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## What's New

### **FY2010 Acquisition Summary**

[Bryan Rugar](#), ANHC Chief of Land Acquisition and Stewardship



St. Francis Sunken Lands Natural Area protects federally endangered pondberry (*Lindera melissifolia*).

The duties of the Arkansas Natural Heritage Commission (ANHC) include choosing land, waters, and interests to be acquired for inclusion in the System of Natural Areas. Since July 1, 2009, ANHC has conducted eight different land transactions at six different natural areas, including one brand new natural area (St. Francis Sunken Lands):

- Kings River – 263 acres
- Pine City – 40 acres
- St. Francis Sunken Lands – 80 acres
- Falcon Bottoms – 160 acres
- Warren Prairie – 2,107 acres
- Devil's Backbone – 30 acres

A total of 2,680 acres has been added to the system, and we plan to close on another 320 acres (possibly more) by the end of June. Funding for these acquisitions came from a variety of sources including federal grants, the 1/8 Cent Conservation Tax, and Arkansas Natural and Cultural Resource Council grants. Want to learn more about natural areas? Visit [this page](#).

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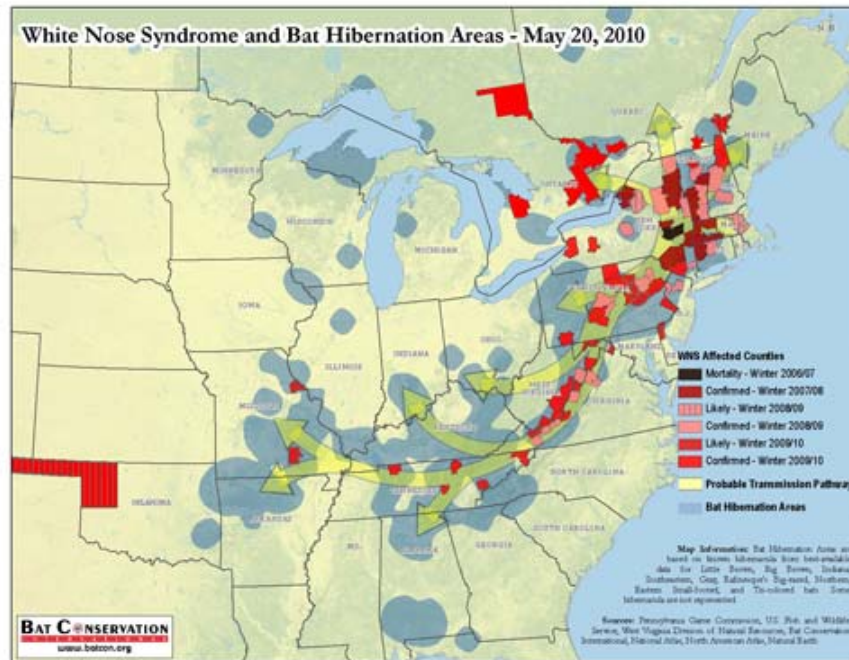
## Count bats for AGFC

[Jonelle Doughty](#), ANHC Public Information Specialist

Do you have a bat house? If so, the Arkansas Game and Fish Commission (AGFC) wants your help. Blake Sasse, AGFC nongame mammal biologist, would like to "...obtain baseline population trend information on species such as the big brown bat that are known to be vulnerable to White-nose Syndrome."



What is White-nose Syndrome (WNS)? WNS is a fungus that has killed more than 1 million hibernating bats of eight different species since its discovery in February 2006 (see our article [here](#)). What began in a single cave in New York has now spread into Canada and through the eastern United States as far as Oklahoma. [Recent reports](#) from [Bat Conservation International](#) (BCI) confirmed that endangered gray bats in Missouri have now been infected. At this time, Arkansas's bat populations are still showing no signs of WNS.



Click map for larger.

To participate in AGFC's bat project, contact Blake Sasse at [dbsasse@agfc.state.ar.us](mailto:dbsasse@agfc.state.ar.us) or 877-470-3650. If you don't have a bat house but would like one, check out BCI's page on installing a bat house [here](#). All bat houses are not equal, so be sure to read their [Criteria for Successful Bat Houses](#).

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## Natural Features

### Endangered bird sees increase

[Bill Holimon](#), ANHC Chief of Research; [Jonelle Doughty](#), ANHC Public Information Specialist



Red-cockaded woodpeckers require open pine woodlands with trees averaging 40+ years old for building nest cavities.

