

# Complete Population of All Trees

9/5/2013

Species	DBH Class (in)									Total Standard Error
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	> 42	
<b>Broadleaf Deciduous Large (BDL)</b>										
Maple	32	2,285	3,352	974	428	279	110	29	78	7,567 (±860)
White oak	0	162	710	928	419	275	70	0	0	2,564 (±1,020)
Northern red oak	0	93	462	542	448	229	107	49	10	1,941 (±601)
Elm	0	241	841	440	268	90	39	10	0	1,928 (±418)
Basswood	0	399	718	157	65	20	0	0	0	1,358 (±230)
Northern hackberry	0	138	645	423	69	31	0	0	0	1,307 (±414)
Oak	0	70	270	440	249	139	10	29	0	1,207 (±575)
Cottonwood	0	28	234	311	257	139	29	38	29	1,066 (±267)
Quaking aspen	0	163	393	153	0	11	0	0	0	720 (±176)
Black walnut	0	128	203	113	88	10	0	0	0	542 (±239)
Northern catalpa	0	32	92	11	0	10	0	0	0	145 (±47)
Broadleaf Deciduous Large	0	0	0	112	10	10	0	0	0	132 (±77)
Hickory	0	0	63	10	0	0	0	0	0	72 (±50)
Silver maple	0	11	22	22	0	0	0	0	0	54 (±51)
Sweetgum	0	0	22	0	0	0	0	0	0	22 (±21)
American elm	0	0	0	11	0	0	0	0	0	11 (±10)
Red maple	0	0	11	0	0	0	0	0	0	11 (±10)
Eastern cottonwood	0	0	0	11	0	0	0	0	0	11 (±10)
<b>Total</b>	<b>32</b>	<b>3,750</b>	<b>8,037</b>	<b>4,657</b>	<b>2,302</b>	<b>1,242</b>	<b>366</b>	<b>155</b>	<b>117</b>	<b>20,658 (±2,293)</b>
<b>Broadleaf Deciduous Medium (BDM)</b>										
Ash	11	844	2,822	897	166	30	10	0	0	4,779 (±786)
Boxelder	0	220	780	518	148	97	10	31	0	1,804 (±358)
Birch	0	631	636	129	31	11	0	0	0	1,437 (±210)
River birch	0	205	299	121	10	0	0	0	0	635 (±164)
Honeylocust	0	223	158	38	20	0	0	0	0	439 (±261)
Willow	0	72	82	115	59	32	20	10	27	417 (±103)
Broadleaf Deciduous Medium	0	119	113	11	0	0	0	0	0	243 (±117)
Black locust	0	11	0	0	0	0	0	0	0	11 (±10)
<b>Total</b>	<b>11</b>	<b>2,323</b>	<b>4,890</b>	<b>1,829</b>	<b>433</b>	<b>171</b>	<b>39</b>	<b>40</b>	<b>27</b>	<b>9,764 (±1,168)</b>
<b>Broadleaf Deciduous Small (BDS)</b>										
Apple	0	2,563	2,218	262	40	0	0	0	0	5,082 (±705)
Black cherry	0	196	336	109	20	0	0	0	0	661 (±203)
Eastern hophornbeam	0	268	225	21	0	0	0	0	0	514 (±490)
Broadleaf Deciduous Small	0	252	77	0	0	0	0	0	0	329 (±69)
Japanese tree lilac	0	149	38	0	0	0	0	0	0	187 (±87)
Lilac	0	86	43	0	0	0	0	0	0	129 (±103)
Mountain ash	0	60	40	0	10	0	0	0	0	110 (±38)
Mulberry	0	0	31	0	0	10	0	0	0	41 (±28)
<b>Total</b>	<b>0</b>	<b>3,573</b>	<b>3,009</b>	<b>392</b>	<b>70</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7,054 (±959)</b>
<b>Broadleaf Evergreen Large (BEL)</b>										
Broadleaf Evergreen Large	0	0	32	110	0	0	0	0	0	142 (±97)
<b>Total</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>110</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>142 (±97)</b>
<b>Broadleaf Evergreen Medium (BEM)</b>										
Broadleaf Evergreen Medium	0	20	267	11	0	0	0	0	0	298 (±159)
Southern magnolia	0	11	0	0	0	0	0	0	0	11 (±10)
<b>Total</b>	<b>0</b>	<b>31</b>	<b>267</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>309 (±159)</b>
<b>Broadleaf Evergreen Small (BES)</b>										
Broadleaf Evergreen Small	84	196	60	11	0	0	0	0	0	351 (±163)
<b>Total</b>	<b>84</b>	<b>196</b>	<b>60</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>351 (±163)</b>
<b>Conifer Evergreen Large (CEL)</b>										
Spruce	244	2,390	5,224	929	225	39	39	20	20	9,131 (±1,757)
Red pine	10	189	914	1,126	40	10	0	0	0	2,289 (±943)
Eastern white pine	22	361	520	133	69	30	0	0	0	1,135 (±432)
Northern white cedar	54	265	41	19	0	0	0	0	0	380 (±206)
Conifer Evergreen Large	0	0	0	11	0	0	0	0	0	11 (±10)
<b>Total</b>	<b>330</b>	<b>3,205</b>	<b>6,700</b>	<b>2,218</b>	<b>335</b>	<b>79</b>	<b>39</b>	<b>20</b>	<b>20</b>	<b>12,945 (±2,517)</b>

