

Resource Structure Analysis City of Woonsocket, RI

i-Tree Survey Data Sets



American Recovery and Reinvestment Act

Rhode Island Tree Council, PO Box 6144, Providence, RI 02940
Phone: (401) 764-5885 Website: www.RITree.org Email: RITree@RITree.org

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**Part 1-Woonsocket Data Set
All Trees, Public and Private**

1. Population Summary
2. Species Distribution
3. Relative Age Distribution
4. Important Values
5. Relative Performance
6. Canopy Cover
7. Replacement Value

**Part 2-Beneficial Analysis
All Trees, Public and Private**

1. Total Annual Benefit Net Benefit
2. Total Energy Benefit
3. Carbon Dioxide Benefit
4. Air Quality Benefit
5. Storm Water Benefit
6. Annual Aesthetic Benefits

Population Summary of All Trees

12/1/2011

Species	DBH Class (in)						Total Standard Error
	0-4	4-10	10-19	19-29	29-40	>40	
Broadleaf Deciduous Large (BDL)							
Norway maple	162	547	1,054	649	122	0	2,534 (±392)
Northern red oak	162	345	345	507	81	41	1,480 (±438)
White oak	0	20	203	284	142	81	730 (±276)
Black locust	142	466	122	0	0	0	730 (±375)
Silver maple	20	41	142	203	122	20	547 (±115)
Sugar maple	81	122	122	101	81	20	527 (±150)
Black oak	162	20	81	122	41	81	507 (±165)
Honeylocust	20	324	81	0	0	0	426 (±176)
Pin oak	142	41	41	142	61	0	426 (±189)
Crimson king maple	41	61	182	81	0	0	365 (±117)
Green ash	41	20	203	41	41	0	345 (±146)
Bigtooth aspen	0	243	20	0	0	0	264 (±221)
American elm	61	101	61	0	0	20	243 (±86)
BDL OTHER	122	628	385	182	61	81	1,459 (±265)
Total	1,155	2,980	3,041	2,311	750	345	10,581 (±1,206)
Broadleaf Deciduous Medium (BDM)							
Red maple	0	101	486	385	101	0	1,074 (±234)
Boxelder	203	345	223	81	0	0	851 (±242)
Northern catalpa	365	41	122	61	20	20	628 (±312)
BDM OTHER	20	182	41	20	0	0	264 (±67)
Total	588	669	872	547	122	20	2,818 (±500)
Broadleaf Deciduous Small (BDS)							
Flowering dogwood	162	486	142	0	0	0	791 (±148)
Callery pear	203	405	61	0	0	0	669 (±216)
Plum	162	284	101	0	20	0	568 (±126)
Japanese maple	41	203	182	0	0	0	426 (±136)
Apple	41	182	142	20	0	0	385 (±96)
Kousa dogwood	142	101	0	0	0	0	243 (±65)
BDS OTHER	162	324	142	20	0	0	649 (±143)
Total	912	1,986	770	41	20	0	3,730 (±494)
Broadleaf Evergreen Large (BEL)							
BEL OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Broadleaf Evergreen Medium (BEM)							
BEM OTHER	0	0	41	0	0	0	41 (±28)
Total	0	0	41	0	0	0	41 (±28)
Broadleaf Evergreen Small (BES)							
BES OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Conifer Evergreen Large (CEL)							
Eastern white pine	61	223	284	142	20	0	730 (±183)
Blue spruce	41	324	162	61	0	0	588 (±147)
Norway spruce	0	162	122	20	20	0	324 (±118)
White spruce	0	122	81	0	0	0	203 (±91)
CEL OTHER	20	142	101	20	0	0	284 (±80)
Total	122	973	750	243	41	0	2,128 (±332)
Conifer Evergreen Medium (CEM)							
Eastern hemlock	20	304	182	0	0	0	507 (±290)
CEM OTHER	0	20	81	41	0	0	142 (±51)
Total	20	324	264	41	0	0	649 (±292)
Conifer Evergreen Small (CES)							
CES OTHER	0	20	0	0	0	0	20 (±20)
Total	0	20	0	0	0	0	20 (±20)

Population Summary of All Trees

12/1/2011

Species	DBH Class (in)						Total Standard Error
	0-4	4-10	10-19	19-29	29-40	>40	
Palm Evergreen Large (PEL)							
PEL OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Palm Evergreen Medium (PEM)							
PEM OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Palm Evergreen Small (PES)							
PES OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Grand Total	2,797	6,953	5,736	3,182	932	365	19,966 (±1,789)

Population Summary of Public Trees

12/1/2011

Species	DBH Class (in)						Total Standard Error
	0-4	4-10	10-19	19-29	29-40	>40	
Broadleaf Deciduous Large (BDL)							
Norway maple	122	223	345	122	20	0	831 (±338)
Black locust	0	365	20	0	0	0	385 (±273)
Northern red oak	122	41	81	41	20	0	304 (±178)
Bigtooth aspen	0	243	20	0	0	0	264 (±221)
Pin oak	142	41	41	0	20	0	243 (±180)
Honeylocust	20	203	0	0	0	0	223 (±143)
Black oak	162	0	41	0	0	20	223 (±128)
American elm	41	61	41	0	0	0	142 (±58)
European larch	0	81	41	0	0	0	122 (±119)
Silver maple	0	41	61	0	0	0	101 (±52)
Green ash	41	0	20	0	0	0	61 (±44)
White oak	0	0	0	0	41	20	61 (±44)
Black cherry	0	61	0	0	0	0	61 (±59)
BDL OTHER	20	81	41	41	0	41	223 (±74)
Total	669	1,439	750	203	101	81	3,243 (±851)
Broadleaf Deciduous Medium (BDM)							
Northern catalpa	304	0	20	20	0	0	345 (±280)
Boxelder	81	101	122	20	0	0	324 (±153)
Red maple	0	0	0	101	20	0	122 (±62)
BDM OTHER	0	41	0	0	0	0	41 (±28)
Total	385	142	142	142	20	0	831 (±382)
Broadleaf Deciduous Small (BDS)							
Callery pear	0	182	0	0	0	0	182 (±126)
BDS OTHER	0	122	20	0	0	0	142 (±58)
Total	0	304	20	0	0	0	324 (±148)
Broadleaf Evergreen Large (BEL)							
BEL OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Broadleaf Evergreen Medium (BEM)							
BEM OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Broadleaf Evergreen Small (BES)							
BES OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Conifer Evergreen Large (CEL)							
Eastern white pine	20	0	0	61	0	0	81 (±62)
CEL OTHER	0	61	20	20	0	0	101 (±59)
Total	20	61	20	81	0	0	182 (±85)
Conifer Evergreen Medium (CEM)							
CEM OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Conifer Evergreen Small (CES)							
CES OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Palm Evergreen Large (PEL)							
PEL OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Palm Evergreen Medium (PEM)							
PEM OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Palm Evergreen Small (PES)							

Population Summary of Public Trees

12/1/2011

Species	DBH Class (in)						Total Standard Error
	0-4	4-10	10-19	19-29	29-40	>40	
PES OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Grand Total	1,074	1,946	932	426	122	81	4,581 (±1,055)

Population Summary of Private Trees

12/1/2011

Species	DBH Class (in)						Total Standard Error
	0-4	4-10	10-19	19-29	29-40	>40	
Broadleaf Deciduous Large (BDL)							
Norway maple	41	324	709	527	101	0	1,703 (±219)
Northern red oak	41	304	264	466	61	41	1,176 (±391)
White oak	0	20	203	284	101	61	669 (±271)
Sugar maple	61	101	122	101	81	20	486 (±149)
Silver maple	20	0	81	203	122	20	446 (±107)
Black locust	142	101	101	0	0	0	345 (±262)
Crimson king maple	41	61	162	61	0	0	324 (±111)
Green ash	0	20	182	41	41	0	284 (±126)
Black oak	0	20	41	122	41	61	284 (±109)
Honeylocust	0	122	81	0	0	0	203 (±107)
Pin oak	0	0	0	142	41	0	182 (±57)
White ash	0	20	61	61	0	20	162 (±67)
BDL OTHER	142	446	284	101	61	41	1,074 (±211)
Total	486	1,541	2,291	2,108	649	264	7,338 (±900)
Broadleaf Deciduous Medium (BDM)							
Red maple	0	101	486	284	81	0	953 (±203)
Boxelder	122	243	101	61	0	0	527 (±188)
Northern catalpa	61	41	101	41	20	20	284 (±84)
BDM OTHER	20	142	41	20	0	0	223 (±62)
Total	203	527	730	405	101	20	1,986 (±299)
Broadleaf Deciduous Small (BDS)							
Flowering dogwood	162	486	142	0	0	0	791 (±148)
Plum	162	264	101	0	20	0	547 (±125)
Callery pear	203	223	61	0	0	0	486 (±162)
Japanese maple	41	203	182	0	0	0	426 (±136)
Apple	41	142	142	20	0	0	345 (±93)
Kousa dogwood	142	81	0	0	0	0	223 (±62)
BDS OTHER	162	284	122	20	0	0	588 (±133)
Total	912	1,682	750	41	20	0	3,405 (±458)
Broadleaf Evergreen Large (BEL)							
BEL OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Broadleaf Evergreen Medium (BEM)							
BEM OTHER	0	0	41	0	0	0	41 (±28)
Total	0	0	41	0	0	0	41 (±28)
Broadleaf Evergreen Small (BES)							
BES OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Conifer Evergreen Large (CEL)							
Eastern white pine	41	223	284	81	20	0	649 (±175)
Blue spruce	41	324	162	61	0	0	588 (±147)
Norway spruce	0	162	101	20	20	0	304 (±117)
White spruce	0	81	81	0	0	0	162 (±73)
CEL OTHER	20	122	101	0	0	0	243 (±70)
Total	101	912	730	162	41	0	1,946 (±309)
Conifer Evergreen Medium (CEM)							
Eastern hemlock	20	304	182	0	0	0	507 (±290)
CEM OTHER	0	20	81	41	0	0	142 (±51)
Total	20	324	264	41	0	0	649 (±292)
Conifer Evergreen Small (CES)							
CES OTHER	0	20	0	0	0	0	20 (±20)
Total	0	20	0	0	0	0	20 (±20)

Population Summary of Private Trees
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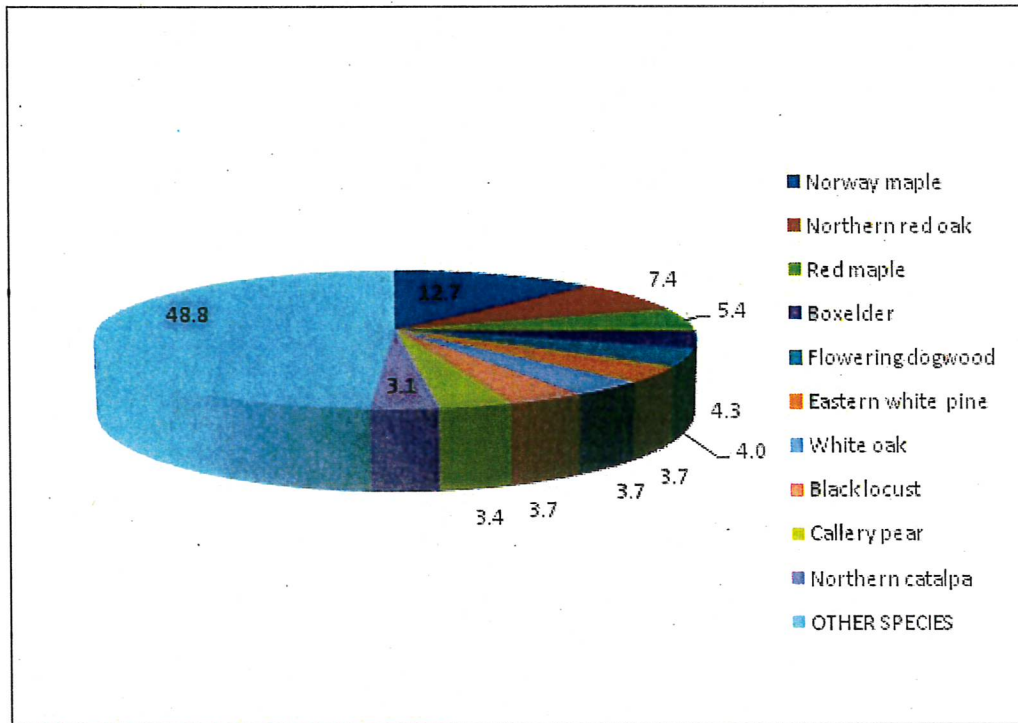
12/1/2011

Species	DBH Class (in)						Total Standard Error
	0-4	4-10	10-19	19-29	29-40	>40	
Palm Evergreen Large (PEL)							
PEL OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Palm Evergreen Medium (PEM)							
PEM OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Palm Evergreen Small (PES)							
PES OTHER	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0 (±0)
Grand Total	1,723	5,007	4,804	2,757	811	284	15,385 (±1,565)

Woonsocket

Species Distribution of All Trees (%)

12/1/2011

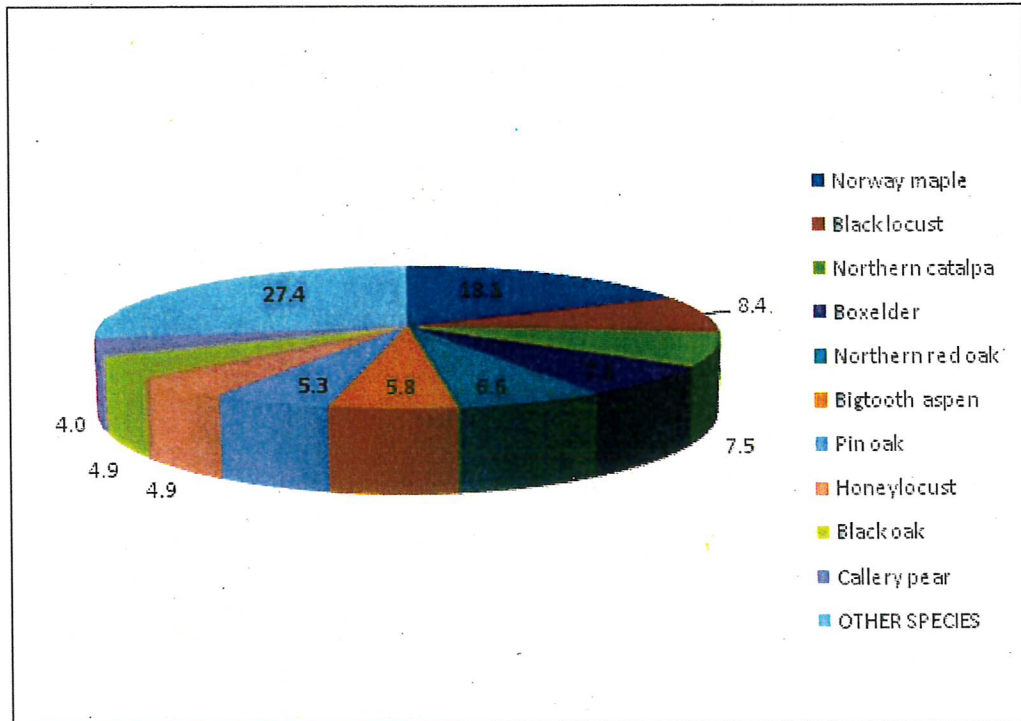


Species	Percent
Norway maple	12.7
Northern red oak	7.4
Red maple	5.4
Boxelder	4.3
Flowering dogwood	4.0
Eastern white pine	3.7
White oak	3.7
Black locust	3.7
Callery pear	3.4
Northern catalpa	3.1
OTHER SPECIES	48.8
Total	100.0

Woonsocket

Species Distribution of Public Trees (%)

12/1/2011

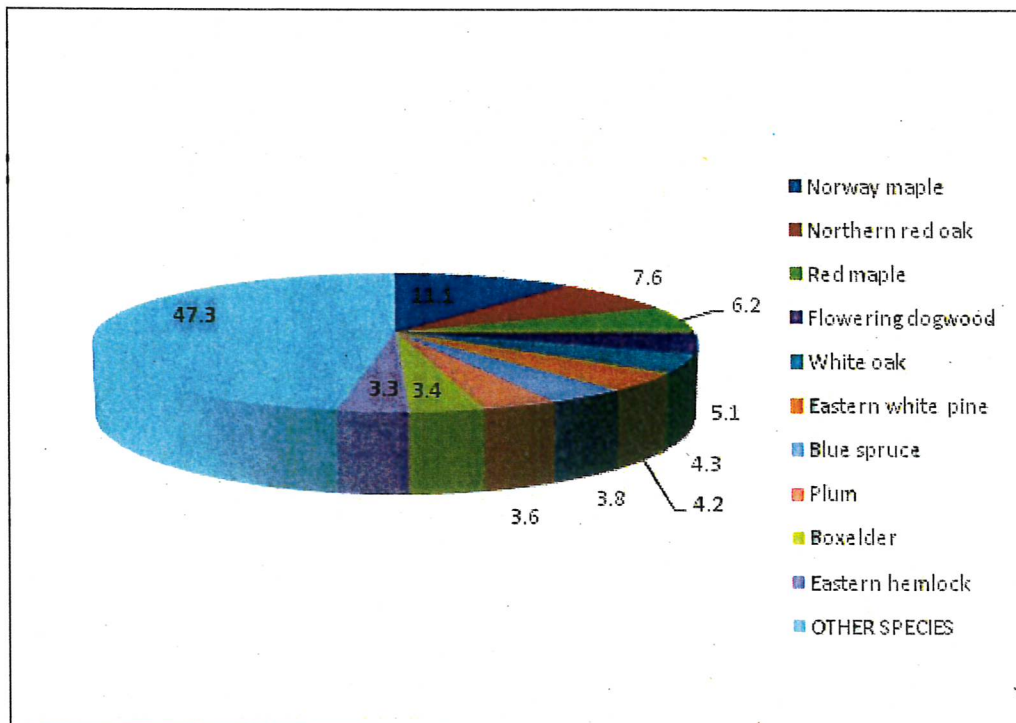


Species	Percent
Norway maple	18.1
Black locust	8.4
Northern catalpa	7.5
Boxelder	7.1
Northern red oak	6.6
Bigtooth aspen	5.8
Pin oak	5.3
Honeylocust	4.9
Black oak	4.9
Callery pear	4.0
OTHER SPECIES	27.4
Total	100.0