[Pine City Natural Area](#), located in Monroe County in eastern Arkansas, supports the only known population of federally endangered Red-cockaded woodpeckers (*Picooides borealis*) throughout the Mississippi Alluvial Plain. ANHC staff monitors the population regularly and manages the natural area for this rare bird's habitat.



Nest cavities at Pine City are typically 20 to 50 feet high. A special "peeper" is used to check for eggs and nestlings.

In April 2010, monitoring revealed that this natural area was, for the first time, supporting three pairs of Red-cockaded woodpeckers. One of the new pairs resulted from a little matchmaking with a young female from the Ouachita National Forest (ONF). The female was translocated to Pine City in early March this year. She was placed with a single male, born at Pine City in 2009, who had established a new territory last summer in a portion of the natural area where habitat restoration had just been completed. Unexpectedly, this female left the male she was paired with and displaced one of the other breeding females just as nesting season kicked into high gear. Fortunately, she was tending to two nestlings in early June, which could provide a beneficial boost to the gene pool of this small population. In addition, the other pair successfully fledged three nestlings in late May and the single male continues to defend his territory and will likely remain there until paired at a later date.

Red-cockaded woodpeckers are cooperative breeders, and the term "group" is more informative with these birds as opposed to "pair." A typical Red-cockaded woodpecker group consists of a breeding pair and one helper, though some groups have more helpers and some have none. The helpers assist in raising young, including incubation, brooding, and feeding. Cooperative breeding systems, which occur in about 3% of bird species worldwide, appear to evolve when there is a scarcity of some resource in their environment that limits the opportunities of younger birds to breed. In the case of the Red-cockaded woodpeckers, that limiting factor is available cavities for roosting and nesting. Red-cockaded woodpeckers excavate their cavities in live pine trees which typically takes several months or even years to complete. Because of the length of time involved in creating new cavities, young male Red-cockaded woodpeckers are reluctant to start new territories and tend to stay in their natal territory and wait for it or a nearby territory to become available. Young females tend to disperse from their natal territory in search of Red-cockaded

woodpecker groups lacking a female. Single males defending a territory with completed cavities are tracked as single bird groups because they often remain in that territory until paired and eventually contribute to producing offspring and helping maintain or increase population size.

Management for Red-cockaded woodpeckers requires patience and persistence, and there will be opportunities in the coming year to reach or exceed the goal we set for 2010. The single male may end up paired through the natural dispersal of birds born this year at Pine City Natural Area. If not, we will conduct a reciprocal translocation with the ONF to pair the single male again (this will aid their population as well). Success rates of the swaps are around 50% so this single male has a good chance of starting a family.



An adult Red-cockaded Woodpecker at a nest cavity. Sap wells excavated by the woodpeckers extrude pine pitch which deters black rat snakes from climbing the trees and reaching the cavities where they would eat eggs or nestlings.

Because Red-cockaded woodpeckers are cooperative breeders, population measures for the species include tracking “average group size.” The average group size of adults at Pine City Natural Area (about 3) is currently very good and just a little above that observed across the species range. This is important because helpers at the nest typically result in greater numbers of nestlings fledged and higher fledgling survival rate. In addition, helpers provide a pool from which to draw replacement breeders, which aids in stabilizing the number of breeding groups, the key population parameter. The average group size at Pine City could be maintained or even increase slightly if the nest season continues to be as successful as it has been thus far.

Visit our [Multimedia Gallery](#) for [more images](#) of the birds and their habitat, as well as [a video](#) of one group bringing food to nestlings.

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## Prairie mole crickets at Downs Prairie

[Jennifer Akin](#), ANHC Plant Community Ecologist



In 2008, the September edition of Natural News reported on a tallgrass prairie project restoring an abandoned railroad right-of-way at [Downs Prairie Natural Area \(Breaking ground: Grand Prairie restoration\)](#). The work is supported through a grant from the [Arkansas Game and Fish Commission's \(AGFC\) State Wildlife Grant Program](#). Over the past two years, ANHC staff have been busy with our partners, the AGFC and Arkansas Forestry Commission (AFC), and have recently completed planting the abandoned railroad with native prairie seed collected from Downs Prairie. As part of this project, surveys were undertaken to monitor the response of grassland bird and insect species of conservation concern to habitat restoration activities, the latter of which is the subject of this article.

