Emmetsburg, IA

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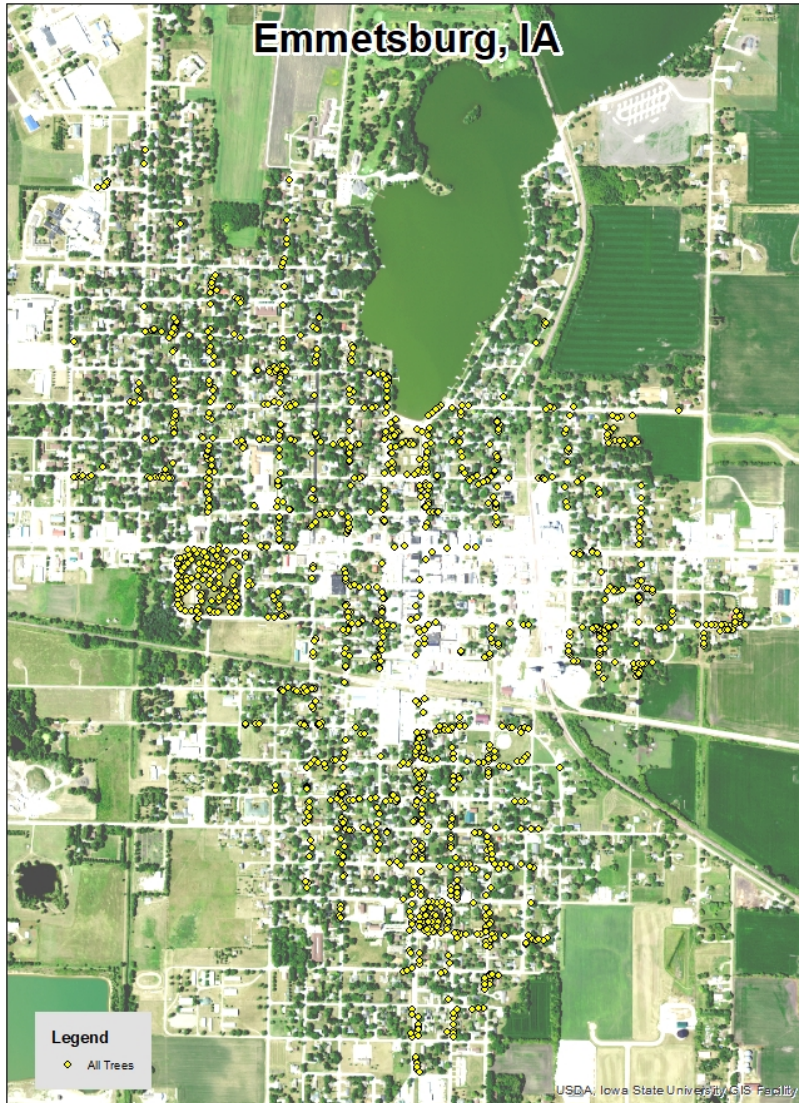
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◇ All Trees

USDA, Iowa State University GIS Facility

2020 Urban Forest Management Plan
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DNR

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Executive Summary

Overview

This plan was developed to assist the City of Emmetsburg with managing its urban forest, including budgeting and future planning. Trees can provide a multitude of benefits to the community, and sound management allows a community to best take advantage of these benefits. Management is especially important considering the serious threats posed by forest pests such as the emerald ash borer (EAB). EAB is an invasive insect imported from Eastern Asia on wood shipping crates that kills all species of ash trees (this does not include mountain ash). There is a strong possibility that 33% of Emmetsburg's city owned trees (ash) will die once EAB becomes established in the community, unless preventative treatment is used. With proper planning and management, the costs of removing dead and dying trees can be extended over years, mitigating public safety issues.

Inventory and Results

In 2018, a tree inventory was conducted using Global Positioning System (GPS) data collectors. The inventory was a complete inventory of street and park trees. Below are some key findings of the 1320 trees inventoried.
- Emmetsburg's trees provide $295,534.80 of benefits annually, an average of $223.89 a tree
- There are at least 42 different species of trees in Emmetsburg, with 24 different genera of trees inventoried.
- The top three genera are: Maple 40%, Ash 33%, and Black Walnut 8%
- Due to a bad contract agreement, no data was collected on which trees need management other than routine maintenance.
- No data was collected for which trees are recommended for removal or where they are located. Additionally, no data was collected as to the maintenance priority of any given tree.

Recommendations

The core recommendations are detailed in the Recommendations Section. The Emerald Ash Borer Plan includes management recommendations as well. Below are some key recommendations.
- EAB was not recorded when the inventory was conducted. There were 432 ash trees recorded within Emmetsburg and it is likely that many are currently displaying symptoms of EAB. It is recommended that a visual inspection of all ash trees be conducted annually.
- All trees should be pruned on a routine schedule- one sixth of the city every year
- Plant a diverse mix of trees that do not include: ash, maple, cottonwood, poplar, box elder, Chinese elm, evergreen, willow or black walnut
- Check ash trees with a visual survey yearly

Introduction

This plan was developed to assist Emmetsburg with the management, budgeting and future planning of their urban forest. Across the state, forestry budgets continue to decrease with more and more of that money spent on tree removal. With the anticipated arrival of Emerald Ash Borer (EAB), an invasive pest that kills native ash trees, it is time to prepare for the increased costs of tree removal or treatment and replacement planting. With proper planning and management of the current canopy in Emmetsburg, these costs can be extended over years and public safety issues from dead and dying ash trees mitigated.

Trees are an important component of Emmetsburg's infrastructure and one of the greatest assets to the community. The benefits of trees are immense. Trees provide the community with improved air quality, stormwater runoff interception, energy conservation, lower traffic speeds, increased property values, reduced crime, improved mental health and create a desirable place to live, to name just a few benefits. It is essential that these benefits be maintained for the people of Emmetsburg and future generations through good urban forestry management.

Good urban forestry management involves setting goals and developing management strategies to achieve these goals. An essential part of developing management strategies is a comprehensive public tree inventory. The inventory supplies information that will be used for maintenance, removal schedules, tree planting and budgeting. Basing actions on this information will help meet Emmetsburg's urban forestry goals.

