

City of Griffin
2012 Street Tree Inventory
Summary of Results

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Prepared by:

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CITY OF GRIFFIN
2012 STREET TREE INVENTORY
SUMMARY OF RESULTS

INTRODUCTION

A complete, public street tree inventory was conducted within the City of Griffin during the period from September 2012 through March 2013 by Technical Forestry Services of Commerce, Georgia. The tree inventory database from 2003 was used as a basis for re-inventorying, however a new database format was developed in ArcPad for use by the inventory crews. Possible data entries for each tree included: address and street; species; diameter; root, trunk, scaffold limb, branch and twig, and leaves condition; site conditions; maintenance recommendations; hazard conditions; comments; and, crew and inventory date.

The 2003 database was reformatted to create consistency and ease of analysis between the 2003 and 2012 data. The 2012 database was submitted to the City on March 31, 2013 as a geographic information shapefile and an Excel spreadsheet that included an estimate of the appraised value of each tree. The updated 2003 database was also submitted to the City at the same time.

Also completed was a calculation of the appraised value of the street trees, and an analysis of the tree inventory results. The results of the inventory are summarized below, and include comparisons with 2003 data. Tables and charts accompany this summary of results and are included in the appendix of this summary report.

GENERAL INFORMATION

In addition to gathering current information on the existing trees and adding new trees, the 2012 database includes more detail in general on tree and site conditions. The accuracy of addresses, locations, and species data has also been improved in 2012 as compared to 2003.

The trees inventoried were generally well-maintained. As a general observation, maintenance actions recommended in 2003 have been completed, particularly pruning to remove deadwood and hangers. Many of the trees recommended for removal had been removed, although some still remained and either removal or inspection was still recommended for these trees in most cases.

NUMBER OF TREES

The 2003 database included 8,843 trees. The 2012 database includes 9,024 trees, an increase of 181 trees and 2 percent from 2003. During the 2012 inventory, there were 1,904 trees removed from the 2003 database and 2,075 new trees added. The new trees are primarily recently planted trees, but nearly 40 percent are trees missed during the 2003 inventory. Of the 2,075 new trees, 60 percent are 6 inches DBH or less. The new trees also include a small number of existing trees that were either purposely deleted from the database because of inaccurate location then added back to get a better location, or deleted by mistake and then re-inventoried.

SPECIES DIVERSITY

In 2003 there were 113 species identified during the inventory and 131 in 2012, showing an increase in diversity. The most significant changes in the number of trees by species are:

- 2.2 percent increase in crapemyrtles
- 5.3 percent decrease in dogwoods
- 2.3 percent decrease in unknown trees

The most common trees, along with the percent of the total tree population that they represent, are:

- Flowering dogwood, 16.6 percent
- Common crapemyrtle, 13.3 percent
- Water oak, 10.9 percent
- Loblolly pine, 6.1 percent
- Willow oak, 5.2 percent
- Leyland cypress, 3.9 percent
- Red maple, 3.7 percent
- Pecan, 3.4 percent
- Sweetgum, 3.0 percent

These 9 species represent a total of 66 percent of all trees. Except for the high numbers of flowering dogwood and common crapemyrtle trees, there is excellent species diversity within the street tree population. As a generally accepted rule, no one species should account for more than 10 percent of the total tree population. In the field it was found that the species were well-chosen and the places in which new trees were planted were appropriate to the species' mature sizes.

The appendix includes two (2) tables showing the species distribution; one table is arranged alphabetically by species, and the second is arranged by species frequency, with the most frequent species listed first.

TRUNK DIAMETER

Trunk diameter was measured at 4.5 feet above the ground, a measurement known as diameter at breast height, or DBH. When trees were covered in poison ivy vines, or a portion of the trunk was inaccessible due to proximity to a fence or other structure or a significant slope, the DBH was estimated.

The table below shows a comparison of the number of trees by DBH class. The greatest changes were a 12 percent decrease in trees 1 to 6 inches DBH from 2003 to 2012, a 7 percent increase in trees 7 to 12 inches DBH, a 3 percent increase in trees 13 to 18 inches DBH, and 1 percent increase in each of the 19 to 24, 25 to 30, and 31 to 36 inch DBH classes. This shows the growth that has occurred on trees planted in the last 10 to 15 years.

DBH CLASS	2003	2012	CHANGE
1-6 Inches	4,705	3,638	-12%
7-12 Inches	1,650	2,244	7%
13-18 Inches	904	1,178	3%
19-24 Inches	720	825	1%
25-30 Inches	420	529	1%
31-36 Inches	235	314	1%
37-42 Inches	133	168	0%
43-48 Inches	48	75	0%
49-54 Inches	19	39	0%
55-60 Inches	6	7	0%
61-66 Inches	3	5	0%
67-72 Inches	0	2	0%
TOTAL	8,843	9,024	N/A

A table and a chart showing the DBH distribution are included in the appendix.

CONDITION

Each tree was rated for condition in eight (8) categories, which included:

- Root Health
- Root Structure
- Trunk Health

- Trunk Structure
- Scaffold Limb Health
- Scaffold Limb Structure
- Branches and Twigs Health
- Leaves Health

A point rating was assigned for each component, as follows:

- 4 – No Apparent Problems
- 3 – Minor Problem
- 2 – Major Problem
- 1 – Severe Problem

The ratings for each component were added and divided by the total number of points possible—32—to get a percent condition rating for each tree.

In 2012, less than 1 percent of all trees have a condition rating of 25 percent and less than 1 percent of all trees have a condition rating of 26 to 50 percent. Approximately 15 percent of all trees have a condition rating of 51 to 75 percent, and nearly 85 percent have a condition rating of 78 to 100 percent. The table below shows some detail in the number of trees with these ratings, and the data show that while there was an increase in each of the condition percents from 78 to 94 percent, there is a very significant decrease in the number of trees rated 100 percent. This again indicates that each tree was given a more critical evaluation in 2012 than in 2003, and any harmful condition noted on the trees was cause to reduce the health or structure rating of the appropriate component.