During the past two months, ANHC staff and volunteers conducted surveys for a rare orthopteran insect, the prairie mole cricket (*Gryllotalpa major*), which is native to tallgrass prairie in the south-central United States. Historically, this species range included areas in Kansas, Missouri, Illinois, Kentucky, Tennessee, Mississippi, Arkansas, and Oklahoma. Today, populations are known only from tallgrass prairie relicts in Kansas, Missouri, Arkansas and Oklahoma. Populations have declined with the reduced availability of suitable grassland habitat. For example, in the Grand Prairie of eastern Arkansas, less than one percent of tallgrass prairie remains as much of the land was converted to other uses, primarily agriculture.



A male prairie mole cricket (left). This crickets front legs (right) are adapted for digging rather than jumping.

Prairie mole crickets are the largest of North American crickets, with recorded lengths up to 5.0 cm and masses up to 2.6 grams. Little is known about their life cycle because they spend the majority of their time underground. Most common crickets have large hind legs adapted for jumping, but prairie mole crickets have hefty front legs designed for digging.

In late spring, the crickets emerge for courtship and reproduction. Males construct an acoustic underground burrow used to amplify their [courtship call](#) (click link to hear call), which is made by rubbing their forewings together to produce the sound. Humans can hear the calls at distances up to 400 meters from burrow. In Arkansas, calling usually begins in April and continues through early May. Weather conditions such as moisture, temperature, and wind speed play an important role during the courtship period. Males generally will not call unless evening temperatures are above 55-60°F and wind speeds are less than 25 miles per hour. Soil conditions (moist or dry) also affect the acoustics of the burrow. When conditions are right, males begin to call shortly after sunset and continue for approximately 45 minutes after dark. In response, females flying over the area drop to the ground, enter a male's burrow, mate and disperse to lay eggs.



ANHC staff and volunteers gathered at the natural area around sunset to prepare for the survey.

Surveys at Downs Prairie documented 52 acoustic burrows occupied by calling males in April and 18 active burrows in May. A decrease in activity during May was expected because the courtship

period comes to an end during this time. Most all burrows were located in the high quality tallgrass prairie areas with a few located along the edge of the abandoned railroad. A survey conducted seven years ago reported active burrows in the quality tallgrass prairie areas but none in the abandoned railroad which, at that time, was overrun by dense trees, shrubs, and vines.



This abandoned railroad bed was recently plowed and sown with native prairie seeds. It will provide additional habitat for prairie mole crickets.

During the past two years, the vegetation was removed from the abandoned railroad, the site was prepared to receive native prairie seed, and then was planted this past April. Prairie seed often germinates over a period of two to three years, and perennial prairie plants devote most of their efforts in the first few years to developing root systems with little visible above-ground growth. Therefore, it may be several years before prairie plants are seen growing in the abandoned railroad bed.

Restoring the abandoned railroad increases the productivity of this natural area for species of concern, such as the prairie mole cricket, by providing additional foraging and breeding habitat, and eliminating fragmentation within the natural area. Prairie mole cricket surveys will continue at Downs Prairie Natural Area to document the species' status and response to an area that has been restored to tallgrass prairie.

See more photos from the prairie mole cricket survey and the natural area [here](#). Want to check out Downs Prairie Natural Area for yourself? Get driving directions [here](#).

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## Flora of Middle Fork Barrens

[Jonelle Doughty](#), ANHC Public Information Specialist

[Middle Fork Barrens Natural Area](#) is located along the Middle Fork of the Saline River in the eastern portion of the Ouachita Mountains. When ANHC acquired this natural area in 2004, the shale glades were degraded from fire suppression and encroachment of eastern red cedars. Over the last several years, the area has been intensively managed through prescribed fire and ecological thins in a push to restore these glades to their natural state (read about our glade restoration work [here](#)).



The rare Nuttall's pleat-leaf opens around 6pm and closes around sunset.

This spring, we began to see the fruits of our labor. Rare plant populations are flourishing, with a number of rare plants not previously known from the site now showing up. Among this spring's most exciting finds were prairie parsley (*Polytaenia nuttallii*) and ragged fringed orchid (*Platanthera lacera*). This natural area is also known to host the state's largest population of the rare Nuttall's pleat-leaf (*Nemastylis nuttallii*) and has a population of the rare and endemic Pelton's rose-gentian (*Sabatia arkansana*). See photos of Middle Fork Barrens Natural Area's flora (rare and common) in [this photo gallery](#). Learn more about the natural area [here](#).

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## A moth by any other name...

