

The State of the Trees III

**Savannah and Chatham County
Georgia**

March, 1998



**Researched, written, published, and distributed by the
Savannah Tree Foundation**

The Savannah Tree Foundation promotes, through direct action and education, an awareness of trees, particularly the Live Oak, as vital natural resources and an important part of our heritage. The Foundation desires to preserve, nurture, and plant trees to enhance the quality of life for present and future generations.

The State of the Trees III is the Savannah Tree Foundation's third report on the state of our community's urban forest. The purpose of these reports is to assess current stewardship of Savannah's and Chatham County's urban forest, make recommendations for practices and policies to ensure that trees are valuable and necessary components of community infrastructure, and commend accomplishments that have positively impacted the urban forest since the previous report. *The State of the Trees* reports are research-based documents designed to guide local public policy pertaining to the urban forest.

This report was made possible by an Urban & Community Forestry Assistance grant from the Georgia Forestry Commission and USDA Forest Service.

The State of the Trees report was first published six years ago. Since that time, awareness of urban trees has increased tremendously. Research conducted in several American cities by NASA, the USDA Forest Service Research Division, universities, and others, has quantified the benefits of trees and tree canopy in urban communities, and continues to confirm the economic importance of trees as part of urban infrastructure.

This report culminates months of research and hours of interviews with managers and staff of the many City, County, and Metropolitan Planning Commission (MPC) departments whose areas of responsibility and operation impact the urban forest. The recommendations made in this report are based on input from those people who have first-hand knowledge on a day-to-day basis with the processes and decisions which affect the urban forest.

In addition, this report contains information which substantiates the need to move quickly on the recommendations.

Commendations

The Savannah Tree Foundation is pleased to commend community leaders for the following accomplishments that have benefitted the urban forest.

1. The City and County for unanimous approval of strengthened revisions to the tree ordinances (1995).
2. The County for its tree inventory of all trees and potential planting sites on rights-of-way and in some parks within the unincorporated area.
3. The County for encouraging subdivision developers to consider a "conservation design" approach which gives priority to existing natural features.
4. The County for evaluating personnel needs and hiring staff to assist in the enforcement of the tree ordinance.
5. The County for adoption of the Open Space Plan.
6. The City for supporting the four lane/raised median design concept for the proposed widening of Stephenson Avenue which would result in the best opportunity for preserving and restoring canopy to the road.
7. The City for giving priority to planting canopy trees.
8. The City for funding master plans for Daffin Park and Bacon Park.
9. The City for emphasis on pruning young trees to encourage proper growth patterns.
10. The Metropolitan Planning Commission for organizing the Sustainable Communities Conference,

which brought some of the nation's leading land planners, architects and developers to present creative alternatives to development sprawl and innovative designs for infill and redevelopment.

Trees and Stormwater Management

Urban development increases the ratio of impervious to pervious ground surface, thereby necessitating engineering solutions for handling stormwater runoff. We understand this well in our community, having recently voted to approve a \$145,900,000 special purpose local option sales tax designed to update the community's drainage infrastructure to handle current stormwater capacity.

Trees perform a natural engineering function for handling stormwater in the following ways:

- Tree canopy catches and holds rainwater, reducing the volume and intensity of flow to the ground;
- Tree roots stabilize soil and absorb water, reducing deposits of sediment into canals and storm sewers;
- Trees enhance the ground's ability to absorb rainwater, which improves infiltration and reduces stress on engineered systems.

The strategic use of trees as natural capital in a community's infrastructure can extend the capacity of existing engineered stormwater systems and reduce the funding necessary to upgrade and retrofit these systems.

Locally, are we exploring ways to incorporate urban forestry into stormwater management as a natural way to improve water quality, control runoff, and offset costs associated with engineered solutions?

Tree Infrastructure

Why should trees be an integral part of a community's infrastructure?

The answer is easy.

THE THREE Rs

1. **Reduction** of soil erosion and water runoff, thus mitigating the need for costly sewage and storm drainage systems.
2. **Reduction** of air temperature by providing shade, thus mitigating the urban heat island effect and reducing dependence on air conditioning.
3. **Reduction** of atmospheric particulate matter, thus resulting in cleaner air to breathe.

RECOMMENDATIONS

Since public opinion drives public policy, it is incumbent upon all citizens to inform themselves about the economic, health and aesthetic benefits of a viable urban forest. In order to preserve existing tree canopy and to recover canopy lost to development, attrition, and road construction in Savannah and Chatham County, the Savannah Tree Foundation makes the following recommendations.

