



Ward Tree Inventory Summary Report

Ward 8, City of St. Louis, Missouri

March 2015

Prepared for:
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Acknowledgments

The City of St. Louis' vision to promote and preserve its urban forest and improve the management of public trees was a fundamental inspiration for this project. This vision will ensure canopy continuity, which will reduce stormwater runoff and improve air quality, public health, and aesthetic values.

The City of St. Louis is thankful for the grant funding it received from Missouri Department of Conservation (MDC) in cooperation with the Missouri Community Forestry Council and the U.S. Forest Service through its Tree Resource Improvement and Maintenance (TRIM) cost-share program. The TRIM grant program is designed to encourage communities to create and support long-term and sustained urban and community forestry programs throughout Missouri.

Notice of Disclaimer

Inventory data provided by Davey Resource Group, a division of The Davey Tree Expert Company, are based on visual recording at the time of inspection. Visual records do not include individual testing or analysis, nor do they include aerial or subterranean inspection. Davey Resource Group is not responsible for discovery or identification of hidden or otherwise non-observable hazards. Records may not remain accurate after inspection due to variable deterioration of inventoried material. Davey Resource Group provides no warranty with respect to the fitness of the urban forest for any use or purpose whatsoever. Clients may choose to accept or disregard Davey Resource Group's recommendations, or to seek additional advice. It is important to understand that visual inspection is confined to the designated subject tree(s), and that inspections for this project are performed in the interest of facts of the tree(s) without prejudice to or for any other service or any interested party.

Executive Summary

The City of St. Louis recently commissioned an inventory and assessment of its trees, stumps, and planting sites located in the street rights-of-way (ROW). Understanding an urban forest's structure, function, and value encourages management decisions that improve the urban forest. An urban forest significantly influences a community's environmental quality and health. Davey Resource Group collected and analyzed the inventory data to understand species composition and tree condition in order to provide substantial maintenance recommendations. Tree values and benefits have been quantified using the i-Tree Streets benefits model (developed by the United States Department of Agriculture Forest Service in partnership with The Davey Tree Expert Company). This report will discuss the health and benefits of the inventoried tree population throughout Ward 8 of the City of St. Louis.

Key Findings

- The appraised value of Ward 8 is approximately \$4,866,107.
- The overall condition of the tree population is Fair.
- The most common species are: *Fraxinus pennsylvanica* (green ash), 12%; *Acer rubrum* (red maple), 11%; *F. americana* (white ash), 6%; *A. saccharum* (sugar maple), 6%; and *Quercus palustris* (pin oak), 6%.
- 40% of the urban forest is rated as Established, with a diameter of 9–17 inches.
- 75% of the population is recommended for a Tree Clean, 23% is recommended for a Young Tree Training Prune, and 2% is recommended for removal.
- Trees provide approximately \$284,473 of annual value in the following areas:
 - Air Quality: valued at \$10,169 per year.
 - Aesthetic/Other Tangible Benefits: valued at \$151,012 per year.
 - Avoided Carbon Emissions: 339.9 tons valued at \$2,243 per year.
 - Carbon Sequestration: 529.1 tons valued at \$3,492 per year.
 - Energy: 310.6 megawatt-hours (MWh) and 8,538.4 British thermal units (therms) valued at \$29,427 per year.
 - Stormwater: 14,214,467 gallons valued at \$88,130 per year.

See Appendix A for an overview of the methodology used in the inventory and assessment.

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Section 1: Tree Inventory Assessment

Project Area

In December 2014, Davey Resource Group arborists assessed and inventoried trees, planting sites, and stumps along the street rights-of-way (ROW) of Ward 8 in the City of St. Louis. Additional information about the inventory can be found in Appendix B.

Species Diversity

Throughout the ROW in Ward 8, 5,164 sites were inventoried, including 4,678 trees, 450 proposed planting sites, and 36 stumps. Figure 1 illustrates the composition of the most populous species compared to all inventoried species. The composition of a tree population should follow the 10-20-30 Rule for species diversity: a single species should represent no more than 10% of the urban forest, a single genera no more than 20%, and a single family no more than 30%.

Ward 8 currently includes two species—green ash (comprising 12% of the inventoried population) and red maple (11%)—that surpass the 10% rule for species diversity.

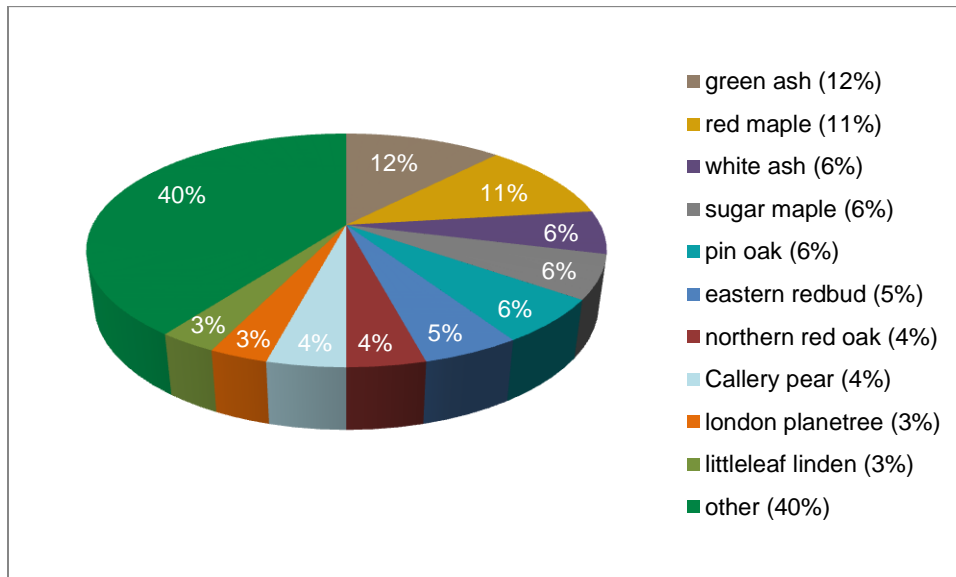


Figure 1. Tree species composition in Ward 8, St. Louis, Missouri.

Figure 2 represents the top five most common genera identified during the inventory in comparison to the 20% Rule. One genera, *Acer* (maple), exceeds the recommended 20%; *Fraxinus* (ash) is just under the threshold. Maple comprises 26% and ash another 19% of the street ROW tree population.

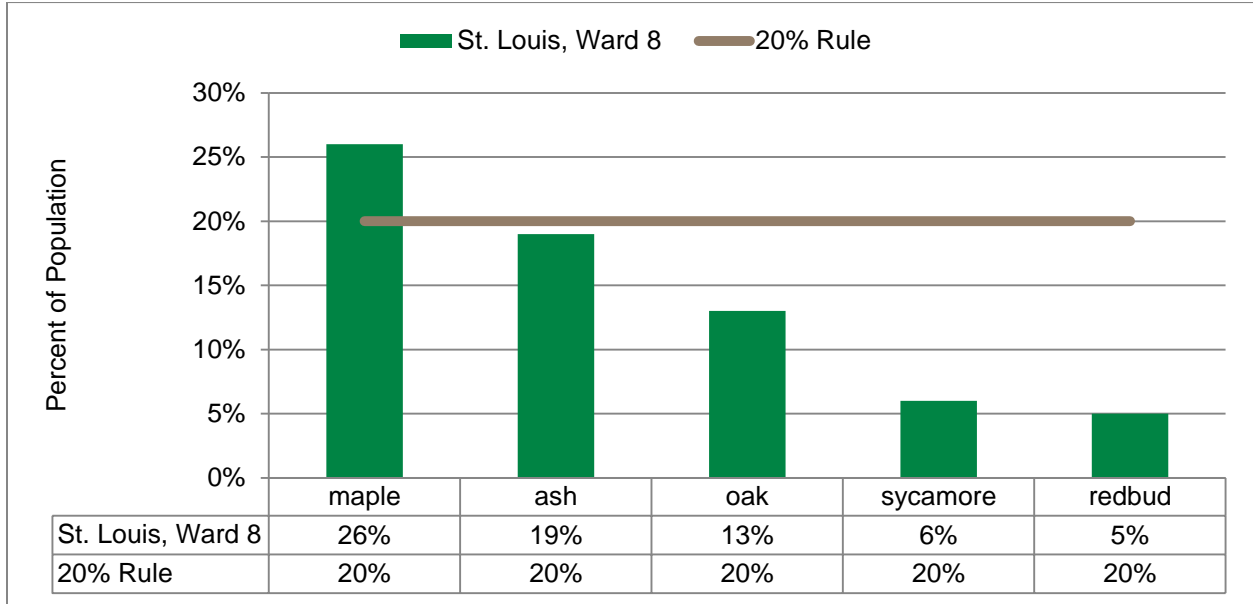


Figure 2. Top five genera in Ward 8, St. Louis, Missouri, in relation to the 20% Rule.

Diameter Size Class Distribution

Analyzing the diameter size class distribution (measured as diameter at breast height [DBH]) provides an estimate of the relative age of a tree population, along with tree maintenance needs.