CONDITION PERCENT	2003 TREES	2003 PERCENT	2012 TREES	2012 PERCENT	AMOUNT OF CHANGE
78%	276	3.1%	599	6.6%	3.5%
81%	364	4.1%	800	8.9%	4.7%
84%	399	4.5%	937	10.4%	5.9%
88%	495	5.6%	1,160	12.9%	7.3%
91%	628	7.1%	1,314	14.6%	7.5%
94%	923	10.4%	1,321	14.6%	4.2%
97%	851	9.6%	685	7.6%	-2.0%
100%	4,307	48.7%	783	8.7%	-40.0%

Tables of the number of trees by condition ratings and percent are included in the appendix.

Trees were also rated for risk, and given ratings for size of part likely to fail, risk of failure, and frequency of targets in the area. The ratings for each component range from 1 (low) to 4 (high), and the ratings are added together to result in a risk rating from 3 to 12.

The inventory crews approached this rating somewhat differently. In 2003 each tree was rated, whether or not it posed a significant risk. In 2012, while some field crew members rated each tree, others rated only those with a significant risk and the remaining trees were given ratings of 1 for each component, resulting in a low rating of 3. Regardless of the approach, all crew members rated trees with significant risk.

The greatest changes from 2003 to 2012 in the ratings were a 26 percent decrease in trees with a rating of 3, a 16 percent increase in trees rated 4, and a 5 percent increase in trees rated 5. There are 478 trees with a risk rating of 8, 260 trees with a risk rating of 9, 135 trees with a risk rating of 10, 48 trees with a risk rating of 11, and 12 trees with a risk rating of 12.

Risk ratings of 8 and 9 are trees with a risk significant enough to monitor or address, and trees with risk ratings of 10, 11, and 12 should be evaluated by the City Arborist and the risk mitigated as soon as possible. These risk ratings, and tree size, should be used to prioritize tree maintenance that includes pruning, cabling, and removal to mitigate the risk. Those trees with the largest diameters and highest risk ratings should be given the highest priority for mitigation.

A table showing the number of trees by risk rating for 2003 and 2012 is included in the appendix.

TREE AND SITE CONDITIONS

Data was gathered on the condition of: tree roots, trunk, scaffold limbs, branches and leaves; maintenance recommendations; and site conditions. Maintenance recommendations will be addressed in the next section. A summary of management information--site and tree conditions and management recommendations—is included in the appendix.

A summary by tree component and site condition follows.

Roots

Girdling roots were noted on 11 percent of all trees, root wounds were noted on 27 percent of all trees, and root decay was noted on 10 percent of all trees. In many cases the wounds and decay were not extensive; however 1 percent of all trees (105 trees) had fruiting bodies present on the roots. These 105 trees should be evaluated by the City Arborist as soon as possible and inspected regularly to determine the appropriate maintenance action.

Trunk

The 2012 inventory found that 46 percent of all trees had a forked trunk, and included bark was noted on 23 percent of all trees. Trunk wounds were noted on 40 percent of all trees, trunk decay on 18 percent of all trees, and trunk cavities on 6 percent of all trees. Fruiting bodies of decay fungi were noted on the trunk of 1 percent of trees (70 trees). These trees with fruiting bodies should be inspected on a regular basis by the City Arborist.

Limbs, Branches and Leaves

Dead limbs were noted on 26 percent of all trees. Pruning defects were noted on 31 percent of all trees and 13 percent of trees were topped (most of these were crapemyrtles). Utility pruning was noted on 10 percent of all trees. Wounds were noted on 18 percent and cavities were noted on 5 percent of the scaffold limbs. There were hangers noted on 160 trees (2 percent).

Mistletoe was noted on many of the mature oak trees throughout the city. It was noted on 471 trees, or 5 percent of all trees, and in most cases these trees had significant amounts of mistletoe.

Utilities

The presence of overhead utility lines were noted during the inventory, and 38 percent of trees had primary lines over or near and affecting tree crowns, while secondary lines were noted for 10 percent of trees. There were no overhead utility lines near or affecting 52 percent of all trees.

Growing Space

Trees were growing where there was limited rooting space in 13 percent of all locations; this was true primarily for large maturing trees, such as oaks, that were growing in relatively narrow tree lawns. Compaction was noted for 35 percent of all trees, a common site condition in urban settings. The pavement was heaved around at least 1 percent of all trees and 9 percent of all trees were growing in unmanaged or wooded areas.

MAINTENANCE RECOMMENDATIONS

Maintenance recommendations included: pruning by type; inspect; removal of tree, girdling root, girdling wire, or vine; mulch; cable; and pest management. A summary of the maintenance recommendations is included in the appendix.

The number of trees with pruning recommendations increased significantly from 2003 to 2012. In 2012, a total of 6,319 trees (70 percent of all trees) had at least one pruning recommendation as compared to 863 trees (10 percent) in the 2003 inventory.

A single tree might have more than one, and up to four (4) types of pruning recommended. In 2012, training pruning was recommended for 15 percent of all trees. Structural pruning was recommended for 29 percent of all trees. Crown cleaning pruning was recommended for 43 percent of all trees, and crown raising or clearance pruning was recommended for 15 percent of all trees. Of the 7,182 trees recommended for pruning, high priority was assigned to 205 trees.

The number of trees recommended for inspection also increased substantially from 4 trees in 2003 to 576 in 2012 (6 percent of all trees). These are trees in compromised or marginal condition that should be monitored to provide necessary maintenance or removal in a timely manner.

The number of trees recommended for removal also increased significantly from the 2003 to the 2012 inventory. In 2003, 82 trees were recommended for removal with 4 of those high priority removals. In 2012, 580 trees are recommended for removal with 84 of those considered to be high priority removals. The reasons for removal include poor health, structural defects and high risk of failure, and conflicts with infrastructure.

Of the 580 removals, 248 are 10 inches DBH or less, 129 are 11 to 20 inches DBH, 103 are 21 to 30 inches DBH, and 100 are greater than 30 inches DBH.