Woonsocket

Species Distribution of Private Trees (%)

12/1/2011



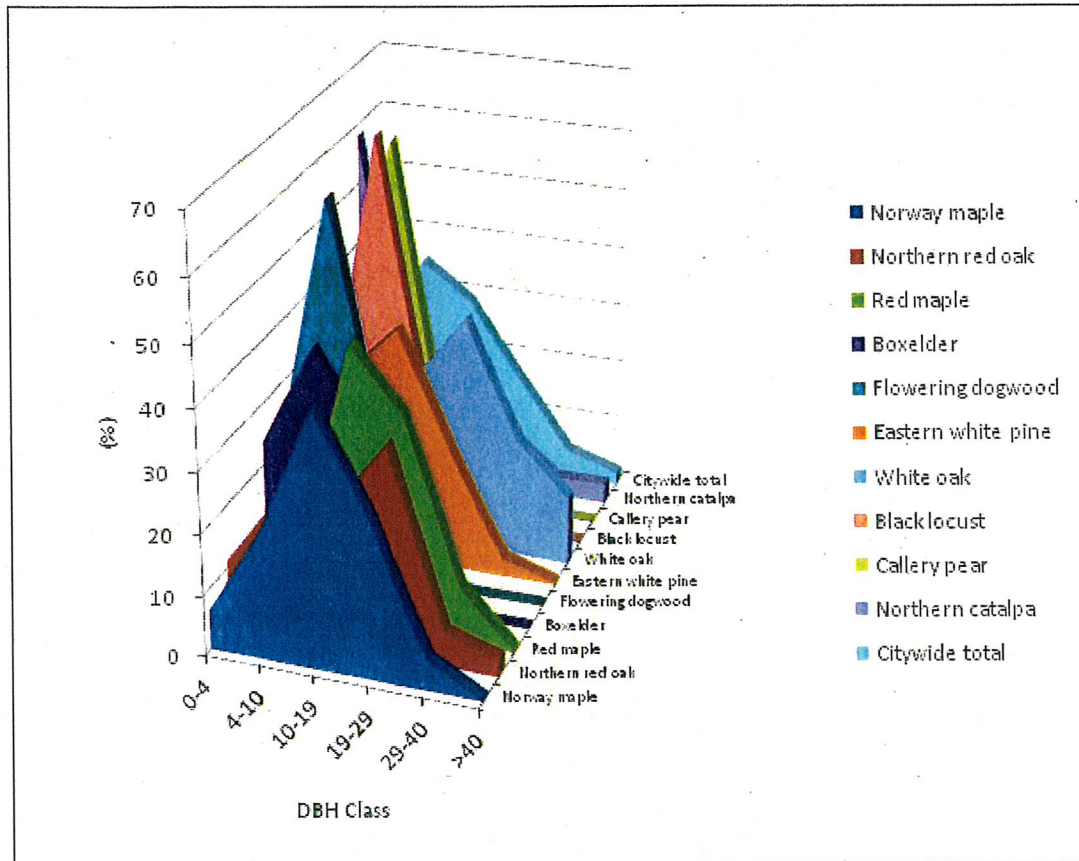
Species	Percent
Norway maple	11.1
Northern red oak	7.6
Red maple	6.2
Flowering dogwood	5.1
White oak	4.3
Eastern white pine	4.2
Blue spruce	3.8
Plum	3.6
Boxelder	3.4
Eastern hemlock	3.3
OTHER SPECIES	47.3
Total	100.0



Woonsocket.

Relative Age Distribution of Top 10 All Tree Species (%)

12/1/2011

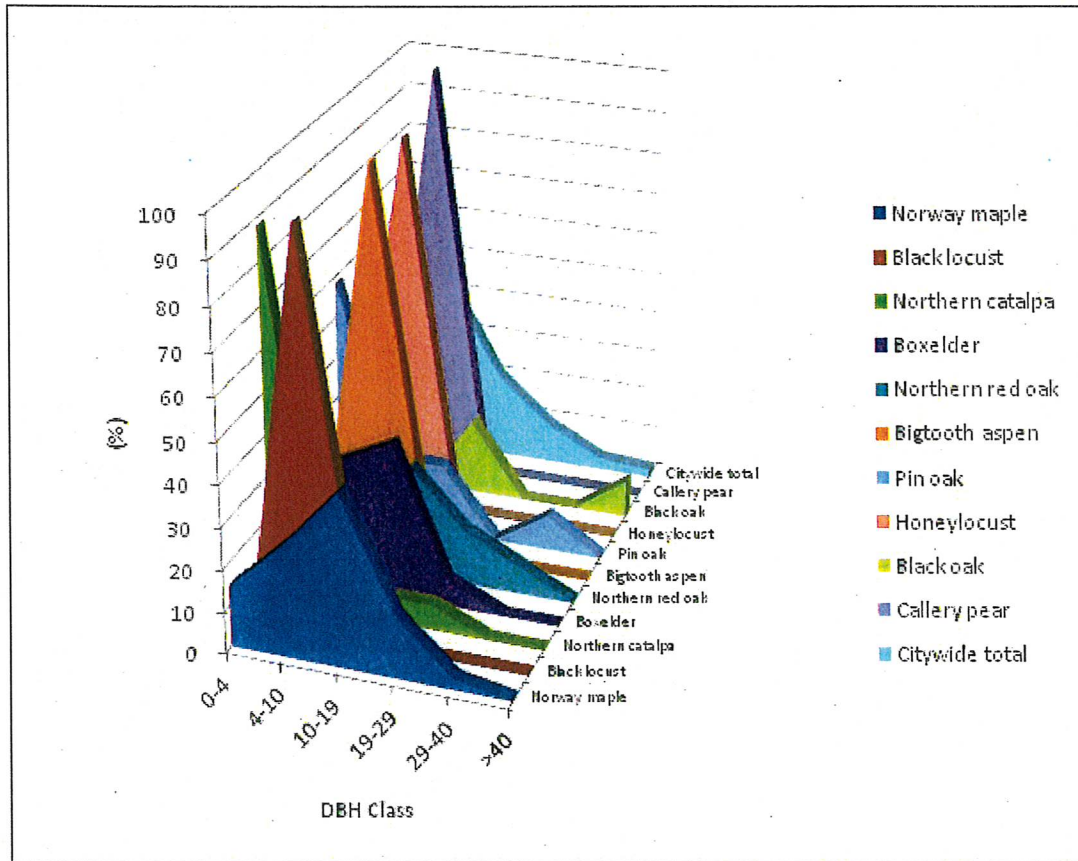


Species	DBH class (in)					
	0-4	4-10	10-19	19-29	29-40	>40
Norway maple	6.40	21.60	41.60	25.60	4.80	0.00
Northern red oak	10.96	23.29	23.29	34.25	5.48	2.74
Red maple	0.00	9.43	45.28	35.85	9.43	0.00
Boxelder	23.81	40.48	26.19	9.52	0.00	0.00
Flowering dogwood	20.51	61.54	17.95	0.00	0.00	0.00
Eastern white pine	8.33	30.56	38.89	19.44	2.78	0.00
White oak	0.00	2.78	27.78	38.89	19.44	11.11
Black locust	19.44	63.89	16.67	0.00	0.00	0.00
Callery pear	30.30	60.61	9.09	0.00	0.00	0.00
Northern catalpa	58.06	6.45	19.35	9.68	3.23	3.23
Citywide total	14.01	34.82	28.73	15.94	4.67	1.83

Woonsocket

Relative Age Distribution of Top 10 Public Tree Species (%)

12/1/2011

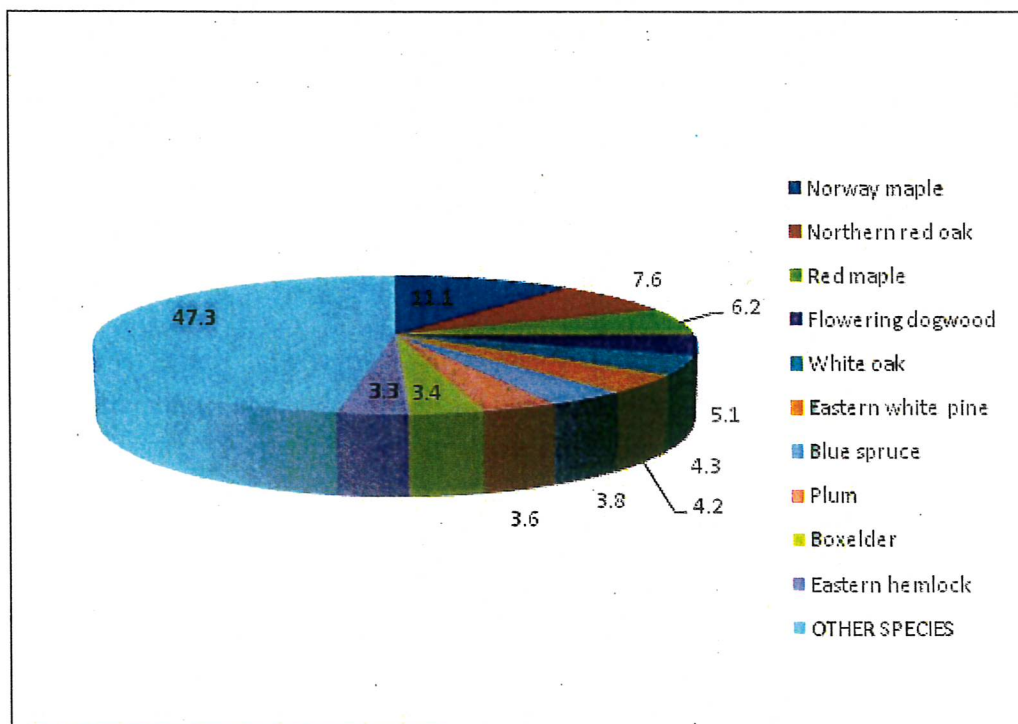


Species	DBH class (in)					
	0-4	4-10	10-19	19-29	29-40	>40
Norway maple	14.63	26.83	41.46	14.63	2.44	0.00
Black locust	0.00	94.74	5.26	0.00	0.00	0.00
Northern catalpa	88.24	0.00	5.88	5.88	0.00	0.00
Boxelder	25.00	31.25	37.50	6.25	0.00	0.00
Northern red oak	40.00	13.33	26.67	13.33	6.67	0.00
Bigtooth aspen	0.00	92.31	7.69	0.00	0.00	0.00
Pin oak	58.33	16.67	16.67	0.00	8.33	0.00
Honeylocust	9.09	90.91	0.00	0.00	0.00	0.00
Black oak	72.73	0.00	18.18	0.00	0.00	9.09
Callery pear	0.00	100.00	0.00	0.00	0.00	0.00
Citywide total	23.45	42.48	20.35	9.29	2.65	1.77

Woonsocket

Species Distribution of Private Trees (%)

12/1/2011



Species	Percent
Norway maple	11.1
Northern red oak	7.6
Red maple	6.2
Flowering dogwood	5.1
White oak	4.3
Eastern white pine	4.2
Blue spruce	3.8
Plum	3.6
Boxelder	3.4
Eastern hemlock	3.3
OTHER SPECIES	47.3
Total	100.0

Woonsocket

Importance Values for Most Abundant Trees (All)

12/1/2011

Species	Number of Trees	% of Total Trees	Leaf Area (ft ²)	% of Total Leaf Area	Canopy Cover (ft ²)	% of Total Canopy Cover	Importance Value
Norway maple	2,534	12.7	5,255,383	12.3	2,206,818	14.3	13.1
Northern red oak	1,480	7.4	5,019,507	11.8	1,913,139	12.4	10.5
Red maple	1,074	5.4	3,939,148	9.2	1,226,448	8.0	7.5
Boxelder	851	4.3	837,933	2.0	399,691	2.6	2.9
Flowering dogwood	791	4.0	308,976	0.7	187,330	1.2	2.0
Eastern white pine	730	3.7	1,054,188	2.5	430,110	2.8	3.0
White oak	730	3.7	4,175,112	9.8	1,453,031	9.4	7.6
Black locust	730	3.7	882,357	2.1	318,000	2.1	2.6
Callery pear	669	3.4	480,518	1.1	186,379	1.2	1.9
Northern catalpa	628	3.1	1,002,061	2.3	302,855	2.0	2.5
Blue spruce	588	2.9	656,060	1.5	254,828	1.7	2.0
Plum	568	2.8	232,768	0.5	133,959	0.9	1.4
Silver maple	547	2.7	2,797,588	6.6	795,941	5.2	4.8
Sugar maple	527	2.6	2,097,229	4.9	472,139	3.1	3.5
Black oak	507	2.5	2,105,121	4.9	750,870	4.9	4.1
Eastern hemlock	507	2.5	201,101	0.5	140,529	0.9	1.3
Japanese maple	426	2.1	384,984	0.9	203,226	1.3	1.5
Honeylocust	426	2.1	606,621	1.4	263,416	1.7	1.8
Pin oak	426	2.1	1,447,766	3.4	506,901	3.3	2.9
Apple	385	1.9	340,106	0.8	134,689	0.9	1.2
Crimson king maple	365	1.8	622,191	1.5	281,056	1.8	1.7
Green ash	345	1.7	1,101,874	2.6	393,193	2.6	2.3
Norway spruce	324	1.6	419,309	1.0	166,169	1.1	1.2
Bigtooth aspen	264	1.3	315,572	0.7	116,498	0.8	0.9
Kousa dogwood	243	1.2	47,111	0.1	31,155	0.2	0.5
American elm	243	1.2	607,209	1.4	172,509	1.1	1.3
White spruce	203	1.0	217,695	0.5	83,281	0.5	0.7
OTHER TREES	2,858	14.3	5,512,983	12.9	1,894,984	12.3	13.2
Total	19,966	100.0	42,668,473	100.0	15,419,144	100.0	100.0

Woonsocket

Importance Values for Most Abundant Public Trees

12/1/2011

Species	Number of Trees	% of Total Trees	Leaf Area (ft ²)	% of Total Leaf Area	Canopy Cover (ft ²)	% of Total Canopy Cover	Importance Value
Norway maple	831	18.1	1,261,015	16.7	561,630	19.9	18.2
Black locust	385	8.4	443,179	5.9	163,961	5.8	6.7
Northern catalpa	345	7.5	202,255	2.7	57,529	2.0	4.1
Boxelder	324	7.1	321,457	4.3	157,245	5.6	5.6
Northern red oak	304	6.6	658,381	8.7	251,020	8.9	8.1
Bigtooth aspen	264	5.8	315,572	4.2	116,498	4.1	4.7
Pin oak	243	5.3	355,820	4.7	122,947	4.3	4.8
Honeylocust	223	4.9	226,717	3.0	99,510	3.5	3.8
Black oak	223	4.9	353,826	4.7	122,347	4.3	4.6
Callery pear	182	4.0	136,026	1.8	52,919	1.9	2.6
American elm	142	3.1	217,855	2.9	58,903	2.1	2.7
Red maple	122	2.7	613,495	8.1	196,971	7.0	5.9
European larch	122	2.7	205,786	2.7	74,789	2.6	2.7
Silver maple	101	2.2	217,128	2.9	70,104	2.5	2.5
Eastern white pine	81	1.8	162,270	2.2	69,283	2.4	2.1
Green ash	61	1.3	58,114	0.8	21,951	0.8	1.0
White oak	61	1.3	593,630	7.9	206,624	7.3	5.5
Black cherry	61	1.3	21,201	0.3	14,189	0.5	0.7
OTHER TREES	507	11.1	1,172,778	15.6	410,872	14.5	13.7
Total	4,581	100.0	7,536,504	100.0	2,829,294	100.0	100.0