Recommendations to Chatham County

1. Create and fund a Tree Department to maintain a current inventory of all public trees and planting sites within county jurisdiction.
2. Implement an inventory-based master street tree plan to plant trees and insure equitable distribution of resources throughout the county, on streets and in neighborhoods and parks, to meet canopy objectives.
3. Adopt a policy to prevent injury to all public trees by prohibiting the application of signs, lighting, or objects to, from, or around the trees and their critical root zones.
4. Develop or update master plans for parks, recognizing their capacity to meet use demands while respecting the value and integrity of existing and proposed tree canopy. Maintain a balance of active and passive uses.
5. Adhere to park master plans and adopt a process to evaluate proposed adjustments which may impact trees.
6. Provide park staff with continuing education on tree maintenance.
7. Inventory vacant land and evaluate its suitability for park use.
8. Formalize an urban forest component in Chatham County's natural disaster plan that addresses steps for preparation, response and recovery phases.
9. Establish road construction design standards that maximize opportunities for tree preservation, with a tree survey as a required first step in the design process, and provide ample space for new planting sites through a median and/or purchase of right-of-way.
10. Provide the necessary equipment, staff and training opportunities to enable the public works staff to care for trees in rights-of-way.
11. Continue to work with GA DOT for additional tree protection for trees which are to be left standing after road construction.

12. Work with MPC to combine existing development regulations and ordinances into a unified set of development regulations to insure compatibility and elimination of conflicting standards.
13. Insure that easements in single-family subdivisions accommodate all components of infrastructure, including street trees.
14. Implement a policy whereby the funds collected and designated for tree plantings in new subdivisions are used for this purpose within a reasonable time frame to comply with the intent of the tree ordinance. Plant the street trees already funded by the Street Tree Planting Fund on streets in new subdivisions, bringing the program up to date.
15. Monitor and enforce tree protection standards during construction as required by the tree ordinance.
16. Evaluate and refine job descriptions of staff involved in tree ordinance review and enforcement to give definite job parameters and responsibilities to insure compliance with the intent of the tree ordinance.
17. Conduct all capital improvement projects following the same review process and adhering to the same standards required of private development.

Recommendations to the City of Savannah

1. Conduct an inventory of all public trees and planting sites, keep it current, and use it as a planning tool for urban forest management.
2. Develop a master street tree plan and begin an aggressive tree planting campaign to reverse the current trend of removing more trees than are planted each year.
3. Ensure equitable disbursement of tree planting and maintenance resources throughout the city, on streets and in neighborhoods and parks.
4. Review and evaluate allocation of resources to insure that priority is given to trees over other landscape elements.
5. Research options including easements on private property for canopy tree plantings along roads where public right-of-way is insufficient.
6. Analyze tree attrition in the downtown and midtown areas and establish goals and plans to reverse this trend.
7. Inventory vacant city land and evaluate its suitability for park use.
8. Research options, such as grants, fees, and the use of some Chatham Tree Coalition trees, for funding street and other public tree plantings. Reallocate resources to increase the number of tree plantings

- and enhance proper maintenance for newly planted trees.
9. Adopt a policy to prevent injury to all public trees by prohibiting the application of signs, lighting, or objects to, from, or around the trees and their critical root zones.
 10. Adopt master plans for all parks that recognize their capacity to meet use demands while respecting the value of existing and proposed tree infrastructure. Maintain a balance of active and passive uses.
 11. Adhere to park master plans and adopt a process to evaluate proposed adjustments which may impact trees.
 12. Review and adopt a master plan for Bacon Park and work toward implementation.
 13. Review and adopt revised Daffin Park master plan. Complete implementation by 2007, the 100th anniversary of John Nolen's landscape plan for Daffin Park.
 14. Adopt the Open Space Plan recommended by the Metropolitan Planning Commission.
 15. Formalize an urban forest component in Savannah's natural disaster plan that addresses steps for preparation, response, and recovery phases.
 16. Insure that easements in single-family subdivisions accommodate all components of infrastructure, including street trees.
 17. Work with the MPC to combine all existing development regulations and ordinances into a unified set of development regulations to insure compatibility and elimination of conflicting standards.
 18. Hire staff replacement to review and enforce tree ordinance.
 19. Evaluate and refine job descriptions of staff involved in tree ordinance review and enforcement to give definite job parameters and responsibilities, including the ability to issue stop work orders, to insure compliance with the tree ordinance.
 20. Conduct all capital improvement projects following the same review process and adhering to the same standards required of private development.