The removal of girdling roots was recommended for 6 percent of all trees (543 trees). It may not be possible to remove all of these girdling roots, but the trees should be visited to determine the feasibility of doing so. The removal of girdling wires is recommended for 53 trees where girdling wires were present. There were few recommendations for removal of girdling roots or wires in the 2003 inventory.

There are 600 recommendations to remove vines on trees. These vines are primarily English ivy, but may include other vines such as honeysuckle or poison ivy. In 2003, there were 247 trees for which the removal of vines was recommended.

While mulch is beneficial for all trees, it was recommended for 36 percent of the trees inventoried where it was felt that mulch would be most beneficial and feasible. Many of these trees are growing in compacted soils where mulching would improve soil aeration, fertility, and texture over the long-term.

The cabling of trees to provide supplemental support was recommended for 171 trees, 2 percent of all trees. Pest management, primarily for the treatment of scale and mistletoe, was recommended for 45 trees.

Mulching, cabling and pest management were not recommended in the 2003 tree inventory to any significant degree.

TREE VALUE

The value of the 9,024 trees inventoried in 2012 is approximately \$28,162,271. This is equivalent to \$3,121 per tree. The appraised values were calculated using the trunk formula method outlined in the *Guide for Plant Appraisal*, 9th Edition, developed by the Council of Tree and Landscape Appraisers, a basic price of \$54 per square inch which was calculated based on current nursery prices, and the Southern Chapter of the International Society of Arboriculture's *Species Rating Guide* published in 2005 to guide the assignment of species values. An Excel spreadsheet of the individual tree values has been provided to the City.

ADDITIONAL INFORMATION

The 2012 street tree inventory databases, in both shapefile and Excel spreadsheet format, can be sorted, queried, filtered, analyzed and printed out to provide additional information on specific areas of interest and lists of trees for use in the field.

The tree inventory and data analysis personnel included: Connie Head, Registered Forester and ISA Certified Arborist, Technical Forestry Services; Gretchen Musser, Registered Landscape Architect and ISA Certified Arborist, Elements of Land Design, LLC; Andrew Saunders, Registered Forester and ISA Certified Arborist, Forest Resource Solutions, LLC; and Beryl Budd, ISA Certified Arborist and Retired Georgia Forestry Commission Forester.

For further information on the methodology and results of the 2012 street tree inventory, please contact Connie Head, Consulting Urban Forester, Technical Forestry Services at 706.202.5279 or tfshead@aol.com.

APPENDIX

SPECIES COMMON NAME	2003		2012		AMOUNT OF CHANGE
	NUMBER OF TREES	PERCENT	NUMBER OF TREES	PERCENT	
Arborvitae, Eastern	12	0.1%	30	0.3%	0.2%
Arborvitae, Giant	1	0.0%	1	0.0%	0.0%
Ash, Green	3	0.0%	5	0.1%	0.0%
Ash, White	3	0.0%	3	0.0%	0.0%
Baldcypress	4	0.0%	3	0.0%	0.0%
Birch, River	26	0.3%	23	0.3%	0.0%
Blackgum	8	0.1%	33	0.4%	0.3%
Boxelder	13	0.1%	11	0.1%	0.0%
Butternut	0	0.0%	2	0.0%	0.0%
Catalpa, Southern	11	0.1%	7	0.1%	0.0%
Cedar, Blue Sport	0	0.0%	3	0.0%	0.0%
Cedar, Deodar	2	0.0%	23	0.3%	0.2%
Cedar, Japanese	0	0.0%	1	0.0%	0.0%
Cherry, Black	34	0.4%	32	0.4%	0.0%
Cherry, Carolina Laurel	90	1.0%	111	1.2%	0.2%
Cherry, Japanese Flowering	106	1.2%	115	1.3%	0.1%
Cherry, Yoshino	24	0.3%	31	0.3%	0.1%
Chinaberry	13	0.1%	15	0.2%	0.0%
Cottonwood, Eastern	1	0.0%	1	0.0%	0.0%
Crabapple, Japanese Flowering	2	0.0%	11	0.1%	0.1%
Crabapple, Southern	35	0.4%	29	0.3%	-0.1%
Crapemyrtle, Common	982	11.1%	1,199	13.3%	2.2%
Cryptomeria, Japanese	2	0.0%	26	0.3%	0.3%
Cypress, Leyland	277	3.1%	350	3.9%	0.7%
Dogwood, Flowering	1,932	21.8%	1,497	16.6%	-5.3%
Dogwood, Himalayan Flowering	0	0.0%	72	0.8%	0.8%
Dogwood, Kousa	22	0.2%	46	0.5%	0.3%
Dogwood, Silky	0	0.0%	1	0.0%	0.0%
Elm, American	25	0.3%	37	0.4%	0.1%
Elm, Chinese	7	0.1%	43	0.5%	0.4%
Elm, Siberian	1	0.0%	2	0.0%	0.0%
Elm, Slippery	35	0.4%	19	0.2%	-0.2%
Elm, Winged	31	0.4%	35	0.4%	0.0%
Eucalyptus	0	0.0%	3	0.0%	0.0%
Fir, China	3	0.0%	3	0.0%	0.0%
Fir, Unknown	1	0.0%	0	0.0%	0.0%
Ginkgo	14	0.2%	14	0.2%	0.0%
Goldenraintree	7	0.1%	5	0.1%	0.0%
Hemlock, Eastern	31	0.4%	7	0.1%	-0.3%
Hickory, Bitternut	1	0.0%	0	0.0%	0.0%
Hickory, Mockernut	18	0.2%	11	0.1%	-0.1%
Hickory, Pignut	7	0.1%	7	0.1%	0.0%
Hickory, Unknown	0	0.0%	3	0.0%	0.0%
Holly, American	2	0.0%	78	0.9%	0.8%
Holly, Chinese	3	0.0%	9	0.1%	0.1%
Holly, Foster	10	0.1%	7	0.1%	0.0%
Holly, Savannah	5	0.1%	14	0.2%	0.1%
Holly, Unknown	181	2.0%	107	1.2%	-0.9%
Holly, Yaupon	3	0.0%	9	0.1%	0.1%
Honeylocust	6	0.1%	3	0.0%	0.0%
Hornbeam, American	0	0.0%	3	0.0%	0.0%
Katsuratree	0	0.0%	1	0.0%	0.0%
Locust, Black	17	0.2%	12	0.1%	-0.1%
Loropetalum	0	0.0%	1	0.0%	0.0%
Magnolia, Bigleaf	1	0.0%	1	0.0%	0.0%