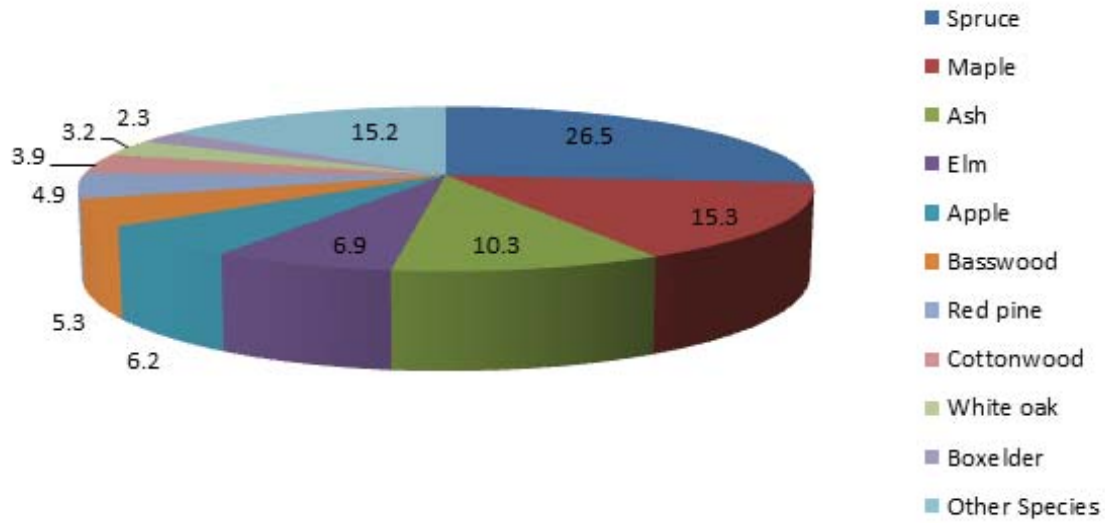
# Complete Population of All Trees

9/5/2013

Species	DBH Class (in)									Total Standard Error
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	> 42	
<b>Conifer Evergreen Medium (CEM)</b>										
Blue spruce	0	136	462	42	0	0	0	0	0	640 (±249)
Conifer Evergreen Medium	0	0	11	21	0	0	0	0	0	32 (±31)
<b>Total</b>	<b>0</b>	<b>136</b>	<b>472</b>	<b>64</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>672 (±251)</b>
<b>Conifer Evergreen Small (CES)</b>										
Eastern red cedar	19	38	118	31	30	0	0	0	0	237 (±70)
Juniper	21	0	32	0	0	0	0	0	0	54 (±51)
<b>Total</b>	<b>40</b>	<b>38</b>	<b>150</b>	<b>31</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>290 (±87)</b>
<b>Grand Total</b>	<b>497</b>	<b>13,253</b>	<b>23,618</b>	<b>9,323</b>	<b>3,170</b>	<b>1,502</b>	<b>444</b>	<b>216</b>	<b>165</b>	<b>52,187 (±5,721)</b>