Inventory

In 2018, a tree inventory was conducted that included 100% of the city owned trees on both streets and parks. The tree data was collected using a handheld Global Positioning System (GPS) receiver. The data collector gives Geographic Information Systems (GIS) coordinates with an accuracy of 3 meters, which can be used in Arc GIS as an active GIS data layer. Because the inventory is a digital document the data can be updated with new information and become a working document.

The programming used to collect tree information on the data collectors was written to be compatible with a state-of-the-art software suite called i-Tree. i-Tree was developed by the USDA Forest Service to quantify the structure of community trees and the environmental services that trees provide. The i-Tree suite is a public domain which can be accessed for free.

To quantify the urban forest structure and benefits, specific data is collected for each tree. This data includes: location, land use, species, diameter at 4.5 ft, recommended maintenance, priority of that maintenance, leaf health, and wood condition. Additionally, signs and symptoms associated with EAB were noted for all ash trees. The signs and symptoms noted were canopy dieback, epicormic shoots, bark splitting, D-shaped borer exit holes, and wood pecker damage.

Inventory Results

The data collected for the 1320 city trees was entered into the USDA Forest service program Street Tree Resource Analysis Tool for Urban forestry Management as part of the i-Tree suite. The following are results from the i-Tree STREETS analysis.

Annual Benefits

Annual Energy Benefits

Trees conserve energy by shading buildings and blocking winds. Emmetsburg's trees reduce energy related costs by approximately $77,276 annually (Appendix A, Table 1). These savings are both in Electricity (368.8 MWh) and in Natural Gas (50,293.2 Therms).

Annual Stormwater Benefits

Emmetsburg's trees intercept about 4,206,552 gallons of rainfall or snow melt a year (Appendix A, Table 2). This interception provides $113,998 of benefits to the city.

Annual Air Quality Benefits

Air quality is a persistent public health issue in Iowa. The urban forest improves air quality by removing pollutants, lowering air temperature, and reducing energy consumption, which in turn reduces emissions from power plants, and emitting volatile organic matter (ozone). In Emmetsburg, it is estimated that trees remove 4,888 lbs of air pollution (ozone (O_3), particulate matter less than 10 microns (PM10), carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2)) per year with a net value of $13,865 (Appendix A, Table 3).

Annual Carbon Benefits

Carbon sequestration and storage reduce the amount of carbon in the atmosphere, mitigating climate change. In Emmetsburg, trees sequester about 895,134 lbs of carbon a year with an associated value of $6,714 (Appendix A, Table 5). In addition, the trees store 16,190,863 lbs of carbon, with a yearly benefit of $121,431 (Appendix A, Table 4).

Annual Aesthetics Benefits

Social benefits of trees are hard to capture. The analysis does have a calculation for this area that includes: aesthetic value, property values, lowered rates of mental illness and crime, city livability and much more. Emmetsburg receives $79,654 in annual social benefits from trees (Appendix A, Table 6).

Financial Summary of all Benefits

According to the USDA Forest Service i-Tree STREETS analysis, Emmetsburg's trees provide $295,534.80 of benefits annually. Benefits of individual trees vary based on size, species, health and location, but on average each of the 1320 trees in Emmetsburg provide approximately $223.89 annually (Appendix A, Table 7).

Forest Structure

Species Distribution

Emmetsburg has over 24 different tree genera along city streets and parks (Appendix A, Figure 1). The distribution of trees by genera is as follows:

Genus	Count	Percent
Maple	527	40%
Ash	432	33%
Walnut	106	8%
Locust	47	4%
Apple	38	3%
Basswood	37	3%
Spruce	32	2%
Oak	23	2%
Hackberry	20	2%
Elm	14	1%
Boxelder	7	1%
Pine	6	<1%
Mulberry	6	<1%
Birch	5	<1%
Kentucky Coffeetree	4	<1%
Broadleaf S/M/L	3	<1%
Sycamore	2	<1%
Cherry	2	<1%
Pear	2	<1%
Redbud	2	<1%
Catalpa	2	<1%
Ginkgo	1	<1%
Unknown	1	<1%
Willow	1	<1%

Age Class

Most of Emmetsburg's trees (45%) are between 18 to 30 inches in diameter at 4.5 ft (Appendix A, Figure 2). For age, it is preferred that the highest amounts of trees are in the smallest size category (a downward slope) to prepare for natural mortality and to maintain canopy cover. Emmetsburg's size curve is on the larger side, indicating an older than average stand, with only 4% of Emmetsburg's trees with a diameter between 0 to 6 inches.

Condition: Wood and Foliage

Both wood condition and leaf condition are good indicators of the overall health of the urban forest. The foliage condition results for Emmetsburg indicate that 68% of the trees are in good health, with only 3% of the foliage in poor health, dead or dying (Appendix A, Figure 3 & Appendix B, Figure 3). Similarly, 68% of Emmetsburg's trees are in good health for wood condition (appendix A, Figure 4 &

Appendix B, Figure 3). Wood condition that is in poor health, dead or dying is about 3% of the population. This 3% is an estimate of trees that need management follow up.

Management Needs
There were no specific management needs recorded for Emmetsburg trees. It is recommended that the trees that were listed as in need of immediate maintenance be prioritized.

Canopy Cover
The total canopy with both private and public trees is 17%, 432 acres. The canopy cover included in the Emmetsburg inventory includes approximately 42.93 acres, which is 2% of the total land acres of Emmetsburg (Appendix A, Figure 4). The City's Canopy goal is to increase canopy by 3%, in 30 years. To achieve this goal it is estimated that 186 trees need to be planted annually on public and private lands.

Land Use and Location
The majority of Emmetsburg's city and park trees are in planting strips in single family residential neighborhoods (Appendix A, Figure 6 & Appendix A, Figure7). The following describes the land use and locations for the street and park trees.