SPECIES COMMON NAME	2003		2012		AMOUNT OF CHANGE
	NUMBER OF TREES	PERCENT	NUMBER OF TREES	PERCENT	
Magnolia, Japanese	42	0.5%	43	0.5%	0.0%
Magnolia, 'Little Gem'	0	0.0%	4	0.0%	0.0%
Magnolia, Southern	150	1.7%	162	1.8%	0.1%
Magnolia, Sweetbay	2	0.0%	0	0.0%	0.0%
Maple, Amur	0	0.0%	1	0.0%	0.0%
Maple, Japanese	28	0.3%	31	0.3%	0.0%
Maple, Red	302	3.4%	333	3.7%	0.3%
Maple, Silver	49	0.6%	38	0.4%	-0.1%
Maple, Southern Sugar	0	0.0%	2	0.0%	0.0%
Maple, Sugar	121	1.4%	110	1.2%	-0.1%
Maple, Trident	48	0.5%	93	1.0%	0.5%
Maple, Unknown	0	0.0%	5	0.1%	0.1%
Mimosa	35	0.4%	29	0.3%	-0.1%
Mulberry, Paper	0	0.0%	3	0.0%	0.0%
Mulberry, Red	23	0.3%	18	0.2%	-0.1%
Mulberry, White	3	0.0%	8	0.1%	0.1%
Oak, Black	1	0.0%	1	0.0%	0.0%
Oak, Blackjack	0	0.0%	3	0.0%	0.0%
Oak, Chestnut	5	0.1%	1	0.0%	0.0%
Oak, English	6	0.1%	6	0.1%	0.0%
Oak, Laurel	24	0.3%	18	0.2%	-0.1%
Oak, Live	4	0.0%	7	0.1%	0.0%
Oak, Northern Red	14	0.2%	7	0.1%	-0.1%
Oak, Nuttall	71	0.8%	87	1.0%	0.2%
Oak, Overcup	12	0.1%	30	0.3%	0.2%
Oak, Pin	2	0.0%	8	0.1%	0.1%
Oak, Post	26	0.3%	24	0.3%	0.0%
Oak, Sawtooth	12	0.1%	13	0.1%	0.0%
Oak, Scarlet	15	0.2%	20	0.2%	0.1%
Oak, Shumard	84	0.9%	104	1.2%	0.2%
Oak, Southern Red	65	0.7%	64	0.7%	0.0%
Oak, Swamp Chestnut	0	0.0%	1	0.0%	0.0%
Oak, Swamp White	4	0.0%	4	0.0%	0.0%
Oak, Unknown	0	0.0%	6	0.1%	0.1%
Oak, Water	917	10.4%	984	10.9%	0.5%
Oak, White	30	0.3%	37	0.4%	0.1%
Oak, Willow	436	4.9%	472	5.2%	0.3%
Orange, Osage	8	0.1%	7	0.1%	0.0%
Pagoda Tree, Japanese	4	0.0%	1	0.0%	0.0%
Parasol Tree, Chinese	4	0.0%	4	0.0%	0.0%
Paulownia, Royal	1	0.0%	1	0.0%	0.0%
Peach	10	0.1%	3	0.0%	-0.1%
Pear, Callery	206	2.3%	201	2.2%	-0.1%
Pecan	317	3.6%	303	3.4%	-0.2%
Persimmon, Common	12	0.1%	5	0.1%	-0.1%
Pine, Eastern White	19	0.2%	14	0.2%	-0.1%
Pine, Loblolly	575	6.5%	552	6.1%	-0.4%
Pine, Longleaf	7	0.1%	8	0.1%	0.0%
Pine, Shortleaf	36	0.4%	43	0.5%	0.1%
Pine, Slash	0	0.0%	3	0.0%	0.0%
Pine, Virginia	30	0.3%	4	0.0%	-0.3%
Pistache, Chinese	5	0.1%	3	0.0%	0.0%
Plum, Chickasaw	28	0.3%	7	0.1%	-0.2%
Plum, Purpleleaf	12	0.1%	6	0.1%	-0.1%
Poplar, Lombardy	2	0.0%	0	0.0%	0.0%

SPECIES COMMON NAME	2003		2012		AMOUNT OF CHANGE
	NUMBER OF TREES	PERCENT	NUMBER OF TREES	PERCENT	
Poplar, Tulip	61	0.7%	78	0.9%	0.2%
Poplar, White	2	0.0%	0	0.0%	0.0%
Privet, Chinese	0	0.0%	6	0.1%	0.1%
Redbud, Eastern	65	0.7%	55	0.6%	-0.1%
Redbud, Oklahoma	6	0.1%	6	0.1%	0.0%
Redcedar, Eastern	165	1.9%	210	2.3%	0.5%
Red-Tip Photinia	0	0.0%	14	0.2%	0.2%
Sassafras	11	0.1%	8	0.1%	0.0%
Serviceberry, Downy	0	0.0%	24	0.3%	0.3%
Silverbell, Two-Winged	1	0.0%	2	0.0%	0.0%
Smoketree, American	0	0.0%	1	0.0%	0.0%
Smoketree, Common	1	0.0%	4	0.0%	0.0%
Sourwood	7	0.1%	5	0.1%	0.0%
Spruce, Spp.	2	0.0%	0	0.0%	0.0%
Sugarberry	0	0.0%	1	0.0%	0.0%
Sweetgum	227	2.6%	272	3.0%	0.4%
Sycamore	19	0.2%	16	0.2%	0.0%
Tallowtree, Chinese	2	0.0%	3	0.0%	0.0%
Tree-of-Heaven	9	0.1%	11	0.1%	0.0%
Unknown Tree/Mixed Species	355	4.0%	158	1.8%	-2.3%
Vitex	0	0.0%	13	0.1%	0.1%
Walnut, Black	24	0.3%	8	0.1%	-0.2%
Waxmyrtle, Southern	6	0.1%	6	0.1%	0.0%
Willow, Black	2	0.0%	0	0.0%	0.0%
Willow, Weeping	4	0.0%	2	0.0%	0.0%
Zelkova, Japanese	55	0.6%	64	0.7%	0.1%
TOTAL	8,843	100.0%	9,024	100.0%	0.0%