Woonsocket

Importance Values for Most Abundant Private Trees

12/1/2011

Species	Number of Trees	% of Total Trees	Leaf Area (ft ²)	% of Total Leaf Area	Canopy Cover (ft ²)	% of Total Canopy Cover	Importance Value
Norway maple	1,703	11.1	3,994,368	11.4	1,645,188	13.1	11.8
Northern red oak	1,176	7.6	4,361,126	12.4	1,662,119	13.2	11.1
Red maple	953	6.2	3,325,654	9.5	1,029,477	8.2	7.9
Flowering dogwood	791	5.1	308,976	0.9	187,330	1.5	2.5
White oak	669	4.3	3,581,482	10.2	1,246,408	9.9	8.1
Eastern white pine	649	4.2	891,918	2.5	360,826	2.9	3.2
Blue spruce	588	3.8	656,060	1.9	254,828	2.0	2.6
Plum	547	3.6	225,701	0.6	129,229	1.0	1.7
Boxelder	527	3.4	516,476	1.5	242,446	1.9	2.3
Eastern hemlock	507	3.3	201,101	0.6	140,529	1.1	1.7
Callery pear	486	3.2	344,493	1.0	133,460	1.1	1.7
Sugar maple	486	3.2	2,077,974	5.9	465,379	3.7	4.3
Silver maple	446	2.9	2,580,460	7.3	725,838	5.8	5.3
Japanese maple	426	2.8	384,984	1.1	203,226	1.6	1.8
Apple	345	2.2	322,544	0.9	125,081	1.0	1.4
Black locust	345	2.2	439,178	1.3	154,040	1.2	1.6
Crimson king maple	324	2.1	514,159	1.5	235,463	1.9	1.8
Norway spruce	304	2.0	386,052	1.1	152,291	1.2	1.4
Green ash	284	1.8	1,043,760	3.0	371,242	2.9	2.6
Northern catalpa	284	1.8	799,806	2.3	245,326	1.9	2.0
Black oak	284	1.8	1,751,295	5.0	628,523	5.0	3.9
Kousa dogwood	223	1.4	40,044	0.1	26,425	0.2	0.6
Honeylocust	203	1.3	379,904	1.1	163,906	1.3	1.2
Pin oak	182	1.2	1,091,946	3.1	383,954	3.0	2.4
White ash	162	1.1	700,436	2.0	241,824	1.9	1.7
White spruce	162	1.1	189,472	0.5	74,024	0.6	0.7
OTHER TREES	2,331	15.2	4,022,599	11.4	1,361,471	10.8	12.5
Total	15,385	100.0	35,131,969	100.0	12,589,850	100.0	100.0

Woonsocket

Relative Performance Index for All Trees

12/1/2011

Species	Dead or Dying	Poor	Fair	Good	RPI	# of Standard Trees Error	% of All
Norway maple	1.63	1.63	17.07	79.67	0.99	2,493 (±379)	12.49
Northern red oak	0.00	0.00	27.40	72.60	0.99	1,480 (±438)	7.41
Red maple	0.00	1.89	9.43	88.68	1.02	1,074 (±234)	5.38
Boxelder	2.38	4.76	26.19	66.67	0.95	851 (±242)	4.26
Flowering dogwood	0.00	0.00	7.69	92.31	1.04	791 (±148)	3.96
Eastern white pine	0.00	2.78	25.00	72.22	0.98	730 (±183)	3.65
White oak	0.00	0.00	16.67	83.33	1.02	730 (±276)	3.65
Black locust	2.78	0.00	19.44	77.78	0.98	730 (±375)	3.65
Callery pear	0.00	0.00	6.06	93.94	1.04	669 (±216)	3.35
Northern catalpa	0.00	0.00	9.68	90.32	1.03	628 (±312)	3.15
Blue spruce	0.00	0.00	34.48	65.52	0.98	588 (±147)	2.94
Plum	0.00	3.57	14.29	82.14	1.00	568 (±126)	2.84
Silver maple	0.00	7.41	14.81	77.78	0.98	547 (±115)	2.74
Sugar maple	0.00	7.69	19.23	73.08	0.97	527 (±150)	2.64
Black oak	0.00	0.00	24.00	76.00	1.00	507 (±165)	2.54
Eastern hemlock	0.00	0.00	48.00	52.00	0.95	507 (±290)	2.54
Pin oak	0.00	0.00	19.05	80.95	1.01	426 (±189)	2.13
Japanese maple	0.00	0.00	9.52	90.48	1.03	426 (±136)	2.13
Honeylocust	0.00	0.00	0.00	100.00	1.05	426 (±176)	2.13
Apple	0.00	5.56	5.56	88.89	1.01	365 (±95)	1.83
Crimson king maple	0.00	0.00	5.56	94.44	1.04	365 (±117)	1.83
Green ash	0.00	11.76	11.76	76.47	0.97	345 (±146)	1.73
Norway spruce	0.00	0.00	0.00	100.00	1.05	324 (±118)	1.62
Bigtooth aspen	0.00	0.00	7.69	92.31	1.04	264 (±221)	1.32
Kousa dogwood	0.00	0.00	8.33	91.67	1.03	243 (±65)	1.22
American elm	0.00	0.00	16.67	83.33	1.02	243 (±86)	1.22
White spruce	0.00	0.00	10.00	90.00	1.03	203 (±91)	1.02
Black cherry	0.00	0.00	0.00	100.00	1.05	162 (±92)	0.81
White ash	0.00	12.50	25.00	62.50	0.94	162 (±67)	0.81
Common pear	0.00	0.00	0.00	100.00	1.05	142 (±70)	0.71
European larch	0.00	0.00	85.71	14.29	0.86	142 (±120)	0.71
Basswood	0.00	14.29	28.57	57.14	0.92	142 (±138)	0.71
Fir	0.00	0.00	33.33	66.67	0.98	122 (±55)	0.61
Gray birch	0.00	0.00	33.33	66.67	0.98	122 (±47)	0.61
Sargent cherry	0.00	0.00	0.00	100.00	1.05	122 (±47)	0.61
Paper birch	0.00	0.00	0.00	100.00	1.05	122 (±55)	0.61
Ash	0.00	0.00	50.00	50.00	0.94	81 (±39)	0.41
European beech	0.00	25.00	0.00	75.00	0.93	81 (±39)	0.41
Eastern red cedar	25.00	0.00	0.00	75.00	0.82	81 (±39)	0.41
Black walnut	0.00	0.00	0.00	100.00	1.05	81 (±48)	0.41
Tree of heaven	0.00	0.00	0.00	100.00	1.05	81 (±39)	0.41
European mountain ash	0.00	0.00	33.33	66.67	0.98	61 (±34)	0.30
Elm	0.00	0.00	0.00	100.00	1.05	61 (±44)	0.30
Pine	0.00	0.00	0.00	100.00	1.05	61 (±44)	0.30
Dogwood	0.00	0.00	0.00	100.00	1.05	41 (±40)	0.20
American basswood	0.00	0.00	0.00	100.00	1.05	41 (±28)	0.20
Tulip tree	0.00	50.00	50.00	0.00	0.69	41 (±28)	0.20
Peach	0.00	0.00	0.00	100.00	1.05	41 (±28)	0.20
Cottonwood	0.00	0.00	0.00	100.00	1.05	41 (±40)	0.20
Douglas fir	0.00	0.00	0.00	100.00	1.05	41 (±28)	0.20
Red mulberry	0.00	0.00	0.00	100.00	1.05	41 (±28)	0.20
Eastern redbud	0.00	0.00	0.00	100.00	1.05	41 (±28)	0.20
Pignut hickory	0.00	0.00	50.00	50.00	0.94	41 (±40)	0.20
Rose-of-sharon	0.00	0.00	100.00	0.00	0.83	41 (±40)	0.20
Magnolia	0.00	0.00	0.00	100.00	1.05	41 (±28)	0.20
Northern white cedar	0.00	0.00	50.00	50.00	0.94	41 (±28)	0.20
River birch	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10

Relative Performance Index for All Trees

12/1/2011

Species	Dead or Dying	Poor	Fair	Good	RPI	# of Standard Trees Error	% of All
Littleleaf linden	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Scarlet oak	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Mimosa	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Sourwood	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Common chokecherry	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Higan cherry	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Cherry plum	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Spruce	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Maple	100.00	0.00	0.00	0.00	0.11	20 (±20)	0.10
European hornbeam	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Atlantic white cedar	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Crabapple harvest gold	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Black birch	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Shagbark hickory	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Hickory	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
European Smoke Tree	0.00	0.00	100.00	0.00	0.83	20 (±20)	0.10
Siberian elm	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Japanese red cedar	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Hawthorn	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Sycamore maple	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Oak	0.00	0.00	100.00	0.00	0.83	20 (±20)	0.10
Eastern cottonwood	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
Yew	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
CEL OTHER	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.10
American mountain ash	0.00	0.00	100.00	0.00	0.83	20 (±20)	0.10
Willow	0.00	0.00	100.00	0.00	0.83	20 (±20)	0.10
Citywide	0.61	1.83	17.21	80.35	1.00	19,905 (±1784)	99.70

Woonsocket

Relative Performance Index for Public Trees

12/1/2011

Species	Dead or Dying	Poor	Fair	Good	RPI	# of Standard Trees Error	% of Public
Norway maple	5.00	5.00	12.50	77.50	0.97	811(±323)	17.70
Black locust	0.00	0.00	21.05	78.95	1.02	385(±273)	8.41
Northern catalpa	0.00	0.00	0.00	100.00	1.07	345(±280)	7.52
Boxelder	6.25	12.50	43.75	37.50	0.85	324(±153)	7.08
Northern red oak	0.00	0.00	13.33	86.67	1.04	304(±178)	6.64
Bigtooth aspen	0.00	0.00	7.69	92.31	1.05	264(±221)	5.75
Pin oak	0.00	0.00	16.67	83.33	1.03	243(±180)	5.31
Black oak	0.00	0.00	18.18	81.82	1.03	223(±128)	4.87
Honeylocust	0.00	0.00	0.00	100.00	1.07	223(±143)	4.87
Callery pear	0.00	0.00	0.00	100.00	1.07	182(±126)	3.98
American elm	0.00	0.00	28.57	71.43	1.01	142(±58)	3.10
Red maple	0.00	0.00	33.33	66.67	1.00	122(±62)	2.65
European larch	0.00	0.00	100.00	0.00	0.85	122(±119)	2.65
Silver maple	0.00	0.00	40.00	60.00	0.98	101(±52)	2.21
Eastern white pine	0.00	0.00	75.00	25.00	0.90	81(±62)	1.77
Black cherry	0.00	0.00	0.00	100.00	1.07	61(±59)	1.33
Green ash	0.00	33.33	0.00	66.67	0.90	61(±44)	1.33
White oak	0.00	0.00	66.67	33.33	0.92	61(±44)	1.33
Crimson king maple	0.00	0.00	50.00	50.00	0.96	41(±40)	0.88
Tree of heaven	0.00	0.00	0.00	100.00	1.07	41(±28)	0.88
White spruce	0.00	0.00	0.00	100.00	1.07	41(±40)	0.88
Common pear	0.00	0.00	0.00	100.00	1.07	41(±40)	0.88
Sugar maple	0.00	0.00	0.00	100.00	1.07	41(±28)	0.88
Pine	0.00	0.00	0.00	100.00	1.07	41(±40)	0.88
Gray birch	0.00	0.00	50.00	50.00	0.96	41(±28)	0.88
Apple	0.00	0.00	0.00	100.00	1.07	20(±20)	0.44
Tulip tree	0.00	0.00	100.00	0.00	0.85	20(±20)	0.44
Sourwood	0.00	0.00	0.00	100.00	1.07	20(±20)	0.44
Norway spruce	0.00	0.00	0.00	100.00	1.07	20(±20)	0.44
Pignut hickory	0.00	0.00	0.00	100.00	1.07	20(±20)	0.44
Siberian elm	0.00	0.00	0.00	100.00	1.07	20(±20)	0.44
Plum	0.00	100.00	0.00	0.00	0.56	20(±20)	0.44
Black walnut	0.00	0.00	0.00	100.00	1.07	20(±20)	0.44
Oak	0.00	0.00	100.00	0.00	0.85	20(±20)	0.44
Kousa dogwood	0.00	0.00	0.00	100.00	1.07	20(±20)	0.44
Citywide	1.34	2.68	19.64	76.34	1.00	4,540(±1044)	99.12

Woonsocket

Relative Performance Index for Private Trees

12/1/2011

Species	Dead or Dying	Poor	Fair	Good	RPI	# of Standard Trees Error	% of Private
Norway maple	0.00	0.00	19.28	80.72	1.01	1,682(±218)	10.94
Northern red oak	0.00	0.00	31.03	68.97	0.98	1,176(±391)	7.64
Red maple	0.00	2.13	6.38	91.49	1.02	953(±203)	6.19
Flowering dogwood	0.00	0.00	7.69	92.31	1.03	791(±148)	5.14
White oak	0.00	0.00	12.12	87.88	1.02	669(±271)	4.35
Eastern white pine	0.00	3.13	18.75	78.13	0.99	649(±175)	4.22
Blue spruce	0.00	0.00	34.48	65.52	0.97	588(±147)	3.82
Plum	0.00	0.00	14.81	85.19	1.02	547(±125)	3.56
Boxelder	0.00	0.00	15.38	84.62	1.01	527(±188)	3.43
Eastern hemlock	0.00	0.00	48.00	52.00	0.94	507(±290)	3.29
Sugar maple	0.00	8.33	20.83	70.83	0.96	486(±149)	3.16
Callery pear	0.00	0.00	8.33	91.67	1.03	486(±162)	3.16
Silver maple	0.00	9.09	9.09	81.82	0.98	446(±107)	2.90
Japanese maple	0.00	0.00	9.52	90.48	1.03	426(±136)	2.77
Apple	0.00	5.88	5.88	88.24	1.01	345(±93)	2.24
Black locust	5.88	0.00	17.65	76.47	0.95	345(±262)	2.24
Crimson king maple	0.00	0.00	0.00	100.00	1.05	324(±111)	2.11
Norway spruce	0.00	0.00	0.00	100.00	1.05	304(±117)	1.98
Black oak	0.00	0.00	28.57	71.43	0.98	284(±109)	1.84
Green ash	0.00	7.14	14.29	78.57	0.98	284(±126)	1.84
Northern catalpa	0.00	0.00	21.43	78.57	1.00	284(±84)	1.84
Kousa dogwood	0.00	0.00	9.09	90.91	1.03	223(±62)	1.45
Honeylocust	0.00	0.00	0.00	100.00	1.05	203(±107)	1.32
Pin oak	0.00	0.00	22.22	77.78	1.00	182(±57)	1.19
White spruce	0.00	0.00	12.50	87.50	1.02	162(±73)	1.05
White ash	0.00	12.50	25.00	62.50	0.93	162(±67)	1.05
Basswood	0.00	14.29	28.57	57.14	0.91	142(±138)	0.92
Fir	0.00	0.00	33.33	66.67	0.97	122(±55)	0.79
Sargent cherry	0.00	0.00	0.00	100.00	1.05	122(±47)	0.79
Paper birch	0.00	0.00	0.00	100.00	1.05	122(±55)	0.79
Common pear	0.00	0.00	0.00	100.00	1.05	101(±59)	0.66
Black cherry	0.00	0.00	0.00	100.00	1.05	101(±52)	0.66
American elm	0.00	0.00	0.00	100.00	1.05	101(±52)	0.66
Ash	0.00	0.00	50.00	50.00	0.94	81(±39)	0.53
European beech	0.00	25.00	0.00	75.00	0.92	81(±39)	0.53
Eastern red cedar	25.00	0.00	0.00	75.00	0.81	81(±39)	0.53
Gray birch	0.00	0.00	25.00	75.00	0.99	81(±39)	0.53
European mountain ash	0.00	0.00	33.33	66.67	0.97	61(±34)	0.40
Black walnut	0.00	0.00	0.00	100.00	1.05	61(±34)	0.40
Elm	0.00	0.00	0.00	100.00	1.05	61(±44)	0.40
Dogwood	0.00	0.00	0.00	100.00	1.05	41(±40)	0.26
American basswood	0.00	0.00	0.00	100.00	1.05	41(±28)	0.26
Peach	0.00	0.00	0.00	100.00	1.05	41(±28)	0.26
Cottonwood	0.00	0.00	0.00	100.00	1.05	41(±40)	0.26
Douglas fir	0.00	0.00	0.00	100.00	1.05	41(±28)	0.26
Red mulberry	0.00	0.00	0.00	100.00	1.05	41(±28)	0.26
Eastern redbud	0.00	0.00	0.00	100.00	1.05	41(±28)	0.26
Tree of heaven	0.00	0.00	0.00	100.00	1.05	41(±28)	0.26
Rose-of-sharon	0.00	0.00	100.00	0.00	0.83	41(±40)	0.26
Magnolia	0.00	0.00	0.00	100.00	1.05	41(±28)	0.26
Northern white cedar	0.00	0.00	50.00	50.00	0.94	41(±28)	0.26
River birch	0.00	0.00	0.00	100.00	1.05	20(±20)	0.13
European larch	0.00	0.00	0.00	100.00	1.05	20(±20)	0.13
Littleleaf linden	0.00	0.00	0.00	100.00	1.05	20(±20)	0.13
Scarlet oak	0.00	0.00	0.00	100.00	1.05	20(±20)	0.13
Mimosa	0.00	0.00	0.00	100.00	1.05	20(±20)	0.13
Common chokecherry	0.00	0.00	0.00	100.00	1.05	20(±20)	0.13