Land Use	Count	Percent
Single Family Res.	1057	80%
Park/Vacant/Other	212	16%
Small Commercial	49	4%
Industrial/Comm.	2	<1%

Location	Count	Percent
Planting strip	949	72%
Other Maintained	204	15%
Front Yard	95	7%
Back yard	43	3%
Cutout	27	2%
Other un-maintained	2	<1%

Recommendations

Risk Management
Hazardous trees can be a significant threat to both people and property. Trees that are dead or dying, or that have large issues such as trunk cracks longer than 18 inches should be removed. Broken branches and branches that interfere with motorist's vision of pedestrians, vehicles, traffic signs and signals, etc., should be removed.

Hazardous trees
Detailed information was not collected on which trees are potentially hazardous or where they might be located.

<u>Poor tree species</u>
The data collectors did not collect appropriate data on this, however it was noted that 432 trees in Emmetsburg are ash trees, which is 33% of the total trees inventoried. While the collectors did not gather data on EAB, it is common though out the region and very likely affecting many of the ash trees in Emmetsburg. Visual inspections of ash trees should be conducted annually in order track their conditions. Treatment for EAB is an effective preventative measure that can be taken to prevent the death of healthy ash trees. It is not recommended to be used on ash trees already displaying two or more symptoms of EAB. Since data for EAB was not collected, we will present two separate scenarios regarding ash management versus removal. If all 432 ash trees in Emmetsburg are healthy and could be treated, it would cost an estimated $150,577.50 every two years, which is an average of $348.56 per tree. If all 432 ash trees in Emmetsburg are suffering from EAB, it would cost an estimated $345,600 to remove them, which is an average of $800 per tree. These scenarios represent two different extremes and while it is likely that many ash trees within Emmetsburg are displaying signs of EAB, it is also likely that many are not and would therefore be eligible for treatment. It is recommended that Emmetsburg treat many of its larger, healthier ash trees and begin removing dead or dying ash trees, as well as those found to be displaying 2 or more symptoms of EAB.

Pruning Cycle
Proper pruning can extend the life and good health of trees, as well as reduce public safety issues. In the Management Needs section of the Findings there are four main maintenance issues to be addressed: routine pruning, crown cleaning, crown raising, and crown reduction. Crown cleaning removes dead, diseased, and damaged limbs. Crown raising is the removal of lower branches that are 2 inches in diameter or larger in the case of providing clearance for pedestrians or vehicles. Crown reduction is removing individual limbs from structures or utility wires. It is recommended that all trees be pruned on a routine schedule every five to seven years. Please refer to the six year maintenance plan for further information.

Planting
Most of the planting over the next 5 years will replace the trees that are removed. It is recommended to plant 1.2 trees for every tree removed, since survival rates will not be 100%. Please refer to the six year maintenance plan at the end of this section. It is not essential that the new trees be planted in the same location of the trees being removed. However, maintaining the same number of trees helps ensure continuation of the benefits of the existing forest in Emmetsburg.

It is important to plant a diverse mix of species in the urban forest to maintain canopy health, since most insects and diseases target a genus (ash) or species (green ash) of trees. Current diversity recommendations advise that a genus (i.e. maple, oak) not make up more than 20% of the urban forest and a single species (i.e. silver maple, sugar maple, white oak, bur oak) not make up more than 10% of the total urban forest. Presently, the forest is heavily planted with maple (40%) (Appendix A, Figure 1). Maples should not be planted until this percentage can be lowered. Also, ash trees have not been recommended since 2002, due to the threat of EAB. Other species to avoid because they are public nuisances include: cottonwood, poplar, box elder, Chinese elm, evergreen, willow or black walnut, as outlined in section 151.02 of the city ordinance (Appendix C). All trees planted must meet the restrictions in city ordinance 151.02 (Appendix C).

Continual Monitoring

Due to the threat of EAB, it is important to continuously check the health of ash trees. It is recommended that ash trees be checked with a visual survey every year for tree decline and for the following signs and symptoms: canopy dieback, epicormic shoots, bark splitting, D-shaped borer exit holes, and wood pecker damage.

Emerald Ash Borer Plan

Ash Tree Removal

Tree removal will be prioritized with dead, dying, hazardous trees to be removed first (Appendix B, Figure 4). Next will be all ash in poor condition and displaying signs and symptoms of EAB (Appendix B, Figure 2 & Appendix B, Figure 3). *City ownership of the tree recommended for removal should be verified prior to any removal*

Treatment of Ash Trees

Chemical treatment can be effective tool for communities to spread removal costs out over several years while allowing trees to continue to provide benefits. However, treatment is not recommended if EAB is more than 15 miles away from the community. For more information on the cost of treatment strategies visit http://extension.entm.purdue.edu/treecomputer/

EAB Quarantines

EAB is an extremely destructive plant pest and it is responsible for the death and decline of millions of ash trees. Ash in both forested and urban settings constitute a significant portion of the canopy cover in the United States. Current tools to detect, control, suppress and eradicate this pest are not as robust as the USDA would desire. In order to stay ahead of this hard to detect beetle, the USDA is attempting to contain the beetle before it spreads beyond its known positions by regulating articles.

A regulated article under the USDA's quarantine includes any of the following items:
- emerald ash borer
- firewood of all hardwood species (for example ash, oak, maple and hickory)
- nursery stock and green lumber of ash
- any other ash material, whether living, dead, cut or fallen, including logs, stumps, roots, branches, as well as composted and not composted chips of the genus ash (Mountain ash is not included)

In addition, any other article, product or means of conveyance not listed above may be designated as a regulated article if a USDA inspector determines that it presents a risk of spreading EAB once a quarantine is in effect for your county.

Wood Disposal

A very important aspect of planning is determining how wood infested with EAB will be handled, keeping in mind that quarantines will restrict its movement. Consider who will cut and haul the dead and dying trees? Is there an accessible, secured site big enough to store and sort the hundreds of trees and the associated brush and chips? How will wood be disposed of or utilized? Do you have equipment capable of handling the amount and size of ash trees your tree inventory has identified? Once your county is under quarantine for EAB, contact USDA-APHIS-PPQ at 515-251-4083 or visit the website

http://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/regulatory.shtml. Wood waste can be disposed of as you normally would if your county is not part of a quarantine.

