

Local Ordinances Can Protect Community Trees

The Gainesville Experience

by Meg Niederhofer, Gainesville City Arborist

Every community should protect its tree canopy. Unfortunately, the importance of tree canopy protection, especially in urban areas, was recognized only after many cities had become nothing but concrete and asphalt. In 1987, research by the American Forestry Association (AFA) showed four trees removed for every tree planted and that the average life expectancy of a downtown tree was only seven years!

Around the same time, analysis of surface temperatures showed Earth's climate warming ten times faster than after ice ages. Urbanization is a primary cause of global warming, with cities averaging 2-5° C warmer than rural or suburban areas. A major component of this "urban heat load" is energy re-radiating from hard surfaces. Trees mitigate this by providing shade and by cooling the atmosphere through transpiration. The AFA calculates the environmental payoff of a 50-year old urban tree as \$53,151, with annual benefits of \$75 for air conditioning, \$50 for air quality improvement, \$75 for soil stabilization and storm water control, and \$75 for wildlife shelter.

The federal government marshalled a national response to the lack of urban trees with two programs. The "Community and Urban Forestry Program," funded since 1992, offers matching grants for tree inventories and other local urban forestry management projects. For three years (1992-95) money was available for actual urban tree planting through the federal Small Business Administration and was, to my observation, a very productive use of tax dollars.

Gainesville received grants under both programs. As a community, however, we had



Meg with Heritage Live Oak at the North Florida Regional Hospital.

begun changing our ordinances in the early 80s to protect and promote the urban forest. The Gainesville land development code has been refined and amended over the past 15 years and now provides a good guide for other communities wishing to protect their tree canopy. The following are the major concerns:

Tree preservation. A tree survey is required for all property to be developed or re-developed. Project managers are encouraged to design new construction around excellent trees. Since many engineers don't have much botanical training, they are pleased to hear an explanation of why it's much better to save a 10" diameter Live Oak than an equal size *Broussonetia*!

Tree protection. Before any site work begins, 3' high barricades must enclose two thirds of the drip line of all trees to be preserved. Roots larger than 1" in diameter encountered during grading must be cut cleanly and covered over with soil. Nothing can be stored inside the barricades, which must remain in place until landscaping begins.

Tree planting. Sufficient trees must be planted or preserved to meet a shading requirement of 50% after 20 years. This can be accomplished by preserving large islands

of existing trees or by following a prescriptive approach. If the latter, then one shade tree is required for every 11 parking spaces, with no more than 132' between tree islands. In addition, trees and shrubs must buffer differing adjacent land uses (e.g. an apartment complex next to a drive-through restaurant), provide street beautification and shade, and shade interior roads.

Appropriate species. The best trees for various uses are specified in a table. Every development project must be approved by the Development Review Board, a citizen panel appointed by the City Commission. This process includes approval of a landscape plan that has been reviewed by staff for "right tree, right place." Thus, a plan cannot call for tall shade trees under high voltage electric lines, or a xeric hammock species cannot be specified for a drainage retention area. Likewise, invasive exotics are identified and prohibited from use in required landscaping.

Plant Quality, Size, and Maintenance. The code also requires plant materials to be Florida Grade # 1 or better, according to the Florida Division of Plant Industry's *Grades and Standards*. Trees must be at least 8' tall and 1.5" in diameter. Plants that die must be replaced. The watering method must be indicated — either automatic irrigation or hoses. If the latter, then hose bibs must be shown on the plan within 100' of all landscaping.

Pruning. Gainesville had to amend its code to address pollarding. Some property managers were cutting the crowns of parking lot trees into little round balls, based on the belief that businesses succeed only if store

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fronts can be seen in totality from all directions. “Topped” trees will never provide much shade, so the code now stipulates that trees planted to meet the shading requirement (50% within 20 years) can only be pruned from the bottom, and then only for the safety of pedestrians or motorists. All “surgery” on required or regulated trees must be done according to the ANSI Z-133 pruning guidelines. Of course, decorative trees planted in excess of code requirements can be pruned into the shape of lollipops, dinosaurs, or whatever.

Tree removals by permit. In Gainesville, permits are required before removal of “regulated” trees. Hardwoods are regulated at 8” in diameter at breast height (dbh) in multi-family, commercial, religious, or government zoning. Loblolly and slash pines only require a permit if they’re larger than 12” dbh. Since citizens’ private lives should be as free as possible from regulation, permits in single family zoning are required only for “Heritage” trees in the legal setbacks of the property. Heritage trees are 30” dbh or larger, although some prized species are regulated at 20.” The “legal setbacks” are the part of the property that must be yard. Thus a 32” live oak next to a home, if it’s in a place where an addition could be built, would not require a removal permit. A similar tree growing near either the back fence or sidewalk would. Valid reasons for approving a tree removal permit are hazardous condition or if it is causing extensive property damage. Not wanting to rake leaves or fear of branches hanging over the yard are not justification for removing a large, strong, and beautiful tree that has lived longer on the site than the current resident.

Remedial planting. When a permit is approved, two trees must be replanted for each tree removed. Replacements must grow at least as tall at maturity as the tree removed. Thus, a white ash and a southern magnolia may be planted to mitigate the removal of a laurel oak, but a crape myrtle and a redbud may not.

All government entities in Florida must file a comprehensive plan with the Florida

Department of Community Affairs. The purpose is to assure that infrastructure and environmental quality will not be sacrificed as communities grow. Tree canopy coverage is an excellent objective to determine whether the urban forest is being effectively protected. In 1984, a tree canopy analysis using aerial photographs from the Alachua County property appraiser showed that 42% of the land area of Gainesville was shaded by trees. In 1993, the figure was 60%. Much of the difference is due to new trees planted to comply with changed land development regulations. The Gainesville comprehensive plan stipulates that the city maintain a tree canopy coverage of at least 57%.

What about enforcement? Penalties do exist. Regulated trees removed without permits must be replanted on a diameter inch-for-inch basis. Thus, mitigation for a 15” diameter live oak illegally removed from in front of a business would be 10 young trees, each 1.5” in trunk caliper; these would have to be planted on the same site if room permits.

On new developments, if the landscaping does not meet the approved landscape plan, the “Certificate of Occupancy” is withheld until the quantity and quality of the trees, or the correctness with which they were planted, are corrected. Subsequent problems (trees dying and replacements needed) are treated as code violations.

Marjorie Kinnan Rawlings wrote in *Cross Creek* (1942):

“The consciousness of land and water must lie deeper in the core of us than any knowledge of our fellow beings. We were bred of earth ... We cannot live without the earth or apart from it, and something is shriveled in a man’s heart when he turns away from it and concerns himself only with the affairs of men.”

Developing community ordinances to preserve and replant trees is of tremendous importance — it’s a blending of environmental protection and the affairs of men in a way that makes the heart expand!

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If you've read all the way to the end of this article, here's a challenge! Notice projects under construction in your community. If you don't see large trees with protective barricades on building sites or many young trees planted on completed projects, then your town may not have adequate ordinances. Citizens serving on the Tree Advisory Board, the City Beautification Board, the Planning Board and the Development Review Board are instrumental in protecting Gainesville's urban forest. You could do the same. Call your City Commissioners. Be a volunteer!



EDITOR'S NOTE: The author, Meg Niederhofer, gave a wonderful and inspiring presentation at FNPS' 1997 conference in Gainesville, and I subsequently invited her to document the content of her presentation for readers of *The Palmetto*. We'd like to hear from more members about municipal ordinances – both those that protect vegetation and those that negatively affect our vegetative cover. Send in your letters and articles!