

City of Kirkwood, Missouri

Tree Inventory Summary Report – Complete Inventory

February 8, 2017

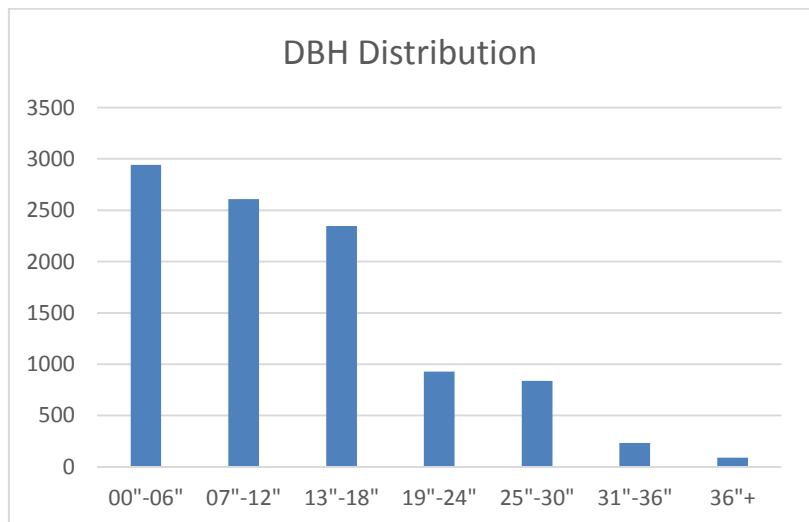
Report Summary

On December 22, 2014 ArborPro, Inc. began operations on a comprehensive GPS tree inventory of the city of Kirkwood, Missouri. ArborPro assigned an ISA Certified Arborists to collect detailed information on all street trees within city limits. The inventory was designed and implemented as a multi-phase inventory spanning multiple years. Over the course of the inventory we have identified 9,982 trees maintained by the city of Kirkwood. The purpose of this report is to review project totals and to summarize the findings of our survey.

Size Characteristics

The general size of a tree provides insight into the age and value of the tree. There are two industry-wide recognized size characteristics, height and diameter at breast height. While height is self-explanatory, diameter at breast height (DBH) is determined by the diameter of the tree at 4.5 feet above grade. Both the height and the DBH are collected in ranges due to the dynamic growth rate of trees.

DBH (inches)	Tree Count
00"-06"	2941
07"-12"	2608
13"-18"	2347
19"-24"	928
25"-30"	838
31"-36"	232
36"+	88
Total	9,982



Tree Condition

Good – The tree has no major structural problems; no significant damage from diseases or pests; no significant mechanical damage; a full, balanced crown, and normal twig condition and vigor for its species.

Fair – The tree may exhibit the following characteristics: minor structural problems and/or mechanical damage; significant damage from non-fatal or disfiguring diseases; minor crown imbalance or thin crown; minor structural imbalance; or stunted growth compared to adjacent trees.

Poor – The tree appears healthy, but may have structural defects. This classification also includes healthy trees that have unbalanced structures or have been topped. Trees in this category may also have severe mechanical damage, decay, severe crown dieback or poor vigor/failure to thrive.

Dead – Trees in advanced states of decline are not included. This category refers only to dead trees.