**Species Distribution of Public Trees**

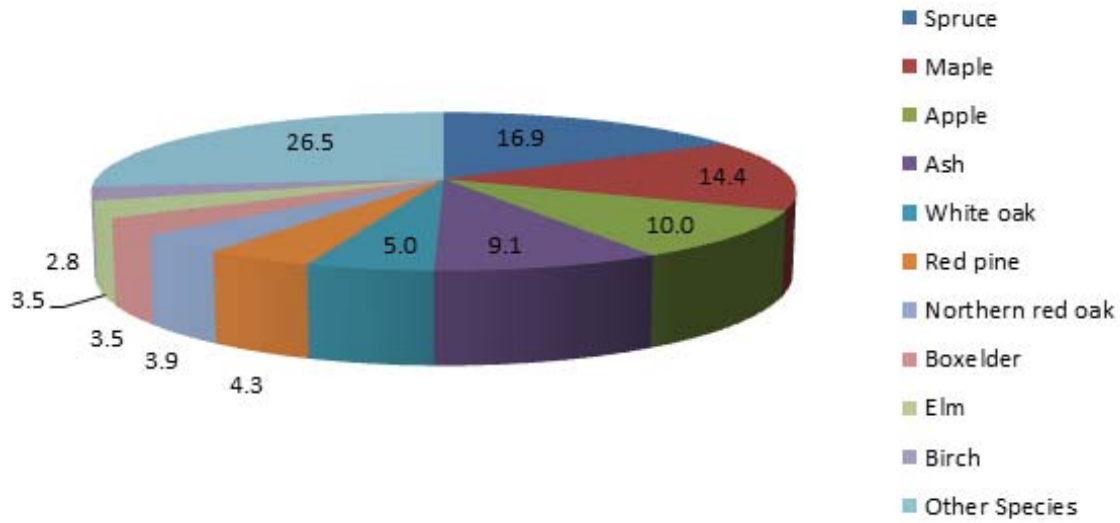
10/18/2013



<b>Species</b>	<b>Percent</b>
Spruce	26.5
Maple	15.3
Ash	10.3
Elm	6.9
Apple	6.2
Basswood	5.3
Red pine	4.9
Cottonwood	3.9
White oak	3.2
Boxelder	2.3
Other Species	15.2
<b>Total</b>	<b>100.0</b>

# Species Distribution of Private Trees

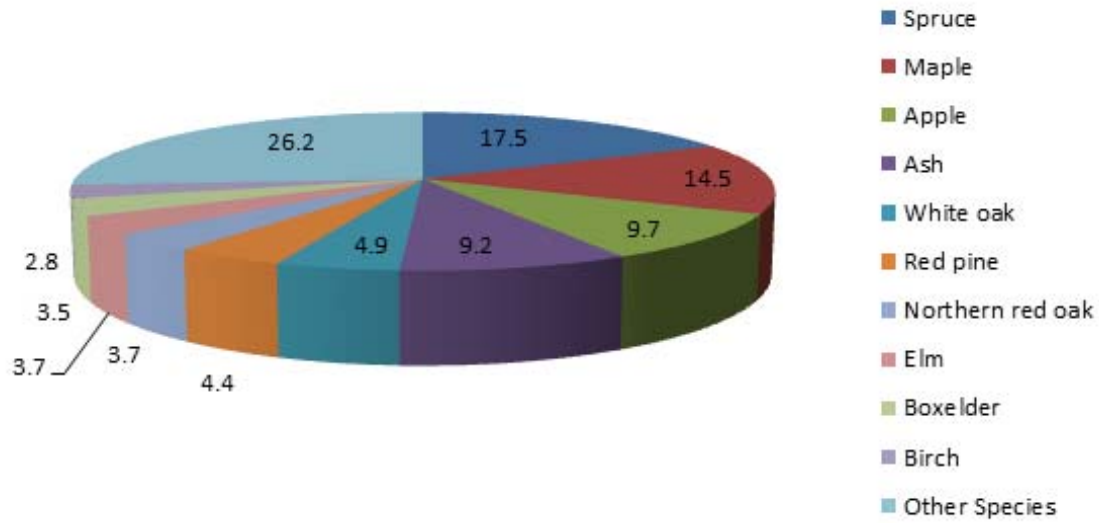
10/18/2013



Species	Percent
Spruce	16.9
Maple	14.4
Apple	10.0
Ash	9.1
White oak	5.0
Red pine	4.3
Northern red oak	3.9
Boxelder	3.5
Elm	3.5
Birch	2.8
Other Species	26.5
<b>Total</b>	<b>100.0</b>