Recommendations to the Metropolitan Planning Commission

1. Create a position staffed by a qualified professional to deal with all issues pertaining to the urban forest, insuring that trees are given full consideration in the planning and review process for public and private development.

2. Continue to work with developers and city/county staff to promote alternative design concepts which incorporate trees and allow for tree protection and planting, especially in high-density, single-family residential development.
3. Investigate alternatives that avoid clearcutting as the only way to meet existing development standards in conventional high-density, single-family development on marginal land of low elevation.
4. Research and evaluate options to provide common space with trees as an integral part of residential development.
5. Initiate evaluation of buffer standards and functions to strengthen the consideration of trees in the structuring of buffers, thereby maximizing benefits of buffers.

Tree Inventories: What Are They And Why Are They Important?

Tree inventories document the vegetative cover of given geographic areas according to a variety of factors, such as size, species, condition, age, rate of growth, and location. Inventories can also identify available planting spaces and tree-deficient areas.

Tree inventories are not new. In fact, the city of Savannah conducted an inventory of its urban forest in 1987, with financial assistance from the Savannah Tree Foundation and the Park and Tree Commission. However, the methods for compiling, storing, using, and updating the data have advanced considerably with GIS (Geographic Information Systems) technology, enabling a more efficient utilization of the information provided.

A comprehensive tree inventory is a community's first step in sound urban forest management. The inventory assesses the current status of the urban forest, providing a basis from which to plan for enhancement, replacement, removal (of hazards), maintenance, training, allocation of resources (equipment, personnel, dollars), projections of need, etc. The planning process enhances responsible use of public funds and encourages inquiries into alternative sources of funding.

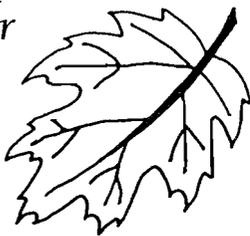
An inventory must be kept current in order to have ongoing benefit in an urban forest management plan. Without a commitment of resources to maintain the inventory, the initial investment is not maximized. In addition, tree inventory information should be incorporated into a community's integrated GIS management system (as in the Savannah Area GIS, or SAGIS) to work toward enhanced compatibility of hard and soft infrastructure.

Recommendations to Citizens of Chatham County

1. Learn and practice proper tree care, particularly correct methods of planting, mulching and pruning.
2. Plant trees and choose the tree which at maturity will provide the largest canopy the site can accommodate.
3. Participate in neighborhood association efforts to rejuvenate streetscapes and create pride in neighborhoods by planting and maintaining trees.
4. Investigate use of free Chatham Tree Coalition trees for planting on public rights-of-way, on church and school grounds, and in public parks. (See Resource Guide, back cover, and information on the Chatham Tree Coalition, this page.)
5. Ask your developer and builder to save trees by presenting a pre-design site analysis to determine unique green space features of the land that could be incorporated in the final plan to create a balance of conservation and development.
6. Encourage your representatives to City Council, County Commission, and the Board of Education to develop public property in accordance with the same planning and review processes required of private development.
7. Encourage the City, County, and Board of Education to design and build public projects that serve as models for the community, giving trees high priority.
8. Encourage all municipalities to budget adequate funds annually for tree maintenance and planting and to work toward the adoption of sound tree ordinances.

Canopy Trees

Canopy trees are those which reach a mature canopy spread of at least 20 feet. Desirable canopy trees in Chatham County include live oak, red oak, magnolia, red maple, Florida maple, and sycamore. For other recommended species, contact the Georgia Forestry Commission.



Chatham Tree Coalition

The Chatham Tree Coalition reviews applications for distribution of hardwood trees grown and provided free of charge to the community by Union Camp. The trees must be planted on public or non-profit property in Chatham County. Applicants must provide a site plan and a two-year maintenance commitment including watering. Arrangements are to be made also for planting volunteers, instruction on proper planting and mulching methods, and transportation of the trees from the Union Camp nursery in Belleville, GA. For information call the Georgia Forestry Commission, 748-4924.

Since 1993, the Savannah Tree Foundation has organized eight volunteer tree plantings utilizing 382 of the Union Camp hardwood trees. In addition, the Foundation has planted a seedling forest at Scott Stell Park and a wiregrass and long-leaf pine forest at Georgetown Elementary School.

Trees In Parks

Urban parks are community gathering places, offering a variety of recreational opportunities for diverse populations. A balance of active and passive uses ensures a park's appeal to a large cross-section of people which in turn brings vitality to the park.