Relative Performance Index for Private Trees

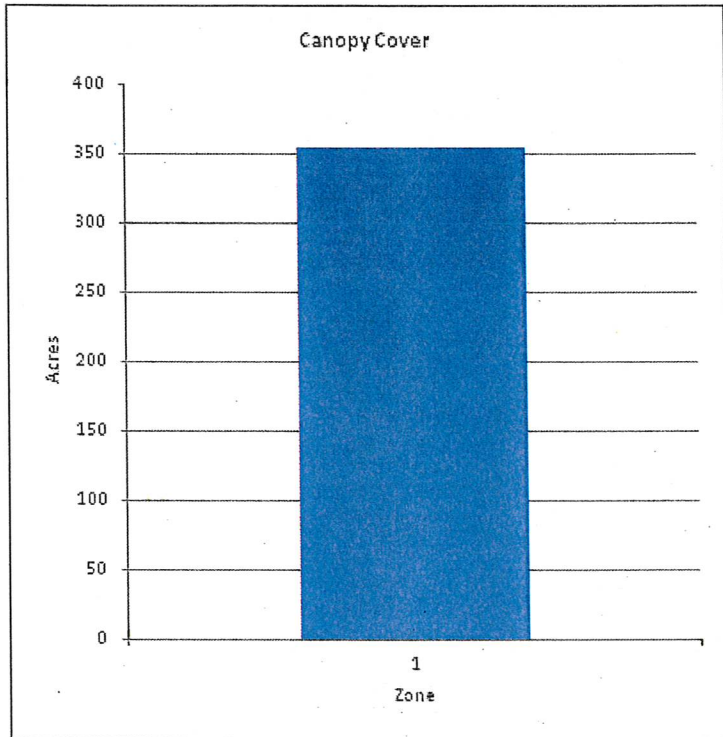
12/1/2011

Species	Dead or Dying	Poor	Fair	Good	RPI	# of Standard Trees Error	% of Private
Higan cherry	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Cherry plum	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Spruce	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Maple	100.00	0.00	0.00	0.00	0.11	20 (±20)	0.13
Tulip tree	0.00	100.00	0.00	0.00	0.55	20 (±20)	0.13
European hornbeam	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Atlantic white cedar	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Crabapple harvest gold	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Black birch	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Pine	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Shagbark hickory	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Pignut hickory	0.00	0.00	100.00	0.00	0.83	20 (±20)	0.13
Hickory	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
European Smoke Tree	0.00	0.00	100.00	0.00	0.83	20 (±20)	0.13
Japanese red cedar	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Hawthorn	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Sycamore maple	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Eastern cottonwood	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
Yew	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
CEL OTHER	0.00	0.00	0.00	100.00	1.05	20 (±20)	0.13
American mountain ash	0.00	0.00	100.00	0.00	0.83	20 (±20)	0.13
Willow	0.00	0.00	100.00	0.00	0.83	20 (±20)	0.13
Citywide	0.40	1.58	16.49	81.53	1.00	15,365 (±1564)	99.87

Woonsocket

Canopy Cover of All Trees (Acres)

12/1/2011



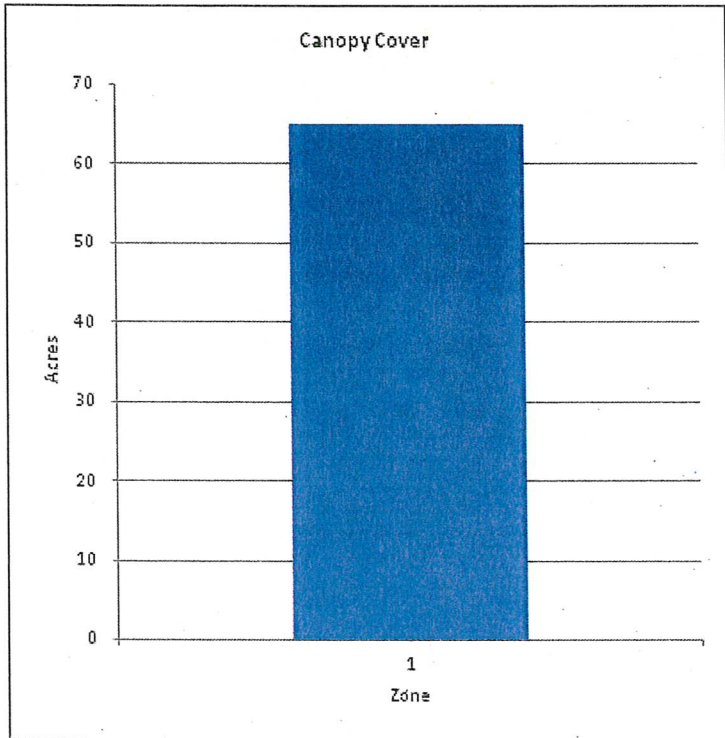
Zone	Acres	% of Total Canopy Cover
1	354	100.0
Citywide total	354	100.0

	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
Citywide total	0	0	354	0.00	0.00

Woonsocket

Canopy Cover of Public Trees (Acres)

12/1/2011



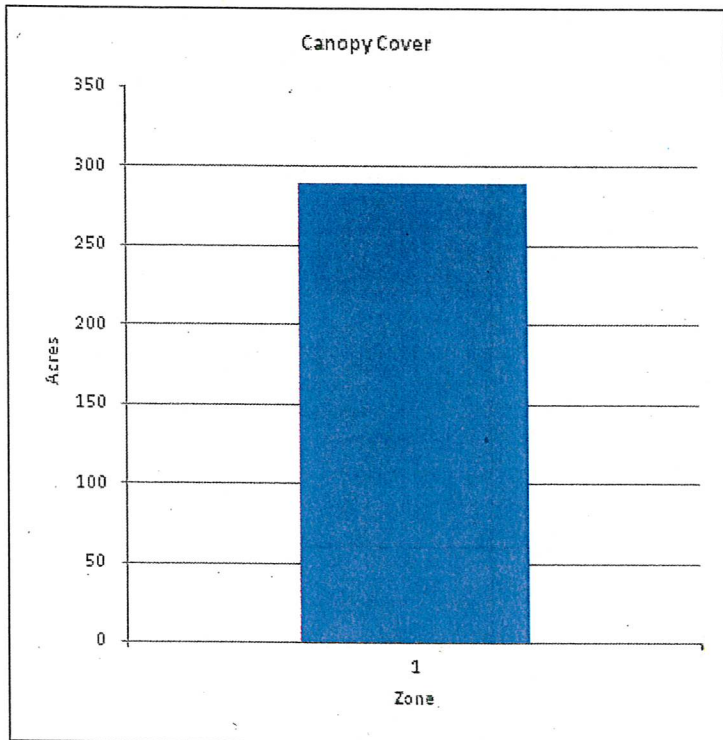
Zone	Acres	% of Total Canopy Cover
1	65	100.0
Citywide total	65	100.0

	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
Citywide total	0	0	65	0.00	0.00

Woonsocket

Canopy Cover of Private Trees (Acres)

12/1/2011



Zone	Acres	% of Total Canopy Cover
1	289	100.0
Citywide total	289	100.0

	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
Citywide total	0	0	289	0.00	0.00

Woonsocket

Replacement Value for All Trees by Species

12/1/2011

Species	DBH Class (in)							Total Standard Error	% of Total
	0-4	4-10	10-19	19-29	29-40	>40			
Norway maple	39,064	619,018	4,424,405	7,277,542	2,801,289	0	15,161,317	(±2,343,465)	13.41
Northern red oak	28,449	588,961	2,293,116	9,399,132	2,802,864	2,247,707	17,360,230	(±5,135,911)	15.36
Red maple	0	161,428	3,151,030	6,581,719	3,590,212	0	13,484,389	(±2,938,452)	11.93
Boxelder	52,634	292,127	566,936	627,293	0	0	1,538,990	(±437,362)	1.36
Flowering dogwood	45,979	431,923	430,204	0	0	0	908,106	(±170,430)	0.80
Eastern white pine	14,100	293,685	1,366,307	1,616,188	584,613	0	3,874,894	(±972,670)	3.43
White oak	0	35,079	1,414,736	5,558,855	5,474,343	4,258,813	16,741,827	(±6,331,701)	14.81
Black locust	35,343	508,299	491,066	0	0	0	1,034,708	(±32,194)	0.92
Callery pear	55,054	366,363	190,090	0	0	0	611,508	(±197,346)	0.54
Northern catalpa	103,453	32,780	366,841	496,607	266,153	453,828	1,719,662	(±855,005)	1.52
Blue spruce	10,098	352,287	674,012	682,672	0	0	1,719,069	(±429,189)	1.52
Plum	44,769	240,064	303,477	0	337,127	0	925,438	(±205,250)	0.82
Silver maple	5,747	36,636	416,864	1,507,246	1,863,068	453,828	4,283,390	(±902,609)	3.79
Sugar maple	22,990	102,196	366,841	714,417	1,277,532	238,857	2,722,833	(±776,415)	2.41
Black oak	40,392	323,905	327,377	1,416,867	898,527	2,423,555	5,130,623	(±1,667,488)	4.54
Eastern hemlock	5,049	23,349	726,970	0	0	0	1,055,368	(±603,386)	0.93
Japanese maple	8,701	282,504	1,076,244	0	0	0	1,367,449	(±435,547)	1.21
Honeylocust	4,700	427,179	422,111	0	0	0	853,990	(±353,275)	0.76
Pin oak	40,232	36,636	113,387	1,089,051	940,406	0	2,219,712	(±985,857)	1.96
Apple	9,400	227,641	688,708	284,329	0	0	1,210,078	(±301,836)	1.07
Crimson king maple	10,098	71,716	804,000	978,926	0	0	1,864,739	(±598,524)	1.65
Green ash	10,098	23,905	832,886	373,538	1,004,236	0	2,244,662	(±951,781)	1.99
Norway spruce	0	235,937	717,496	323,927	667,109	0	1,944,469	(±708,964)	1.72
Bigtooth aspen	27,168	161,428	0	0	0	0	185,348	(±155,145)	0.16
Kousa dogwood	16,032	87,734	190,090	0	0	453,828	188,596	(±50,047)	0.17
American elm	0	170,744	478,330	0	0	0	747,685	(±263,041)	0.66
White spruce	0	14,462	146,736	496,607	0	453,828	649,075	(±291,475)	0.57
White ash	5,747	73,273	190,090	0	0	0	1,111,633	(±458,941)	0.98
Black cherry	0	75,490	144,431	244,732	0	0	269,110	(±152,348)	0.24
European larch	0	180,058	0	0	0	0	464,653	(±393,036)	0.41
Basswood	11,495	73,273	63,363	0	0	0	180,058	(±175,560)	0.16
Common pear	0	105,551	239,165	0	0	0	148,131	(±73,345)	0.13
Fir	0	102,196	0	0	0	0	344,716	(±155,616)	0.30
Gray birch	5,049	71,716	182,946	0	0	0	102,196	(±39,639)	0.09
Sargent cherry	5,747	36,636	126,727	165,536	0	0	259,711	(±100,734)	0.23
Paper birch	0	0	0	0	0	0	334,646	(±151,070)	0.30

Species	DBH Class (in)							Total Standard Error	% of Total
	0-4	4-10	10-19	19-29	29-40	>40			
Tree of heaven	6,446	25,462	35,254	0	0	0	67,162	(±32,242)	0.06
European beech	4,001	0	133,637	0	394,529	1,012,183	1,544,350	(±741,392)	1.37
Ash	5,747	14,462	113,387	0	0	0	133,596	(±64,135)	0.12
Black walnut	0	71,716	91,473	0	0	0	163,189	(±96,612)	0.14
Eastern red cedar	0	23,905	192,575	0	0	0	216,480	(±103,925)	0.19
Pine	5,747	18,318	0	165,536	0	0	189,601	(±137,233)	0.17
European mountain as	0	18,318	113,387	0	0	0	131,705	(±73,388)	0.12
Elm	5,049	23,905	0	244,732	0	0	273,686	(±198,092)	0.24
Pignut hickory	0	18,873	0	244,732	0	0	263,604	(±257,019)	0.23
Eastern redbud	11,495	0	0	0	0	0	11,495	(±7,885)	0.01
Dogwood	0	64,571	0	0	0	0	64,571	(±62,958)	0.06
Rose-of-sharon	0	28,923	0	0	0	0	28,923	(±28,201)	0.03
Tulip tree	0	21,078	0	0	307,691	0	328,769	(±225,520)	0.29
Magnolia	0	0	211,056	0	0	0	211,056	(±144,774)	0.19
Red mulberry	0	12,731	35,254	0	0	0	47,985	(±32,915)	0.04
Cottonwood	0	25,462	0	0	0	0	25,462	(±24,826)	0.02
Peach	11,495	0	0	0	0	0	11,495	(±7,885)	0.01
Douglas fir	0	0	182,946	0	0	0	182,946	(±125,492)	0.16
Northern white cedar	0	0	94,407	323,927	0	0	418,335	(±286,958)	0.37
American basswood	0	0	119,583	323,927	0	0	443,510	(±304,227)	0.39
Maple	531	0	0	0	0	0	531	(±518)	0.00
Sycamore maple	0	0	91,473	0	0	0	91,473	(±89,188)	0.08
Mimosa	0	0	35,254	0	0	0	35,254	(±34,373)	0.03
Black birch	0	0	91,473	0	0	0	91,473	(±89,188)	0.08
River birch	0	0	0	0	502,118	0	502,118	(±489,575)	0.44
Hickory	0	23,905	0	0	0	0	23,905	(±23,308)	0.02
European hornbeam	0	29,492	0	0	0	0	29,492	(±28,755)	0.03
Shagbark hickory	0	23,905	0	0	0	0	23,905	(±23,308)	0.02
CEL. OTHER	0	26,699	0	0	0	0	26,699	(±26,032)	0.02
Atlantic white cedar	0	0	0	323,927	0	0	323,927	(±315,836)	0.29
Hawthorn	0	23,905	0	0	0	0	23,905	(±23,308)	0.02
Japanese red cedar	0	0	133,637	0	0	0	133,637	(±130,299)	0.12
Crabapple harvest gol	0	26,699	0	0	0	0	26,699	(±26,032)	0.02
Sourwood	0	18,318	0	0	0	0	18,318	(±17,861)	0.02
Spruce	0	29,492	0	0	0	0	29,492	(±28,755)	0.03
Eastern cottonwood	0	0	35,254	0	0	0	35,254	(±34,373)	0.03
Cherry plum	0	0	35,254	0	0	0	35,254	(±34,373)	0.03
Higan cherry	5,747	0	0	0	0	0	5,747	(±5,604)	0.01
Common chokecherry	0	0	0	165,536	0	0	165,536	(±161,401)	0.15
Oak	0	0	0	0	0	710,930	710,930	(±693,172)	0.63
Scarlet oak	0	0	0	323,927	0	0	323,927	(±315,836)	0.29
Willow	0	0	50,024	0	0	0	50,024	(±48,774)	0.04

Species	DBH Class (in)						Total Standard Error	% of Total
	0-4	4-10	10-19	19-29	29-40	>40		
European Smoke Tree	0	25,489	0	0	0	0	25,489 (±24,832)	0.02
American mountain as	0	14,462	0	0	0	0	14,462 (±14,100)	0.01
Yew	0	29,492	0	0	0	0	29,492 (±28,755)	0.03
Littleleaf linden	0	0	0	323,927	0	0	323,927 (±315,836)	0.29
Siberian elm	0	0	0	0	0	230,486	230,486 (±224,729)	0.20
Citywide total	713,850	7,655,858	25,757,562	42,275,355	23,711,815	12,937,843	113,052,283 (±10,130,329)	100.00