# Species Distribution of All Trees

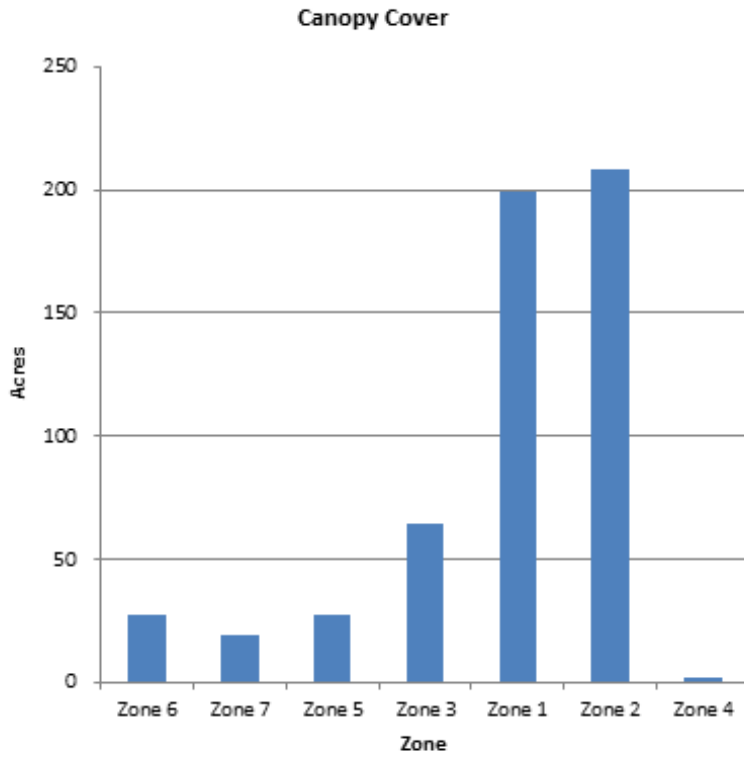
10/18/2013



Species	Percent
Spruce	17.5
Maple	14.5
Apple	9.7
Ash	9.2
White oak	4.9
Red pine	4.4
Northern red oak	3.7
Elm	3.7
Boxelder	3.5
Birch	2.8
Other Species	26.2
<b>Total</b>	<b>100.0</b>

**Canopy Cover of All Trees (Acres)**

10/18/2013



Zone	Acres	% of Total Canopy Cover
Zone 6	28	5.1
Zone 7	19	3.5
Zone 5	28	5.1
Zone 3	64	11.7
Zone 1	199	36.3
Zone 2	208	38.0
Zone 4	2	0.4
<b>Citywide total</b>	<b>548</b>	<b>100.0</b>

	Total Land Area	Total Street and Sidewalk Area	Total Canopy Cover	Canopy Cover as % of Total Land Area	Canopy Cover as % of Total Streets and Sidewalks
<b>Citywide Total</b>	0	0	548	0.00	0.00