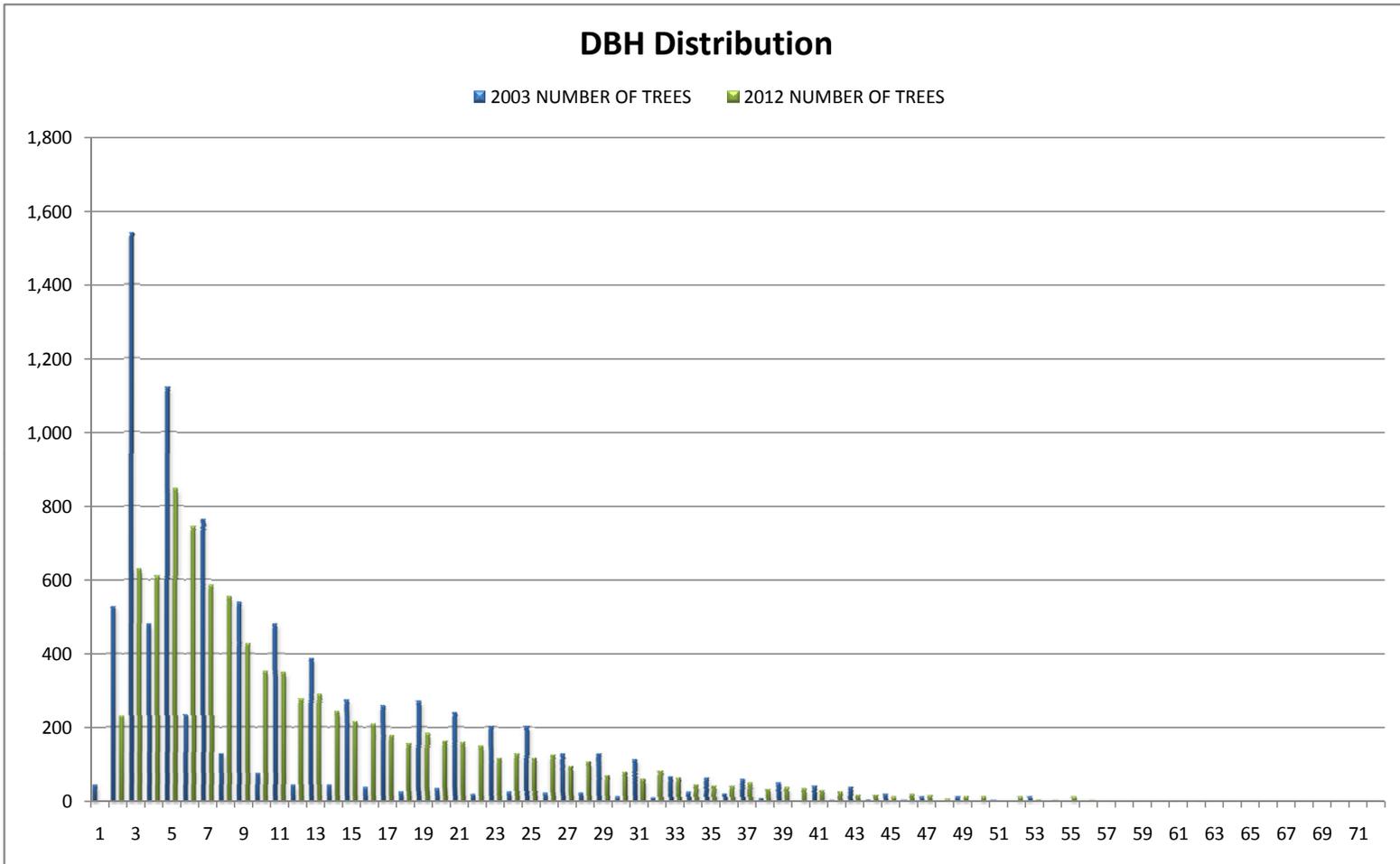
SPECIES COMMON NAME	2003		2012		AMOUNT OF CHANGE
	NUMBER OF TREES	PERCENT	NUMBER OF TREES	PERCENT	
Dogwood, Flowering	1,932	21.8%	1,497	16.6%	-5.3%
Crapemyrtle, Common	982	11.1%	1,199	13.3%	2.2%
Oak, Water	917	10.4%	984	10.9%	0.5%
Pine, Loblolly	575	6.5%	552	6.1%	-0.4%
Oak, Willow	436	4.9%	472	5.2%	0.3%
Cypress, Leyland	277	3.1%	350	3.9%	0.7%
Maple, Red	302	3.4%	333	3.7%	0.3%
Pecan	317	3.6%	303	3.4%	-0.2%
Sweetgum	227	2.6%	272	3.0%	0.4%
Redcedar, Eastern	165	1.9%	210	2.3%	0.5%
Pear, Callery	206	2.3%	201	2.2%	-0.1%
Magnolia, Southern	150	1.7%	162	1.8%	0.1%
Unknown Tree/Mixed Species	355	4.0%	158	1.8%	-2.3%
Cherry, Japanese Flowering	106	1.2%	115	1.3%	0.1%
Cherry, Carolina Laurel	90	1.0%	111	1.2%	0.2%
Maple, Sugar	121	1.4%	110	1.2%	-0.1%
Holly, Unknown	181	2.0%	107	1.2%	-0.9%
Oak, Shumard	84	0.9%	104	1.2%	0.2%
Maple, Trident	48	0.5%	93	1.0%	0.5%
Oak, Nuttall	71	0.8%	87	1.0%	0.2%
Holly, American	2	0.0%	78	0.9%	0.8%
Poplar, Tulip	61	0.7%	78	0.9%	0.2%
Dogwood, Himalayan Flowering	0	0.0%	72	0.8%	0.8%
Oak, Southern Red	65	0.7%	64	0.7%	0.0%
Zelkova, Japanese	55	0.6%	64	0.7%	0.1%
Redbud, Eastern	65	0.7%	55	0.6%	-0.1%
Dogwood, Kousa	22	0.2%	46	0.5%	0.3%
Elm, Chinese	7	0.1%	43	0.5%	0.4%
Magnolia, Japanese	42	0.5%	43	0.5%	0.0%
Pine, Shortleaf	36	0.4%	43	0.5%	0.1%
Maple, Silver	49	0.6%	38	0.4%	-0.1%
Elm, American	25	0.3%	37	0.4%	0.1%
Oak, White	30	0.3%	37	0.4%	0.1%
Elm, Winged	31	0.4%	35	0.4%	0.0%
Blackgum	8	0.1%	33	0.4%	0.3%
Cherry, Black	34	0.4%	32	0.4%	0.0%
Cherry, Yoshino	24	0.3%	31	0.3%	0.1%
Maple, Japanese	28	0.3%	31	0.3%	0.0%
Arborvitae, Eastern	12	0.1%	30	0.3%	0.2%
Oak, Overcup	12	0.1%	30	0.3%	0.2%
Crabapple, Southern	35	0.4%	29	0.3%	-0.1%
Mimosa	35	0.4%	29	0.3%	-0.1%
Cryptomeria, Japanese	2	0.0%	26	0.3%	0.3%
Oak, Post	26	0.3%	24	0.3%	0.0%
Serviceberry, Downy	0	0.0%	24	0.3%	0.3%
Birch, River	26	0.3%	23	0.3%	0.0%
Cedar, Deodar	2	0.0%	23	0.3%	0.2%
Oak, Scarlet	15	0.2%	20	0.2%	0.1%
Elm, Slippery	35	0.4%	19	0.2%	-0.2%
Mulberry, Red	23	0.3%	18	0.2%	-0.1%
Oak, Laurel	24	0.3%	18	0.2%	-0.1%
Sycamore	19	0.2%	16	0.2%	0.0%
Chinaberry	13	0.1%	15	0.2%	0.0%
Ginkgo	14	0.2%	14	0.2%	0.0%
Holly, Savannah	5	0.1%	14	0.2%	0.1%

