

## Michael Warriner

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**July  
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### ANHC acquires new natural area: Palmetto Flats

The Arkansas Natural Heritage Commission (ANHC) recently added the 64th natural area to Arkansas's [System of Natural Areas](#). The newest area is 150 acres in Little River County, in southwest Arkansas, and is called Palmetto Flats Natural Area. The ANHC purchased the land from [The Nature Conservancy](#) (TNC) with a grant from the Arkansas Natural and Cultural Resources Council (ANCRC).



"Palmetto," the Spanish word for "little palm," refers to native dwarf palmetto (*Sabal minor*) found on the area. Dwarf palmetto is one of about 14 species of palm native to the United States, and one of the most frost tolerant. Palms are chiefly tropical trees or shrubs characterized by a crown of compound leaves, called "fronds," terminating a tall, woody, unbranched stem or trunk.

The entire Palmetto Flats ecosystem comprises 1,848 acres. TNC obtained Palmetto Flats, along with five other ecologically significant areas in southwestern Arkansas in 2006, as part of an [historic land transaction](#) with [International Paper](#). The ANHC anticipates acquiring the remaining 1,698 acres to provide long-term protection to this unique ecosystem.

Palmetto Flats Natural Area is situated on the upper terraces of the Red River Alluvial Plain. Portions of the area hold water through the late spring and early summer and host a diverse association of wetland plant communities. The wetter flats are dominated by low density stands of overcup oak with sedge-dominated herbaceous layers. These flats have a wet savanna appearance that is rarely seen in Arkansas today. The flats are also studded with small, circular mounds that rise four to five feet above the surrounding terrain. The drier conditions of the mounds support post oak with occasional white and Durand's oaks. A heronry composed of breeding great white egrets and great blue herons is located along one of the site's small creeks. Directions to and maps of Palmetto Flats Natural Area will be added to the ANHC website in the coming months.

- [Michael D. Warriner](#) and [Jane Jones-Schulz](#)

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### Five natural areas add acres

Along with the addition of a new natural area, recent land acquisitions have also increased the size of five existing natural areas.

**Benson Creek Natural Area:** Located in Monroe County, [Benson Creek Natural Area](#) is an ecologically significant site protecting floodplain forests and wetlands along Bayou DeView. The ANHC purchased 412 acres from [TNC](#) that will be added to Benson Creek's existing 610 acres. The newly acquired acreage is a mix of agricultural land and floodplain forest. The portions used for agriculture are currently being restored to forest through the U.S. Department of Agriculture's Wetland Reserve Program.

**Chesney Prairie Natural Area:** At 60 acres, [Chesney Prairie Natural Area](#) is one of the few tallgrass prairie remnants left on Arkansas's portion of the Ozark Highlands. Chesney Prairie was once a small part of a larger prairie landscape dubbed Lindsley's Prairie; an area of approximately 20 square miles near present-day Siloam Springs. Most of Lindsley's Prairie was lost to agricultural conversion and urban development. However, small patches of tallgrass prairie still remain. The ANHC recently purchased 22 acres of tallgrass prairie adjacent to Chesney Prairie that will be added to the existing natural area.

**Kings River Natural Area:** The addition of 37 acres to the 645 acre [Kings River Falls Natural Area](#) in Madison County will ultimately lead to enhanced public access to this already popular natural area. The new acquisition was donated to the ANHC by Bollinger Valley Farms, Inc. Kings River is a clear mountain stream originating in Newton County. A primitive foot trail runs along the river down to one of the state's most scenic waterfalls. ANHC staff will be installing a new parking area and rerouting the existing trail as a result of this new acquisition.

**Nacatoch Ravines Natural Area:** [Nacatoch Ravines Natural Area's](#) 635 acres represents one of the largest and most intact examples of dry, dry mesic, and mesic upland forests remaining in the northern part of the West Gulf Coastal Plain. This natural area will grow in size by 638 acres as a result of a conservation easement purchased from TNC. As with Palmetto Flats, this new tract was originally acquired by TNC in a major transaction with International Paper as an effort to ensure the long-term protection of ecologically significant sites across the southern United States.

**Pine City Natural Area:** As the only site in the Mississippi Alluvial Plain (MAP) that hosts [Red-cockaded Woodpeckers](#) (*Picoides borealis*), the loblolly pine forests of [Pine City Natural Area](#) have been an ANHC focus area for years. The open loblolly pine woodlands and savannas required by this federally endangered bird are very rare in the MAP and the ANHC has been actively working to both acquire remaining forested stands as well as restore former agricultural fields back to wooded conditions. A newly purchased 40 acre tract has been added to the natural area's existing 714 acres.  
- [Michael D. Warriner](#)

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### Habitat restoration work continues at Warren Prairie

Working with [TNC](#), the ANHC is implementing a two year conservation plan at [Warren Prairie Natural Area](#) that includes fire management and woodland restoration. Located in Bradley and Drew Counties, Warren Prairie contains the highest-quality examples of saline prairies in Arkansas; native loblolly-shortleaf pine woodlands identified by the U.S. Forest Service as the second least protected forest type nationally; and pine-hardwood flatwoods identified by the ANHC and TNC as the most endangered forested ecosystem in the state. The natural area currently



supports 23 species of conservation concern including the federally threatened plant [Geocarpon](#) (*Geocarpon minimum*).

