



## Breeding Bird Surveys

Bird watching has grown into a popular recreational activity in and around Arkansas Post National Memorial. Viewing birds in the wild intrigues and excites visitors and has become an important part of park interpretive programs. Knowing what birds are present in the park also helps management preserve park resources and habitats.



### Breeding Birds at Arkansas Post

Birds are an important component of park ecosystems. It has been suggested that management activities aimed



at preserving habitat for bird populations, can have the added benefit of preserving entire ecosystems and their attendant ecosystem services (Karr 1991, Maurer 1993). Bird-watching has become popular among the public and park visitors.

Arkansas Post National Memorial monitors trends in the number of birds within a population as a sign of a healthy environment in the prairie and bottomland hardwood forest. Research shows that birds serve as good indicators of changes in environmental health (Cairns et al. 2004, Mallory et al. 2006, Wood et al. 2006). Therefore, changes in these numbers reflect the effectiveness of preservation actions on these communities.

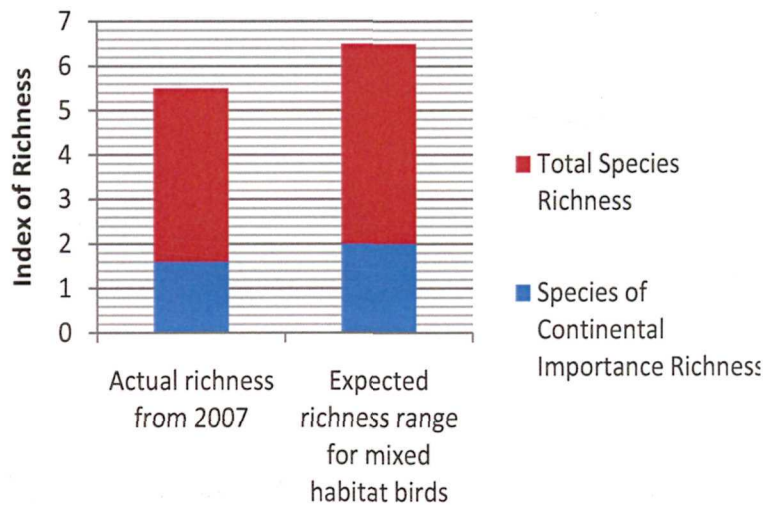
### Heartland Inventory & Monitoring Network

The Heartland Inventory and Monitoring Network is a group of scientists that work with parks in eight states. They work to create inventories of species and natural features. They also monitor trends and issues in the parks. The purpose of this work is to help parks, including Arkansas Post, to make informed management decisions. The Heartland Network monitors changes in bird populations and bird abundance to determine the health of the community. They accomplish this by surveying seasonal and year around resident birds at the park during breeding season. This assessment data and an evaluation of habitat composition contribute to the assessing of changes in bird communities within a habitat.



## Breeding Bird Surveys at the Park

*Comparing actual values and expected ranges for mixed habitat bird richness indicates that actual richness falls within the expected range for total species richness in this habitat type. Expected values for species of continental importance are based on total species richness and percentages seen in the data.*



Breeding bird surveying work was initiated at Arkansas Post National Memorial, Arkansas in 2007, to assist the park in analyzing prairie and bottomland hardwood habitats through time. Forty-one of the forty-two bird species recorded during the breeding bird surveys are permanent or summer residents of the area (Stokes and Stokes 1996). Species richness, diversity, and species distribution, were assessed to determine changes in community compositions. Therefore, most species have some value in characterizing the breeding bird communities of Arkansas Post; the only exception is the migrant House wren. Changes in the numbers of the most common and widely distributed species such as the Acadian flycatcher, Blue-gray gnatcatcher, Eastern wood-peewee, Indigo bunting, Northern Cardinal, Northern mockingbird, Red-bellied woodpecker, and Yellow-billed cuckoos serve as better indicators for changing habitat conditions. For example, species like the Dickcissel, common in grassland habitat, have improved reproductive success when grass cover is dense, forb presence is heavy, and litter cover is thick (Johnson et al. 1998, Winter 1998). Therefore, a decline in Dickcissel numbers could very well indicate changes in any one or all three of these grassland measures. Less common and widely distributed species will likely occur so infrequently that strong species-habitat relationships may not be established.

### More Information

For more information on this and other topics, please contact the park:

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<http://www.nps.gov/arpo/>

Heartland Network Web site:

<http://science.nature.nps.gov/im/units/htln/index.cfm>

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Photo Credits:

Cardinal - Thomas Plate  
Mockingbird- Ed Wood  
Monitoring Team - NPS  
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