The inventoried trees were categorized into the following diameter size classes: Young trees (0–8 inches DBH), Established trees (9–17 inches DBH), Maturing trees (18–24 inches DBH), and Mature trees (>24 inches DBH). These categories were chosen so that the population could be analyzed based on Richards’ notion of ideal distribution (1983). Richards proposed an ideal diameter size class distribution for street trees based on observations of well-adapted trees in Syracuse, New York. Richards’ ideal distribution suggests that the largest fraction of trees (approximately 40% of the population) should be young (<8 inches DBH), while a smaller fraction of trees (approximately 10%) should be in the large-diameter size class (>24 inches DBH). A tree population with an ideal distribution would have an abundance of newly planted and Young trees, and a low number of Established, Maturing, and Mature trees.

Figure 3 compares the inventoried street ROW tree diameter size class distribution in Ward 8 to the ideal distribution proposed by Richards (1983). Ward 8’s distribution generally trends toward the ideal; however, Young and Maturing trees fall short of the ideal by nearly 6% and 4%, respectively. As the urban forest in Ward 8 ages and new plantings are implemented, this ideal will begin to balance out through continued diameter growth.

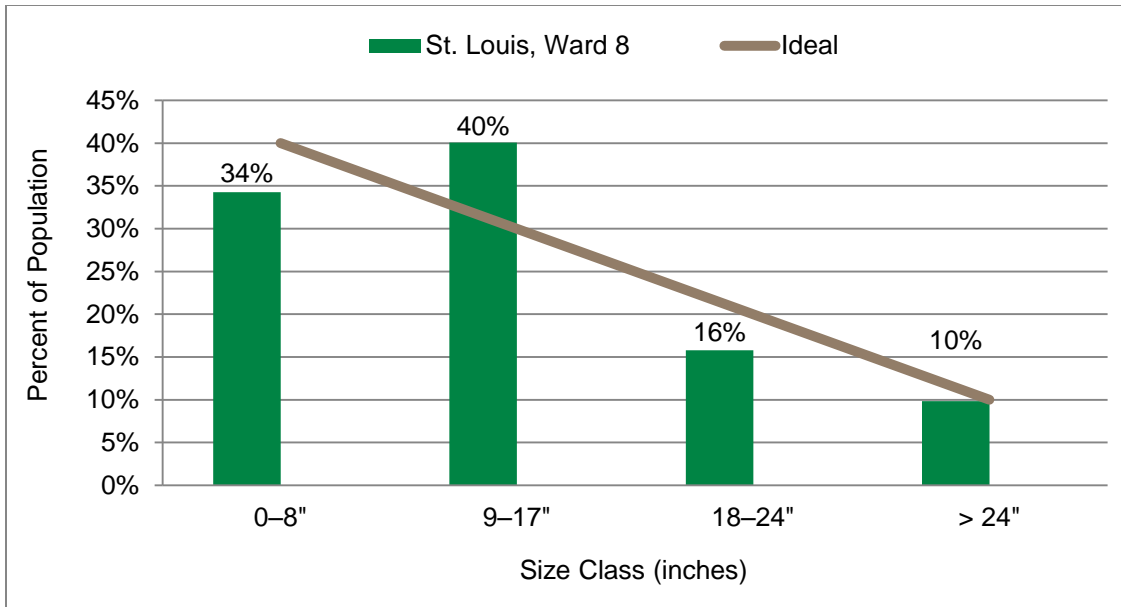


Figure 3. Age class distribution compared to Richards' (1983) ideal.

Condition

Several factors were considered in assessing the condition of each tree: root characteristics, branch structure, trunk, canopy, foliage condition, and the presence of pests were all evaluated. The condition of each inventoried tree was rated Excellent, Very Good, Good, Fair, Poor, Critical, or Dead.

As illustrated in Figure 4, most of the inventoried ROW trees are in Fair or Good condition (45% and 41%, respectively). Based on the data, the general health of the overall inventoried tree population is Fair.

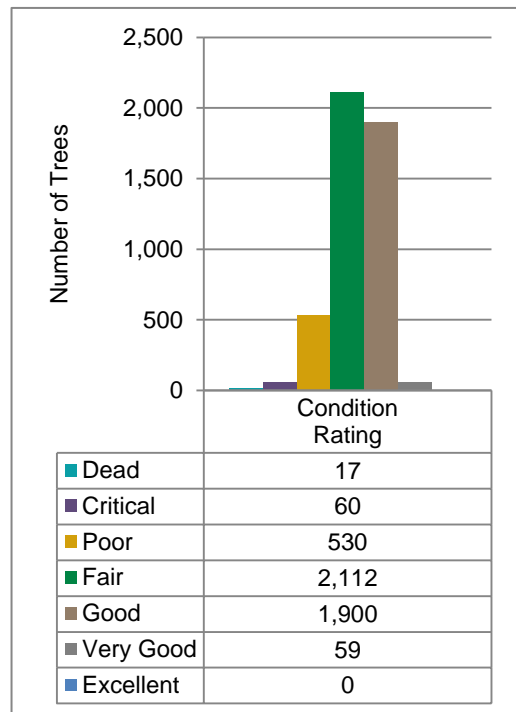


Figure 4. Overall condition ratings.

Figure 5 illustrates the condition of the urban forest in relation to the assigned age classes. The majority of the Established, Maturing, and Mature trees are in Fair condition. Additionally, as the population reached maturity, there was a slight decrease in Poor and Dead trees, and an increase in Good trees. With proactive care and an established maintenance schedule, this trend should continue.

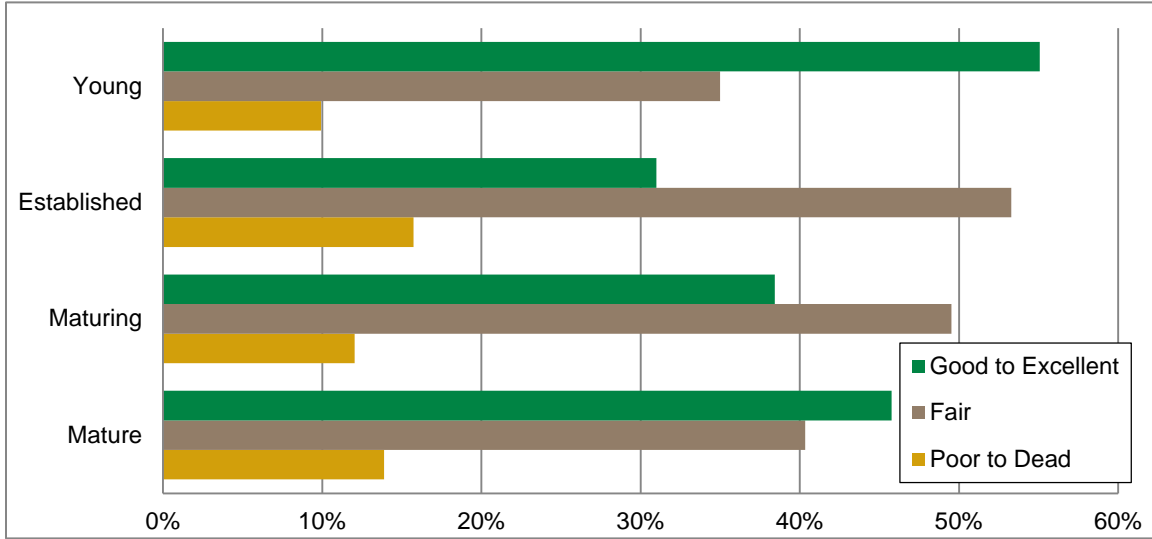


Figure 5. Tree condition by age class.

Primary Maintenance and Risk

Primary maintenance refers to the task identified for a tree or site: Removal, Tree Clean, or Young Tree Train. Risk is a graduated scale that measures potential hazardous conditions of a tree. A tree is considered hazardous when its risk values exceed an acceptable level.

Davey Resource Group’s maintenance recommendations and risk values are based in part on the evaluation of species, diameter class, condition, impact of hazard, and defects found in the individual tree. Identifying and ranking the maintenance needs of a tree population allows tree work to be assigned priority based on observed risk. Once prioritized, tree work can be systematically addressed to eliminate risk and liability (Stamen 2011).

Figure 6 illustrates the risk values associated with each maintenance need. Recommendations for the inventoried population in Ward 8 include 87 removals, 3,514 Tree Cleans, and 1,077 Young Tree Trains.

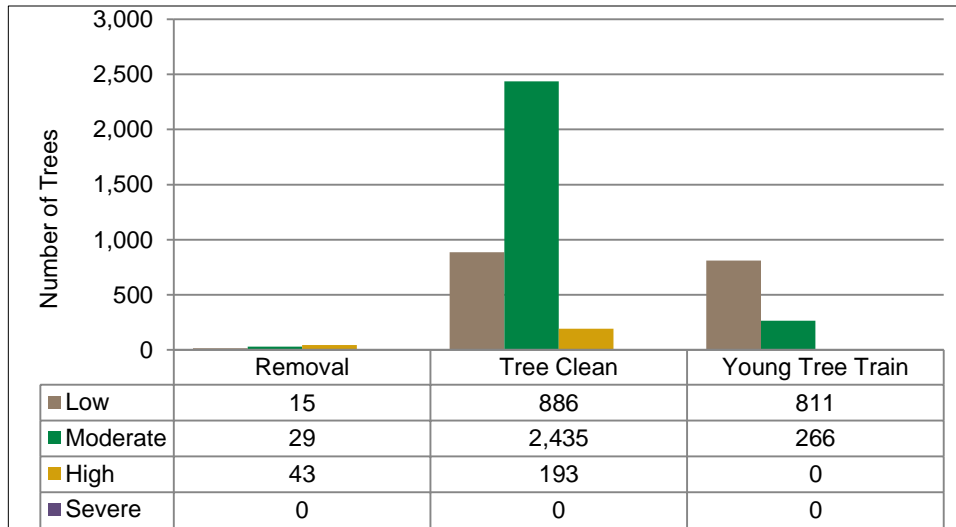


Figure 6. Maintenance needs by risk rating.

