

# **THE ANCIENT CROSS TIMBERS CONSORTIUM FOR RESEARCH, EDUCATION, AND CONSERVATION**

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**ABSTRACT.** Stretching from Kansas in the north to Texas in the south, the Cross Timbers post and blackjack oak-dominated woodlands represents one of the largest areas of intact old-growth in the eastern United States. Now threatened by development, climate change, and exotic species, the Cross Timbers represent both a unique conservation opportunity and a set of management challenges. To this end, the Ancient Cross Timbers Consortium (XTIMBER) was established in 2003. The primary objective of XTIMBER is to support the protection and restoration of old-growth Cross Timbers within their historical range. Partners in this effort include regional universities, non-profit organizations, state and federal land management agencies, and private landowners. In addition to a number of formally established research natural areas, dozens of other ancient Cross Timbers locations have been identified, and ongoing studies include work on oak regeneration, disturbance history, and long-term climate change.

**KEY WORDS.** Post oak, blackjack oak, LBJ National Grassland

## WHAT ARE THE ANCIENT CROSS TIMBERS?

The Cross Timbers are an extensive area of low-productivity oak-dominated forests and woodlands that extend from southern Kansas through much of Oklahoma and well into Texas, with a small inclusion in extreme western Arkansas (Therrell and Stahle 1998, Bragg 2004). The Cross Timbers are dominated by post (*Quercus stellata*) and blackjack (*Quercus marilandica*) oaks, with a scattering of other tree species. Stands termed to be “ancient” refer to the old (> 150-year-old), short, twisted, hollow, and otherwise defective timber frequently found on steep, rocky hills. The poor log quality and difficult terrain associated with the Cross Timbers resulted in many stands escaping the logging and land clearing that followed Euroamerican settlement. Although quantification of the extent of ancient Cross Timbers has only just begun, evidence suggests that this cover type may represent one of the largest remaining old-growth forests in the eastern United States (Therrell and Stahle 1998).

Unlike most old-growth remnants, the ancient Cross Timbers are largely privately owned, and thus this unique forest lacks many of the protections found on public lands. The Ancient Cross Timbers Consortium (XTIMBER) was formed in 2003 as a partnership between local, state, and federal agencies, universities, conservation groups, and private citizens. XTIMBER uses this collaboration to help educate the public, facilitate research, and conserve the best remaining examples of the ancient Cross Timbers, and has been instrumental in the initial establishment of a series of cooperatively managed research natural areas in old-growth remnants across the distribution of this forest type.

Valuable information has already developed from this network of study sites. For example, one of the most promising areas of work in the old-growth Cross Timbers involves the development of tree-ring chronologies dating back 400 to 600 years (see the following case study from a Forest Service natural area in northern Texas).

### **CASE STUDY: CROSS TIMBERS NATURAL AREA, LBJ NATIONAL GRASSLAND**

The LBJ National Grassland is found in the rolling hills and prairies north and west of Decatur, Texas not far from the Dallas-Fort Worth metropolitan area. Nestled within the thousands of acres of the LBJ is a small parcel that has been preserved by the USDA Forest Service as the Cross Timbers Natural Area (CTNA). Located in a steep series of wooded draws and ravines, the CTNA protects some of the oldest post oaks remaining in this part of Texas. An initial reconnaissance in January of 2005 found a number of post oaks > 200 years old, with some exceeding 300 years.

Not all is well and good in the CTNA, however. Most of the lower slopes and flats have been invaded by eastern redcedar (*Juniperus virginiana*) and other more shade-tolerant hardwoods, and the oldest post oaks seem to be confined to narrow and unstable strips along the edges of the ravines and cliff faces. As a part of the LBJ’s management overall strategy, controlled burns have begun in the uplands surrounding the CTNA, and fires are planned within the CTNA to help maintain the old post oak stands.

The reserve status granted the CTNA also bodes well for future preservation and restoration

work, and should allow for the return to more historical vegetation conditions. The old post oaks appear healthy and relatively vigorous and should, if properly maintained, provided the basis for future generations of post oaks. Valuable dendrochronological information has already been gathered from this stand, allowing researchers to supplement climatic records from an otherwise heavily disturbed portion of Texas.

### **FUTURE PLANS AND DIRECTIONS**

Future plans include the establishment of a Cross Timbers-wide system of protected natural areas that will permit long-term ecological research opportunities. Furthermore, the XTIMBER's goals of education and conservation will expand to encompass more of the Cross Timbers, with outreach programs designed to inform landowners of the intrinsic value of their woodlands. To accomplish this, additional partners and cooperators will be needed to supplement the current set of participants.

### **CONSORTIUM CONTACT AND MEMBERSHIP INFORMATION**

For more information about the Ancient Cross Timbers Consortium, check out the XTIMBER website at <http://www.uark.edu/misc/xtimber/>. The XTIMBER's website also has a copy of the founding memorandum of understanding available for download. Individuals, organizations, and agencies interested in participation within the Consortium can learn more by contact Dr. Stahle directly at (479) 575-3703.

### **LITERATURE CITED**

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