Trees are important in park design as natural architectural elements, defining the site and orienting its various functions. Trees provide shade for those who use parks, cooling the air and reducing glare. They also provide an aesthetic quality that enhances one's leisurely enjoyment of the site, which after all, is what parks are supposed to provide.

Our community parks which have canopy trees should be managed carefully to prevent impact which active use bears upon the trees and their root systems, and to prolong the health of the trees. Those parks with trees in decline should undergo plans for replacing canopy.

Where parks are without tree canopy and its benefits, immediate steps should be taken to correct this deficiency with master plans that provide a desirable balance of open and shaded space.



Savannah Tree Foundation

The Savannah Tree Foundation was established in 1982 and fulfills its mission through three major areas of work: education, advocacy, and tree plantings.

The education program includes organizing workshops on proper tree maintenance and care, bringing experts to Savannah to address various aspects of urban forestry, conducting Project Learning Tree programs in schools, producing informational brochures, addressing community groups, and sponsoring a satellite study of land cover changes in Chatham County to identify rate and location of canopy loss. Recently the organization has facilitated a review process which will bring the urban forest into the area's emergency management plans. An important part of the education program is the publication of The State of the Trees reports.

The Savannah Tree Foundation has provided leadership and support to several community efforts impacting the urban forest, advocating for responsible land use planning that incorporates canopy trees as part of infrastructure. The organization provided leadership in the creation of and revision to the community's land clearing and tree protection ordinances, and has been strongly supportive of master plans for Daffin and Bacon Parks. In local road improvement activities, STF has encouraged a design and planning process which seeks to achieve a canopied result and allocates funds for tree surveys and landscape plans to ensure the result.

The organization's volunteer tree planting program, begun in 1993, has added almost 400 trees to the community inventory. Tree plantings are ideal opportunities to involve volunteers in urban forestry,

to explain the benefits of trees, to demonstrate correct planting and mulching methods, and to add trees to areas needing canopy.

The work of the Savannah Tree Foundation is carried out by a volunteer board of directors and is supported by voluntary contributions from supporters.

Activities Within Chatham County Which Impact Trees

Road Building and Widening
Residential and Subdivision Development
Commercial Development
Industrial Development
Water Line Installation and Repair
Gas Line Installation and Repair
Sewer Installation and Repair
Cable Installation and Repair
overhead and underground
Fiber Optic Line Installation and Repair
Electrical Utility Installation and Repair
overhead and underground
Utility Pruning
Landscaping and Landscape Maintenance
Sidewalk and Street Construction and Repair
Application of Chemicals on Lawns
Parking Beneath Trees

Savannah Tree Foundation Tree Plantings

1989	Scott Stell Park	Pine Forest Picnic Area	seedling forest
1993	White Bluff Rd. Median	Willow Rd. to Holland Dr.	21 trees
1994	White Bluff Rd. Median	Holland Dr. to Montgomery Crossroads	52 trees
	Hunter Army Airfield Main Gate	White Bluff Rd. at Stephenson Ave.	35 trees
1995	Lake Mayer Community Park	Main Parking Lot on Mont. Crossroads	62 trees
	Georgetown Elementary School	School Grounds and Entrance Parking Lot	35 trees
1996	Georgetown Elementary School	School Grounds	150 wiregrass and longleaf pine seedlings
	Truman Parkway	Delesseps Interchange	100 trees
1997	Mighty Eighth Air Force Heritage Museum	Museum Grounds and Bourne Ave.	48 trees
	Memorial Medical Center Access Road	Median off of Derenne Ave. west of Jenkins High School	32 trees

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Resource Guide

For Questions About...

Call...

Public trees within city limits

Park & Tree Dept.

651-6610

Public trees in Chatham County

County Arborist

652-7800

Land Clearing & Tree Protection
Ordinance in city

Park & Tree Dept.

651-6610

Land Clearing & Tree Protection
Ordinance in county

County Arborist

652-7800

Trees on private property with respect
to general health

Georgia Forestry Comm.

748-4924

Tree trimming near utility lines
and poles

Savannah Electric
Line Clearing Dept.

944-3546

Tree health, care, and pruning
on private property

County Extension Serv.

652-7981

Tree trimming near phone lines

BellSouth

611

Location of underground utilities
and lines

Utility Locator Line 1-800-282-7411

Location of cable underground
and overhead

Jones Communications

354-7596

Trees available free of charge for
planting in public spaces

Chatham Tree

Coalition, Risher Willard

748-4924



Savannah Tree Foundation

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