Section 2: i-Tree Streets Benefits

The i-Tree Streets application was used to assess the inventoried trees—this management and analysis tool uses tree inventory data to quantify the annual dollar value of environmental and aesthetic benefits provided by trees. Such benefits include energy conservation, air quality improvement, carbon dioxide (CO₂) reduction, stormwater control, and increases in property value. The i-Tree Streets application estimates the costs and benefits of a street tree population, but also creates annual benefit reports that reflect the value street trees provide to a community.

The inventoried urban forest of Ward 8 has an annual benefit savings of \$284,473. This total represents energy savings, stormwater reduction, increased property values, and overall air quality improvements. Figure 7 provides a breakdown of the annual benefits provided to Ward 8 and the City of St. Louis.

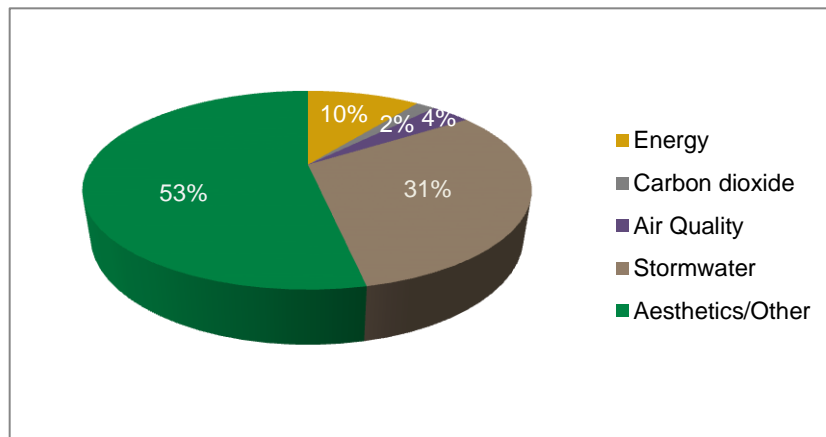


Figure 7. Annual i-Tree benefits.

Trees and Energy Use

Public trees conserve energy by shading structures and surfaces, reducing electricity use for air conditioning in the summer, and diverting wind in the winter to reduce natural gas. Based on the inventoried trees, the annual electric and natural gas savings are equivalent to 310.6 MWh of electricity and 8,538.4 therms of natural gas. When converted into monetary values using default economic data, this accounts for an annual savings of \$29,427 in energy consumption. Large leafy canopies provide significant reductions in energy usage by providing shade and natural wind barriers. Smaller trees, on the other hand, tend to provide small reductions in energy usage.

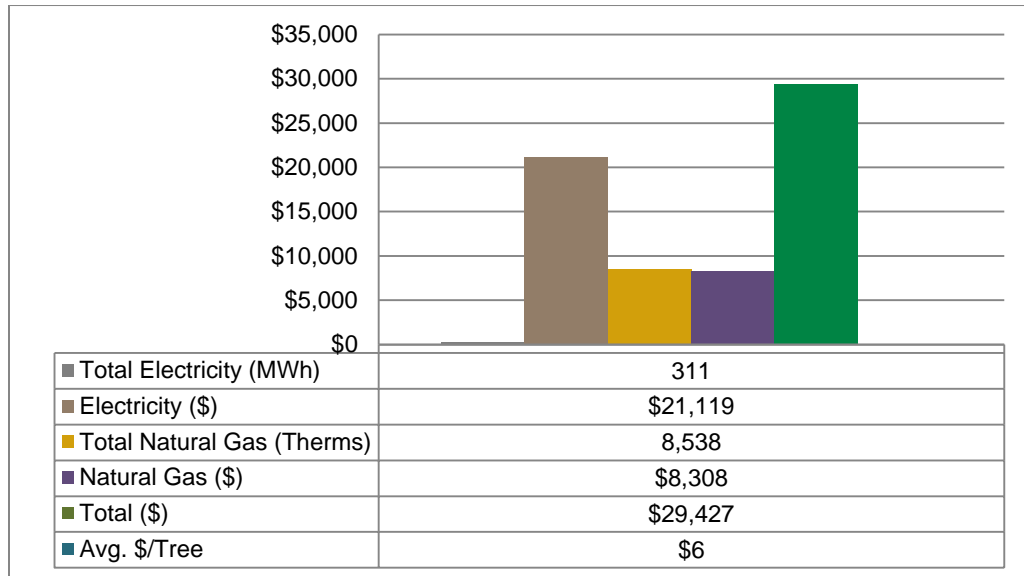


Figure 8. i-Tree energy report.

Stormwater Interception and Mitigation

Trees intercept rainfall, which reduces costs to manage stormwater runoff. The inventoried trees in Ward 8 intercept 14,214,467 gallons of rainfall every year. Based on the estimated average savings for Ward 8, the City of St. Louis saves \$88,130 annually from stormwater runoff management.

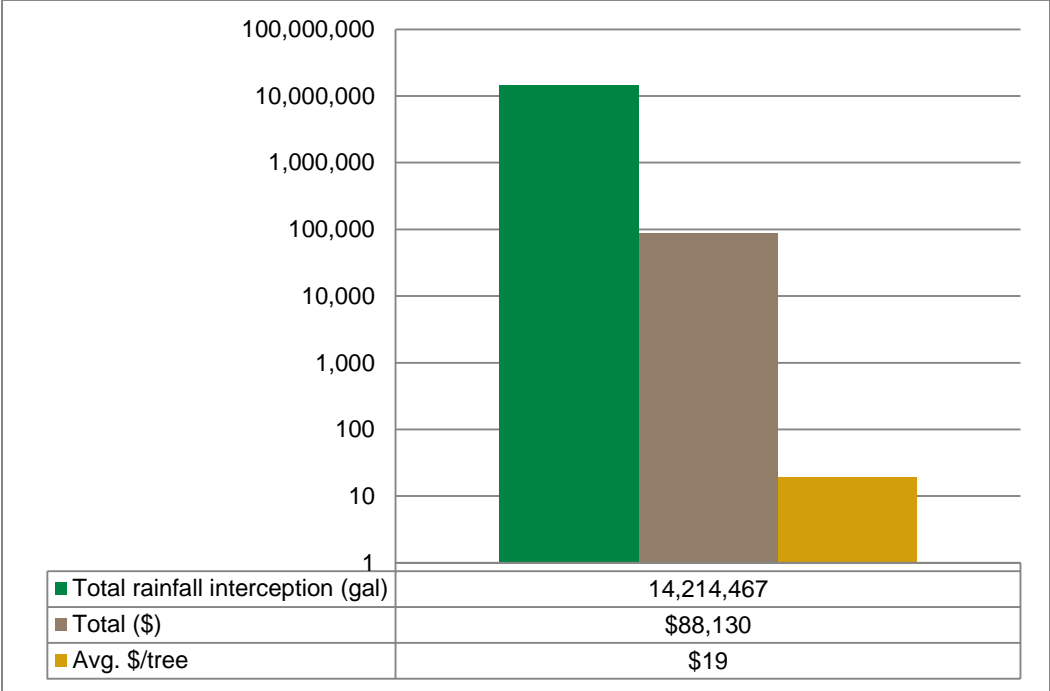


Figure 9. i-Tree stormwater report.

Conclusion and Recommendations

Managing trees in urban areas can be complicated. Navigating the recommendations of experts, the needs of residents, the pressures of local economics and politics, the concerns for public safety and liability, the physical aspects of trees, the forces of nature and severe weather events, and the expectation that all of these issues be addressed simultaneously is a considerable challenge. Ward 8 and the City of St. Louis must carefully consider each of these issues in the context of understanding public trees. By completing a tree inventory, the City of St. Louis has shown interest in preserving its urban forest, but also maintaining its urban forest for future generations. Establishing a planting program, routine pruning operation, and public outreach program will help the urban forest continue to provide benefits to the community.

Currently, the urban forest of Ward 8 is in Fair condition and provides an annual \$284,473 in benefits. With continued dedication to improving its urban forest resource, the City of St. Louis can increase diversity, condition, and the annual benefits its trees provide to the community.

Glossary

Aesthetic/Other Report: The i-Tree Streets Aesthetic/Other Report presents the tangible and intangible benefits of trees reflected by increases in property values in dollars (\$).

Air Quality Report: The i-Tree Streets Air Quality Report quantifies the air pollutants (ozone [O₃], nitrogen dioxide [NO₂], sulfur dioxide [SO₂], coarse particulate matter less than 10 micrometers in diameter [PM₁₀]) deposited on tree surfaces, and reduced emissions from power plants (NO₂, PM₁₀, Volatile Oxygen Compounds [VOCs], SO₂) due to reduced electricity use measured in pounds (lbs.). Also reported are the potential negative effects of trees on air quality due to Biogenic Volatile Organic Compounds (BVOC) emissions.

arboriculture: The art, science, technology, and business of commercial, public, and utility tree care.

canopy: Branches and foliage that make up a tree's crown.