Woonsocket

Replacement Value for Public Trees by Species

12/1/2011

Species	DBH Class (in)					Total Standard Error	% of Total
	0-4	4-10	10-19	19-29	29-40		
Norway maple	28,966	257,924	1,415,424	966,045	502,118	3,170,477 (±1,290,858)	18.99
Black locust	0	415,195	72,216	0	0	487,411 (±345,952)	2.92
Northern catalpa	86,211	0	63,363	165,536	0	315,110 (±255,660)	1.89
Boxelder	22,990	72,309	250,119	130,686	0	476,103 (±224,811)	2.85
Northern red oak	21,914	70,158	559,676	806,246	656,921	2,114,915 (±1,241,565)	12.67
Bigtooth aspen	0	150,094	35,254	0	0	185,348 (±155,145)	1.11
Pin oak	40,232	36,636	113,387	0	266,153	456,408 (±338,652)	2.73
Honeylocust	4,700	266,987	0	0	0	271,687 (±174,179)	1.63
Black oak	40,392	0	163,689	0	0	738,689 (±425,404)	4.43
Callery pear	0	164,864	0	0	0	164,864 (±113,799)	0.99
American elm	10,285	51,098	126,727	0	0	188,110 (±76,820)	1.13
Red maple	0	0	0	1,741,094	591,793	2,332,887 (±1,182,980)	13.98
European larch	0	75,490	144,431	0	0	219,921 (±214,428)	1.32
Silver maple	0	36,636	163,411	0	0	200,047 (±101,862)	1.20
Eastern white pine	4,700	0	0	673,412	0	678,112 (±521,117)	4.06
Green ash	10,098	0	48,144	0	0	58,242 (±42,155)	0.35
White oak	0	0	0	0	1,489,021	2,376,274 (±1,719,937)	14.23
Black cherry	0	54,955	0	0	0	54,955 (±53,582)	0.33
Crimson king maple	0	0	72,216	244,732	0	316,947 (±309,030)	1.90
Sugar maple	5,747	18,318	0	0	0	24,066 (±16,508)	0.14
Tree of heaven	0	12,731	35,254	0	0	47,985 (±32,915)	0.29
Gray birch	0	32,780	0	0	0	32,780 (±22,485)	0.20
Apple	0	46,371	0	0	0	46,371 (±31,809)	0.28
Pine	0	18,318	0	165,536	0	183,854 (±179,261)	1.10
White spruce	0	58,984	0	0	0	58,984 (±57,511)	0.35
Common pear	0	18,318	63,363	0	0	81,682 (±79,641)	0.49
Pignut hickory	0	0	0	244,732	0	244,732 (±238,618)	1.47
Kousa dogwood	0	32,286	0	0	0	32,286 (±31,479)	0.19
Black walnut	0	23,905	0	0	0	23,905 (±23,308)	0.14
Tulip tree	0	21,078	0	0	0	21,078 (±20,551)	0.13
Sourwood	0	18,318	0	0	0	18,318 (±17,861)	0.11
Norway spruce	0	0	119,583	0	0	119,583 (±116,596)	0.72
Plum	0	9,641	0	0	0	9,641 (±9,400)	0.06
Oak	0	0	0	0	0	710,930 (±693,172)	4.26
Siberian elm	0	0	0	0	0	230,486 (±224,729)	1.38
Citywide total	276,234	1,963,395	3,446,255	5,138,018	3,506,006	16,693,185 (±3,843,202)	100.00

Woonsocket

Replacement Value for Private Trees by Species

12/1/2011

Species	DBH Class (in)						Total Standard Error	% of Total
	0-4	4-10	10-19	19-29	29-40	>40		
Norway maple	10,098	361,094	3,008,980	6,311,497	2,299,171	0	11,990,840 (±1,541,514)	12.44
Northern red oak	6,536	518,803	1,733,440	8,592,886	2,145,943	2,247,707	15,245,315 (±5,076,005)	15.82
Red maple	0	161,428	3,151,030	4,840,625	2,998,418	0	11,151,501 (±2,381,444)	11.57
Flowering dogwood	45,979	431,923	430,204	0	0	0	908,106 (±170,430)	0.94
White oak	0	35,079	1,414,736	5,558,855	3,985,322	3,371,561	14,365,553 (±5,819,553)	14.91
Eastern white pine	9,400	293,685	1,366,307	942,776	584,613	0	3,196,782 (±863,252)	3.32
Blue spruce	10,098	352,287	674,012	682,672	0	0	1,719,069 (±429,189)	1.78
Plum	44,769	230,423	303,477	0	337,127	0	915,796 (±209,451)	0.95
Boxelder	29,645	219,818	316,817	496,607	0	0	1,062,887 (±378,434)	1.10
Eastern hemlock	5,049	323,349	726,970	0	0	0	1,055,368 (±603,386)	1.10
Callery pear	55,054	201,500	190,090	0	0	0	446,644 (±148,425)	0.46
Sugar maple	17,242	83,878	366,841	714,417	1,277,532	238,857	2,698,767 (±826,368)	2.80
Silver maple	5,747	0	253,454	1,507,246	1,863,068	453,828	4,083,343 (±982,162)	4.24
Japanese maple	8,701	282,504	1,076,244	0	0	0	1,367,449 (±435,547)	1.42
Apple	9,400	181,270	688,708	284,329	0	0	1,163,707 (±315,417)	1.21
Black locust	35,343	93,104	418,850	0	0	0	547,298 (±416,277)	0.57
Crimson king maple	10,098	71,716	731,784	734,195	0	0	1,547,792 (±531,533)	1.61
Norway spruce	0	235,937	597,913	323,927	667,109	0	1,824,887 (±702,778)	1.89
Green ash	0	23,905	784,742	373,538	1,004,236	0	2,186,420 (±968,387)	2.27
Northern catalpa	17,242	32,780	303,477	331,071	266,153	453,828	1,404,551 (±417,565)	1.46
Black oak	0	23,905	163,689	1,416,867	898,527	1,888,947	4,391,934 (±1,684,900)	4.56
Kousa dogwood	27,168	129,143	0	0	0	0	156,311 (±43,570)	0.16
Honeylocust	0	160,192	422,111	1,089,051	674,253	0	582,303 (±307,287)	0.60
Pin oak	0	0	0	496,607	0	0	1,763,304 (±549,443)	1.83
White ash	0	14,462	146,736	0	0	0	1,111,633 (±458,941)	1.15
White spruce	0	111,760	478,330	0	0	0	590,090 (±264,197)	0.61
Basswood	0	180,058	0	0	0	0	180,058 (±175,560)	0.19
Fir	0	105,551	239,165	0	0	0	344,716 (±155,616)	0.36
Sargent cherry	5,049	71,716	182,946	165,536	0	0	259,711 (±100,734)	0.27
Paper birch	5,747	36,636	126,727	0	0	0	334,646 (±151,070)	0.35
Black cherry	5,747	18,318	190,090	0	0	0	214,156 (±109,046)	0.22
Common pear	11,495	54,955	0	0	0	0	66,449 (±38,523)	0.07
American elm	5,747	36,636	63,363	0	0	0	559,575 (±284,929)	0.58
Gray birch	0	69,416	0	0	0	0	69,416 (±33,324)	0.07
European beech	4,001	0	133,637	0	394,529	1,012,183	1,544,350 (±741,392)	1.60
Ash	5,747	14,462	113,387	0	0	0	133,596 (±64,135)	0.14

Species	DBH Class (in)							% of Total
	0-4	4-10	10-19	19-29	29-40	>40	Total Standard Error	
Eastern red cedar	0	23,905	192,575	0	0	0	216,480 (±103,925)	0.22
Black walnut	0	47,810	91,473	0	0	0	139,283 (±77,611)	0.14
European mountain as	0	18,318	113,387	0	0	0	131,705 (±73,388)	0.14
Elm	5,049	23,905	0	244,732	0	0	273,686 (±198,092)	0.28
Tree of heaven	6,446	12,731	0	0	0	0	19,177 (±13,154)	0.02
Eastern redbud	11,495	0	0	0	0	0	11,495 (±7,885)	0.01
Dogwood	0	64,571	0	0	0	0	64,571 (±62,958)	0.07
Rose-of-sharon	0	28,923	0	0	0	0	28,923 (±28,201)	0.03
Magnolia	0	0	211,056	0	0	0	211,056 (±144,774)	0.22
Red mulberry	0	12,731	35,254	0	0	0	47,985 (±32,915)	0.05
Cottonwood	0	25,462	0	0	0	0	25,462 (±24,826)	0.03
Peach	11,495	0	0	0	0	0	11,495 (±7,885)	0.01
Douglas fir	0	0	182,946	0	0	0	182,946 (±125,492)	0.19
Northern white cedar	0	0	94,407	323,927	0	0	418,335 (±286,958)	0.43
American basswood	0	0	119,583	323,927	0	0	443,510 (±304,227)	0.46
Maple	531	0	0	0	0	0	531 (±518)	0.00
Sycamore maple	0	0	91,473	0	0	0	91,473 (±89,188)	0.09
Mimosa	0	0	35,254	0	0	0	35,254 (±34,373)	0.04
Black birch	0	0	91,473	0	0	0	91,473 (±89,188)	0.09
River birch	0	0	0	0	502,118	0	502,118 (±489,575)	0.52
Hickory	0	23,905	0	0	0	0	23,905 (±23,308)	0.02
European hornbeam	0	29,492	0	0	0	0	29,492 (±28,755)	0.03
Pignut hickory	0	18,873	0	0	0	0	18,873 (±18,401)	0.02
Shagbark hickory	0	23,905	0	0	0	0	23,905 (±23,308)	0.02
CEL OTHER	0	26,699	0	0	0	0	26,699 (±26,032)	0.03
Atlantic white cedar	0	0	0	323,927	0	0	323,927 (±315,836)	0.34
Hawthorn	0	23,905	0	0	0	0	23,905 (±23,308)	0.02
Japanese red cedar	0	0	133,637	0	0	0	133,637 (±130,299)	0.14
European larch	0	0	0	244,732	0	0	244,732 (±238,618)	0.25
Tulip tree	0	0	0	0	0	307,691	307,691 (±300,005)	0.32
Crabapple harvest golt	0	26,699	0	0	0	0	26,699 (±26,032)	0.03
Spruce	0	29,492	0	0	0	0	29,492 (±28,755)	0.03
Pine	5,747	0	0	0	0	0	5,747 (±5,604)	0.01
Eastern cottonwood	0	0	35,254	0	0	0	35,254 (±34,373)	0.04
Cherry plum	0	0	35,254	0	0	0	35,254 (±34,373)	0.04
Higan cherry	5,747	0	0	0	0	0	5,747 (±5,604)	0.01
Common chokecherry	0	0	0	165,536	0	0	165,536 (±161,401)	0.17
Scarlet oak	0	0	0	323,927	0	0	323,927 (±315,836)	0.34
Willow	0	0	50,024	0	0	0	50,024 (±48,774)	0.05
European Smoke Tree	0	25,489	0	0	0	0	25,489 (±24,852)	0.03
American mountain as	0	14,462	0	0	0	0	14,462 (±14,100)	0.02
Yew	0	29,492	0	0	0	0	29,492 (±28,755)	0.03

Species	DBH Class (in)					Total Standard Error	% of Total	
	0-4	4-10	10-19	19-29	29-40			>40
Littleleaf linden	0	0	0	323,927	0	323,927 (-\$315,836)	0.34	
Citywide total	437,616	5,692,463	22,311,307	37,137,337	20,205,809	10,574,566	96,359,098 (-\$9,800,763)	100.00

Woonsocket

Annual Benefits of All Trees by Species (\$/tree)

12/1/2011

Species	Energy	CO ₂	Air Quality	Stormwater	Aesthetic/Other	Total (\$)	Standard Error
Norway maple	57.52	1.81	10.54	12.20	56.41	138.48	(±21.41)
Northern red oak	75.65	1.90	13.43	18.86	49.74	159.59	(±47.21)
Red maple	73.88	1.42	13.33	18.66	41.86	149.14	(±32.5)
Boxelder	33.70	0.91	5.86	6.16	32.06	78.70	(±22.37)
Flowering dogwood	20.06	0.45	3.13	2.72	11.46	37.82	(±7.1)
Eastern white pine	38.64	0.69	7.39	11.17	20.54	78.43	(±19.69)
White oak	95.33	3.34	19.27	30.01	86.49	234.45	(±88.67)
Black locust	46.20	0.85	6.62	6.22	69.39	129.29	(±66.5)
Callery pear	18.82	0.62	3.60	4.26	59.74	87.04	(±28.09)
Northern catalpa	31.60	0.59	5.64	7.99	44.00	89.82	(±44.66)
Blue spruce	28.90	0.53	5.38	8.45	22.61	65.87	(±16.45)
Plum	19.83	0.42	3.11	2.78	10.81	36.95	(±8.19)
Silver maple	87.04	1.97	16.51	25.05	45.82	176.38	(±37.17)
Sugar maple	58.39	1.45	10.14	17.27	54.58	141.83	(±40.44)
Black oak	77.20	2.16	14.60	22.42	52.26	168.64	(±54.81)
Eastern hemlock	20.06	0.59	4.62	3.92	20.40	49.59	(±28.35)
Japanese maple	36.13	0.88	6.16	5.96	31.79	80.91	(±25.77)
Honeylocust	43.75	0.87	7.04	7.53	59.95	119.14	(±49.28)
Pin oak	60.64	2.00	11.74	17.88	65.12	157.38	(±69.9)
Apple	28.94	0.52	4.81	5.04	15.93	55.24	(±13.78)
Crimson king maple	52.81	1.54	9.51	10.39	49.29	123.56	(±39.66)
Green ash	72.04	1.57	13.51	16.49	51.94	155.56	(±65.96)
Norway spruce	34.11	0.62	6.42	9.87	21.79	72.80	(±26.54)
Bigtooth aspen	49.32	0.89	6.89	6.24	71.43	134.77	(±112.81)
Kousa dogwood	11.22	0.22	1.69	1.42	9.47	24.02	(±6.37)
American elm	42.28	1.17	7.97	10.83	73.40	135.65	(±47.72)
White spruce	28.14	0.54	5.19	8.07	24.23	66.17	(±29.71)
OTHER STREET T	44.66	1.00	8.14	10.20	46.37	110.36	(±224.85)

Woonsocket

Annual Benefits of Public Trees by Species (\$/tree)

12/1/2011

Species	Energy	CO ₂	Air Quality	Stormwater	Aesthetic/Other	Total (\$)	Standard Error
Norway maple	46.45	1.36	8.33	9.18	44.31	109.63	(±44.64)
Black locust	48.53	0.87	6.70	6.00	70.78	132.89	(±94.32)
Northern catalpa	11.80	0.24	1.99	2.84	46.80	63.67	(±51.66)
Boxelder	35.23	0.93	6.14	6.28	32.61	81.19	(±38.34)
Northern red oak	50.39	1.22	8.77	12.03	42.05	114.45	(±67.19)
Bigtooth aspen	49.32	0.89	6.89	6.24	71.43	134.77	(±112.81)
Pin oak	28.72	0.87	5.22	7.62	46.16	88.60	(±65.74)
Honeylocust	33.31	0.65	5.13	5.40	56.64	101.13	(±64.83)
Black oak	30.64	0.81	5.57	8.42	37.20	82.63	(±47.59)
Callery pear	20.22	0.65	3.73	4.43	66.67	95.69	(±66.05)
American elm	31.71	0.75	5.21	6.48	66.25	110.40	(±45.09)
Red maple	95.99	1.82	18.08	26.06	38.04	179.99	(±91.27)
European larch	57.67	1.12	8.79	8.76	78.30	154.65	(±150.78)
Silver maple	51.57	1.04	8.74	11.08	42.55	114.98	(±58.54)
Eastern white pine	52.72	0.84	10.36	15.80	12.81	92.53	(±71.11)
Green ash	26.36	0.50	4.57	5.05	38.09	74.57	(±53.98)
White oak	138.93	5.58	30.94	51.33	113.74	340.52	(±246.46)
Black cherry	19.89	0.42	3.04	2.57	11.26	37.17	(±36.25)
OTHER STREET T	48.31	1.29	9.20	12.47	53.31	124.57	(±383.6)

Woonsocket

Annual Benefits of Private Trees by Species (\$/tree)

12/1/2011

Species	Energy	CO ₂	Air Quality	Stormwater	Aesthetic/Other	Total (\$)	Standard Error
Norway maple	62.93	2.03	11.62	13.68	62.32	152.57	(±19.61)
Northern red oak	82.18	2.08	14.64	20.63	51.73	171.26	(±57.02)
Red maple	71.06	1.37	12.72	17.71	42.35	145.20	(±31.01)
Flowering dogwood	20.06	0.45	3.13	2.72	11.46	37.82	(±7.1)
White oak	91.37	3.14	18.21	28.07	84.01	224.81	(±91.07)
Eastern white pine	36.88	0.67	7.01	10.59	21.50	76.66	(±20.7)
Blue spruce	28.90	0.53	5.38	8.45	22.61	65.87	(±16.45)
Plum	19.83	0.42	3.11	2.78	10.79	36.94	(±8.45)
Boxelder	32.76	0.90	5.70	6.08	31.73	77.17	(±27.47)
Eastern hemlock	20.06	0.59	4.62	3.92	20.40	49.59	(±28.35)
Callery pear	18.30	0.60	3.56	4.20	57.14	83.79	(±27.85)
Sugar maple	62.08	1.55	10.81	18.50	57.14	150.09	(±45.96)
Silver maple	95.10	2.19	18.27	28.23	46.56	190.34	(±45.78)
Japanese maple	36.13	0.88	6.16	5.96	31.79	80.91	(±25.77)
Apple	29.94	0.54	5.00	5.30	15.99	56.77	(±15.39)
Black locust	43.60	0.83	6.53	6.47	67.84	125.28	(±95.29)
Crimson king maple	50.26	1.44	9.01	9.73	46.63	117.07	(±40.2)
Norway spruce	33.26	0.60	6.24	9.67	21.64	71.41	(±27.5)
Green ash	81.83	1.80	15.42	18.95	54.91	172.91	(±76.58)
Northern catalpa	55.65	1.03	10.08	14.23	40.60	121.58	(±36.15)
Black oak	113.78	3.23	21.69	33.42	64.09	236.21	(±90.62)
Kousa dogwood	10.43	0.20	1.56	1.31	9.31	22.82	(±6.36)
Honeylocust	55.23	1.11	9.15	9.87	63.59	138.95	(±73.32)
Pin oak	103.20	3.51	20.43	31.55	90.39	249.08	(±77.61)
White ash	87.89	2.03	17.06	21.95	57.86	186.79	(±77.12)
White spruce	31.25	0.61	5.83	8.86	24.20	70.75	(±31.68)
OTHER STREET T	39.99	0.89	7.27	9.08	43.22	100.46	(±190.72)