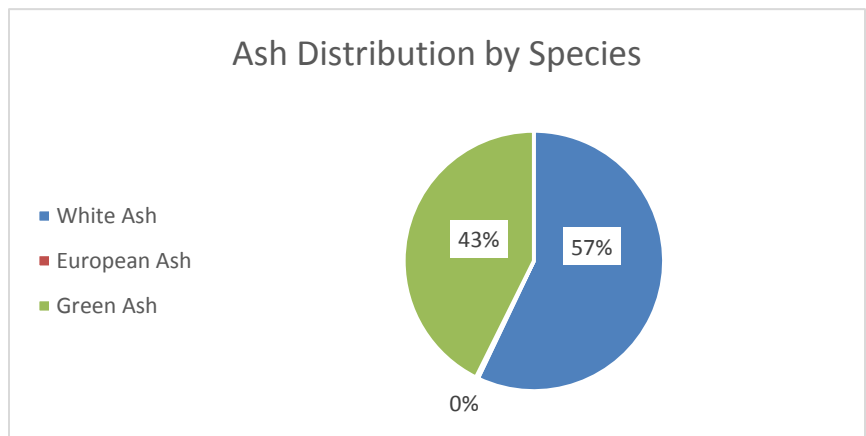
Critical – The tree is in a physical state that requires immediate attention. Generally these trees are recommended for a Priority One Removal.

Tree Condition	Tree Count
Good	2,469
Fair	6,511
Poor	978
Dead	10
Critical	0
Stump	14
Total	9,982

Ash Tree Population

Emerald Ash Borer (EAB) has devastated ash populations across the country and it is important to know the number, location, and percentage of the total tree population for all ash trees maintained by the city. The final phase of the inventory found 687 ash trees, representing 6.8% of the total street tree population this phase of the inventory. The breakdown of individual species of ash this phase can be seen in the chart below.

Ash Tree Condition	Tree Count
Good	21
Fair	534
Poor	131
Dead	1
Total	687



Species Frequency

Below is a Species Frequency report for all trees maintained by the city of Kirkwood.

Botanical Name	Common Name	Tree Count
Abies concolor	White Fir	7
Acer buergeranum	Trident Maple	1
Acer campestre	Hedge Maple	7
Acer ginnala	Amur Maple	8
Acer griseum	Paperbark Maple	3
Acer miyabei	Miyabe Maple	3
Acer negundo	Box Elder	47
Acer palmatum	Japanese Maple	38
Acer plantanoides	Norway Maple	158
Acer platanoides 'Crimson King'	Crimson King Maple	7
Acer rubrum	Red Maple	610
Acer rubrum 'October Glory'	October Glory Red Maple	48
Acer rubrum 'Red Sunset'	Red Sunset Maple	3
Acer saccharinum	Silver Maple	424
Acer saccharum	Sugar Maple	255
Acer species	Maple Species	1
Acer x freemanii	Freeman Maple	45
Acer x freemanii 'Jeffersred'	Autumn Blaze Maple	25
Aesculus glabra	Ohio Buckeye	4
Aesculus hippocastanum	Common Horsechestnut	2
Agave americana	Century Plant	1
Ailanthus altissima	Tree of Heaven	35
Albizia julibrissin	Mimosa; Silk Tree	32
Amelanchier arborea	Downy Serviceberry	9
Amelanchier laevis	Allegheny Serviceberry	3
Betula nigra	River Birch	62
Betula papyrifera	Paper Birch	9
Betula pendula	European White Birch	1
Betula populifolia	Gray Birch	3
Callistemon viminalis	Weeping Bottlebrush	1
Carpinus betulus	European Hornbeam	24
Carpinus betulus 'Fastigiata'	Upright European Hornbeam	7
Carpinus caroliniana	American Hornbeam	17