Carbon Dioxide Report: The i-Tree Streets Carbon Dioxide Report presents annual reductions in atmospheric CO₂ due to sequestration by trees and reduced emissions from power plants due to reduced energy use in pounds. The model accounts for CO₂ released as trees die and decompose and CO₂ released during the care and maintenance of trees.

clean (primary maintenance need): Based on *ANSI A300 Standards*, selective removal of dead, dying, broken, and/or diseased wood to minimize potential risk.

community forest: see **urban forest**.

condition (data field): The general condition of each tree rated during the inventory according to the following categories adapted from the International Society of Arboriculture's rating system: Excellent (100%), Very Good (90%), Good (80%), Fair (60%), Poor, (40%), Critical (20%), Dead (0%).

diameter at breast height (DBH): See **tree size**.

diameter: See **tree size**.

Energy Report: The i-Tree Streets Energy Report presents the contribution of the urban forest toward conserving energy in terms of reduced natural gas use in winter measured in therms [th] and reduced electricity use for air conditioning in summer measured in megawatt-hours (MWh).

failure: In terms of tree management, failure is the breakage of stem or branches, or loss of mechanical support of the tree's root system.

genus: A taxonomic category ranking below a family and above a species and generally consisting of a group of species exhibiting similar characteristics. In taxonomic nomenclature, the genus name is used, either alone or followed by a Latin adjective or epithet, to form the name of a species.

geographic information system (GIS): A technology that is used to view and analyze data from a geographic perspective. The technology is a piece of an organization's overall information system framework. GIS links location to information (such as people to addresses, buildings to parcels, or streets within a network) and layers that information to give you a better understanding of how it all interrelates.

global positioning system (GPS): GPS is a system of earth-orbiting satellites that make it possible for people with ground receivers to pinpoint their geographic location.

High Risk tree: Tree that cannot be cost-effectively or practically treated. Most High Risk trees have multiple or significant defects affecting less than 40% of the trunk, crown, or critical root zone. Defective trees and/or tree parts are most likely between 4–20 inches in diameter and can be found in areas of frequent occupation, such as a main thoroughfare, congested streets, and/or near schools.

Importance Values: A calculation in i-Tree Streets. Importance Values (IV) are displayed in table form for all species that make up more than 1% of the population. The Streets IV is the mean of three relative values (percentage of total trees, percentage of total leaf area, and percentage of canopy cover) and can range from 0 to 100 with an IV of 100 suggesting total reliance on one species. IVs offer valuable information about a community's reliance on certain species to provide functional benefits. For example, a species might represent 10% of a population, but have an IV of 25% because of its great size, indicating that the loss of those trees due to pests or disease would be more significant than their numbers suggest.

inventory: See **tree inventory**.

i-Tree Streets: i-Tree Streets is a street tree management and analysis tool that uses tree inventory data to quantify the dollar value of annual environmental and aesthetic benefits: energy conservation, air quality improvement, CO₂ reduction, stormwater control, and property value increase.

i-Tree Tools: State-of-the-art, peer-reviewed software suite from the USDA Forest Service that provides urban forestry analysis and benefits assessment tools. The i-Tree Tools help communities of all sizes to strengthen their urban forest management and advocacy efforts by quantifying the structure of community trees and the environmental services that trees provide.

Low Risk tree: Tree with minor visible structural defects or wounds in areas with moderate to low public access.

mapping coordinate (data field): Helps to locate a tree; X and Y coordinates were generated for each tree using GPS.

Moderate Risk tree: Tree with defects that may be cost-effectively or practically treated. Most of the trees in this category exhibit several moderate defects affecting more than 40% of a tree's trunk, crown, or critical root zone.

monoculture: A population dominated by one single species or very few species.

Net Annual Benefits: Specific data field for i-Tree Streets. Citywide benefits and costs are calculated according to category and summed. Net benefits are calculated as benefits minus costs.

Nitrogen Dioxide (NO₂): Nitrogen dioxide is a compound typically created during the combustion processes and is a major contributor to smog formation and acid deposition.

Ozone (O₃): A strong-smelling, pale blue, reactive toxic chemical gas with molecules of three oxygen atoms. It is a product of the photochemical process involving the Sun's energy. Ozone exists in the upper layer of the atmosphere as well as at the Earth's surface. Ozone at the Earth's surface can cause numerous adverse human health effects. It is a major component of smog.

Particulate Matter (PM₁₀): A major class of air pollutants consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and mists.

primary maintenance need (data field): The type of tree work needed to reduce immediate risk.

pruning: The selective removal of plant parts to meet specific goals and objectives.

removal (primary maintenance need): Data field collected during the inventory identifying the need to remove a tree. Trees designated for removal have defects that cannot be cost-effectively or practically treated. Most of the trees in this category have a large percentage of dead crown.

right-of-way (ROW): See **street right-of-way**.

risk: Combination of the probability of an event occurring and its consequence.

risk assessment (data fields): The risk assessment is a point-based assessment of each tree by an arborist using a protocol based on the US Forest Service Community Tree Risk Rating System. In the field, the probability of tree or tree part failure is assigned 1–4 points (identifies the most likely failure and rates the likelihood that the structural defect(s) will result in failure based on observed, current conditions), the size of defective tree part is assigned 1–3 points (rates the size of the part most likely to fail), the probability of target impact by the tree or tree part is assigned 1–3 points (rates the use and occupancy of the area that would be struck by the defective part), and other risk factors are assigned 0–2 points (used if professional judgment suggests the need to increase the risk rating). The data from the risk assessment is used to calculate the risk rating that is ultimately assigned to the tree.

risk rating: Calculated from the field risk assessment data (see **risk assessment**), this is the sum of total risk assessment values. Risk ratings range from 3–10, with 3 being the lowest risk and 10 being the highest risk. In this Plan, the risk rating was used to identify the severity of risk assigned to a tree and to prioritize tree maintenance needs. The following categories were used:

- risk rating of 9 or 10 = Severe Risk tree
- risk rating of 7 or 8 = High Risk tree
- risk rating of 5 or 6 = Moderate Risk tree
- risk rating of 3 or 4 = Low Risk tree
- risk rating of 0 = no risk (used only for planting sites and stumps)

secondary maintenance need (data field): Recommended maintenance for a tree, which may be risk oriented, such as raising the crown for clearance, but generally was geared toward improving the structure of the tree and enhancing aesthetics.

Severe Risk tree: Tree rated to be Severe Risk cannot be cost-effectively or practically treated. Most Severe Risk trees have multiple and significant defects present in the trunk, crown, or critical root zone. Defective trees and/or tree parts are most likely larger than 20 inches in diameter and can be found in areas of frequent occupation, such as a main thoroughfare, congested streets, and/or near schools.

species: Fundamental category of taxonomic classification, ranking below a genus or subgenus, and consisting of related organisms capable of interbreeding.

stem: A woody structure bearing buds and foliage, and giving rise to other stems.

stems (data field): Identifies the number of stems or trunks splitting less than one foot above ground level.

Stored Carbon Report: Whereas, the i-Tree Streets Carbon Dioxide Report quantifies annual CO₂ reductions, and the i-Tree Streets Stored Carbon Report tallies all of the Carbon (C) stored in the urban forest over the life of the trees as a result of sequestration measured in pounds as the CO₂ equivalent.

Stormwater Report: A report generated by i-Tree Streets that presents the reductions in annual stormwater runoff due to rainfall interception by trees measured in gallons (gals.).

street name (data field): The name of a street right-of-way or road identified using posted signage or parcel information.

street right-of-way (ROW): A strip of land generally owned by a public entity over which facilities, such as highways, railroads, or power lines, are built.

street tree: A street tree is defined as a tree within the right-of-way.

structural defect: A feature, condition, or deformity of a tree or tree part that indicates weak structure and contributes to the likelihood of failure.

stump removal (primary maintenance need): Indicates a stump that should be removed.

Sulfur Dioxide (SO₂): A strong-smelling, colorless gas that is formed by the combustion of fossil fuels. Sulfur oxides contribute to the problem of acid rain.

Summary Report: The i-Tree Streets Summary report presents the annual total of energy, stormwater, air quality, carbon dioxide, and aesthetic/other benefits. Values are dollars per tree or total dollars.

tree benefit: An economic, environmental, or social improvement that benefits the community and results mainly from the presence of a tree. The benefit received has real or intrinsic value associated with it.

tree inventory: Comprehensive database containing information or records about individual trees typically collected by an arborist.

tree size (data field): A tree's diameter measured to the nearest inch in 1-inch size classes at 4.5 feet above ground, also known as diameter at breast height (DBH) or diameter.

tree: A tree is defined as a perennial woody plant that may grow more than 20 feet tall. Characteristically, it has one main stem, although many species may grow as multi-stemmed forms.

urban forest: All of the trees within a municipality or a community. This can include the trees along streets or rights-of-way, in parks and greenspaces, in forests, and on private property.

Volatile Organic Compounds (VOCs): Hydrocarbon compounds that exist in the ambient air and are by-products of energy used to heat and cool buildings. Volatile organic compounds contribute to the formation of smog and/or are toxic. Examples of VOCs are gasoline, alcohol, and solvents used in paints.