Canopy Replacement

As budget permits, all removed trees will be replaced. All trees will meet the restrictions in city ordinance 151.02 (Appendix C). The new plantings will be a diverse mix and will not include cottonwood, poplar, box elder, Chinese elm, evergreen, willow, black walnut, or any fruit-bearing tree. The new plantings also should not include any ash or maple.

Postponed Work

While finances, staffing and equipment are focused on the management of ash, usual services may be delayed. Tree removal requests on genera other than ash will be prioritized by hazardous or emergency situations only.

Monitoring

It is recommended that ash trees be checked with a visual survey every year for tree death and for the following signs and symptoms: canopy dieback, epicormic shoots, bark splitting, D-shaped borer exit holes, and wood pecker damage.

Private Ash Trees

It is strongly recommended that private property owners start removing ash trees on their property upon arrival of EAB if preventative treatments are not being used. City Code 151.06 states "If it is determined with reasonable certainty that any such condition exists on private property and that the danger to other trees or to adjoining property or passing motorists or pedestrians is imminent, the Council shall notify by certified mail the owner, occupant or person in charge of such property to correct such condition by treatment or removal within fourteen (14) days of said notification. If such owner, occupant or person in charge of said property fails to comply within 14 days of receipt of notice, the Council may cause the condition to be corrected and the cost assessed against the property."

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Appendix A: i-Tree Data

Table 1: Annual Energy Benefits

Emmetsburg

Annual Energy Benefits of Public Trees

12/10/2019

Species	Total Electricity (MWh)	Electricity ($)	Total Natural Gas (Therms)	Natural Gas ($)	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	124.9	9,479	16,957.6	16,618	26,097	(N/A)	32.4	33.8	60.97
Silver maple	71.4	5,417	9,397.9	9,210	14,626	(N/A)	15.5	18.9	71.35
Black maple	45.4	3,449	6,302.7	6,177	9,626	(N/A)	12.9	12.5	56.62
Norway maple	33.9	2,572	4,826.9	4,730	7,303	(N/A)	10.2	9.5	54.09
Black walnut	34.4	2,615	4,702.1	4,608	7,223	(N/A)	8.0	9.3	68.14
Honeylocust	13.7	1,041	1,796.8	1,761	2,802	(N/A)	3.4	3.6	62.27
Apple	3.4	262	527.8	517	779	(N/A)	2.9	1.0	20.50
American basswood	7.9	600	1,150.0	1,127	1,727	(N/A)	1.9	2.2	69.07
Blue spruce	2.3	178	293.9	288	466	(N/A)	1.6	0.6	22.20
Northern hackberry	6.9	522	968.1	949	1,471	(N/A)	1.5	1.9	73.55
Littleleaf linden	1.9	142	255.1	250	392	(N/A)	0.9	0.5	32.64
American elm	2.5	187	325.0	319	505	(N/A)	0.8	0.7	45.94
Northern red oak	1.5	112	208.4	204	317	(N/A)	0.8	0.4	28.77
White oak	2.2	165	301.4	295	461	(N/A)	0.7	0.6	51.18
Eastern redbud	1.3	97	203.2	199	296	(N/A)	0.6	0.4	36.99
Boxelder	1.8	137	252.8	248	384	(N/A)	0.5	0.5	54.92
Amur maple	0.7	51	95.0	93	144	(N/A)	0.5	0.2	20.61
Red maple	0.6	48	85.5	84	132	(N/A)	0.5	0.2	21.93
Mulberry	0.7	53	108.3	106	159	(N/A)	0.5	0.2	26.57
Norway spruce	1.0	75	132.5	130	204	(N/A)	0.5	0.3	34.08
Conifer Evergreen Large	0.7	52	83.3	82	133	(N/A)	0.4	0.2	26.67
Kentucky coffeetree	1.0	73	119.1	117	190	(N/A)	0.3	0.2	47.50
White ash	1.1	84	128.1	126	210	(N/A)	0.3	0.3	52.49
Sugar maple	0.9	69	122.6	120	189	(N/A)	0.3	0.2	47.37
River birch	0.7	57	111.7	109	166	(N/A)	0.2	0.2	55.38
Siberian elm	0.8	58	100.1	98	156	(N/A)	0.2	0.2	77.94
American sycamore	0.7	50	93.7	92	142	(N/A)	0.2	0.2	70.91
Birch	0.3	26	46.3	45	71	(N/A)	0.2	0.1	35.62
Broadleaf Deciduous Large	0.7	50	93.7	92	142	(N/A)	0.2	0.2	70.91
Bur oak	0.3	22	41.8	41	63	(N/A)	0.2	0.1	31.57
Callery pear	0.3	26	46.3	45	71	(N/A)	0.2	0.1	35.62
Northern catalpa	0.7	50	93.7	92	142	(N/A)	0.2	0.2	70.91
Black ash	0.2	16	33.7	33	49	(N/A)	0.2	0.1	24.47
Black locust	0.6	49	94.8	93	142	(N/A)	0.2	0.2	70.84
Broadleaf Deciduous Medium	0.2	18	29.5	29	47	(N/A)	0.1	0.1	46.78
Willow	0.1	8	16.9	17	24	(N/A)	0.1	0.0	24.47
Elm	0.4	33	59.0	58	91	(N/A)	0.1	0.1	91.02
Broadleaf Deciduous Small	0.2	15	31.6	31	46	(N/A)	0.1	0.1	46.14
Swamp white oak	0.2	18	29.5	29	47	(N/A)	0.1	0.1	46.78
Ginkgo	0.2	14	26.5	26	40	(N/A)	0.1	0.1	40.40
Total	368.8	27,988	50,293.2	49,287	77,276	(N/A)	100.0	100.0	58.54