# Condition Rating for Public Trees by Species

10/18/2013

Species	Condition Rating	Tree Count	Standard Error	% of Species	% of Public Trees
<b>Apple</b>	non-recoverable	0	(±0)	0.00	0.00
	significant defects	0	(±0)	0.00	0.00
	minor defects	0	(±0)	0.00	0.00
	no obvious defects	23	(±78)	10.75	0.67
	<b>Total</b>	<b>23</b>	<b>(±78)</b>	<b>10.75</b>	<b>0.67</b>
<b>Ash</b>	non-recoverable	1	(±10)	0.28	0.03
	significant defects	2	(±17)	0.57	0.06
	minor defects	6	(±34)	1.71	0.17
	no obvious defects	26	(±105)	7.39	0.76
	<b>Total</b>	<b>35</b>	<b>(±148)</b>	<b>9.95</b>	<b>1.02</b>
<b>Basswood</b>	non-recoverable	0	(±0)	0.00	0.00
	significant defects	0	(±0)	0.00	0.00
	minor defects	0	(±0)	0.00	0.00
	no obvious defects	18	(±85)	9.91	0.52
	<b>Total</b>	<b>18</b>	<b>(±85)</b>	<b>9.91</b>	<b>0.52</b>
<b>Birch</b>	non-recoverable	0	(±0)	0.00	0.00
	significant defects	0	(±0)	0.00	0.00
	minor defects	0	(±0)	0.00	0.00
	no obvious defects	6	(±30)	9.44	0.17
	<b>Total</b>	<b>6</b>	<b>(±30)</b>	<b>9.44</b>	<b>0.17</b>
<b>Black cherry</b>	non-recoverable	0	(±0)	0.00	0.00
	significant defects	0	(±0)	0.00	0.00
	minor defects	0	(±0)	0.00	0.00
	no obvious defects	1	(±10)	10.23	0.03
	<b>Total</b>	<b>1</b>	<b>(±10)</b>	<b>10.23</b>	<b>0.03</b>
<b>Black walnut</b>	non-recoverable	0	(±0)	0.00	0.00
	significant defects	0	(±0)	0.00	0.00
	minor defects	0	(±0)	0.00	0.00
	no obvious defects	2	(±15)	9.78	0.06
	<b>Total</b>	<b>2</b>	<b>(±15)</b>	<b>9.78</b>	<b>0.06</b>
<b>Blue spruce</b>	non-recoverable	0	(±0)	0.00	0.00
	significant defects	0	(±0)	0.00	0.00
	minor defects	0	(±0)	0.00	0.00
	no obvious defects	2	(±15)	9.27	0.06
	<b>Total</b>	<b>2</b>	<b>(±15)</b>	<b>9.27</b>	<b>0.06</b>
<b>Boxelder</b>	non-recoverable	0	(±0)	0.00	0.00
	significant defects	0	(±0)	0.00	0.00
	minor defects	0	(±0)	0.00	0.00
	no obvious defects	8	(±46)	10.05	0.23
	<b>Total</b>	<b>8</b>	<b>(±46)</b>	<b>10.05</b>	<b>0.23</b>
<b>Broadleaf Evergreen Large</b>	non-recoverable	0	(±0)	0.00	0.00
	significant defects	0	(±0)	0.00	0.00
	minor defects	0	(±0)	0.00	0.00
	no obvious defects	2	(±22)	9.33	0.06
	<b>Total</b>	<b>2</b>	<b>(±22)</b>	<b>9.33</b>	<b>0.06</b>
<b>Broadleaf Evergreen Medium</b>	non-recoverable	0	(±0)	0.00	0.00
	significant defects	0	(±0)	0.00	0.00
	minor defects	0	(±0)	0.00	0.00
	no obvious defects	1	(±11)	9.33	0.03
	<b>Total</b>	<b>1</b>	<b>(±11)</b>	<b>9.33</b>	<b>0.03</b>
<b>Conifer Evergreen Large</b>	non-recoverable	0	(±0)	0.00	0.00
	significant defects	0	(±0)	0.00	0.00
	minor defects	0	(±0)	0.00	0.00
	no obvious defects	1	(±11)	9.33	0.03
	<b>Total</b>	<b>1</b>	<b>(±11)</b>	<b>9.33</b>	<b>0.03</b>

**Total Annual Benefits, Net Benefits, and Costs for Public Trees**

10/18/2013

Benefits	Total (\$) Standard Error	\$/tree Standard Error	\$/capita Standard Error
Energy	81,092 (±13,364)	23.65 (±3.90)	0.00(±0.00)
CO2	4,863 (±901)	1.42 (±0.26)	0.00(±0.00)
Air Quality	12,247 (±2,145)	3.57 (±0.63)	0.00(±0.00)
Stormwater	85,196 (±16,567)	24.85 (±4.83)	0.00(±0.00)
Aesthetic/Other	87,445 (±14,096)	25.50 (±4.11)	0.00(±0.00)
<b>Total Benefits</b>	<b>270,844 (±46,622)</b>	<b>78.99 (±13.60)</b>	<b>0.00(±0.00)</b>
<b>Costs</b>			
Planting	0	0.00	0.00
Contract Pruning	0	0.00	0.00
Pest Management	0	0.00	0.00
Irrigation	0	0.00	0.00
Removal	0	0.00	0.00
Administration	0	0.00	0.00
Inspection/Service	0	0.00	0.00
Infrastructure Repairs	0	0.00	0.00
Litter Clean-up	0	0.00	0.00
Liability/Claims	0	0.00	0.00
Other Costs	0	0.00	0.00
<b>Total Costs</b>	<b>0</b>	<b>0.00</b>	<b>0.00</b>
<b>Net Benefits</b>	<b>270,844 (±46,622)</b>	<b>78.99 (±13.60)</b>	<b>0.00(±0.00)</b>
<b>Benefit-cost ratio</b>	<b>0.00 (±0.00)</b>		