits of each with your government representatives, friends and family. A good place to start learning is at the LIBRA website. Dr. Palmer makes a good point when he says “While there is clearly no ‘magic bullet’ for our global energy conundrum, it is imperative that we not create new problems when a big part of the solution is under our feet.”

Van Vives, Mike Palmer, and the Wikipedia contributed to this article.

## NEWSLETTER BACK ISSUES

Back issues of the Docent Newsletter, to September 2006, can be found in the two green zip-binders, stored in the Perspex rack by the file cabinet in the office of the Visitor’s Center.

## NEWSLETTER PUBLICATION

Deadline for submission of articles for inclusion in the newsletter is the 10th of each month. Publication date is on the 15th . All docents, Nature Conservancy staff, university scientists, and philosophers are welcome to submit articles and pictures about the various preserves in Oklahoma, but of course the Tallgrass Prairie Preserve in particular.





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