Young Tree Train (primary maintenance need): Data field based on *ANSI A300 Standards*, pruning of young trees to correct or eliminate weak, interfering, or objectionable branches to improve structure. These trees, up to 20 feet in height, can be worked with a pole pruner by a person standing on the ground.

References

Richards, N.A. 1983. "Diversity and Stability in a Street Tree Population." *Urban Ecology* 7(2):159–171.

Stamen, R.S. "Understanding and Preventing Arboriculture Lawsuits." Presented at the Georgia Urban Forest Council Annual Meeting, Madison, Georgia, November 2–3, 2011.

Appendix A Methodology

Data Collection Methods

Tree inventory data were collected using a system developed by Davey Resource Group that utilizes a customized ArcPad program loaded onto pen-based field computers equipped with geographic information system (GIS) and global positioning system (GPS) receivers. The knowledge and professional judgment of Davey Resource Group's arborists ensure the high quality of inventory data.

Data fields are defined in the glossary. At each site, the following data fields were collected:

- aboveground utilities
- block side
- clearance requirements
- condition
- grow space size
- grow space type
- further inspection
- hardscape damage
- location
- location rating
- primary maintenance needs
- mapping coordinate
- observations
- notes
- risk assessment
- risk rating
- secondary maintenance needs
- species
- stems
- tree size*

* measured in inches in diameter at 4.5 feet above ground (or diameter at breast height [DBH])

Primary and secondary maintenance are based on *ANSI A300 (Part 1)* (2008). Risk assessment and risk rating are based on *Urban Tree Risk Management* (Pokorny et al. 2003).

The data collected were provided in shapefile and Microsoft Excel™ and Access™ and i-Tree Streets formats on a CD-ROM accompanying this plan.

Site Location Method

Equipment and Base Maps

Inventory arborists use CF-19 Panasonic Toughbook® unit(s) and Trimble® global positioning system (GPS) Pathfinder® ProXH™ receiver(s).

Base Map Layers Utilized for Inventory

Imagery/Data Source	Date	Projection
Missouri Spatial Data Information Service http://www.msdis.missouri.edu)	Spring 2012	NAD 1983 StatePlane Missouri East FIPS 2401 Feet
Received from City GIS Department	2012	NAD 1983 StatePlane Missouri East FIPS 2401 Feet

Street ROW Site Location

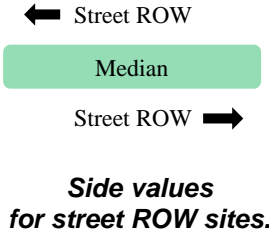
Individual street ROW sites (trees, stumps, or vacant planting sites) were located using a methodology developed by Davey Resource Group that identifies sites by address number, street name, side, site number, and block side. This methodology allows for consistent assignment of location.

Address Number and Street Name

The *address number* was recorded based on visual observation by the arborist at the time of the inventory (the address number posted on a building at the inventoried site). Where there was no posted address number on a building or where the site was located by a vacant lot with no GIS parcel addressing data available, the address number assigned was matched as closely as possible to opposite or adjacent addresses by the arborist and an “X” was added to the number in the database to indicate that it was assigned (for example, “37X Choice Avenue”).

Sites in medians or islands were assigned an address number using the address on the right side of the street in the direction of collection closest to the site. Each segment was numbered with an assigned address that was interpolated from addresses facing that median/island. If there were multiple median/islands between cross streets, each segment was given its own assigned address.

The *street name* assigned to a site was determined by street ROW parcel information and posted street name signage.



Side Value and Site Number

Each site was assigned a *side value* and *site number*. Side values include: *front*, *side to*, *side away*, *median* (includes islands), or *rear* based on the site’s location in relation the lot’s street frontage (Figure 1). The *front side* is the side that faces the address street. *Side to* is the name of the street the arborist is walking towards as data are being collected. The *side away* is the name of the street the arborist is walking away from while collecting data. *Median* indicates a median or island. The *rear* is the side of the lot opposite of the front.

All sites at an address are assigned a *site number*. Sites numbers are not unique; they are sequential to the side of the address only (the only unique number is the tree identification number assigned to each site). Site numbers are collected in the direction of vehicular traffic flow. The only exception is a one-way street. Site numbers along a one-way street are collected as if the street was a two-way street, thus some site numbers will oppose traffic.

A separate site number sequence is used for each side value of the address (front, side to, side away, median, or rear). For example, trees at the front of an address may have site numbers from 1 through 999 and, if trees are located on the side to, side away, median, or rear of that same address, each side will also be numbered consecutively beginning with the number 1.

Block Side

Block side information for a site includes the on street.

- The *on street* is the street that the site is physically located on. (The *on street* may not match the address street. A site may be physically located on a street that is different from its street address, for example, a site located on a side street.)

Site Location Examples



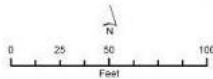
The tree trimming crew in the truck traveling westbound on E Mac Arthur Street is trying to locate an inventoried tree with the following location information:

Address/Street Name: 226 E. Mac Arthur Street
Side: Side To
Site Number: 1
On Street: Davis Street

The tree site circled in red is the site the crew is looking for. Because the tree is located on the side of the lot, the on street is Davis Street even though it is addressed as 226 East Mac Arthur Street.



These two tree sites are on Taft St, but have E Mac Arthur St addresses.



These four tree sites are on Davis St, however, the tree on the left has a different address than the three on the right.

Location information collected for inventoried trees at Corner Lot A and Corner Lot B.

Corner Lot A

Address/Street Name: 205 Hoover St.
 Side/Site Number: Side To / 1
 On Street: Taft St.

Address/Street Name: 205 Hoover St.
 Side/Site Number: Side To / 2
 On Street: Taft St.

Address/Street Name: 205 Hoover St.
 Side/Site Number: Side To / 3
 On Street: Taft St.

Address/Street Name: 205 Hoover St.
 Side/Site Number: Front / 1
 On Street: Hoover St.

Corner Lot B

Address/Street Name: 226 E Mac Arthur St.
 Side/Site Number: Side To / 1
 On Street: Davis St.

Address/Street Name: 226 E Mac Arthur St.
 Side/Site Number: Front / 1
 On Street: E Mac Arthur St.

Address/Street Name: 226 E Mac Arthur St.
 Side/Site Number: Front / 2
 On Street: E Mac Arthur St.

Appendix B
Tree Inventory Analysis Reports



<i>Genus</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
Acer	1211	23.62%
Fraxinus	877	17.10%
Quercus	623	12.15%
vacant	450	8.78%
Platanus	291	5.67%
Cercis	238	4.64%
Pyrus	174	3.39%
Tilia	168	3.28%
Ginkgo	142	2.77%
Liquidambar	132	2.57%
Ulmus	121	2.36%
Gleditsia	103	2.01%
Liriodendron	92	1.79%
Prunus	75	1.46%
Carpinus	52	1.01%
Betula	50	0.98%
Styphnolobium	38	0.74%
Koelreuteria	32	0.62%
Cornus	32	0.62%
Malus	30	0.59%
Taxodium	25	0.49%
Magnolia	22	0.43%
Catalpa	15	0.29%
Amelanchier	15	0.29%
Juniperus	13	0.25%
Syringa	12	0.23%
Zelkova	11	0.21%
Crataegus	10	0.20%
Pinus	9	0.18%
Picea	8	0.16%
Robinia	7	0.14%
Celtis	7	0.14%
Nyssa	6	0.12%
Thuja	4	0.08%
Populus	4	0.08%

<i>Genus</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
Morus	4	0.08%
Metasequoia	4	0.08%
Juglans	4	0.08%
Ailanthus	3	0.06%
Abies	3	0.06%
Hamamelis	2	0.04%
Aesculus	2	0.04%
Tsuga	1	0.02%
Sorbus	1	0.02%
Sassafras	1	0.02%
Salix	1	0.02%
Maclura	1	0.02%
Gymnocladus	1	0.02%
Cladrastis	1	0.02%
Unknown	0	0.00%
Grand Total	5128	100%

Genus Count: 50



<i>Diameter Class</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
<i>Removal</i>			
7 - 12	31	35.63%	0.66%
1 - 3	22	25.29%	0.47%
13 - 18	19	21.84%	0.41%
19 - 24	6	6.90%	0.13%
4 - 6	5	5.75%	0.11%
25 - 30	2	2.30%	0.04%
43 +	1	1.15%	0.02%
31 - 36	1	1.15%	0.02%
<i>Summary for Removal (8 items)</i>			
Sum	87	100%	1.86%
<i>Tree Clean</i>			
7 - 12	1348	38.36%	28.82%
13 - 18	1058	30.11%	22.62%
19 - 24	553	15.74%	11.82%
25 - 30	301	8.57%	6.43%
31 - 36	103	2.93%	2.20%
4 - 6	95	2.70%	2.03%
37 - 42	40	1.14%	0.86%
43 +	13	0.37%	0.28%
1 - 3	3	0.09%	0.06%
<i>Summary for Tree Clean (9 items)</i>			
Sum	3514	100%	75.12%
<i>Young Tree Train</i>			
1 - 3	657	61.00%	14.04%
4 - 6	395	36.68%	8.44%
7 - 12	25	2.32%	0.53%
<i>Summary for Young Tree Train (3 items)</i>			
Sum	1077	100%	23.02%
Grand Total	4678		