Table 2: Annual Stormwater Benefits

Emmetsburg

Annual Stormwater Benefits of Public Trees

12/10/2019

Species	Total rainfall interception (Gal)	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	1,403,909	38,046	(N/A)	32.4	33.4	88.89
Silver maple	1,053,294	28,544	(N/A)	15.5	25.0	139.24
Black maple	438,971	11,896	(N/A)	12.9	10.4	69.98
Norway maple	308,525	8,361	(N/A)	10.2	7.3	61.93
Black walnut	417,829	11,323	(N/A)	8.0	9.9	106.82
Honeylocust	130,855	3,546	(N/A)	3.4	3.1	78.80
Apple	14,102	382	(N/A)	2.9	0.3	10.06
American basswood	95,279	2,582	(N/A)	1.9	2.3	103.28
Blue spruce	28,486	772	(N/A)	1.6	0.7	36.76
Northern hackberry	70,208	1,903	(N/A)	1.5	1.7	95.13
Littleleaf linden	16,375	444	(N/A)	0.9	0.4	36.98
American elm	19,604	531	(N/A)	0.8	0.5	48.30
Northern red oak	12,271	333	(N/A)	0.8	0.3	30.23
White oak	30,895	837	(N/A)	0.7	0.7	93.03
Eastern redbud	7,316	198	(N/A)	0.6	0.2	24.78
Boxelder	21,705	588	(N/A)	0.5	0.5	84.03
Amur maple	2,409	65	(N/A)	0.5	0.1	9.33
Red maple	3,629	98	(N/A)	0.5	0.1	16.39
Mulberry	3,416	93	(N/A)	0.5	0.1	15.43
Norway spruce	23,619	640	(N/A)	0.5	0.6	106.68
Conifer Evergreen Large	10,554	286	(N/A)	0.4	0.3	57.20
Kentucky coffeetree	6,987	189	(N/A)	0.3	0.2	47.34
White ash	8,213	223	(N/A)	0.3	0.2	55.64
Sugar maple	8,176	222	(N/A)	0.3	0.2	55.39
River birch	8,115	220	(N/A)	0.2	0.2	73.30
Siberian elm	9,642	261	(N/A)	0.2	0.2	130.64
American sycamore	7,886	214	(N/A)	0.2	0.2	106.85
Birch	1,995	54	(N/A)	0.2	0.0	27.03
Broadleaf Deciduous Large	7,886	214	(N/A)	0.2	0.2	106.85
Bur oak	2,762	75	(N/A)	0.2	0.1	37.43
Callery pear	1,995	54	(N/A)	0.2	0.0	27.03
Northern catalpa	7,886	214	(N/A)	0.2	0.2	106.85
Black ash	1,172	32	(N/A)	0.2	0.0	15.88
Black locust	7,529	204	(N/A)	0.2	0.2	102.01
Broadleaf Deciduous Medium	1,409	38	(N/A)	0.1	0.0	38.19
Willow	586	16	(N/A)	0.1	0.0	15.88
Elm	7,239	196	(N/A)	0.1	0.2	196.17
Broadleaf Deciduous Small	1,174	32	(N/A)	0.1	0.0	31.82
Swamp white oak	1,409	38	(N/A)	0.1	0.0	38.19
Ginkgo	1,240	34	(N/A)	0.1	0.0	33.60
Citywide total	4,206,552	113,998	(N/A)	100.0	100.0	86.36