SPECIES COMMON NAME	2003		2012		AMOUNT OF CHANGE
	NUMBER OF TREES	PERCENT	NUMBER OF TREES	PERCENT	
Pine, Eastern White	19	0.2%	14	0.2%	-0.1%
Red-Tip Photinia	0	0.0%	14	0.2%	0.2%
Oak, Sawtooth	12	0.1%	13	0.1%	0.0%
Vitex	0	0.0%	13	0.1%	0.1%
Locust, Black	17	0.2%	12	0.1%	-0.1%
Boxelder	13	0.1%	11	0.1%	0.0%
Crabapple, Japanese Flowering	2	0.0%	11	0.1%	0.1%
Hickory, Mockernut	18	0.2%	11	0.1%	-0.1%
Tree-of-Heaven	9	0.1%	11	0.1%	0.0%
Holly, Chinese	3	0.0%	9	0.1%	0.1%
Holly, Yaupon	3	0.0%	9	0.1%	0.1%
Mulberry, White	3	0.0%	8	0.1%	0.1%
Oak, Pin	2	0.0%	8	0.1%	0.1%
Pine, Longleaf	7	0.1%	8	0.1%	0.0%
Sassafras	11	0.1%	8	0.1%	0.0%
Walnut, Black	24	0.3%	8	0.1%	-0.2%
Catalpa, Southern	11	0.1%	7	0.1%	0.0%
Hemlock, Eastern	31	0.4%	7	0.1%	-0.3%
Hickory, Pignut	7	0.1%	7	0.1%	0.0%
Holly, Foster	10	0.1%	7	0.1%	0.0%
Oak, Live	4	0.0%	7	0.1%	0.0%
Oak, Northern Red	14	0.2%	7	0.1%	-0.1%
Orange, Osage	8	0.1%	7	0.1%	0.0%
Plum, Chickasaw	28	0.3%	7	0.1%	-0.2%
Oak, English	6	0.1%	6	0.1%	0.0%
Oak, Unknown	0	0.0%	6	0.1%	0.1%
Plum, Purpleleaf	12	0.1%	6	0.1%	-0.1%
Privet, Chinese	0	0.0%	6	0.1%	0.1%
Redbud, Oklahoma	6	0.1%	6	0.1%	0.0%
Waxmyrtle, Southern	6	0.1%	6	0.1%	0.0%
Ash, Green	3	0.0%	5	0.1%	0.0%
Goldenraintree	7	0.1%	5	0.1%	0.0%
Maple, Unknown	0	0.0%	5	0.1%	0.1%
Persimmon, Common	12	0.1%	5	0.1%	-0.1%
Sourwood	7	0.1%	5	0.1%	0.0%
Magnolia, 'Little Gem'	0	0.0%	4	0.0%	0.0%
Oak, Swamp White	4	0.0%	4	0.0%	0.0%
Parasol Tree, Chinese	4	0.0%	4	0.0%	0.0%
Pine, Virginia	30	0.3%	4	0.0%	-0.3%
Smoketree, Common	1	0.0%	4	0.0%	0.0%
Ash, White	3	0.0%	3	0.0%	0.0%
Baldcypress	4	0.0%	3	0.0%	0.0%
Cedar, Blue Sport	0	0.0%	3	0.0%	0.0%
Eucalyptus	0	0.0%	3	0.0%	0.0%
Fir, China	3	0.0%	3	0.0%	0.0%
Hickory, Unknown	0	0.0%	3	0.0%	0.0%
Honeylocust	6	0.1%	3	0.0%	0.0%
Hornbeam, American	0	0.0%	3	0.0%	0.0%
Mulberry, Paper	0	0.0%	3	0.0%	0.0%
Oak, Blackjack	0	0.0%	3	0.0%	0.0%
Peach	10	0.1%	3	0.0%	-0.1%
Pine, Slash	0	0.0%	3	0.0%	0.0%
Pistache, Chinese	5	0.1%	3	0.0%	0.0%
Tallowtree, Chinese	2	0.0%	3	0.0%	0.0%
Butternut	0	0.0%	2	0.0%	0.0%