<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
<i>Abies balsamea</i>			
Dead	3	100.00%	0.06%
<i>Summary for Abies balsamea (1 item)</i>			
Sum	3	100%	0.06%
<i>Acer palmatum</i>			
Fair	5	62.50%	0.10%
Good	3	37.50%	0.06%
<i>Summary for Acer palmatum (2 items)</i>			
Sum	8	100%	0.15%
<i>Acer pensylvanicum</i>			
Fair	1	100.00%	0.02%
<i>Summary for Acer pensylvanicum (1 item)</i>			
Sum	1	100%	0.02%
<i>Acer platanoides</i>			
Critical	2	1.56%	0.04%
Dead	1	0.78%	0.02%
Fair	72	56.25%	1.39%
Good	33	25.78%	0.64%
Poor	19	14.84%	0.37%
Very Good	1	0.78%	0.02%
<i>Summary for Acer platanoides (6 items)</i>			
Sum	128	100%	2.48%
<i>Acer pseudoplatanus</i>			
Poor	1	100.00%	0.02%
<i>Summary for Acer pseudoplatanus (1 item)</i>			
Sum	1	100%	0.02%
<i>Acer rubrum</i>			
Critical	3	0.59%	0.06%
Dead	1	0.20%	0.02%
Fair	183	35.95%	3.54%
Good	290	56.97%	5.62%
Poor	32	6.29%	0.62%

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
<i>Summary for Acer rubrum (5 items)</i>			
Sum	509	100%	9.86%
<i>Acer saccharinum</i>			
Critical	4	1.60%	0.08%
Fair	117	46.80%	2.27%
Good	81	32.40%	1.57%
Poor	48	19.20%	0.93%
<i>Summary for Acer saccharinum (4 items)</i>			
Sum	250	100%	4.84%
<i>Acer saccharum</i>			
Critical	8	2.75%	0.15%
Fair	146	50.17%	2.83%
Good	91	31.27%	1.76%
Poor	46	15.81%	0.89%
<i>Summary for Acer saccharum (4 items)</i>			
Sum	291	100%	5.64%
<i>Acer tataricum</i>			
Fair	1	25.00%	0.02%
Good	3	75.00%	0.06%
<i>Summary for Acer tataricum (2 items)</i>			
Sum	4	100%	0.08%
<i>Acer tataricum ginnala</i>			
Critical	1	50.00%	0.02%
Fair	1	50.00%	0.02%
<i>Summary for Acer tataricum ginnala (2 items)</i>			
Sum	2	100%	0.04%
<i>Acer x freemanii</i>			
Fair	10	58.82%	0.19%
Good	4	23.53%	0.08%
Poor	3	17.65%	0.06%
<i>Summary for Acer x freemanii (3 items)</i>			
Sum	17	100%	0.33%
<i>Aesculus glabra</i>			
Fair	2	100.00%	0.04%
<i>Summary for Aesculus glabra (1 item)</i>			
Sum	2	100%	0.04%

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
<i>Ailanthus altissima</i>			
Fair	2	66.67%	0.04%
Poor	1	33.33%	0.02%
<i>Summary for Ailanthus altissima (2 items)</i>			
Sum	3	100%	0.06%
<i>Amelanchier arborea</i>			
Fair	1	100.00%	0.02%
<i>Summary for Amelanchier arborea (1 item)</i>			
Sum	1	100%	0.02%
<i>Amelanchier spp.</i>			
Fair	5	35.71%	0.10%
Good	8	57.14%	0.15%
Poor	1	7.14%	0.02%
<i>Summary for Amelanchier spp. (3 items)</i>			
Sum	14	100%	0.27%
<i>Betula nigra</i>			
Critical	1	2.00%	0.02%
Fair	17	34.00%	0.33%
Good	27	54.00%	0.52%
Poor	5	10.00%	0.10%
<i>Summary for Betula nigra (4 items)</i>			
Sum	50	100%	0.97%
<i>Carpinus betulus</i>			
Critical	1	2.13%	0.02%
Fair	12	25.53%	0.23%
Good	31	65.96%	0.60%
Poor	3	6.38%	0.06%
<i>Summary for Carpinus betulus (4 items)</i>			
Sum	47	100%	0.91%
<i>Carpinus caroliniana</i>			
Good	5	100.00%	0.10%
<i>Summary for Carpinus caroliniana (1 item)</i>			
Sum	5	100%	0.10%
<i>Catalpa speciosa</i>			
Fair	10	66.67%	0.19%
Good	5	33.33%	0.10%

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
<i>Summary for Catalpa speciosa (2 items)</i>			
Sum	15	100%	0.29%
<i>Celtis occidentalis</i>			
Fair	3	42.86%	0.06%
Good	4	57.14%	0.08%
<i>Summary for Celtis occidentalis (2 items)</i>			
Sum	7	100%	0.14%
<i>Cercis canadensis</i>			
Critical	4	1.68%	0.08%
Dead	1	0.42%	0.02%
Fair	102	42.86%	1.98%
Good	95	39.92%	1.84%
Poor	36	15.13%	0.70%
<i>Summary for Cercis canadensis (5 items)</i>			
Sum	238	100%	4.61%
<i>Cladrastis kentukea</i>			
Poor	1	100.00%	0.02%
<i>Summary for Cladrastis kentukea (1 item)</i>			
Sum	1	100%	0.02%
<i>Cornus drummondii</i>			
Fair	1	100.00%	0.02%
<i>Summary for Cornus drummondii (1 item)</i>			
Sum	1	100%	0.02%
<i>Cornus florida</i>			
Dead	1	3.33%	0.02%
Fair	8	26.67%	0.15%
Good	16	53.33%	0.31%
Poor	5	16.67%	0.10%
<i>Summary for Cornus florida (4 items)</i>			
Sum	30	100%	0.58%
<i>Cornus spp.</i>			
Poor	1	100.00%	0.02%
<i>Summary for Cornus spp. (1 item)</i>			
Sum	1	100%	0.02%
<i>Crataegus spp.</i>			
Fair	5	50.00%	0.10%

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
Good	3	30.00%	0.06%
Poor	2	20.00%	0.04%
<i>Summary for Crataegus spp. (3 items)</i>			
Sum	10	100%	0.19%
<i>Fraxinus americana</i>			
Critical	1	0.33%	0.02%
Dead	1	0.33%	0.02%
Fair	241	79.54%	4.67%
Good	42	13.86%	0.81%
Poor	18	5.94%	0.35%
<i>Summary for Fraxinus americana (5 items)</i>			
Sum	303	100%	5.87%
<i>Fraxinus nigra</i>			
Fair	1	100.00%	0.02%
<i>Summary for Fraxinus nigra (1 item)</i>			
Sum	1	100%	0.02%
<i>Fraxinus pennsylvanica</i>			
Critical	9	1.57%	0.17%
Fair	446	77.84%	8.64%
Good	10	1.75%	0.19%
Poor	108	18.85%	2.09%
<i>Summary for Fraxinus pennsylvanica (4 items)</i>			
Sum	573	100%	11.10%
<i>Ginkgo biloba</i>			
Fair	59	41.55%	1.14%
Good	69	48.59%	1.34%
Poor	9	6.34%	0.17%
Very Good	5	3.52%	0.10%
<i>Summary for Ginkgo biloba (4 items)</i>			
Sum	142	100%	2.75%
<i>Gleditsia triacanthos inermis</i>			
Critical	1	0.97%	0.02%
Fair	31	30.10%	0.60%
Good	64	62.14%	1.24%
Poor	7	6.80%	0.14%

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
<i>Summary for Gleditsia triacanthos inermis (4 items)</i>			
Sum	103	100%	1.99%
<i>Gymnocladus dioicus</i>			
Fair	1	100.00%	0.02%
<i>Summary for Gymnocladus dioicus (1 item)</i>			
Sum	1	100%	0.02%
<i>Hamamelis virginiana</i>			
Fair	2	100.00%	0.04%
<i>Summary for Hamamelis virginiana (1 item)</i>			
Sum	2	100%	0.04%
<i>Juglans nigra</i>			
Critical	1	25.00%	0.02%
Fair	1	25.00%	0.02%
Good	2	50.00%	0.04%
<i>Summary for Juglans nigra (3 items)</i>			
Sum	4	100%	0.08%
<i>Juniperus virginiana</i>			
Fair	1	7.69%	0.02%
Good	11	84.62%	0.21%
Very Good	1	7.69%	0.02%
<i>Summary for Juniperus virginiana (3 items)</i>			
Sum	13	100%	0.25%
<i>Koelreuteria paniculata</i>			
Fair	15	46.88%	0.29%
Good	8	25.00%	0.15%
Poor	9	28.13%	0.17%
<i>Summary for Koelreuteria paniculata (3 items)</i>			
Sum	32	100%	0.62%
<i>Liquidambar styraciflua</i>			
Critical	1	0.76%	0.02%
Fair	49	37.12%	0.95%
Good	74	56.06%	1.43%
Poor	6	4.55%	0.12%
Very Good	2	1.52%	0.04%
<i>Summary for Liquidambar styraciflua (5 items)</i>			
Sum	132	100%	2.56%