Table 3: Annual Air Quality Benefits

Emmetsburg

Annual Air Quality Benefits of Public Trees

12/10/2019

Species	Deposition (lb) O$_3$	NO$_2$	PM$_{10}$	SO$_2$	Total Depos. ($)	Avoided (lb) NO$_2$	PM$_{10}$	VOC	SO$_2$	Total Avoided ($)	BVOC Emissions (lb)	BVOC Emissions ($)	Total (lb)	Total Standard ($) Error	% of Total Trees	Avg. $/tree
Green ash	179.7	28.7	85.3	8.1	955	595.1	86.7	82.7	566.0	3,710	0.0	0	1,632.3	4,665 (N/A)	32.4	10.90
Silver maple	184.9	31.4	90.4	8.2	996	336.4	49.2	47.0	322.8	2,105	-95.3	-358	975.0	2,743 (N/A)	15.5	13.38
Black maple	112.4	19.2	51.7	5.0	597	217.4	31.6	30.1	205.8	1,353	-36.7	-138	636.4	1,812 (N/A)	12.9	10.66
Norway maple	62.4	10.8	30.7	2.8	337	163.8	23.7	22.6	153.8	1,016	-14.7	-55	455.8	1,298 (N/A)	10.2	9.62
Black walnut	57.1	9.1	26.5	2.6	302	164.4	23.9	22.8	156.1	1,024	0.0	0	462.6	1,326 (N/A)	8.0	12.51
Honeylocust	24.8	4.1	11.5	1.1	131	64.7	9.5	9.0	62.1	405	-18.3	-69	168.4	467 (N/A)	3.4	10.39
Apple	4.0	0.7	1.9	0.2	21	17.0	2.4	2.3	15.6	104	0.0	0	44.1	126 (N/A)	2.9	3.31
American basswood	13.5	2.3	6.5	0.6	72	38.4	5.5	5.3	35.8	238	-11.3	-42	96.6	268 (N/A)	1.9	10.70
Blue spruce	3.4	0.7	2.9	0.4	23	10.9	1.6	1.5	10.6	69	-10.0	-38	22.1	54 (N/A)	1.6	2.57
Northern hackberry	11.4	2.0	5.7	0.5	62	33.1	4.8	4.6	31.2	206	0.0	0	93.4	268 (N/A)	1.5	13.40
Littleleaf linden	2.6	0.4	1.3	0.1	14	8.9	1.3	1.2	8.5	56	-1.3	-5	23.1	65 (N/A)	0.9	5.40
American elm	3.1	0.5	1.6	0.1	17	11.6	1.7	1.6	11.2	73	0.0	0	31.6	90 (N/A)	0.8	8.19
Northern red oak	2.3	0.4	1.2	0.1	13	7.1	1.0	1.0	6.7	44	-3.3	-13	16.5	44 (N/A)	0.8	4.03
White oak	4.5	0.7	2.0	0.2	24	10.4	1.5	1.4	9.9	65	0.0	0	30.7	89 (N/A)	0.7	9.83
Eastern redbud	2.6	0.4	1.2	0.1	14	6.3	0.9	0.9	5.8	39	0.0	0	18.3	53 (N/A)	0.6	6.59
Boxelder	3.0	0.5	1.4	0.1	16	8.6	1.3	1.2	8.2	54	-1.2	-4	23.1	65 (N/A)	0.5	9.33
Amur maple	0.7	0.1	0.3	0.0	4	3.2	0.5	0.4	3.1	20	0.0	0	8.4	24 (N/A)	0.5	3.39
Red maple	0.6	0.1	0.3	0.0	3	3.0	0.4	0.4	2.8	19	-0.2	-1	7.5	21 (N/A)	0.5	3.49
Mulberry	1.1	0.2	0.5	0.1	6	3.5	0.5	0.5	3.2	21	0.0	0	9.5	27 (N/A)	0.5	4.54
Norway spruce	2.9	0.6	2.3	0.4	19	4.7	0.7	0.6	4.5	29	-14.5	-54	2.1	-6 (N/A)	0.5	-1.07
Conifer Evergreen Large	1.2	0.2	1.0	0.1	8	3.2	0.5	0.4	3.1	20	-4.4	-16	5.3	11 (N/A)	0.4	2.27
Kentucky coffeetree	0.6	0.1	0.3	0.0	3	4.5	0.7	0.6	4.4	28	0.0	0	11.2	32 (N/A)	0.3	7.90
White ash	0.7	0.1	0.4	0.0	4	5.1	0.8	0.7	5.0	32	0.0	0	12.8	36 (N/A)	0.3	9.03
Sugar maple	1.0	0.2	0.5	0.0	5	4.3	0.6	0.6	4.1	27	-0.8	-3	10.6	29 (N/A)	0.3	7.35
River birch	1.8	0.3	0.9	0.1	10	3.7	0.5	0.5	3.4	23	-0.4	-2	10.7	31 (N/A)	0.2	10.21
Siberian elm	1.9	0.3	0.9	0.1	10	3.6	0.5	0.5	3.4	22	0.0	0	11.3	33 (N/A)	0.2	16.42
American sycamore	1.0	0.2	0.5	0.0	5	3.2	0.5	0.4	3.0	20	0.0	0	8.7	25 (N/A)	0.2	12.48
Birch	0.3	0.0	0.2	0.0	2	1.6	0.2	0.2	1.5	10	-0.1	0	4.0	11 (N/A)	0.2	5.69
Broadleaf Deciduous Large	1.0	0.2	0.5	0.0	5	3.2	0.5	0.4	3.0	20	0.0	0	8.7	25 (N/A)	0.2	12.48
Bur oak	0.3	0.0	0.1	0.0	1	1.4	0.2	0.2	1.3	9	0.0	0	3.6	10 (N/A)	0.2	5.11
Callery pear	0.3	0.0	0.2	0.0	2	1.6	0.2	0.2	1.5	10	-0.1	0	4.0	11 (N/A)	0.2	5.69
Northern catalpa	1.0	0.2	0.5	0.0	5	3.2	0.5	0.4	3.0	20	0.0	0	8.7	25 (N/A)	0.2	12.48
Black ash	0.1	0.0	0.1	0.0	1	1.0	0.1	0.1	1.0	6	0.0	0	2.5	7 (N/A)	0.2	3.47
Black locust	1.7	0.3	0.8	0.1	9	3.1	0.5	0.4	2.9	19	-0.4	-1	9.5	27 (N/A)	0.2	13.58
Broadleaf Deciduous Medium	0.2	0.0	0.1	0.0	1	1.1	0.2	0.2	1.1	7	-0.1	0	2.8	8 (N/A)	0.1	7.92
Willow	0.1	0.0	0.0	0.0	0	0.5	0.1	0.1	0.5	3	0.0	0	1.2	3 (N/A)	0.1	3.47
Elm	1.2	0.2	0.5	0.1	6	2.1	0.3	0.3	2.0	13	0.0	0	6.6	19 (N/A)	0.1	19.04
Broadleaf Deciduous Small	0.4	0.1	0.2	0.0	2	1.0	0.1	0.1	0.9	6	0.0	0	2.9	8 (N/A)	0.1	8.35
Swamp white oak	0.2	0.0	0.1	0.0	1	1.1	0.2	0.2	1.1	7	-0.1	0	2.8	8 (N/A)	0.1	7.92
Ginkgo	0.3	0.1	0.1	0.0	2	0.9	0.1	0.1	0.9	6	-0.1	0	2.4	7 (N/A)	0.1	6.92
Citywide total	692.4	115.4	333.3	31.4	3,709	1,758.0	256.1	244.2	1,670.6	10,956	-213.4	-800	4,888.0	13,865 (N/A)	100.0	10.50