<i>Carya cordiformis</i>	Bitternut Hickory	1
<i>Carya glabra</i>	Pignut Hickory	6
<i>Carya illinoensis</i>	Pecan	2
<i>Carya ovata</i>	Shagbark Hickory	16
<i>Carya tomentosa</i>	Mockernut Hickory	5
<i>Castanea mollissima</i>	Chinese Chestnut	3
<i>Catalpa speciosa</i>	Western Catalpa	96
<i>Cedrus atlantica</i>	Atlas Cedar	4
<i>Cedrus atlantica</i> 'Pendula'	Weeping Green Atlas Cedar	2
<i>Cedrus deodara</i>	Deodar Cedar	1
<i>Celtis laevigata</i>	Sugarberry	25
<i>Celtis occidentalis</i>	Common Hackberry	88
<i>Cercis canadensis</i>	Eastern Redbud	500
<i>Cercis canadensis</i> 'Forest Pansy'	Forest Pansy Redbud	11
<i>Chamaecyparis pisifera</i>	Sawara False Cypress	1
<i>Chionanthus retusus</i>	Chinese Fringe Tree	4
<i>Cladrastis kentukea</i>	American Yellowwood	2
<i>Cornus alternifolia</i>	Alternate-Leaf Dogwood	3
<i>Cornus florida</i>	Eastern Dogwood	215
<i>Cornus kousa</i>	Kousa Dogwood	13
<i>Corylus avellana</i> 'Contorta'	Corkscrew Hazel	2
<i>Cotinus coggygria</i>	Smoke Tree	7
<i>Crataegus crus-galli</i>	Cockspur Thorn	3
<i>Crataegus crus-galli</i> f. <i>inermis</i>	Thornless Hawthorn	8
<i>Crataegus phaenopyrum</i>	Washington Hawthorn	1
<i>Cryptomeria japonica</i>	Japanese Cedar	2
<i>Cupressus sempervirens</i>	Italian Cypress	1
<i>Diospyros virginiana</i>	American Persimmon	23
<i>Fagus grandifolia</i>	American Beech	2
<i>Fagus sylvatica</i>	European Beech	2
<i>Fraxinus americana</i>	White Ash	392
<i>Fraxinus excelsior</i>	European Ash	2
<i>Fraxinus pennsylvanica</i>	Green Ash	293
<i>Ginkgo biloba</i>	Maidenhair Tree	83
<i>Ginkgo biloba</i> 'Autumn Gold'	Autumn Gold Ginkgo	3
<i>Ginkgo biloba</i> 'Princeton Sentry'	Princeton Sentry Ginkgo	1
<i>Gleditsia triacanthos</i>	Honey Locust	2
<i>Gleditsia triacanthos</i> f. <i>inermis</i>	Thornless Honey Locust	131
<i>Gymnocladus dioica</i>	Kentucky Coffee Tree	19
<i>Hamamelis x intermedia</i>	Witchhazel	1
<i>Hibiscus syriacus</i>	Rose-of-Sharon	5

Ilex cornuta	Chinese Holly	9
Ilex opaca	American Holly	56
Ilex species	Holly Species	6
Juglans cinerea	Butternut	11
Juglans nigra	Black Walnut	140
Juglans regia	English Walnut	2
Juniperus chinensis	Chinese Juniper	36
Juniperus virginiana	Eastern Red Cedar	353
Koelreuteria paniculata	Goldenrain Tree	34
Lagerstroemia indica	Crape Myrtle (including hybrids)	38
Larix laricina	Tamarack	1
Liquidambar styraciflua	American Sweet Gum	679
Liquidambar styraciflua 'Rotundiloba'	Round-Leafed Sweet Gum	1
Liriodendron tulipifera	Tulip Tree	68
Maclura pomifera	Osage Orange	46
Magnolia acuminata	Cucumber Magnolia	5
Magnolia grandiflora	Southern Magnolia	36
Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	1
Magnolia species	Magnolia Species	1
Magnolia stellata	Star Magnolia	5
Magnolia virginiana	Magnolia Bay, Florida Sweet Bay	14
Magnolia x soulangeana	Saucer Magnolia	48
Malus domestica	Edible Apple Species	3
Malus floribunda	Crabapple Species	218
Metasequoia glyptostroboides	Dawn Redwood	5
Morus alba	White Mulberry	21
Morus alba 'Pendula'	Weeping White Mulberry	1
Morus rubra	Red Mulberry	31
Nyssa sylvatica	Sour Gum	41
Ostrya virginiana	American Hophornbeam	3
Phellodendron amurense	Amur Corktree	16
Picea abies	Norway Spruce	62
Picea glauca	White Spruce	7
Picea pungens	Colorado Spruce	40
Picea pungens f. glauca	Colorado Blue Spruce	90
Picea x albertiana	Alberta Spruce	4
Pinus banksiana	Jack Pine	1
Pinus echinata	Shortleaf Pine	2
Pinus mugo	Mugho Pine	1
Pinus nigra	Austrian Black Pine	59
Pinus ponderosa	Ponderosa Pine	3