SPECIES COMMON NAME	2003		2012		AMOUNT OF CHANGE
	NUMBER OF TREES	PERCENT	NUMBER OF TREES	PERCENT	
Elm, Siberian	1	0.0%	2	0.0%	0.0%
Maple, Southern Sugar	0	0.0%	2	0.0%	0.0%
Silverbell, Two-Winged	1	0.0%	2	0.0%	0.0%
Willow, Weeping	4	0.0%	2	0.0%	0.0%
Arborvitae, Giant	1	0.0%	1	0.0%	0.0%
Cedar, Japanese	0	0.0%	1	0.0%	0.0%
Cottonwood, Eastern	1	0.0%	1	0.0%	0.0%
Dogwood, Silky	0	0.0%	1	0.0%	0.0%
Katsuratree	0	0.0%	1	0.0%	0.0%
Loropetalum	0	0.0%	1	0.0%	0.0%
Magnolia, Bigleaf	1	0.0%	1	0.0%	0.0%
Maple, Amur	0	0.0%	1	0.0%	0.0%
Oak, Black	1	0.0%	1	0.0%	0.0%
Oak, Chestnut	5	0.1%	1	0.0%	0.0%
Oak, Swamp Chestnut	0	0.0%	1	0.0%	0.0%
Pagoda Tree, Japanese	4	0.0%	1	0.0%	0.0%
Paulownia, Royal	1	0.0%	1	0.0%	0.0%
Smoketree, American	0	0.0%	1	0.0%	0.0%
Sugarberry	0	0.0%	1	0.0%	0.0%
Fir, Unknown	1	0.0%	0	0.0%	0.0%
Hickory, Bitternut	1	0.0%	0	0.0%	0.0%
Magnolia, Sweetbay	2	0.0%	0	0.0%	0.0%
Poplar, Lombardy	2	0.0%	0	0.0%	0.0%
Poplar, White	2	0.0%	0	0.0%	0.0%
Spruce, Spp.	2	0.0%	0	0.0%	0.0%
Willow, Black	2	0.0%	0	0.0%	0.0%
TOTAL	8,843	100.0%	9,024	100.0%	0.0%

DBH	2003		2012		AMOUNT OF CHANGE
	NUMBER OF TREES	PERCENT	NUMBER OF TREES	PERCENT	
0	42	0%	0	0%	0%
1	527	6%	230	3%	-3%
2	1,539	17%	628	7%	-10%
3	478	5%	608	7%	1%
4	1,121	13%	846	9%	-3%
5	234	3%	742	8%	6%
6	764	9%	584	6%	-2%
7	129	1%	553	6%	5%
8	537	6%	427	5%	-1%
9	75	1%	352	4%	3%
10	479	5%	347	4%	-2%
11	42	0%	276	3%	3%
12	388	4%	289	3%	-1%
13	42	0%	243	3%	2%
14	273	3%	215	2%	-1%
15	36	0%	208	2%	2%
16	258	3%	176	2%	-1%
17	25	0%	155	2%	1%
18	270	3%	181	2%	-1%
19	34	0%	162	2%	1%
20	240	3%	159	2%	-1%
21	17	0%	147	2%	1%
22	204	2%	115	1%	-1%
23	23	0%	126	1%	1%
24	202	2%	116	1%	-1%
25	21	0%	124	1%	1%
26	126	1%	94	1%	0%
27	21	0%	106	1%	1%
28	129	1%	69	1%	-1%
29	10	0%	78	1%	1%
30	113	1%	58	1%	-1%
31	8	0%	82	1%	1%
32	65	1%	62	1%	0%
33	22	0%	44	0%	0%
34	63	1%	41	0%	0%
35	19	0%	38	0%	0%
36	58	1%	47	1%	0%
37	7	0%	31	0%	0%
38	47	1%	36	0%	0%
39	1	0%	34	0%	0%
40	38	0%	28	0%	0%
41	3	0%	24	0%	0%
42	37	0%	15	0%	0%

DBH	2003		2012		AMOUNT OF CHANGE
	NUMBER OF TREES	PERCENT	NUMBER OF TREES	PERCENT	
43	4	0%	16	0%	0%
44	18	0%	10	0%	0%
45	3	0%	18	0%	0%
46	10	0%	14	0%	0%
47	2	0%	5	0%	0%
48	11	0%	12	0%	0%
49	2	0%	11	0%	0%
50	3	0%	1	0%	0%
51	1	0%	10	0%	0%
52	10	0%	4	0%	0%
53	1	0%	3	0%	0%
54	2	0%	10	0%	0%
55	2	0%	3	0%	0%
56	1	0%	2	0%	0%
57	0	0%	1	0%	0%
58	1	0%	0	0%	0%
59	0	0%	1	0%	0%
60	2	0%	0	0%	0%
61	0	0%	2	0%	0%
62	1	0%	0	0%	0%
63	1	0%	1	0%	0%
64	1	0%	2	0%	0%
65	0	0%	0	0%	0%
66	0	0%	0	0%	0%
67	0	0%	1	0%	0%
68	0	0%	0	0%	0%
69	0	0%	0	0%	0%
70	0	0%	0	0%	0%
71	0	0%	1	0%	0%
TOTAL	8,843	100%	9,024	100%	0%