Table 4: Annual Carbon Stored

Emmetsburg

Stored CO2 Benefits of Public Trees

12/10/2019

Species	Total Stored CO2 (lbs)	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	5,904,806	44,286	(N/A)	32.4	36.5	103.47
Silver maple	4,201,622	31,512	(N/A)	15.5	26.0	153.72
Black maple	1,198,375	8,988	(N/A)	12.9	7.4	52.87
Norway maple	1,028,039	7,710	(N/A)	10.2	6.3	57.11
Black walnut	1,882,876	14,122	(N/A)	8.0	11.6	133.22
Honeylocust	312,979	2,347	(N/A)	3.4	1.9	52.16
Apple	64,488	484	(N/A)	2.9	0.4	12.73
American basswood	501,306	3,760	(N/A)	1.9	3.1	150.39
Blue spruce	19,313	145	(N/A)	1.6	0.1	6.90
Northern hackberry	176,863	1,326	(N/A)	1.5	1.1	66.32
Littleleaf linden	56,349	423	(N/A)	0.9	0.3	35.22
American elm	73,180	549	(N/A)	0.8	0.5	49.90
Northern red oak	47,787	358	(N/A)	0.8	0.3	32.58
White oak	150,500	1,129	(N/A)	0.7	0.9	125.42
Eastern redbud	41,378	310	(N/A)	0.6	0.3	38.79
Boxelder	102,152	766	(N/A)	0.5	0.6	109.45
Amur maple	10,389	78	(N/A)	0.5	0.1	11.13
Red maple	7,161	54	(N/A)	0.5	0.0	8.95
Mulberry	17,786	133	(N/A)	0.5	0.1	22.23
Norway spruce	37,708	283	(N/A)	0.5	0.2	47.14
Conifer Evergreen La	10,196	76	(N/A)	0.4	0.1	15.29
Kentucky coffeetree	19,473	146	(N/A)	0.3	0.1	36.51
White ash	19,473	146	(N/A)	0.3	0.1	36.51
Sugar maple	26,950	202	(N/A)	0.3	0.2	50.53
River birch	29,661	222	(N/A)	0.2	0.2	74.15
Siberian elm	48,007	360	(N/A)	0.2	0.3	180.03
American sycamore	31,546	237	(N/A)	0.2	0.2	118.30
Birch	4,725	35	(N/A)	0.2	0.0	17.72
Broadleaf Deciduous	31,546	237	(N/A)	0.2	0.2	118.30
Bur oak	8,643	65	(N/A)	0.2	0.1	32.41
Callery pear	4,725	35	(N/A)	0.2	0.0	17.72
Northern catalpa	31,546	237	(N/A)	0.2	0.2	118.30
Black ash	2,201	17	(N/A)	0.2	0.0	8.26
Black locust	28,560	214	(N/A)	0.2	0.2	107.10
Broadleaf Deciduous	3,624	27	(N/A)	0.1	0.0	27.18
Willow	1,101	8	(N/A)	0.1	0.0	8.26
Elm	39,259	294	(N/A)	0.1	0.2	294.44
Broadleaf Deciduous	6,743	51	(N/A)	0.1	0.0	50.57
Swamp white oak	3,624	27	(N/A)	0.1	0.0	27.18
Ginkgo	4,203	32	(N/A)	0.1	0.0	31.52
Citywide total	16,190,863	121,431	(N/A)	100.0	100.0	91.99

Table 5: Annual Carbon Sequestered

Emmetsburg

12/10/2019

Species	Sequestered (lb)	Sequestered ($)	Decomposition Release (lb)	Maintenance Release (lb)	Total Released ($)	Avoided (lb)	Avoided ($)	Net Total (lb)	Total Standard ($) d Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	288,510	2,164	-28,343	-1,299	-222	209,479	1,571	468,347	3,513 (N/A)	32.4	32.7	8.21
Silver maple	304,948	2,287	-20,169	-795	-157	119,703	898	403,688	3,028 (N/A)	15.5	28.2	14.77
Black maple	53,742	403	-5,752	-431	-46	76,221	572	123,780	928 (N/A)	12.9	8.6	5.46
Norway maple	47,072	353	-4,937	-349	-40	56,849	426	98,636	740 (N/A)	10.2	6.9	5.48
Black walnut	79,440	596	-9,038	-365	-71	57,781	433	127,818	959 (N/A)	8.0	8.9	9.04
Honeylocust	32,615	245	-1,502	-109	-12	23,011	173	54,014	405 (N/A)	3.4	3.8	9.00
Apple	5,445	41	-310	-49	-3	5,786	43	10,872	82 (N/A)	2.9	0.8	2.15
American basswood	28,286	212	-2,406	-94	-19	13,251	99	39,037	293 (N/A)	1.9	2.7	11.71
Blue spruce	1,644	12	-93	-37	-1	3,936	30	5,451	41 (N/A)	1.6	0.4	1.95
Northern hackberry	8,803	66	-849	-66	-7	11,540	87	19,428	146 (N/A)	1.5	1.4	7.29
Littleleaf linden	4,712	35	-271	-23	-2	3,131	23	7,549	57 (N/A)	0.9	0.5	4.72
American elm	2,902	22	-351	-25	-3	4,129	31	6,656	50 (N/A)	0.8	0.5	4.54
Northern red oak	1,510	11	-229	-19	-2	2,481	19	3,744	28 (N/A)	0.8	0.3	2.55
White oak	4,920	37	-723	-25	-6	3,651	27	7,824	59 (N/A)	0.7	0.5	6.52
Eastern redbud	601	5	-199	-22	-2	2,138	16	2,519	19 (N/A)	0.6	0.2	2.36
Boxelder	7,339	55	-490	-25	-4	3,021	23	9,845	74 (N/A)	0.5	0.7	10.55
Amur maple	1,001	8	-50	-8	0	1,130	8	2,073	16 (N/A)	0.5	0.1	2.22
Red maple	1,021	8	-34	-6	0	1,055	8	2,035	15 (N/A)	0.5	0.1	2.54
Mulberry	936	7	-85	-11	-1	1,177	9	2,017	15 (N/A)	0.5	0.1	2.52
Norway spruce	309	2	-181	-24	-2	1,649	12	1,753	13 (N/A)	0.5	0.1	2.19
Conifer Evergreen Large	721	5	-49	-11	0	1,142	9	1,803	14 (N/A)	0.4	0.1	2.71
Kentucky coffeetree	1,996	15	-93	-9	-1	1,620	12	3,514	26 (N/A)	0.3	0.2	6.59
White ash	2,326	17	-93	-9	-1	1,865	14	4,089	31 (N/A)	0.3	0.3	7.67
Sugar maple	1,748	13	-129	-9	-1	1,532	11	3,142	24 (N/A)	0.3	0.2	5.89
River birch	594	4	-142	-9	-1	1,253	9	1,696	13 (N/A)	0.2	0.1	4.24
Siberian elm	1,468	11	-230	-9	-2	1,277	10	2,505	19 (N/A)	0.2	0.2	9.40
American sycamore	1,714	13	-151	-7	-1	1,105	8	2,660	20 (N/A)	0.2	0.2	9.97
Birch	610	5	-23	-3	0	571	4	1,155	9 (N/A)	0.2	0.1	4.33
Broadleaf Deciduous Large	1,714	13	-151	-7	-1	1,105	8	2,660	20 (N/A)	0.2	0.2	9.97
Bur oak	734	6	-41	-3	0	490	4	1,179	9 (N/A)	0.2	0.1	4.42
Callery pear	610	5	-23	-3	0	571	4	1,155	9 (N/A)	0.2	0.1	4.33
Northern catalpa	1,714	13	-151	-7	-1	1,105	8	2,660	20 (N/A)	0.2	0.2	9.97
Black ash	448	3	-11	-2	0	352	3	787	6 (N/A)	0.2	0.1	2.95
Black locust	370	3	-137	-8	-1	1,077	8	1,302	10 (N/A)	0.2	0.1	4.88
Broadleaf Deciduous Medi	386	3	-17	-2	0	395	3	762	6 (N/A)	0.1	0.1	5.71
Willow	224	2	-5	-1	0	176	1	393	3 (N/A)	0.1	0.0	2.95
Elm	912	7	-188	-5	-1	734	6	1,453	11 (N/A)	0.1	0.1	10.90
Broadleaf Deciduous Smal	478	4	-32	-3	0	335	3	778	6 (N/A)	0.1	0.1	5.84
Swamp white oak	386	3	-17	-2	0	395	3	762	6 (N/A)	0.1	0.1	5.71
Ginkgo	225	2	-20	-3	0	319	2	521	4 (N/A)	0.1	0.0	3.91
Citywide total	895,134	6,714	-77,721	-3,890	-612	618,536	4,639	1,432,059	10,740 (N/A)	100.0	100.0	8.14