Pinus species	Pine Species	2
Pinus strobus	White Pine	352
Pinus sylvestris	Scotch Pine	19
Pinus taeda	Loblolly Pine	10
Pistacia chinensis	Chinese Pistache	2
Platanus occidentalis	American Sycamore	113
Platanus x acerifolia	London Plane Tree	25
Populus alba	White Poplar	4
Populus deltoides	Cottonwood	12
Prunus cerasifera	Purple-Leafed Plum	58
Prunus domestica	Plum	1
Prunus persica	Peach	9
Prunus serotina	Eastern Black Cherry	49
Prunus serrulata	Japanese Flowering Cherry	44
Prunus serrulata 'Kwanzan'	Kwanzan Flowering Cherry	13
Prunus species	Stone Fruit Species	17
Prunus subhirtella 'Pendula'	Weeping Higan Cherry	4
Prunus x yedoensis	Yoshino Cherry	4
Prunus x yedoensis 'Akebono'	Daybreak Yoshino Cherry	3
Pseudotsuga menziesii	Douglas Fir	13
Ptelea trifoliata	Wafer Ash	1
Pyrus calleryana	Ornamental Pear	594
Pyrus calleryana 'Aristocrat'	Aristocrat Pear	1
Pyrus communis	Edible Pear	4
Quercus acutissima	Sawtooth Oak	17
Quercus alba	White Oak	144
Quercus bicolor	Swamp White Oak	106
Quercus imbricaria	Shingle Oak	130
Quercus macrocarpa	Bur Oak	33
Quercus marilandica	Blackjack Oak	7
Quercus michauxii	Swamp Chestnut Oak	8
Quercus muehlenbergii	Chinquapin Oak	2
Quercus nigra	Water Oak	1
Quercus palustris	Pin Oak	995
Quercus phellos	Willow Oak	17
Quercus robur	English Oak	4
Quercus robur 'Fastigiata'	Upright English Oak	1
Quercus robur x bicolor 'Rosehill'	Rosehill English Oak	1
Quercus rubra	Red Oak	116
Quercus shumardii	Shumard Oak	5
Quercus species	Oak Species	52

Quercus stellata	Post Oak	92
Quercus velutina	Black Oak	27
Rhamnus cathartica	Common Buckthorn	1
Rhus typhina	Staghorn Sumac	1
Robinia pseudoacacia	Black Locust	57
Salix babylonica	Weeping Willow	2
Salix discolor	Pussy Willow	1
Sassafras albidum	Sassafras	1
Stump	Stump	14
Styphnolobium japonicum	Japanese Pagoda Tree	1
Styrax japonicus	Japanese Snowbell Tree	1
Syringa reticulata	Japanese Tree Lilac	6
Taxodium distichum	Bald Cypress	79
Taxus cuspidata	Japanese Yew	2
Thuja occidentalis	American Arborvitae	58
Tilia americana	American Linden	12
Tilia americana 'Redmond'	Redmond Linden	1
Tilia cordata	Littleleaf Linden	65
Tilia tomentosa	Silver Linden	3
Tsuga canadensis	Eastern Hemlock	16
Ulmus americana	American Elm	194
Ulmus parvifolia	Chinese Elm	7
Ulmus pumila	Siberian Elm	72
Ulmus rubra	Slippery Elm	49
Ulmus species	Elm Species	17
Ulmus x species	Hybrid Elm	1
Viburnum rufidulum	Rusty Blackhaw	1
Zelkova serrata	Sawleaf Zelkova	17