

## KANSAS

For our 1993 survey, Chris Lauver of The Kansas Biological Survey described three old-growth sites in eastern Kansas. These sites still exist (Kindscher 2002) and are presented below. To our original three we add a site of "ancient" Cross Timbers (Cross Timbers State Park at Toronto Lake) that in 2002 was receiving wide publicity. Jennifer Delisle, information manager with the Kansas Natural Heritage Inventory, writes that it is "possible that other remnant stands exist" but that Natural Heritage has not had the funding that would enable the agency to locate them.

The Cross Timbers form the transitional boundary between the eastern deciduous forest and the prairie. They stretch from the Chautauqua Hills of southeastern Kansas, south through eastern Oklahoma, into northeastern Texas. Cross Timbers State Park described below is the northernmost extension of the Cross Timbers (Niemeyer 2002). The dominant trees of the Cross Timbers are Blackjack and Post Oak. Other species include Eastern Red-cedar, Northern Red Oak, White Oak, White Ash, Bitternut, Mockernut Hickory, and Winged Elm (U. of AR. 2002).

In Kansas, the Cross Timbers region encompasses Chautauqua, Elk, Greenwood, Montgomery, Wilson, and Woodson Counties. The Cross Timbers flourishes on a sandstone substrate, which traps within it water on which the trees can draw. Thus trees can survive in what would otherwise be prairie. The University of Arkansas Tree Ring Laboratory has identified ancient Cross Timbers at Elk City Lake (Montgomery County) and near Fall River (Elk or Greenwood County) in addition to the state park (U. of AR. 2002). The extent of ancient Cross Timbers prairie and savanna in Kansas has not been determined. Remaining sites would likely have been grazed by livestock (Lauver 1992).

### **Fort Leavenworth Military Reservation**, northeastern Kansas (Leavenworth County)

--Old-growth eastern floodplain forest on the south and west side of the Missouri River. Lauver describes the site as about 1000 acres dominated by sycamore, cottonwood, elm, and Pecan. Its condition is "AC," with "A" representing about 55% of the land, "AB" 25%, and "C" 20%. In the past the section rated "C" was "selectively thinned" (Lauver 1992). Matthew Nowak, Forester at Fort Leavenworth, speaks of 1200 to 1500 acres of bottomland, which have not been cut except for the removal of walnut from one area. The lower areas are virtually solid Pecan, around 140 feet tall, he says. Nearer to the river, on ripples of slightly higher land, are massive sycamore. The elm in the forest are now just "great white ghosts of trees." Walnut is scattered among the sycamore. Also intermixed are Bur Oak, White Oak, Green Ash, Hackberry, Sugarberry, and, as a recent addition, some Box Elder. Cottonwood grow only in places that have been disturbed, and are found along a road or two that were pushed through so people could gather mushrooms. As far as Nowak knows, nobody has cored the trees to determine their age. The state estimates that the average Pecan tree on this fertile site is 120 to 130 feet tall at 50 years of age (Nowak 1993).

--About 125 acres of old growth on the steep slopes of bluffs that face east and northeast across the Missouri River. Red and Black Oaks, basswood, walnut, and Sugar Maple dominate. Eighty percent of the site is ranked "A" and 20% "AB," the latter

because the area includes a horse trail and "some evidence of selected thinning." At the base of the bluff are found 2 species rare in Kansas: the Large-flowered Bellwort and Appendage Waterleaf (Lauver 1992).

**Cross Timbers State Park at Toronto Lake,\*** in southeastern Kansas (Woodson County)

A 1075-acre park, much of which is Cross Timbers woodland and savanna dominated by Blackjack Oak and Post Oak. The area experienced some logging, but there are no signs of systematic tree removal. The rocky terrain and twisted trees would not have been attractive to loggers. Researchers from the University of Arkansas's Tree Ring Laboratory cored 26 trees in 1982 and found that many of them date back to the early 1700s. Some of the park was never grazed by livestock; a small part was grazed by livestock up until four years ago; the balance was grazed many years ago. The park is owned and managed by the Kansas Department of Wildlife and Parks, which protects the old growth. By act of the Kansas legislature the name of the park was changed from Toronto Lake State Park to Cross Timbers State Park at Toronto Lake, and in May 2002 an Ancient Trees of the Cross Timbers trail with signs describing the ecosystem was inaugurated (Fisher 2000, Niemeyer 2002).

**Eudora Floodplain Forest**, northeastern Kansas (Douglas County)

Approximately 50 acres of privately owned eastern floodplain forest on the south side of the Kansas River. The dominant trees are cottonwood, sycamore, and Silver Maple. The site is ranked "A," but shows some signs of disruption by off-road vehicles (Lauver 1992).

Delisle, Jennifer M., Information Manager, Kansas Natural Heritage Inventory. 2002. Personal communication.

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University of Arkansas, Tree Ring Laboratory (U. of AR.). 2002. Web site ([www.uark.edu/misc/xtimber/gallery1.html](http://www.uark.edu/misc/xtimber/gallery1.html)).

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