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
<i>Liriodendron tulipifera</i>			
Dead	1	1.09%	0.02%
Fair	22	23.91%	0.43%
Good	61	66.30%	1.18%
Poor	5	5.43%	0.10%
Very Good	3	3.26%	0.06%
<i>Summary for Liriodendron tulipifera (5 items)</i>			
Sum	92	100%	1.78%
<i>Maclura pomifera</i>			
Good	1	100.00%	0.02%
<i>Summary for Maclura pomifera (1 item)</i>			
Sum	1	100%	0.02%
<i>Magnolia acuminata</i>			
Good	9	90.00%	0.17%
Very Good	1	10.00%	0.02%
<i>Summary for Magnolia acuminata (2 items)</i>			
Sum	10	100%	0.19%
<i>Magnolia grandiflora</i>			
Good	4	100.00%	0.08%
<i>Summary for Magnolia grandiflora (1 item)</i>			
Sum	4	100%	0.08%
<i>Magnolia x soulangiana</i>			
Fair	5	62.50%	0.10%
Good	3	37.50%	0.06%
<i>Summary for Magnolia x soulangiana (2 items)</i>			
Sum	8	100%	0.15%
<i>Malus pumila</i>			
Good	1	100.00%	0.02%
<i>Summary for Malus pumila (1 item)</i>			
Sum	1	100%	0.02%
<i>Malus spp.</i>			
Fair	3	10.34%	0.06%
Good	25	86.21%	0.48%
Poor	1	3.45%	0.02%
<i>Summary for Malus spp. (3 items)</i>			
Sum	29	100%	0.56%

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
<i>Metasequoia glyptostroboides</i>			
Fair	1	25.00%	0.02%
Good	3	75.00%	0.06%
<i>Summary for Metasequoia glyptostroboides (2 items)</i>			
Sum	4	100%	0.08%
<i>Morus alba</i>			
Good	2	100.00%	0.04%
<i>Summary for Morus alba (1 item)</i>			
Sum	2	100%	0.04%
<i>Morus rubra</i>			
Fair	1	50.00%	0.02%
Good	1	50.00%	0.02%
<i>Summary for Morus rubra (2 items)</i>			
Sum	2	100%	0.04%
<i>Nyssa sylvatica</i>			
Fair	2	33.33%	0.04%
Good	3	50.00%	0.06%
Poor	1	16.67%	0.02%
<i>Summary for Nyssa sylvatica (3 items)</i>			
Sum	6	100%	0.12%
<i>Picea abies</i>			
Fair	1	25.00%	0.02%
Good	1	25.00%	0.02%
Very Good	2	50.00%	0.04%
<i>Summary for Picea abies (3 items)</i>			
Sum	4	100%	0.08%
<i>Picea pungens</i>			
Good	4	100.00%	0.08%
<i>Summary for Picea pungens (1 item)</i>			
Sum	4	100%	0.08%
<i>Pinus strobus</i>			
Dead	1	11.11%	0.02%
Fair	2	22.22%	0.04%
Good	5	55.56%	0.10%
Very Good	1	11.11%	0.02%

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
<i>Summary for Pinus strobus (4 items)</i>			
Sum	9	100%	0.17%
<i>Platanus occidentalis</i>			
Critical	2	1.54%	0.04%
Fair	54	41.54%	1.05%
Good	48	36.92%	0.93%
Poor	21	16.15%	0.41%
Very Good	5	3.85%	0.10%
<i>Summary for Platanus occidentalis (5 items)</i>			
Sum	130	100%	2.52%
<i>Platanus x acerifolia</i>			
Dead	2	1.24%	0.04%
Fair	39	24.22%	0.76%
Good	104	64.60%	2.01%
Poor	13	8.07%	0.25%
Very Good	3	1.86%	0.06%
<i>Summary for Platanus x acerifolia (5 items)</i>			
Sum	161	100%	3.12%
<i>Populus deltoides</i>			
Fair	1	25.00%	0.02%
Good	2	50.00%	0.04%
Poor	1	25.00%	0.02%
<i>Summary for Populus deltoides (3 items)</i>			
Sum	4	100%	0.08%
<i>Prunus cerasifera</i>			
Good	1	100.00%	0.02%
<i>Summary for Prunus cerasifera (1 item)</i>			
Sum	1	100%	0.02%
<i>Prunus serotina</i>			
Poor	4	100.00%	0.08%
<i>Summary for Prunus serotina (1 item)</i>			
Sum	4	100%	0.08%
<i>Prunus spp.</i>			
Fair	35	50.00%	0.68%
Good	25	35.71%	0.48%
Poor	10	14.29%	0.19%

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
<i>Summary for Prunus spp. (3 items)</i>			
Sum	70	100%	1.36%
<i>Pyrus calleryana</i>			
Critical	7	4.07%	0.14%
Fair	73	42.44%	1.41%
Good	60	34.88%	1.16%
Poor	32	18.60%	0.62%
<i>Summary for Pyrus calleryana (4 items)</i>			
Sum	172	100%	3.33%
<i>Pyrus communis</i>			
Fair	2	100.00%	0.04%
<i>Summary for Pyrus communis (1 item)</i>			
Sum	2	100%	0.04%
<i>Quercus acutissima</i>			
Fair	7	46.67%	0.14%
Good	7	46.67%	0.14%
Poor	1	6.67%	0.02%
<i>Summary for Quercus acutissima (3 items)</i>			
Sum	15	100%	0.29%
<i>Quercus alba</i>			
Fair	3	25.00%	0.06%
Good	8	66.67%	0.15%
Poor	1	8.33%	0.02%
<i>Summary for Quercus alba (3 items)</i>			
Sum	12	100%	0.23%
<i>Quercus bicolor</i>			
Fair	5	22.73%	0.10%
Good	17	77.27%	0.33%
<i>Summary for Quercus bicolor (2 items)</i>			
Sum	22	100%	0.43%
<i>Quercus coccinea</i>			
Fair	1	100.00%	0.02%
<i>Summary for Quercus coccinea (1 item)</i>			
Sum	1	100%	0.02%
<i>Quercus imbricaria</i>			
Good	1	33.33%	0.02%

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
Poor	2	66.67%	0.04%
<i>Summary for Quercus imbricaria (2 items)</i>			
Sum	3	100%	0.06%
<i>Quercus macrocarpa</i>			
Critical	2	3.70%	0.04%
Dead	2	3.70%	0.04%
Fair	22	40.74%	0.43%
Good	20	37.04%	0.39%
Poor	8	14.81%	0.15%
<i>Summary for Quercus macrocarpa (5 items)</i>			
Sum	54	100%	1.05%
<i>Quercus marilandica</i>			
Fair	1	100.00%	0.02%
<i>Summary for Quercus marilandica (1 item)</i>			
Sum	1	100%	0.02%
<i>Quercus michauxii</i>			
Fair	2	100.00%	0.04%
<i>Summary for Quercus michauxii (1 item)</i>			
Sum	2	100%	0.04%
<i>Quercus muehlenbergii</i>			
Fair	1	33.33%	0.02%
Good	1	33.33%	0.02%
Poor	1	33.33%	0.02%
<i>Summary for Quercus muehlenbergii (3 items)</i>			
Sum	3	100%	0.06%
<i>Quercus nigra</i>			
Good	3	100.00%	0.06%
<i>Summary for Quercus nigra (1 item)</i>			
Sum	3	100%	0.06%
<i>Quercus pagoda</i>			
Fair	1	33.33%	0.02%
Good	2	66.67%	0.04%
<i>Summary for Quercus pagoda (2 items)</i>			
Sum	3	100%	0.06%
<i>Quercus palustris</i>			
Critical	5	1.87%	0.10%

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
Fair	74	27.61%	1.43%
Good	159	59.33%	3.08%
Poor	19	7.09%	0.37%
Very Good	11	4.10%	0.21%
<i>Summary for Quercus palustris (5 items)</i>			
Sum	268	100%	5.19%
<i>Quercus phellos</i>			
Fair	3	50.00%	0.06%
Good	2	33.33%	0.04%
Very Good	1	16.67%	0.02%
<i>Summary for Quercus phellos (3 items)</i>			
Sum	6	100%	0.12%
<i>Quercus robur</i>			
Fair	1	9.09%	0.02%
Good	8	72.73%	0.15%
Poor	2	18.18%	0.04%
<i>Summary for Quercus robur (3 items)</i>			
Sum	11	100%	0.21%
<i>Quercus rubra</i>			
Critical	2	1.00%	0.04%
Fair	58	29.00%	1.12%
Good	111	55.50%	2.15%
Poor	15	7.50%	0.29%
Very Good	14	7.00%	0.27%
<i>Summary for Quercus rubra (5 items)</i>			
Sum	200	100%	3.87%
<i>Quercus shumardii</i>			
Fair	5	83.33%	0.10%
Poor	1	16.67%	0.02%
<i>Summary for Quercus shumardii (2 items)</i>			
Sum	6	100%	0.12%
<i>Quercus spp.</i>			
Good	1	100.00%	0.02%
<i>Summary for Quercus spp. (1 item)</i>			
Sum	1	100%	0.02%
<i>Quercus stellata</i>			