Woonsocket

Annual Energy Benefits of All Trees By Species

12/1/2011

Species	Total Electricity (MWh)	Electricity (\$)	Total Natural Gas (Therms)	Natural Gas (\$)	Total Standard (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	223.4	31,296	81,287.3	114,452	145,748	(±22,528)	12.7	14.8	57.52
Northern red oak	176.1	24,674	61,974.9	87,261	111,935	(±33,115)	7.4	11.3	75.65
Red maple	122.1	17,106	44,220.8	62,263	79,369	(±17,296)	5.4	8.0	73.88
Boxelder	42.1	5,903	16,185.0	22,788	28,691	(±8,154)	4.3	2.9	33.70
Flowering dogwood	19.9	2,792	9,278.3	13,064	15,856	(±2,976)	4.0	1.6	20.06
Eastern white pine	46.1	6,453	15,440.9	21,741	28,194	(±7,077)	3.7	2.9	38.64
White oak	121.1	16,964	37,360.3	52,603	69,567	(±26,310)	3.7	7.1	95.33
Black locust	47.4	6,646	19,223.8	27,067	33,713	(±17,340)	3.7	3.4	46.20
Callery pear	19.2	2,690	7,033.0	9,902	12,592	(±4,064)	3.4	1.3	18.82
Northern catalpa	30.2	4,236	11,094.3	15,621	19,857	(±9,873)	3.2	2.0	31.60
Blue spruce	27.4	3,838	9,340.4	13,151	16,989	(±4,242)	2.9	1.7	28.90
Plum	14.3	1,998	6,575.3	9,258	11,256	(±2,496)	2.8	1.1	19.83
Silver maple	74.1	10,375	26,462.2	37,259	47,634	(±10,038)	2.7	4.8	87.04
Sugar maple	46.1	6,453	17,271.6	24,318	30,771	(±8,774)	2.6	3.1	58.39
Black oak	64.5	9,039	21,363.5	30,080	39,119	(±12,714)	2.5	4.0	77.20
Eastern hemlock	17.3	2,430	5,494.5	7,736	10,167	(±5,813)	2.5	1.0	20.06
Japanese maple	22.8	3,198	8,650.1	12,179	15,378	(±4,898)	2.1	1.6	36.13
Honeylocust	27.1	3,798	10,529.7	14,826	18,624	(±7,704)	2.1	1.9	43.75
Pin oak	43.1	6,035	14,047.2	19,779	25,813	(±11,465)	2.1	2.6	60.64
Apple	14.9	2,088	6,432.1	9,056	11,145	(±2,780)	1.9	1.1	28.94
Crimson king maple	29.6	4,143	10,742.7	15,126	19,269	(±6,185)	1.8	2.0	52.81
Green ash	39.3	5,503	13,722.9	19,322	24,824	(±10,526)	1.7	2.5	72.04
Norway spruce	18.1	2,533	6,056.9	8,528	11,061	(±4,033)	1.6	1.1	34.11
Bigtooth aspen	17.9	2,510	7,448.0	10,487	12,996	(±10,879)	1.3	1.3	49.32
Kousa dogwood	3.2	447	1,620.8	2,282	2,729	(±724)	1.2	0.3	11.22
American elm	16.8	2,347	5,637.3	7,937	10,284	(±3,618)	1.2	1.0	42.28
White spruce	9.5	1,325	3,109.6	4,378	5,703	(±2,561)	1.0	0.6	28.14
OTHER STREET TREES	195.2	27,353	71,221.4	100,280	127,633	(±14,754)	14.3	12.9	44.66
Citywide total	1,528.7	214,173	548,824.5	772,745	986,918	(±88,435)	100.0	100.0	49.43

Woonsocket

Annual CO₂ Benefits of All Trees by Species

12/1/2011

Species	Sequestered (lb)	Sequestered (\$)	Decomposition Release (lb)	Maintenance Release (lb)	Total Released (\$)	Total Avoided (lb)	Avoided (\$)	Net Total (lb)	Total Standard (\$ Error)	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	882,056	2,911	-136,495	-29,853	-549	672,827	2,220	1,388,535	4,582 (±708)	12.7	18.4	1.81
Northern red oak	417,772	1,379	-76,268	-18,518	-313	530,463	1,751	853,448	2,816 (±833)	7.4	11.3	1.90
Red maple	170,293	562	-61,353	-15,613	-254	367,753	1,214	461,079	1,522 (±332)	5.4	6.1	1.42
Boxelder	140,413	463	-26,857	-6,089	-109	126,904	419	234,370	773 (±220)	4.3	3.1	0.91
Flowering dogwood	71,679	237	-19,645	-4,407	-79	60,028	198	107,656	355 (±67)	4.0	1.4	0.45
Eastern white pine	33,659	111	-12,056	-7,540	-65	138,737	458	152,800	504 (±127)	3.7	2.0	0.69
White oak	474,682	1,566	-86,066	-13,736	-329	364,704	1,204	739,584	2,441 (±923)	3.7	9.8	3.34
Black locust	58,267	192	-9,113	-4,044	-43	142,872	471	187,982	620 (±319)	3.7	2.5	0.85
Gallery pear	69,589	230	-1,909	-764	-9	57,824	191	124,740	412 (±133)	3.4	1.7	0.62
Northern catalpa	40,649	134	-14,090	-4,378	-61	91,075	301	113,256	374 (±186)	3.2	1.5	0.59
Blue spruce	24,162	80	-7,381	-4,692	-40	82,508	272	94,597	312 (±78)	2.9	1.3	0.53
Plum	46,923	155	-14,020	-3,203	-57	42,956	142	72,656	240 (±53)	2.8	1.0	0.42
Silver maple	152,854	504	-39,281	-9,332	-160	223,052	736	327,292	1,080 (±228)	2.7	4.4	1.97
Sugar maple	129,164	426	-29,233	-6,716	-119	138,730	458	231,945	765 (±218)	2.6	3.1	1.45
Black oak	178,254	588	-33,271	-7,014	-133	194,338	641	332,307	1,097 (±356)	2.5	4.4	2.16
Eastern hemlock	51,154	169	-9,170	-3,666	-42	52,251	172	90,569	299 (±171)	2.5	1.2	0.59
Japanese maple	64,897	214	-17,213	-3,157	-67	68,758	227	113,285	374 (±119)	2.1	1.5	0.88
Honeylocust	43,001	142	-9,451	-2,655	-40	81,650	269	112,545	371 (±154)	2.1	1.5	0.87
Pin oak	163,273	539	-29,894	-5,071	-115	129,741	428	258,050	852 (±378)	2.1	3.4	2.00
Apple	24,062	79	-5,086	-2,971	-27	44,898	148	60,902	201 (±50)	1.9	0.8	0.52
Crimson king maple	104,647	345	-19,070	-3,882	-76	89,079	294	170,775	564 (±181)	1.8	2.3	1.54
Green ash	62,778	207	-12,882	-4,214	-56	118,302	390	163,984	541 (±229)	1.7	2.2	1.57
Norway spruce	14,474	48	-5,043	-3,110	-27	54,457	180	60,777	201 (±73)	1.6	0.8	0.62
Bigtooth aspen	21,154	70	-2,781	-1,520	-14	53,955	178	70,808	234 (±196)	1.3	0.9	0.89
Kousa dogwood	9,185	30	-1,647	-756	-8	9,601	32	16,383	54 (±14)	1.2	0.2	0.22
American elm	45,325	150	-7,530	-1,923	-31	50,452	166	86,323	285 (±100)	1.2	1.2	1.17
White spruce	9,447	31	-3,009	-1,544	-15	28,477	94	33,372	110 (±49)	1.0	0.4	0.54
OTHER STREET TREE	404,793	1,336	-98,671	-24,640	-407	588,067	1,941	869,549	2,870 (±332)	14.3	11.6	1.00
Citywide total	3,908,605	12,898	-788,486	-195,011	-3,246	4,604,461	15,195	7,529,570	24,848 (±2,227)	100.0	100.0	1.24

Woonsocket

Annual CO₂ Benefits of Public Trees by Species

12/1/2011

Species	Sequestered (lb)	Sequestered (\$)	Decomposition Release (lb)	Maintenance Release (lb)	Total Released (\$)	Avoided (lb)	Avoided (\$)	Net Total (lb)	Total Standard (\$ Error)	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	211,759	699	-38,549	-7,934	-153	176,955	584	342,231	1,129 (±460)	18.1	23.6	1.36
Black locust	29,755	98	-3,714	-2,169	-19	77,088	254	100,961	333 (±236)	8.4	7.0	0.87
Northern catalpa	11,395	38	-2,850	-1,057	-13	17,586	58	25,073	83 (±67)	7.5	1.7	0.24
Boxelder	53,980	178	-12,028	-2,377	-48	51,633	170	91,209	301 (±142)	7.1	6.3	0.93
Northern red oak	53,997	178	-11,613	-2,570	-47	72,468	239	112,282	371 (±218)	6.6	7.7	1.22
Bigtooth aspen	21,154	70	-2,781	-1,520	-14	53,955	178	70,808	234 (±196)	5.8	4.9	0.89
Pin oak	37,603	124	-6,390	-1,412	-26	34,284	113	64,084	211 (±157)	5.3	4.4	0.87
Honeylocust	17,494	58	-2,668	-1,111	-12	30,454	100	44,169	146 (±93)	4.9	3.0	0.65
Black oak	29,028	96	-6,966	-1,314	-27	33,678	111	54,426	180 (±103)	4.9	3.8	0.81
Gallery pear	21,004	69	-485	-208	-2	15,662	52	35,973	119 (±82)	4.0	2.5	0.65
American elm	15,524	51	-3,029	-834	-13	20,643	68	32,304	107 (±44)	3.1	2.2	0.75
Red maple	24,483	81	-8,955	-2,385	-37	53,751	177	66,895	221 (±112)	2.7	4.6	1.82
European larch	13,636	45	-2,449	-880	-11	30,799	102	41,106	136 (±132)	2.7	2.8	1.12
Silver maple	14,495	48	-5,294	-888	-20	23,705	78	32,019	106 (±54)	2.2	2.2	1.04
Eastern white pine	2,789	9	-951	-1,142	-7	19,845	65	20,540	68 (±52)	1.8	1.4	0.84
Green ash	2,937	10	-828	-286	-4	7,437	25	9,260	31 (±22)	1.3	0.6	0.50
White oak	67,305	222	-9,275	-1,684	-36	46,410	153	102,756	339 (±245)	1.3	7.1	5.58
Black cherry	4,571	15	-917	-324	-4	4,328	14	7,658	25 (±25)	1.3	0.5	0.42
OTHER STREET TREE	104,389	344	-17,990	-4,611	-75	116,502	384	198,290	654 (±161)	11.1	13.7	1.29
Citywide total	737,297	2,433	-137,732	-34,706	-569	887,182	2,928	1,452,042	4,792 (±1,103)	100.0	100.0	1.05

Woonsocket

Annual CO₂ Benefits of Private Trees by Species

12/1/2011

Species	Sequestered (lb)	Sequestered (\$)	Decomposition Release (lb)	Maintenance Release (lb)	Total Released (\$)	Total Avoided (lb)	Avoided (\$)	Net Total (lb)	Total Standard (\$ Error)	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	670,297	2,212	-97,946	-21,919	-396	495,872	1,636	1,046,305	3,453 (±444)	11.1	17.2	2.03
Northern red oak	363,775	1,200	-64,656	-15,948	-266	457,995	1,511	741,166	2,446 (±814)	7.6	12.2	2.08
Red maple	145,810	481	-52,398	-13,228	-217	314,001	1,036	394,185	1,301 (±278)	6.2	6.5	1.37
Flowering dogwood	71,679	237	-19,645	-4,407	-79	60,028	198	107,656	355 (±67)	5.1	1.8	0.45
White oak	407,377	1,344	-76,791	-12,052	-293	318,294	1,050	636,828	2,102 (±851)	4.4	10.5	3.14
Eastern white pine	30,870	102	-11,104	-6,398	-58	118,893	392	132,261	436 (±118)	4.2	2.2	0.67
Blue spruce	24,162	80	-7,381	-4,692	-40	82,508	272	94,597	312 (±78)	3.8	1.6	0.53
Plum	45,399	150	-13,715	-3,095	-55	41,514	137	70,103	231 (±53)	3.6	1.2	0.42
Boxelder	86,432	285	-14,830	-3,712	-61	75,272	248	143,162	472 (±168)	3.4	2.4	0.90
Eastern hemlock	51,154	169	-9,170	-3,666	-42	52,251	172	90,569	299 (±171)	3.3	1.5	0.59
Gallery pear	48,585	160	-1,424	-556	-7	42,162	139	88,767	293 (±97)	3.2	1.5	0.60
Sugar maple	127,445	421	-28,888	-6,577	-117	136,576	451	228,555	754 (±231)	3.2	3.8	1.55
Silver maple	138,359	457	-33,988	-8,445	-140	199,347	658	295,273	974 (±234)	2.9	4.9	2.19
Japanese maple	64,897	214	-17,213	-3,157	-67	68,758	227	113,285	374 (±119)	2.8	1.9	0.88
Apple	22,018	73	-4,557	-2,755	-24	41,955	138	56,662	187 (±51)	2.2	0.9	0.54
Black locust	28,512	94	-5,399	-1,875	-24	65,784	217	87,022	287 (±218)	2.2	1.4	0.83
Crimson king maple	86,493	285	-16,493	-3,288	-65	75,270	248	141,983	469 (±161)	2.1	2.3	1.44
Norway spruce	13,008	43	-4,443	-2,886	-24	49,423	163	55,101	182 (±70)	2.0	0.9	0.60
Green ash	59,841	197	-12,054	-3,928	-53	110,865	366	154,724	511 (±226)	1.8	2.6	1.80
Northern catalpa	29,254	97	-11,240	-3,320	-48	73,490	243	88,183	291 (±87)	1.8	1.5	1.03
Black oak	149,226	492	-26,305	-5,700	-106	160,660	530	277,881	917 (±352)	1.8	4.6	3.23
Kousa dogwood	7,661	25	-1,341	-648	-7	8,158	27	13,830	46 (±13)	1.5	0.2	0.20
Honeylocust	25,507	84	-6,783	-1,544	-27	51,196	169	68,376	226 (±119)	1.3	1.1	1.11
Pin oak	125,671	415	-23,504	-3,658	-90	95,457	315	193,966	640 (±199)	1.2	3.2	3.51
White ash	41,651	137	-6,974	-2,510	-31	67,821	224	99,987	330 (±136)	1.1	1.7	2.03
White spruce	8,253	27	-2,806	-1,327	-14	25,697	85	29,816	98 (±44)	1.1	0.5	0.61
OTHER STREET TREE	297,972	983	-79,708	-19,011	-326	428,032	1,413	627,286	2,070 (±239)	15.2	10.3	0.89
Citywide total	3,171,308	10,465	-650,754	-160,305	-2,676	3,717,279	12,267	6,077,528	20,056 (±2,040)	100.0	100.0	1.30

Woonsocket

Stored CO2 Benefits of All Trees by Species

12/1/2011

Species	Total Stored CO2 (lbs)	Total (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	14,306,360	47,211	(±7,297)	12.7	16.8	18.63
Northern red oak	11,262,230	37,165	(±10,995)	7.4	13.3	25.12
Red maple	5,165,125	17,045	(±3,714)	5.4	6.1	15.87
Boxelder	1,916,573	6,325	(±1,797)	4.3	2.3	7.43
Flowering dogwood	876,998	2,894	(±543)	4.0	1.0	3.66
Eastern white pine	979,017	3,231	(±811)	3.7	1.2	4.43
White oak	11,606,675	38,302	(±14,486)	3.7	13.7	52.49
Black locust	406,828	1,343	(±691)	3.7	0.5	1.84
Callery pear	418,749	1,382	(±446)	3.4	0.5	2.07
Northern catalpa	1,276,260	4,212	(±2,094)	3.2	1.5	6.70
Blue spruce	494,800	1,633	(±408)	2.9	0.6	2.78
Plum	784,858	2,590	(±574)	2.8	0.9	4.56
Silver maple	6,602,859	21,789	(±4,592)	2.7	7.8	39.81
Sugar maple	4,433,239	14,630	(±4,172)	2.6	5.2	27.76
Black oak	6,145,800	20,281	(±6,592)	2.5	7.2	40.02
Eastern hemlock	409,390	1,351	(±772)	2.5	0.5	2.67
Japanese maple	768,454	2,536	(±808)	2.1	0.9	5.96
Honeylocust	421,911	1,392	(±576)	2.1	0.5	3.27
Pin oak	3,618,801	11,942	(±5,304)	2.1	4.3	28.05
Apple	650,539	2,147	(±535)	1.9	0.8	5.57
Crimson king mapl	1,568,920	5,177	(±1,662)	1.8	1.9	14.19
Green ash	1,384,033	4,567	(±1,937)	1.7	1.6	13.25
Norway spruce	335,349	1,107	(±403)	1.6	0.4	3.41
Bigtooth aspen	124,132	410	(±343)	1.3	0.2	1.55
Kousa dogwood	73,513	243	(±64)	1.2	0.1	1.00
American elm	838,267	2,766	(±973)	1.2	1.0	11.37
White spruce	134,337	443	(±199)	1.0	0.2	2.19
OTHER STREET T	3,638,105	26,468	(±3,060)	14.3	9.4	9.26
Citywide total	85,024,657	280,581	(±25,142)	100.0	100.0	14.05

