

Post Oak Position Statement

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1. Historical relevance of the Cross Timbers Forest

Denton, Dallas, Arlington, Waco, Temple, and Austin. What do these important and enduring communities have in common? They all developed along the boundary line formed where the Blackland Prairie to the east meets the eastern arm of the Cross Timbers Forest on the west.

Intersections of this boundary with major rivers, such as the Trinity, created the most desirable locations for farms and communities. Settlers here enjoyed the enviable combination of water, ample rich grazing land, easily tillable farm land, and the timber essential for construction and fuel.

The Eastern Cross Timbers are characterized by a very dense deciduous forest of principally Post Oaks, which thrive on the distinctive reddish sandy soils of the Woodbine Sandstone geologic formation. The forest historically was so dense and impenetrable that travelers crossing the treeless prairies to the east and west, upon encountering the barricade created by the Cross Timbers, were inclined to follow the forest line north into Oklahoma to go around it rather than try to cross it. This natural north-south route was traveled by migratory herds, native Americans, and explorers, as well as early settlers and stagecoach routes, and emerged as present-day I-35.

To westward migrants, the vast prairies offered no shelter, no certainty of water, no place to hide from enemies. Arrival at the Eastern Cross Timbers thus represented a return to security. It is little wonder, then, that on meeting this barricade, many pioneers chose to end their westward search for a better life, remaining here to launch the prosperous agricultural society which became the foundation of the strong north central Texas economy that persists today. It is easy to

think man's day-to-day existence is no longer tethered to our natural world. Yet we are still drawn inexorably to live not in the midst of the prairie, but at the edge of the wood.

2. Botanical overview of the Cross Timbers Forest

Textbooks frequently present growth of trees in general terms such as “temperate climate with an average annual rainfall of 32” per year in well-drained soils.” Such a generalization denies the extremes of weather that trees must endure daily for as much as hundreds of years. In real life, trees are heroes of the battle to survive. (Edlin, 1976) This is particularly true of Post Oaks.

They have earned our respect.

Both the Spanish and the American explorers considered the Post Oak-dominated Cross Timbers to be regional markers between the eastern forests and the western prairies and they used them to orient themselves. (Weninger 1984) Post Oaks (*Quercus stellata*) are so-named because they are the “stars” or dominant species of the mature Cross Timbers ecosystem in which Denton is situated. Post Oaks tend to grow in the richer, better-drained soils of our Cross Timbers region, leaving the poorer soils to other species. As humans settled this area, fire was gradually eliminated as a source of cleansing of understory plants. This caused a change in the plant community Post Oaks evolved in, allowing thickets to develop instead of open meadow-like areas between widely spaced trees in a savanna. At this time, little if any of the virgin Post Oak Savanna remains; yet, many of the individual Post Oaks may survive. Studies have shown that numerous 200 to 400 year old trees remain in the region. People frequently fail to realize their age since they do not grow to fit our mental image of giant trees. (Arnold, 2001 and Stahle et al. 1985) Twisted stems, dead tops and branches, canopies restricted to a few heavy limbs, branch

stubs, fire and lightning scars, leaning stems, exposed roots and hollow voids are all hints of significant age. (Stahle et al. 1996)

Nevertheless, the old-growth patriarchs are dwindling as they compete with humans for space and resources. According to the Ancient Cross Timbers Consortium, a regional group of universities and plant conservation agencies,

“The Cross Timbers and Post Oak Savanna form the frontier between the eastern deciduous forest and the grasslands of the southern Great Plains. This great ecotone ... offers an exceptional opportunity for environmental research, education, and conservation. These rugged old-growth woodlands were not commercially important, but have high ecological integrity and preserve vital components of our eroding biodiversity.... Our failure to understand the ancient Cross Timbers is contributing to the ongoing destruction and fragmentation of this ecosystem, which is a major threat to regional biodiversity, water quality, and recreational values.”

The Cross Timbers Forest and Prairies overlap, quite literally, in and around Denton.

3. Use and care of Post Oaks in urban landscapes

The interconnectedness of all things in nature is not a new concept, but we have been slow to appreciate that no single plant species can thrive when isolated from the ecosystem in which it evolved. In urban landscapes this is frequently the fate of Post Oaks. It cannot be overstated that Post Oak trees are *very sensitive* to disturbance of their roots, whether by digging (i.e. adding other plants), soil compaction by mowing or construction equipment or even heavily used paths too close to trees, inappropriate watering or changes in drainage patterns, or altering the soil depth in the root zone. In spite of that, “Post Oaks are some of our most important and

widespread trees. Most of the ones you see are one hundred to four hundred years old. If you have existing Post Oaks, it is recommended to leave them alone as much as possible. **If you want to plant Post Oaks, you might have to start with acorns. They are not commercially available.**” (*emphasis added*) (Wasowski and Wasowski, 1997)

4. Suggestions to consider as development occurs in or near remnants of Post Oak forests.

Safety FIRST! Protect the Post Oaks while we collect our thoughts and consider options. Ask contractors to put six foot tall steel mesh fences in a wide circle three feet outside the outer dripline of the Post Oak trees. Do NOT drive underneath them, or pile supplies up or dump waste materials near them.

Consult an expert. There is a Denton company, Tree Rescue Company, whose founders are life-long botanical researchers specifically on Post Oaks and their habitat. Because they specialize in this species, Tree Rescue Company could more effectively evaluate these trees than even an experienced arborist in general practice could do. Contact the company through Don Smith, Ph.D. (940-391-4623 or donwileys@verizon.net).

Consider “What If?” What if we decided to value these trees above the plans of developers? What if architects were asked to design specifically to showcase our Post Oaks, rather than cause their destruction? In consultation with a Post Oak expert, perhaps there is a design that will accomplish both purposes. We won’t know unless we try. At the least, we would make a more informed decision and would truly understand our actions. At best, we would make a decision that is truly sustainable and our community would be richer for the time taken to reach that conclusion.

5. Conclusion

These trees should be preserved because they are not in cultivation at all, owing to their slow growth and sensitivity to disturbance, and because they have historical value as the dominant component of the Cross Timbers forest. Post Oaks in the Cross Timbers today need our help. Deprived of the integrated plant community of shrubs, understory trees, vines, and ground covers in which they evolved, they are not replenishing themselves. We of the 21st century Cross Timbers honor our heritage when we take steps to preserve and protect the Post Oak trees in our midst, and on a larger scale, to conserve or restore the Cross Timbers ecosystem that they define.

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