Even though visitors to Warren Prairie today may see good quality saline barrens and open woodlands, the site did not always look like this. Years of intensive management by the ANHC and TNC have gone into restoring portions of this natural area back to historic conditions. Examination of aerial photos and General Land Office records indicate this area of southern Arkansas was once characterized by open woodlands and savannas. However, decades of fire suppression and commercial forest management led to conversion of open woodlands to closed canopy forests. These changes negatively altered plant species composition and adversely impacted dependent animal species.

At just over 2,000 acres, additional tracts of Warren Prairie Natural Area still require habitat restoration. Actions to be taken by ANHC and TNC over the next two years include prescribed burning along with mechanical thinning of dense forest stands

to improve habitat structure and promote growth of native grasses and forbs. The primary goal of this effort is to restore woodland, savanna, and barrens habitats to historical conditions to benefit several species of conservation concern.

Restoration efforts at Warren Prairie Natural Area will also aid in the recovery of the federally endangered Red-cockaded Woodpecker. A species dependent upon mature, open pine woodlands, this woodpecker has declined dramatically as a result of habitat loss. Lands surrounding the Warren Prairie area historically supported several breeding groups of Red-cockaded Woodpeckers until around 1990.



The ANHC and U.S. Fish and Wildlife Service have signed an agreement that grants permission to re-establish breeding groups of Red-cockaded Woodpeckers at Warren Prairie Natural Area in the very near future once habitat conditions are restored. Habitat restoration work at Warren Prairie Natural Area is being made possible by an [Arkansas Game and Fish Commission State Wildlife Grant](#) awarded to TNC.

- [Michael D. Warriner](#)

### Good news for woodpecker fans

The Second Annual Arkansas/Louisiana Red-cockaded Woodpecker Stakeholder Meeting was held June 30-July 2 in El Dorado. These annual meetings were begun by timber company [Plum Creek](#) as an outgrowth of management of the species on the timber company's land holdings. Plum Creek biologists Richard Stich and Kit Hart expanded the scope of the meetings to bring together a wider audience that now includes government agencies, private companies, and non-governmental organizations working on Red-cockaded Woodpecker conservation in southern Arkansas and northern Louisiana. These meetings provide a rare opportunity for staff from many different organizations to share information and serve as resources for one another. [Potlatch Corporation](#) hosted the recent meeting which featured presentations regarding the status of populations on public and private lands in both states. Based on information presented at the meeting, the outlook for Red-cockaded Woodpeckers in this part of the country is good. The overall population is larger



than many previously assumed and has exhibited good potential for growth and recovery.

- [Michael D. Warriner](#)

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### Student's natural area research garners awards

Natural areas are "living laboratories" and offer students and teachers unique learning opportunities. Several students conducting research related to natural areas have gone on to win science fair awards, but Drew Emerson (at right) of Little Rock has taken his work at one natural area to the international science fair arena.

Drew began working with ANHC entomologist Michael Warriner in 2006, researching the impact of red-imported fire ant (*Solenopsis invicta*) mound building activities on soil chemistry at [Warren Prairie Natural Area](#). Most people in Arkansas are probably familiar with the large mounds produced by these non-native ants.

Red-imported fire ants are able to move and mix a great deal of soil as they excavate into the earth. Emerson's results have shown that the chemical composition of these mounds differs markedly from surrounding, undisturbed soil. Similar results have been noted by researchers in other states.



From an ecological point of view, red-imported fire ants could potentially alter soil properties to the extent that dependent plant communities experience shifts in composition. While red-imported fire ants have been well-studied in human-dominated landscapes (residential areas, agricultural fields), research assessing their impact on natural areas or wilderness preserves has lagged far behind. The work conducted at Warren Prairie has helped to partially remedy that situation.

Emerson presented the results of his research at regional and state science fairs, winning several awards. A presentation at the [International Sustainable World Project Olympiad](#) in Houston, Texas also garnered Emerson an all-expense paid trip to compete in the International Environmental Project Olympiad in Istanbul, Turkey. Emerson was presented with a silver medal for his research at that meeting. ANHC staff are expanding on Emerson's work and will present the results at this fall's [Natural Areas Conference](#) in Nashville, Tennessee.

- [Jane Jones-Schulz](#)

### Upcoming Events

**July 31, 2008. [Arkansas Environmental Education Association Expo.](#)**

Lake Point Conference Center, Russellville, Arkansas. Jane Jones- Schulz, education and information coordinator for ANHC and board member of the AEEA, will be present information about the benefits of "citizen science" projects, both nationwide and here in Arkansas, along with details about our current project and how to participant with students. Jane's workshop will be part of a series of programs and workshops that day, including the director of the National Project for Excellence in Environmental Education and a slideshow by Tim Ernst.

**September 4-5, 2008. [Arkansas Wildlife Action Plan Conference.](#)** Mt. Magazine State Park.

**October 14-17, 2008. [35th Annual Natural Areas Conference.](#)** Doubletree Hotel, Nashville, Tennessee.

**November 17-20, 2008. [15th Biennial Southern Silvicultural Research Conference.](#)** Hot Springs Convention Center, Hot Springs, Arkansas.

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