Woonsocket

Stored CO2 Benefits of Public Trees by Species

12/1/2011

Species	Total Stored CO2 (lbs)	Total (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	3,209,340	10,591	(±4,312)	18.1	23.3	12.74
Black locust	165,813	547	(±388)	8.4	1.2	1.42
Northern catalpa	197,504	652	(±529)	7.5	1.4	1.89
Boxelder	716,343	2,364	(±1,116)	7.1	5.2	7.29
Northern red oak	1,351,006	4,458	(±2,617)	6.6	9.8	14.66
Bigtooth aspen	124,132	410	(±343)	5.8	0.9	1.55
Pin oak	754,401	2,490	(±1,847)	5.3	5.5	10.23
Honeylocust	119,091	393	(±252)	4.9	0.9	1.76
Black oak	965,159	3,185	(±1,834)	4.9	7.0	14.28
Callery pear	106,432	351	(±242)	4.0	0.8	1.93
American elm	135,240	446	(±182)	3.1	1.0	3.15
Red maple	969,326	3,199	(±1,622)	2.7	7.1	26.30
European larch	109,328	361	(±352)	2.7	0.8	2.97
Silver maple	236,319	780	(±397)	2.2	1.7	7.69
Eastern white pine	207,780	686	(±527)	1.8	1.5	8.46
Green ash	36,981	122	(±88)	1.3	0.3	2.01
White oak	2,034,002	6,712	(±4,858)	1.3	14.8	110.38
Black cherry	40,930	135	(±132)	1.3	0.3	2.22
OTHER STREET 1	1,032,829	7,514	(±1,851)	11.1	16.6	14.83
Citywide total	13,756,123	45,395	(±10,451)	100.0	100.0	9.91

Woonsocket

Stored CO2 Benefits of Private Trees by Species

12/1/2011

Species	Total Stored CO2 (lbs)	Total Standard (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	11,097,020	36,620	(±4,708)	11.1	15.6	21.51
Northern red oak	9,911,223	32,707	(±10,890)	7.6	13.9	27.82
Red maple	4,195,799	13,846	(±2,957)	6.2	5.9	14.53
Flowering dogwood	876,998	2,894	(±543)	5.1	1.2	3.66
White oak	9,572,674	31,590	(±12,797)	4.4	13.4	47.23
Eastern white pine	771,237	2,545	(±687)	4.2	1.1	3.92
Blue spruce	494,800	1,633	(±408)	3.8	0.7	2.78
Plum	771,215	2,545	(±582)	3.6	1.1	4.65
Boxelder	1,200,231	3,961	(±1,410)	3.4	1.7	7.52
Eastern hemlock	409,390	1,351	(±772)	3.3	0.6	2.67
Callery pear	312,317	1,031	(±342)	3.2	0.4	2.12
Sugar maple	4,417,854	14,579	(±4,464)	3.2	6.2	29.97
Silver maple	6,366,539	21,010	(±5,053)	2.9	8.9	47.11
Japanese maple	768,454	2,536	(±808)	2.8	1.1	5.96
Apple	626,888	2,069	(±561)	2.2	0.9	6.00
Black locust	241,015	795	(±605)	2.2	0.3	2.31
Crimson king maple	1,274,471	4,206	(±1,444)	2.1	1.8	12.97
Norway spruce	308,562	1,018	(±392)	2.0	0.4	3.35
Green ash	1,347,053	4,445	(±1,969)	1.8	1.9	15.66
Northern catalpa	1,078,756	3,560	(±1,058)	1.8	1.5	12.54
Black oak	5,180,641	17,096	(±6,559)	1.8	7.3	60.24
Kousa dogwood	59,869	198	(±55)	1.5	0.1	0.89
Honeylocust	302,821	999	(±527)	1.3	0.4	4.93
Pin oak	2,864,400	9,453	(±2,945)	1.2	4.0	51.81
White ash	1,080,682	3,566	(±1,472)	1.1	1.5	21.99
White spruce	125,274	413	(±185)	1.1	0.2	2.55
OTHER STREET T	2,545,724	18,521	(±2,140)	15.2	7.9	7.95
Citywide total	71,268,534	235,186	(±23,921)	100.0	100.0	15.29

Woonsocket

Annual Air Quality Benefits of All Trees by Species

12/1/2011

Species	Deposition (lb)			Total Depos.			Avoided (lb)			Total Avoided Emissions			BVOC Emissions (lb)	BVOC Emissions (\$)	Total (lb)	Standard % of Total (\$): Error	Avg. Trees \$/tree
	O ₃	NO ₂	PM ₁₀	SO ₂	NO ₂	PM ₁₀	VOC	SO ₂	Total (\$)	BVOC (lb)	BVOC (\$)						
Norway maple	1,228.5	531.1	603.2	201.6	13,791	1,907.0	123.4	73.1	980.4	13,359	-192.6	-445	5,455.7	26,705	(±4,128)	12.7	10.54
Northern red oak	1,023.5	442.0	510.6	170.8	11,564	1,481.9	95.7	56.5	772.8	10,418	-912.7	-2,108	3,641.2	19,873	(±5,879)	7.4	13.43
Red maple	656.1	283.3	327.3	109.5	7,413	1,040.2	67.3	39.9	535.8	7,291	-165.7	-383	2,893.8	14,321	(±3,121)	5.4	13.33
Boxelder	222.5	96.2	109.2	36.5	2,498	368.4	23.9	14.3	185.0	2,566	-30.7	-71	1,025.3	4,993	(±1,419)	4.3	5.86
Flowering dogwood	104.3	45.1	51.2	17.1	1,171	190.8	12.5	7.6	87.6	1,302	-0.6	-1	515.6	2,471	(±464)	4.0	3.13
Eastern white pine	326.6	156.2	207.0	88.4	4,244	379.8	24.5	14.4	202.1	2,683	-665.2	-1,537	733.7	5,390	(±1,353)	3.7	7.39
White oak	777.3	335.7	387.8	129.8	8,783	965.3	61.9	36.0	531.0	6,877	-691.5	-1,597	2,533.3	14,062	(±5,318)	3.7	19.27
Black locust	170.9	71.8	82.4	26.2	1,890	424.9	27.7	16.6	208.3	2,944	0.0	0	1,028.9	4,834	(±2,486)	3.7	6.62
Callery pear	112.0	48.9	54.6	19.1	1,259	164.4	10.6	6.3	84.3	1,151	0.0	0	500.2	2,410	(±778)	3.4	3.60
Northern catalpa	162.0	70.0	80.8	27.0	1,831	259.1	16.8	10.0	132.7	1,813	-42.1	-97	716.2	3,547	(±1,763)	3.1	5.64
Blue spruce	193.5	92.5	122.7	52.3	2,514	227.4	14.7	8.6	120.2	1,604	-414.0	-956	418.1	3,162	(±790)	2.9	5.38
Plum	74.6	32.2	36.6	12.2	837	135.9	8.9	5.4	62.7	928	-0.5	-1	368.1	1,764	(±391)	2.8	3.11
Silver maple	443.1	191.6	217.6	72.7	4,974	627.2	40.6	24.0	325.0	4,402	-148.4	-343	1,793.2	9,033	(±1,904)	2.7	16.51
Sugar maple	262.8	113.6	129.0	43.1	2,950	398.4	25.8	15.4	202.2	2,782	-167.9	-388	1,022.5	5,345	(±1,524)	2.6	10.14
Black oak	401.7	173.5	200.4	67.1	4,539	529.2	34.1	20.0	283.0	3,744	-382.8	-884	1,326.2	7,398	(±2,404)	2.5	14.60
Eastern hemlock	106.7	51.0	67.6	28.9	1,387	139.8	9.0	5.2	76.1	993	-16.9	-39	467.4	2,340	(±1,338)	2.5	4.62
Japanese maple	113.1	48.9	55.5	18.6	1,270	198.4	12.9	7.7	100.2	1,384	-14.1	-33	541.2	2,621	(±835)	2.1	6.16
Honeylocust	134.3	54.4	63.8	20.6	1,468	238.2	15.5	9.2	119.0	1,657	-55.4	-128	599.8	2,998	(±1,240)	2.1	7.04
Pin oak	271.2	117.1	135.3	45.3	3,064	351.1	22.6	13.2	188.9	2,487	-239.8	-554	904.9	4,998	(±2,220)	2.1	11.74
Apple	80.9	35.3	39.5	13.8	910	137.5	9.0	5.4	65.5	946	-0.8	-2	386.1	1,854	(±463)	1.9	4.81
Crimson king maple	156.5	67.6	76.8	25.7	1,756	252.3	16.3	9.7	129.8	1,768	-22.8	-53	711.9	3,471	(±1,114)	1.8	9.51
Green ash	211.3	88.8	101.8	32.5	2,337	329.5	21.3	12.6	172.3	2,318	0.0	0	970.1	4,655	(±1,974)	1.7	13.51
Norway spruce	126.2	60.3	80.0	34.1	1,640	149.0	9.6	5.6	79.3	1,053	-264.6	-611	279.7	2,081	(±759)	1.6	6.42
Bigtooth aspen	62.6	26.3	30.2	9.6	692	162.4	10.6	6.4	78.7	1,122	0.0	0	386.7	1,814	(±1,519)	1.3	6.89
Kousa dogwood	17.3	7.5	8.5	2.8	195	31.9	2.1	1.3	14.0	216	-0.1	0	85.4	410	(±109)	1.2	1.69
American elm	88.0	35.7	41.8	13.5	962	138.3	8.9	5.2	73.5	977	0.0	0	404.9	1,938	(±682)	1.2	7.97
White spruce	63.2	30.2	40.1	17.1	822	77.3	5.0	2.9	41.5	547	-137.4	-317	140.0	1,052	(±472)	1.0	5.19
OTHER STREET TREES	1,077.2	465.9	550.7	190.9	12,323	1,668.5	108.0	64.0	856.9	11,686	-327.5	-757	4,654.5	23,252	(±2,688)	14.3	8.14
Citywide total	8,668.2	3,772.9	4,412.0	1,526.8	99,082	12,974.1	839.2	496.5	6,708.7	91,018	-4,894.1	-11,305	34,504.4	178,794	(±16,021)	100.0	8.95

Woonsocket

Annual Air Quality Benefits of Public Trees by Species

12/1/2011

Species	Deposition (lb)						Total Depos.		Avoided (lb)				Total Avoided Emissions		BVOC Emissions (lb)	BVOC Emissions (\$)	Total (lb)	Total Standard % of Total Avg. Trees \$/tree	Total Standard (\$ Error)
	O ₃	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	SO ₄	NO ₂	SO ₂	PM ₁₀	VOC	SO ₂	SO ₄	SO ₂	SO ₄					
Norway maple	312.7	135.2	153.5	51.3	3,510	3,510	503.5	32.6	19.3	257.9	3,524	-46.2	-107	1,419.7	6,927 (±2,820)	18.1	8.33	6,927 (±2,820)	
Black locust	88.1	37.0	42.5	13.5	974	974	232.9	15.2	9.1	112.4	1,608	0.0	0	550.8	2,582 (±1,833)	8.4	6.70	2,582 (±1,833)	
Northern catalpa	30.8	13.3	15.4	5.1	348	348	51.7	3.4	2.0	25.6	359	-8.5	-20	138.7	687 (±557)	7.5	1.99	687 (±557)	
Boxelder	87.5	37.8	43.0	14.4	983	983	148.1	9.6	5.7	75.2	1,035	-11.8	-27	409.6	1,990 (±940)	7.1	6.14	1,990 (±940)	
Northern red oak	134.3	58.0	67.0	22.4	1,517	1,517	202.7	13.1	7.7	105.6	1,424	-119.7	-277	491.0	2,665 (±1,565)	6.6	8.77	2,665 (±1,565)	
Bigtooth aspen	62.6	26.3	30.2	9.6	692	692	162.4	10.6	6.4	78.7	1,122	0.0	0	386.7	1,814 (±1,519)	5.8	6.89	1,814 (±1,519)	
Pin oak	65.8	28.4	32.8	11.0	743	743	94.0	6.1	3.6	49.9	664	-58.9	-136	232.6	1,271 (±943)	5.3	5.22	1,271 (±943)	
Honeylocust	50.7	20.6	24.1	7.8	555	555	92.3	6.0	3.6	44.4	637	-20.7	-48	228.9	1,144 (±733)	4.9	5.13	1,144 (±733)	
Black oak	65.5	28.3	32.7	10.9	740	740	92.1	5.9	3.5	49.1	651	-64.3	-149	223.5	1,242 (±715)	4.9	5.57	1,242 (±715)	
Callery pear	31.8	13.9	15.5	5.4	357	357	46.5	3.0	1.8	22.8	322	0.0	0	140.8	680 (±469)	4.0	3.73	680 (±469)	
American elm	30.0	12.2	14.3	4.6	328	328	58.7	3.8	2.3	30.1	411	0.0	0	155.9	739 (±302)	3.1	5.21	739 (±302)	
Red maple	105.4	45.5	52.6	17.6	1,191	1,191	152.6	9.9	5.9	78.3	1,068	-25.8	-60	441.9	2,199 (±1,115)	2.7	18.08	2,199 (±1,115)	
European larch	40.2	16.9	19.4	6.2	444	444	89.8	5.8	3.5	44.9	625	0.0	0	226.6	1,069 (±1,043)	2.7	8.79	1,069 (±1,043)	
Silver maple	39.0	16.9	19.2	6.4	438	438	67.8	4.4	2.6	34.5	474	-11.5	-27	179.3	886 (±451)	2.2	8.74	886 (±451)	
Eastern white pine	52.6	25.2	33.3	14.2	684	684	56.1	3.6	2.1	28.9	393	-102.4	-237	113.7	840 (±646)	1.8	10.36	840 (±646)	
Green ash	11.8	5.0	5.7	1.8	130	130	21.0	1.4	0.8	10.8	147	0.0	0	58.3	278 (±201)	1.3	4.57	278 (±201)	
White oak	110.5	47.7	55.1	18.5	1,249	1,249	119.9	7.7	4.4	67.6	859	-98.3	-227	333.1	1,881 (±1,362)	1.3	30.94	1,881 (±1,362)	
Black cherry	7.9	3.4	3.9	1.3	89	89	14.2	0.9	0.6	6.3	96	0.0	0	38.5	185 (±180)	1.3	3.04	185 (±180)	
OTHER STREET TREES	233.2	101.0	119.2	41.7	2,670	2,670	324.7	21.0	12.4	169.7	2,284	-127.4	-294	895.6	4,660 (±1,148)	11.1	9.20	4,660 (±1,148)	
Citywide total	1,560.5	672.5	779.2	263.8	17,642	17,642	2,531.0	164.0	97.3	1,292.8	17,704	-695.6	-1,607	6,665.4	33,739 (±7,768)	100.0	7.36	33,739 (±7,768)	