[Jane Jones-Schulz](#), ANHC Education and Information Coordinator

Last month we shared an agency email about snakes and the zoological definition of “intergrades.” This month, another email question sent us back to the reference books with some interesting results. An alert nature watcher in Rogers saw a huge, beautiful polyphemus moth (*Antheraea polyphemus*) and wanted to know if they were common in Arkansas. This dramatic member of the giant silk moth family, which is found throughout the state, has an average wingspan of five to six inches. One of the moth's most distinguishing features is the large eyespots on its two hindwings. The eyespots are also where it gets its name – from the Greek myth of the Cyclops named Polyphemus.



Polyphemus moths are common throughout the state of Arkansas.

Many scientific names of animals and plants have their roots in ancient Greek or Latin, and many others have changed over time as different cultures and languages have modified spellings and

pronunciations. A quick review of other invertebrate name origins revealed the following:

annelid – the name for the phylum of segmented worms, such as earthworms and leeches, comes from French “annelés” which means “ringed ones” and ultimately from Latin “anellus” for “little ring.”

arachnid – the name for the class of invertebrates with eight legs, such as spiders, ticks, and scorpions, comes from the Greek myth of “Arachne”, a great mortal weaver who boasted her skill was better than the gods.

isopod – the order of crustaceans that includes the familiar roly poly, gets its name from the Greek words “iso” meaning “equal” and “pod” meaning “foot.” A roly poly’s feet are all “equal” because they all do the same job (walking). None of the roly poly’s feet are specialized for climbing or grabbing.

butterfly – the general term for this insect is more difficult to trace because it shows up in text as far back as the 7th century CE. It was originally “buturfliog”, a compound of butere “butter” and fleoge “fly”. Why butter? There is some evidence that butterflies were thought to land in kitchens and drink milk or butter left uncovered. Other writings show that the word derives from an old myth that witches and fairies stole butter in the night, in the form of butterflies (this, interestingly, is supported by a German word for butterfly, “milchdieb” or “milk-thief”).



Greek goddess Arachne (left), ladybug (center), roly poly (right).

The story of how the ladybug got its name is also based on ancient legend. The story goes that a small farming village was experiencing unprecedented problems with insects devouring their crops. Faced with certain ruin, the peasants fell to their knees and began to beg the intercession of the Blessed Virgin Mary to send help in their calamity. Their simple faith was soon rewarded. The farmers began to notice a change in the crops. The dying foliage started to revitalize and greenness once again appeared on the landscape. Something was definitely reversing the devastation. As they looked closer, the farmers noticed small red bugs with black dots festooning their tiny concave, shell-like, bodies. Like soldiers called in to battle, they were eating the culprits—destructive aphids. “Our Lady’s bugs, Our Lady’s beetles,” the grateful villagers proclaimed. Eventually, as the small insects became a familiar part of their lives, the people shortened their name to ladybugs, the term by which they are still known today and perhaps one of the reasons why they are so well-loved.

All of these examples illustrate how we attempt to relate to the natural world around us and how our knowledge and perception changes through the years. Visit our website for more scientific names and information, then get outdoors and make discoveries of your own. We would love to see what you find. Visit [our Facebook](#) page and post your photos on our wall!

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## Calendar of Events

### Summer Reading Program

June 14, 16, 21 at Terry Library in Little Rock

## June 26 at McMath Library in North Little Rock

As part of this year's Summer Reading Program, Jane Jones-Schulz will be doing programs on Arkansas's water resources and habitats. Contact individual libraries for schedule.

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## Arkansas Audubon Society - Halberg Ecology Camp

6/20/2010

### Camp Clearfork in the Ouachita National Forest

Do you know an 11- or 12-year-old interested in learning more about nature? Sign them up for AAS Halberg Ecology Camp. Two one-week sleepover camps (June 13-18 and June 20-25) offer young people an opportunity for hands-on study of the natural environment in Arkansas's beautiful Ouachita Mountains. They will learn about mammals, snakes, birds, insects, geology, botany, aquatic biology, and much more. Visit their [website](#) for more info or contact [efulton114@sbcglobal.net](mailto:efulton114@sbcglobal.net).

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## DAH Summer 2010 Educator's Workshops

7/8/2010

9:00AM to 4:00PM at Winthrop Rockefeller Institute

Up on the Mountain - For more info, visit the DAH Summer Workshop page [here](#).

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## ANHC Commission Meeting

8/3/2010

9:00AM at Tower Building Conference Room in Little Rock

The Arkansas Natural Heritage Commission will be holding its third meeting of the year in Little Rock. More details TBA.

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