CONDITION COMPONENT	RATING							
	No Apparent Problems	Percent of All Trees	Minor Problems	Percent of All Trees	Major Problems	Percent of All Trees	Severe Problems	Percent of All Trees
2003								
ROOT HEALTH	7,545	85%	1,215	14%	74	1%	9	0%
ROOT STRUCTURE	6,432	73%	2,146	24%	254	3%	11	0%
TRUNK HEALTH	6,823	77%	1,777	20%	224	3%	19	0%
TRUNK STRUCTURE	6,283	71%	1,948	22%	576	7%	36	0%
SCAFFOLD LIMB HEALTH	6,286	71%	2,400	27%	134	2%	23	0%
SCAFFOLD LIMB STRUCTURE	6,044	68%	2,306	26%	480	5%	13	0%
BRANCH HEALTH	6,877	78%	1,786	20%	161	2%	19	0%
LEAVES HEALTH	8,188	93%	551	6%	88	1%	16	0%
2012								
ROOT HEALTH	5,934	66%	2,584	29%	418	5%	88	1%
ROOT STRUCTURE	6,365	71%	2,283	25%	304	3%	72	1%
TRUNK HEALTH	4,218	47%	3,734	41%	893	10%	179	2%
TRUNK STRUCTURE	2,500	28%	4,818	53%	1,542	17%	164	2%
SCAFFOLD LIMB HEALTH	4,603	51%	3,622	40%	666	7%	133	1%
SCAFFOLD LIMB STRUCTURE	1,719	19%	6,342	70%	871	10%	92	1%
BRANCH HEALTH	5,728	63%	2,748	30%	420	5%	128	1%
LEAVES HEALTH	7,647	85%	1,150	13%	133	1%	94	1%

CONDITION PERCENT	2003		2012		AMOUNT OF CHANGE
	NUMBER OF TREES	PERCENT	NUMBER OF TREES	PERCENT	
25%	4	0.0%	49	0.5%	0.5%
28%	0	0.0%	1	0.0%	0.0%
31%	1	0.0%	1	0.0%	0.0%
34%	1	0.0%	1	0.0%	0.0%
38%	4	0.0%	3	0.0%	0.0%
41%	2	0.0%	9	0.1%	0.1%
44%	1	0.0%	20	0.2%	0.2%
47%	2	0.0%	5	0.1%	0.0%
50%	3	0.0%	17	0.2%	0.2%
53%	8	0.1%	12	0.1%	0.0%
56%	10	0.1%	43	0.5%	0.4%
59%	14	0.2%	79	0.9%	0.7%
63%	38	0.4%	97	1.1%	0.6%
66%	67	0.8%	152	1.7%	0.9%
69%	100	1.1%	219	2.4%	1.3%
72%	125	1.4%	277	3.1%	1.7%
75%	220	2.5%	440	4.9%	2.4%
78%	276	3.1%	599	6.6%	3.5%
81%	364	4.1%	800	8.9%	4.7%
84%	399	4.5%	937	10.4%	5.9%
88%	495	5.6%	1,160	12.9%	7.3%
91%	628	7.1%	1,314	14.6%	7.5%
94%	923	10.4%	1,321	14.6%	4.2%
97%	851	9.6%	685	7.6%	-2.0%
100%	4,307	48.7%	783	8.7%	-40.0%
TOTAL	8,843	100.0%	9,024	100.0%	0.0%

RISK RATING	2003		2012		AMOUNT OF CHANGE
	NUMBER OF TREES	PERCENT	NUMBER OF TREES	PERCENT	
3	4,969	56%	2,740	30%	-26%
4	517	6%	1,980	22%	16%
5	1,193	13%	1,642	18%	5%
6	1,136	13%	1,054	12%	-1%
7	560	6%	675	7%	1%
8	246	3%	478	5%	3%
9	125	1%	260	3%	1%
10	76	1%	135	1%	1%
11	15	0%	48	1%	0%
12	6	0%	12	0%	0%
Grand Total	8,843	100%	9,024	100%	0%

CONDITION DESCRIPTION or MANAGEMENT ACTION	2003		2012	
	NUMBER OF TREES	PERCENT	NUMBER OF TREES	PERCENT
ROOTS				
Girdling Root	0	0%	966	11%
Root Wound	387	4%	2425	27%
Root Fruiting Body	0	0%	105	1%
Root Decay	345	4%	923	10%
TRUNK				
Forked Trunk	805	9%	4187	46%
Multi-trunked	2545	29%	2406	27%
Included Bark	272	3%	2104	23%
Trunk Wound	1281	14%	3618	40%
Trunk Decay	986	11%	1665	18%
Trunk Fruiting Body	2	0%	70	1%
Trunk Cavity	85	1%	536	6%
LIMBS, BRANCHES AND LEAVES				
Scaffold Cavity	570	6%	417	5%
Scaffold Wound	599	7%	1626	18%
Hanger	70	1%	160	2%
Large Limb Hazard	0	0%	277	3%
Dead Limb	1350	15%	2363	26%
Pruning Defect	75	1%	2759	31%
Mistletoe	1	0%	471	5%
Scale	0	0%	68	1%
Chlorosis	21	0%	36	0%
Dieback	1148	13%	1400	16%
Topped	66	1%	1134	13%
Utility Pruning	10	0%	937	10%

CONDITION DESCRIPTION or MANAGEMENT ACTION	2003		2012	
	NUMBER OF TREES	PERCENT	NUMBER OF TREES	PERCENT
MAINTENANCE RECOMMENDATIONS				
Training Pruning	5	0%	1397	15%
Structural Pruning	10	0%	2662	29%
Crown Cleaning Pruning	836	9%	3921	43%
Crown Raising/Clearance Pruning	851	10%	1388	15%
High Priority Pruning	5	0%	205	2%
Inspect	4	0%	576	6%
Remove	82	1%	580	6%
High Priority Removal	4	0%	84	1%
Check/Remove Girdling Root	0	0%	543	6%
Check/Remove Girdling Wire	10	0%	53	1%
Remove Vine	247	3%	600	7%
Mulch	0	0%	3227	36%
Cable	1	0%	171	2%
Pest Management	1	0%	45	0%
SITE CONDITIONS				
Utilities - None	4859	55%	4663	52%
Utilities - Primary	3984	45%	3466	38%
Utilities - Secondary	0	0%	895	10%
Limited Space	46	1%	1185	13%
Compaction	49	1%	3178	35%
Heaving Pavement	4	0%	119	1%
Unmanaged Area	221	2%	825	9%