Woonsocket

Annual Air Quality Benefits of Private Trees by Species

12/1/2011

Species	Deposition (lb)				Total Depos.				Avoided (lb)				Total BVOC Emissions (lb)	BVOC Emissions (\$)	Total (lb)	Total Standard % of Total Trees \$/tree		
	O ₃	NO ₂	PM ₁₀	SO ₂	O ₃	NO ₂	PM ₁₀	SO ₂	PM ₁₀	VOC	SO ₂	Total BVOC Emissions (\$)						
Norway maple	915.9	395.9	449.7	150.3	10,281	1,403.5	90.8	722.5	9,835	53.8	722.5	9,835	-146.4	-338	4,036.0	19,778 (±2,543)	11.1	11.62
Northern red oak	889.2	384.0	443.6	148.4	10,047	1,279.3	82.7	667.2	8,993	48.8	667.2	8,993	-793.0	-1,832	3,150.2	17,208 (±5,730)	7.6	14.64
Red maple	530.7	237.8	274.7	91.9	6,223	887.6	57.4	457.5	6,222	34.0	457.5	6,222	-139.9	-323	2,452.0	12,122 (±2,589)	6.2	12.72
Flowering dogwood	104.3	45.1	51.2	17.1	1,171	190.8	12.5	87.6	1,302	7.6	87.6	1,302	-0.6	-1	515.6	2,471 (±464)	5.1	3.13
White oak	666.8	288.0	332.6	111.3	7,534	845.4	54.3	463.5	6,017	31.6	463.5	6,017	-593.2	-1,370	2,200.2	12,181 (±4,934)	4.3	18.21
Eastern white pine	274.0	131.0	173.7	74.1	3,560	323.7	20.8	173.2	2,290	12.2	173.2	2,290	-562.8	-1,300	620.0	4,550 (±1,229)	4.2	7.01
Blue spruce	193.5	92.5	122.7	52.3	2,514	227.4	14.7	8.6	1,604	8.6	120.2	1,604	-414.0	-956	418.1	3,162 (±790)	3.8	5.38
Plum	71.9	31.1	35.3	11.8	808	131.1	8.6	60.6	896	5.2	60.6	896	-0.5	-1	355.2	1,703 (±389)	3.6	3.11
Boxelder	135.0	58.3	66.3	22.1	1,515	220.3	14.3	109.7	1,532	8.6	109.7	1,532	-18.9	-44	615.7	3,003 (±1,069)	3.4	5.70
Eastern hemlock	106.7	51.0	67.6	28.9	1,387	139.8	9.0	76.1	993	5.2	76.1	993	-16.9	-39	467.4	2,340 (±1,338)	3.3	4.62
Gallery pear	80.2	35.0	39.1	13.7	901	117.8	7.6	61.4	828	4.5	61.4	828	0.0	0	359.4	1,730 (±575)	3.2	3.56
Sugar maple	259.1	112.0	127.2	42.5	2,908	391.6	25.4	199.0	2,736	15.1	199.0	2,736	-166.4	-384	1,005.4	5,259 (±1,610)	3.2	10.81
Silver maple	404.1	174.7	198.4	66.3	4,536	559.4	36.2	290.4	3,928	21.4	290.4	3,928	-136.9	-316	1,613.9	8,148 (±1,960)	2.9	18.27
Japanese maple	113.1	48.9	55.5	18.6	1,270	198.4	12.9	100.2	1,384	7.7	100.2	1,384	-14.1	-33	541.2	2,621 (±835)	2.8	6.16
Apple	75.2	32.8	36.7	12.8	845	127.8	8.3	61.2	881	5.0	61.2	881	-0.8	-2	359.0	1,724 (±467)	2.2	5.00
Black locust	82.8	34.8	39.9	12.7	915	192.0	12.5	95.9	1,336	7.4	95.9	1,336	0.0	0	478.0	2,252 (±1,713)	2.2	6.53
Crimson king maple	131.1	56.7	64.4	21.5	1,471	213.3	13.8	109.7	1,494	8.2	109.7	1,494	-18.8	-44	599.7	2,922 (±1,004)	2.1	9.01
Norway spruce	115.7	55.3	73.3	31.3	1,503	135.8	8.8	72.0	958	5.1	72.0	958	-243.6	-563	253.6	1,898 (±731)	2.0	6.24
Green ash	199.5	83.9	96.1	30.6	2,206	308.5	19.9	161.5	2,171	11.7	161.5	2,171	0.0	0	911.8	4,377 (±1,939)	1.8	15.42
Northern catalpa	131.2	56.7	65.5	21.9	1,483	207.4	13.4	107.1	1,454	7.9	107.1	1,454	-33.6	-78	577.5	2,859 (±850)	1.8	10.08
Black oak	336.2	145.2	167.7	56.1	3,799	437.1	28.1	234.0	3,093	16.5	234.0	3,093	-318.4	-736	1,102.7	6,156 (±2,362)	1.8	21.69
Kousa dogwood	14.7	6.4	7.2	2.4	165	27.2	1.8	11.9	184	1.1	11.9	184	-0.1	0	72.6	349 (±97)	1.4	1.56
Honeylocust	83.6	33.9	39.7	12.8	914	145.9	9.4	74.6	1,021	5.6	74.6	1,021	-34.7	-80	370.8	1,854 (±978)	1.3	9.15
Pin oak	205.4	88.7	102.5	34.3	2,321	257.1	16.5	139.0	1,824	9.7	139.0	1,824	-180.9	-418	672.4	3,727 (±1,161)	1.2	20.43
White ash	130.0	54.6	62.6	20.0	1,437	189.0	12.2	98.8	1,330	7.2	98.8	1,330	0.0	0	574.4	2,767 (±1,142)	1.1	17.06
White spruce	56.2	26.9	35.6	15.2	730	69.2	4.5	37.4	491	2.6	37.4	491	-119.6	-276	128.1	945 (±423)	1.1	5.83
OTHER STREET TREES	781.6	339.2	403.9	142.0	8,995	1,216.8	78.8	623.7	8,518	46.7	623.7	8,518	-244.5	-565	3,388.2	16,949 (±1,959)	15.2	7.27
Citywide total	7,107.8	3,100.5	3,632.8	1,263.1	81,440	10,443.1	675.2	5,415.9	73,314	399.2	5,415.9	73,314	-4,198.5	-9,699	27,839.0	145,055 (±14,754)	100.0	9.43

Woonsocket

Annual Stormwater Benefits of All Trees by Species

12/1/2011

Species	Total rainfall interception (Gal)	Total Standard (\$ Error	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	3,864,363	30,917 (±4,779)	12.7	13.2	12.20
Northern red oak	3,488,694	27,911 (±8,257)	7.4	11.9	18.86
Red maple	2,504,983	20,041 (±4,367)	5.4	8.5	18.66
Boxelder	655,355	5,243 (±1,490)	4.3	2.2	6.16
Flowering dogwood	268,947	2,152 (±404)	4.0	0.9	2.72
Eastern white pine	1,019,095	8,153 (±2,047)	3.7	3.5	11.17
White oak	2,737,364	21,900 (±8,283)	3.7	9.3	30.01
Black locust	567,771	4,542 (±2,336)	3.7	1.9	6.22
Callery pear	356,098	2,849 (±919)	3.4	1.2	4.26
Northern catalpa	627,230	5,018 (±2,495)	3.2	2.1	7.99
Blue spruce	620,595	4,965 (±1,240)	2.9	2.1	8.45
Plum	196,876	1,575 (±349)	2.8	0.7	2.78
Silver maple	1,713,730	13,711 (±2,889)	2.7	5.8	25.05
Sugar maple	1,137,624	9,102 (±2,595)	2.6	3.9	17.27
Black oak	1,420,243	11,363 (±3,693)	2.5	4.8	22.42
Eastern hemlock	248,300	1,987 (±1,136)	2.5	0.9	3.92
Japanese maple	317,181	2,538 (±808)	2.1	1.1	5.96
Honeylocust	400,372	3,203 (±1,325)	2.1	1.4	7.53
Pin oak	951,041	7,609 (±3,379)	2.1	3.2	17.88
Apple	242,705	1,942 (±484)	1.9	0.8	5.04
Crimson king maple	474,018	3,792 (±1,217)	1.8	1.6	10.39
Green ash	710,401	5,684 (±2,410)	1.7	2.4	16.49
Norway spruce	400,154	3,201 (±1,167)	1.6	1.4	9.87
Bigtooth aspen	205,616	1,645 (±1,377)	1.3	0.7	6.24
Kousa dogwood	43,060	345 (±91)	1.2	0.2	1.42
American elm	329,210	2,634 (±927)	1.2	1.1	10.83
White spruce	204,567	1,637 (±735)	1.0	0.7	8.07
OTHER STREET TREES	3,642,334	29,141 (±3,369)	14.3	12.4	10.20
Citywide total	29,347,929	234,800 (±21,040)	100.0	100.0	11.76

Woonsocket

Annual Stormwater Benefits of Public Trees by Species

12/1/2011

Species	Total rainfall interception (Gal)	Total Standard (\$ Error	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	953,600	7,629 (±3,106)	18.1	18.4	9.18
Black locust	289,015	2,312 (±1,641)	8.4	5.6	6.00
Northern catalpa	122,453	980 (±795)	7.5	2.4	2.84
Boxelder	254,651	2,037 (±962)	7.1	4.9	6.28
Northern red oak	457,129	3,657 (±2,147)	6.6	8.8	12.03
Bigtooth aspen	205,616	1,645 (±1,377)	5.8	4.0	6.24
Pin oak	231,715	1,854 (±1,376)	5.3	4.5	7.62
Honeylocust	150,381	1,203 (±771)	4.9	2.9	5.40
Black oak	234,771	1,878 (±1,082)	4.9	4.5	8.42
Callery pear	100,932	808 (±557)	4.0	2.0	4.43
American elm	114,944	920 (±376)	3.1	2.2	6.48
Red maple	396,209	3,170 (±1,607)	2.7	7.6	26.06
European larch	133,235	1,066 (±1,039)	2.7	2.6	8.76
Silver maple	140,416	1,123 (±572)	2.2	2.7	11.08
Eastern white pine	160,150	1,281 (±985)	1.8	3.1	15.80
Green ash	38,388	307 (±222)	1.3	0.7	5.05
White oak	390,126	3,121 (±2,259)	1.3	7.5	51.33
Black cherry	19,517	156 (±152)	1.3	0.4	2.57
OTHER STREET TREES	789,745	6,318 (±1,557)	11.1	15.2	12.47
Citywide total	5,182,993	41,467 (±9,547)	100.0	100.0	9.05

Woonsocket

Annual Stormwater Benefits of Private Trees by Species

12/1/2011

Species	Total rainfall interception (Gal)	Total Standard (\$ Error	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	2,910,764	23,288 (±2,994)	11.1	12.1	13.68
Northern red oak	3,031,564	24,254 (±8,076)	7.6	12.6	20.63
Red maple	2,108,774	16,871 (±3,603)	6.2	8.7	17.71
Flowering dogwood	268,947	2,152 (±404)	5.1	1.1	2.72
White oak	2,347,238	18,779 (±7,608)	4.4	9.7	28.07
Eastern white pine	858,944	6,872 (±1,856)	4.2	3.6	10.59
Blue spruce	620,595	4,965 (±1,240)	3.8	2.6	8.45
Plum	190,371	1,523 (±348)	3.6	0.8	2.78
Boxelder	400,704	3,206 (±1,141)	3.4	1.7	6.08
Eastern hemlock	248,300	1,987 (±1,136)	3.3	1.0	3.92
Callery pear	255,166	2,041 (±678)	3.2	1.1	4.20
Sugar maple	1,124,883	9,000 (±2,756)	3.2	4.7	18.50
Silver maple	1,573,314	12,587 (±3,028)	2.9	6.5	28.23
Japanese maple	317,181	2,538 (±808)	2.8	1.3	5.96
Apple	228,097	1,825 (±495)	2.2	0.9	5.30
Black locust	278,756	2,230 (±1,696)	2.2	1.2	6.47
Crimson king maple.	394,328	3,155 (±1,083)	2.1	1.6	9.73
Norway spruce	367,682	2,942 (±1,133)	2.0	1.5	9.67
Green ash	672,013	5,376 (±2,381)	1.8	2.8	18.95
Northern catalpa	504,777	4,039 (±1,201)	1.8	2.1	14.23
Black oak	1,185,472	9,484 (±3,639)	1.8	4.9	33.42
Kousa dogwood	36,554	292 (±82)	1.5	0.2	1.31
Honeylocust	249,990	2,000 (±1,055)	1.3	1.0	9.87
Pin oak	719,326	5,755 (±1,793)	1.2	3.0	31.55
White ash	444,861	3,559 (±1,469)	1.1	1.8	21.95
White spruce	179,674	1,437 (±644)	1.1	0.7	8.86
OTHER STREET TREES	2,646,658	21,175 (±2,447)	15.2	11.0	9.08
Citywide total	24,164,936	193,333 (±19,664)	100.0	100.0	12.57

Woonsocket

Annual Aesthetic/Other Benefits of All Trees by Species

12/1/2011

Species	Total (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	142,930	(±22,092)	12.7	15.9	56.41
Northern red oak	73,608	(±21,776)	7.4	8.2	49.74
Red maple	44,972	(±9,800)	5.4	5.0	41.86
Boxelder	27,298	(±7,758)	4.3	3.0	32.06
Flowering dogwood	9,060	(±1,700)	4.0	1.0	11.46
Eastern white pine	14,988	(±3,762)	3.7	1.7	20.54
White oak	63,114	(±23,869)	3.7	7.0	86.49
Black locust	50,638	(±26,045)	3.7	5.7	69.39
Callery pear	39,959	(±12,896)	3.4	4.5	59.74
Northern catalpa	27,648	(±13,746)	3.2	3.1	44.00
Blue spruce	13,291	(±3,318)	2.9	1.5	22.61
Plum	6,134	(±1,361)	2.8	0.7	10.81
Silver maple	25,075	(±5,284)	2.7	2.8	45.82
Sugar maple	28,766	(±8,203)	2.6	3.2	54.58
Black oak	26,481	(±8,607)	2.5	3.0	52.26
Eastern hemlock	10,336	(±5,909)	2.5	1.2	20.40
Japanese maple	13,532	(±4,310)	2.1	1.5	31.79
Honeylocust	25,517	(±10,556)	2.1	2.9	59.95
Pin oak	27,719	(±12,311)	2.1	3.1	65.12
Apple	6,133	(±1,530)	1.9	0.7	15.93
Crimson king maple	17,984	(±5,772)	1.8	2.0	49.29
Green ash	17,899	(±7,589)	1.7	2.0	51.94
Norway spruce	7,067	(±2,577)	1.6	0.8	21.79
Bigtooth aspen	18,824	(±15,756)	1.3	2.1	71.43
Kousa dogwood	2,304	(±611)	1.2	0.3	9.47
American elm	17,854	(±6,281)	1.2	2.0	73.40
White spruce	4,911	(±2,205)	1.0	0.6	24.23
OTHER STREET TREES	132,525	(±15,320)	14.3	14.8	46.37
Citywide total	896,566	(±80,339)	100.0	100.0	44.90

Woonsocket

Annual Aesthetic/Other Benefits of Private Trees by Species

12/1/2011

Species	Total (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	106,107	(±13,641)	11.1	16.0	62.32
Northern red oak	60,822	(±20,251)	7.6	9.2	51.73
Red maple	40,345	(±8,616)	6.2	6.1	42.35
Flowering dogwood	9,060	(±1,700)	5.1	1.4	11.46
White oak	56,197	(±22,766)	4.4	8.5	84.01
Eastern white pine	13,949	(±3,767)	4.2	2.1	21.50
Blue spruce	13,291	(±3,318)	3.8	2.0	22.61
Plum	5,906	(±1,351)	3.6	0.9	10.79
Boxelder	16,722	(±5,954)	3.4	2.5	31.73
Eastern hemlock	10,336	(±5,909)	3.3	1.6	20.40
Callery pear	27,797	(±9,237)	3.2	4.2	57.14
Sugar maple	27,799	(±8,512)	3.2	4.2	57.14
Silver maple	20,763	(±4,994)	2.9	3.1	46.56
Japanese maple	13,532	(±4,310)	2.8	2.0	31.79
Apple	5,509	(±1,493)	2.2	0.8	15.99
Black locust	23,377	(±17,781)	2.2	3.5	67.84
Crimson king maple	15,121	(±5,193)	2.1	2.3	46.63
Norway spruce	6,578	(±2,533)	2.0	1.0	21.64
Green ash	15,582	(±6,902)	1.8	2.4	54.91
Northern catalpa	11,521	(±3,425)	1.8	1.7	40.60
Black oak	18,187	(±6,977)	1.8	2.7	64.09
Kousa dogwood	2,076	(±579)	1.5	0.3	9.31
Honeylocust	12,889	(±6,802)	1.3	1.9	63.59
Pin oak	16,491	(±5,138)	1.2	2.5	90.39
White ash	9,383	(±3,874)	1.1	1.4	57.86
White spruce	3,925	(±1,757)	1.1	0.6	24.20
OTHER STREET TREES	100,759	(±11,644)	15.2	15.2	43.22
Citywide total	664,023	(±67,538)	100.0	100.0	43.16

Woonsocket

Annual Aesthetic/Other Benefits of Public Trees by Species

12/1/2011

Species	Total (\$) Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Norway maple	36,823 (±14,992)	18.1	15.8	44.31
Black locust	27,261 (±19,349)	8.4	11.7	70.78
Northern catalpa	16,127 (±13,085)	7.5	6.9	46.80
Boxelder	10,576 (±4,994)	7.1	4.6	32.61
Northern red oak	12,786 (±7,506)	6.6	5.5	42.05
Bigtooth aspen	18,824 (±15,756)	5.8	8.1	71.43
Pin oak	11,228 (±8,331)	5.3	4.8	46.16
Honeylocust	12,628 (±8,096)	4.9	5.4	56.64
Black oak	8,294 (±4,777)	4.9	3.6	37.20
Callery pear	12,163 (±8,395)	4.0	5.2	66.67
American elm	9,401 (±3,839)	3.1	4.0	66.25
Red maple	4,627 (±2,346)	2.7	2.0	38.04
European larch	9,523 (±9,285)	2.7	4.1	78.30
Silver maple	4,312 (±2,196)	2.2	1.9	42.55
Eastern white pine	1,039 (±798)	1.8	0.5	12.81
Green ash	2,316 (±1,677)	1.3	1.0	38.09
White oak	6,917 (±5,006)	1.3	3.0	113.74
Black cherry	685 (±667)	1.3	0.3	11.26
OTHER STREET TREES	27,014 (±6,655)	11.1	11.6	53.31
Citywide total	232,543 (±53,537)	100.0	100.0	50.76