

# Upland Hardwood Forest

# Natural Communities of Arkansas



**General Characteristics:** The chief tree species in an upland hardwood forest include white oak, black oak, and southern red oak together with mockernut hickory and shagbark hickory. Factors such as soils, moisture, elevation, sunlight, wind and fire determine which species will make up the community. For example, if wind and fire open the canopy (uppermost forest layer) and reduce competing vegetation in the understory, oak and hickory seedlings can develop into the dominant trees. Since these trees are deciduous (seasonally shed their leaves), many plants in the understory have growth cycles adapted to bloom in early spring before new canopy tree leaves block the sunlight.

**Current Status in Arkansas:** Although relatively large areas of upland hardwood forest still remain in Arkansas, years of fire suppression and other forest management practices have changed their composition and appearance. Without periodic fires, competing tree species such as red maple have "shaded out" young oak seedlings and greatly reduced the regeneration of oaks. The lack of fire has also enabled more tree species to survive, resulting in a denser forest than existed 150-200 years ago. The use of fire as a management tool could play an important role in preserving oak dominance and ensuring the long-term integrity of the upland hardwood forest system.



Species Key		
1. Three-toed Box Turtle <i>Terrapene carolina triunguis</i>	10. Mockernut Hickory <i>Carya tomentosa</i>	19. Smallmouth Bass <i>Micropterus dolomieu</i>
2. Crested Iris <i>Iris cristata</i>	11. Cooper's Hawk <i>Accipiter cooperii</i>	20. Cardinal Flower <i>Lobelia cardinalis</i>
3. Ovenbird <i>Seiurus aurocapillus</i>	12. Scarlet Tanager <i>Piranga olivacea</i>	21. Water Willow <i>Justicia americana</i>
4. Purple Trillium <i>Trillium recurvatum</i>	13. Ozark Big-eared Bat <i>Plecotus townsendi ingens</i>	22. Raccoon <i>Procyon lotor</i>
5. Bloodroot <i>Sanguinaria canadensis</i>	14. White-breasted Nuthatch <i>Sitta carolinensis</i>	23. Southern Lady Fern <i>Athyrium filix-femina</i>
6. Sessile Woodoats <i>Chasmanthium sessiliflorum</i>	15. Black Oak <i>Quercus velutina</i>	24. Inland Riveroats <i>Chasmanthium latifolium</i>
7. Trout Lily <i>Erythronium rostratum</i>	16. American Redstart <i>Setophaga ruticilla</i>	25. Yellow-fringed Orchid <i>Platanthera ciliaris</i>
8. Bobcat <i>Felis rufus</i>	17. Flowering Dogwood <i>Cornus florida</i>	26. Yellowcheek Darter <i>Etheostoma moorei</i>
9. White Oak <i>Quercus alba</i>	18. Beauty Berry <i>Callicarpa americana</i>	27. Cave Salamander <i>Eurycea lucifuga</i>

**Flora and Fauna:** The oaks and hickories of upland hardwood forests produce mast (acorns, nuts) that is a major food source for many animals. Understory trees, such as the flowering dogwood, take advantage of available sunlight by blooming before the canopy leaves out. Predators, such as the bobcat and the Cooper's hawk, are adapted to hunt by darting between the trees. On the forest floor, spring ephemerals (lasting only a few days) such as trillium, bloodroot, and trout lily, are also early bloomers, seeking out the light before it is blocked by overgrowing vegetation. Spring is also the time neotropical migrant birds, such as the American redstart and scarlet tanager arrive from their wintering grounds in Central and South America. Upland hardwood forests often have caves, springs, and clear-flowing streams. These clean, cool, rocky streams support game fish, such as the smallmouth bass, as well as rare darters. Ferns, orchids, water willow and riveroats thrive in these wetter areas. The caves are home to more rare species, such as the Ozark big-eared bat and cave salamander.

<http://www.naturalheritage.com>

Arkansas Natural Heritage Commission  
 1500 Tower Building • 323 Center Street • Little Rock, AR 72201  
 501-324-9619 • email: arkansas@naturalheritage.org