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
Fair	1	33.33%	0.02%
Good	2	66.67%	0.04%
<i>Summary for Quercus stellata (2 items)</i>			
Sum	3	100%	0.06%
<i>Quercus texana</i>			
Good	3	100.00%	0.06%
<i>Summary for Quercus texana (1 item)</i>			
Sum	3	100%	0.06%
<i>Quercus velutina</i>			
Fair	3	50.00%	0.06%
Good	2	33.33%	0.04%
Poor	1	16.67%	0.02%
<i>Summary for Quercus velutina (3 items)</i>			
Sum	6	100%	0.12%
<i>Robinia pseudoacacia</i>			
Fair	2	28.57%	0.04%
Good	5	71.43%	0.10%
<i>Summary for Robinia pseudoacacia (2 items)</i>			
Sum	7	100%	0.14%
<i>Salix babylonica</i>			
Good	1	100.00%	0.02%
<i>Summary for Salix babylonica (1 item)</i>			
Sum	1	100%	0.02%
<i>Sassafras albidum</i>			
Fair	1	100.00%	0.02%
<i>Summary for Sassafras albidum (1 item)</i>			
Sum	1	100%	0.02%
<i>Sorbus americana</i>			
Fair	1	100.00%	0.02%
<i>Summary for Sorbus americana (1 item)</i>			
Sum	1	100%	0.02%
<i>stump</i>			
N/A	36	100.00%	0.70%
<i>Summary for stump (1 item)</i>			
Sum	36	100%	0.70%

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
<i>Styphnolobium japonicum</i>			
Critical	3	7.89%	0.06%
Dead	1	2.63%	0.02%
Fair	18	47.37%	0.35%
Good	5	13.16%	0.10%
Poor	11	28.95%	0.21%
<i>Summary for Styphnolobium japonicum (5 items)</i>			
Sum	38	100%	0.74%
<i>Syringa reticulata</i>			
Good	12	100.00%	0.23%
<i>Summary for Syringa reticulata (1 item)</i>			
Sum	12	100%	0.23%
<i>Taxodium distichum</i>			
Fair	4	16.00%	0.08%
Good	12	48.00%	0.23%
Very Good	9	36.00%	0.17%
<i>Summary for Taxodium distichum (3 items)</i>			
Sum	25	100%	0.48%
<i>Thuja occidentalis</i>			
Dead	1	25.00%	0.02%
Good	3	75.00%	0.06%
<i>Summary for Thuja occidentalis (2 items)</i>			
Sum	4	100%	0.08%
<i>Tilia americana</i>			
Fair	11	55.00%	0.21%
Good	7	35.00%	0.14%
Poor	2	10.00%	0.04%
<i>Summary for Tilia americana (3 items)</i>			
Sum	20	100%	0.39%
<i>Tilia cordata</i>			
Fair	47	31.97%	0.91%
Good	94	63.95%	1.82%
Poor	6	4.08%	0.12%
<i>Summary for Tilia cordata (3 items)</i>			
Sum	147	100%	2.85%
<i>Tilia tomentosa</i>			

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
Fair	1	100.00%	0.02%
<i>Summary for Tilia tomentosa (1 item)</i>			
Sum	1	100%	0.02%
<i>Tsuga canadensis</i>			
Good	1	100.00%	0.02%
<i>Summary for Tsuga canadensis (1 item)</i>			
Sum	1	100%	0.02%
<i>Ulmus americana</i>			
Dead	1	4.35%	0.02%
Fair	10	43.48%	0.19%
Good	12	52.17%	0.23%
<i>Summary for Ulmus americana (3 items)</i>			
Sum	23	100%	0.45%
<i>Ulmus parvifolia</i>			
Good	1	50.00%	0.02%
Poor	1	50.00%	0.02%
<i>Summary for Ulmus parvifolia (2 items)</i>			
Sum	2	100%	0.04%
<i>Ulmus pumila</i>			
Critical	2	7.69%	0.04%
Fair	11	42.31%	0.21%
Good	11	42.31%	0.21%
Poor	2	7.69%	0.04%
<i>Summary for Ulmus pumila (4 items)</i>			
Sum	26	100%	0.50%
<i>Ulmus rubra</i>			
Fair	14	51.85%	0.27%
Good	8	29.63%	0.15%
Poor	5	18.52%	0.10%
<i>Summary for Ulmus rubra (3 items)</i>			
Sum	27	100%	0.52%
<i>Ulmus spp.</i>			
Good	4	100.00%	0.08%
<i>Summary for Ulmus spp. (1 item)</i>			
Sum	4	100%	0.08%
<i>Ulmus x</i>			

<i>Condition</i>	<i>Total</i>	<i>Percent of Sub-Category Pop.</i>	<i>Percent of Entire Population</i>
Fair	5	12.82%	0.10%
Good	31	79.49%	0.60%
Poor	3	7.69%	0.06%
<i>Summary for Ulmus x (3 items)</i>			
Sum	39	100%	0.76%
<i>vacant site large</i>			
N/A	88	100.00%	1.70%
<i>Summary for vacant site large (1 item)</i>			
Sum	88	100%	1.70%
<i>vacant site medium</i>			
N/A	91	100.00%	1.76%
<i>Summary for vacant site medium (1 item)</i>			
Sum	91	100%	1.76%
<i>vacant site small</i>			
N/A	271	100.00%	5.25%
<i>Summary for vacant site small (1 item)</i>			
Sum	271	100%	5.25%
<i>Zelkova serrata</i>			
Fair	7	63.64%	0.14%
Good	4	36.36%	0.08%
<i>Summary for Zelkova serrata (2 items)</i>			
Sum	11	100%	0.21%
Grand Total	5164		



<i>Botanical</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
Fraxinus pennsylvanica	573	11.10%
Acer rubrum	509	9.86%
Fraxinus americana	303	5.87%
Acer saccharum	291	5.64%
vacant site small	271	5.25%
Quercus palustris	268	5.19%
Acer saccharinum	250	4.84%
Cercis canadensis	238	4.61%
Quercus rubra	200	3.87%
Pyrus calleryana	172	3.33%
Platanus x acerifolia	161	3.12%
Tilia cordata	147	2.85%
Ginkgo biloba	142	2.75%
Liquidambar styraciflua	132	2.56%
Platanus occidentalis	130	2.52%
Acer platanoides	128	2.48%
Gleditsia triacanthos inermis	103	1.99%
Liriodendron tulipifera	92	1.78%
vacant site medium	91	1.76%
vacant site large	88	1.70%
Prunus spp.	70	1.36%
Quercus macrocarpa	54	1.05%
Betula nigra	50	0.97%
Carpinus betulus	47	0.91%
Ulmus x	39	0.76%
Styphnolobium japonicum	38	0.74%
stump	36	0.70%
Koelreuteria paniculata	32	0.62%
Cornus florida	30	0.58%
Malus spp.	29	0.56%
Ulmus rubra	27	0.52%
Ulmus pumila	26	0.50%
Taxodium distichum	25	0.48%
Ulmus americana	23	0.45%
Quercus bicolor	22	0.43%

<i>Botanical</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
Tilia americana	20	0.39%
Acer x freemanii	17	0.33%
Quercus acutissima	15	0.29%
Catalpa speciosa	15	0.29%
Amelanchier spp.	14	0.27%
Juniperus virginiana	13	0.25%
Syringa reticulata	12	0.23%
Quercus alba	12	0.23%
Zelkova serrata	11	0.21%
Quercus robur	11	0.21%
Magnolia acuminata	10	0.19%
Crataegus spp.	10	0.19%
Pinus strobus	9	0.17%
Magnolia x soulangiana	8	0.15%
Acer palmatum	8	0.15%
Robinia pseudoacacia	7	0.14%
Celtis occidentalis	7	0.14%
Quercus velutina	6	0.12%
Quercus shumardii	6	0.12%
Quercus phellos	6	0.12%
Nyssa sylvatica	6	0.12%
Carpinus caroliniana	5	0.10%
Ulmus spp.	4	0.08%
Thuja occidentalis	4	0.08%
Prunus serotina	4	0.08%
Populus deltoides	4	0.08%
Picea pungens	4	0.08%
Picea abies	4	0.08%
Metasequoia glyptostroboides	4	0.08%
Magnolia grandiflora	4	0.08%
Juglans nigra	4	0.08%
Acer tataricum	4	0.08%
Quercus texana	3	0.06%
Quercus stellata	3	0.06%
Quercus pagoda	3	0.06%
Quercus nigra	3	0.06%
Quercus muehlenbergii	3	0.06%
Quercus imbricaria	3	0.06%

<i>Botanical</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
Ailanthus altissima	3	0.06%
Abies balsamea	3	0.06%
Ulmus parvifolia	2	0.04%
Quercus michauxii	2	0.04%
Pyrus communis	2	0.04%
Morus rubra	2	0.04%
Morus alba	2	0.04%
Hamamelis virginiana	2	0.04%
Aesculus glabra	2	0.04%
Acer tataricum ginnala	2	0.04%
Tsuga canadensis	1	0.02%
Tilia tomentosa	1	0.02%
Sorbus americana	1	0.02%
Sassafras albidum	1	0.02%
Salix babylonica	1	0.02%
Quercus spp.	1	0.02%
Quercus marilandica	1	0.02%
Quercus coccinea	1	0.02%
Prunus cerasifera	1	0.02%
Malus pumila	1	0.02%
Maclura pomifera	1	0.02%
Gymnocladus dioicus	1	0.02%
Fraxinus nigra	1	0.02%
Cornus spp.	1	0.02%
Cornus drummondii	1	0.02%
Cladrastis kentukea	1	0.02%
Amelanchier arborea	1	0.02%
Acer pseudoplatanus	1	0.02%
Acer pensylvanicum	1	0.02%
Grand Total	5164	100%

Botanical Count: 102