Table 6: Annual Social and Aesthetic Benefits

Emmetsburg

Annual Aesthetic/Other Benefits of Public Trees

12/10/2019

Species	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	23,610	(N/A)	32.4	29.6	55.16
Silver maple	23,297	(N/A)	15.5	29.2	113.64
Black maple	6,580	(N/A)	12.9	8.3	38.71
Norway maple	4,494	(N/A)	10.2	5.6	33.29
Black walnut	6,176	(N/A)	8.0	7.8	58.26
Honeylocust	7,357	(N/A)	3.4	9.2	163.50
Apple	314	(N/A)	2.9	0.4	8.26
American basswood	1,977	(N/A)	1.9	2.5	79.10
Blue spruce	509	(N/A)	1.6	0.6	24.24
Northern hackberry	1,149	(N/A)	1.5	1.4	57.44
Littleleaf linden	515	(N/A)	0.9	0.6	42.89
American elm	432	(N/A)	0.8	0.5	39.26
Northern red oak	147	(N/A)	0.8	0.2	13.38
White oak	372	(N/A)	0.7	0.5	41.31
Eastern redbud	35	(N/A)	0.6	0.0	4.41
Boxelder	457	(N/A)	0.5	0.6	65.33
Amur maple	57	(N/A)	0.5	0.1	8.14
Red maple	163	(N/A)	0.5	0.2	27.12
Mulberry	55	(N/A)	0.5	0.1	9.13
Norway spruce	42	(N/A)	0.5	0.1	6.95
Conifer Evergreen Large	191	(N/A)	0.4	0.2	38.22
Kentucky coffeetree	195	(N/A)	0.3	0.2	48.81
White ash	293	(N/A)	0.3	0.4	73.14
Sugar maple	196	(N/A)	0.3	0.2	48.97
River birch	58	(N/A)	0.2	0.1	19.23
Siberian elm	94	(N/A)	0.2	0.1	46.99
American sycamore	131	(N/A)	0.2	0.2	65.59
Birch	65	(N/A)	0.2	0.1	32.69
Broadleaf Deciduous Large	131	(N/A)	0.2	0.2	65.59
Bur oak	72	(N/A)	0.2	0.1	36.21
Callery pear	65	(N/A)	0.2	0.1	32.69
Northern catalpa	131	(N/A)	0.2	0.2	65.59
Black ash	52	(N/A)	0.2	0.1	26.22
Black locust	31	(N/A)	0.2	0.0	15.73
Broadleaf Deciduous Medium	39	(N/A)	0.1	0.0	39.16
Willow	26	(N/A)	0.1	0.0	26.22
Elm	58	(N/A)	0.1	0.1	58.34
Broadleaf Deciduous Small	29	(N/A)	0.1	0.0	28.80
Swamp white oak	39	(N/A)	0.1	0.0	39.16
Ginkgo	17	(N/A)	0.1	0.0	17.46
Citywide total	79,654	(N/A)	100.0	100.0	60.34

Table 7: Summary of Benefits in Dollars

Emmetsburg

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

12/10/2019

| Species	Energy	CO_2	Air Quality	Stormwater	Aesthetic/Other	Total ($) Standard
Green ash	60.97	8.21	10.90	88.89	55.16	224.14 (N/A)
Silver maple	71.35	14.77	13.38	139.24	113.64	352.38 (N/A)
Black maple	56.62	5.46	10.66	69.98	38.71	181.42 (N/A)
Norway maple	54.09	5.48	9.62	61.93	33.29	164.41 (N/A)
Black walnut	68.14	9.04	12.51	106.82	58.26	254.78 (N/A)
Honeylocust	62.27	9.00	10.39	78.80	163.50	323.96 (N/A)
Apple	20.50	2.15	3.31	10.06	8.26	44.27 (N/A)
American basswood	69.07	11.71	10.70	103.28	79.10	273.86 (N/A)
Blue spruce	22.20	1.95	2.57	36.76	24.24	87.71 (N/A)
Northern hackberry	73.55	7.29	13.40	95.13	57.44	246.80 (N/A)
Littleleaf linden	32.64	4.72	5.40	36.98	42.89	122.64 (N/A)
American elm	45.94	4.54	8.19	48.30	39.26	146.22 (N/A)
Northern red oak	28.77	2.55	4.03	30.23	13.38	78.97 (N/A)
White oak	51.18	6.52	9.83	93.03	41.31	201.87 (N/A)
Eastern redbud	36.99	2.36	6.59	24.78	4.41	75.13 (N/A)
Boxelder	54.92	10.55	9.33	84.03	65.33	224.15 (N/A)
Amur maple	20.61	2.22	3.39	9.33	8.14	43.69 (N/A)
Red maple	21.93	2.54	3.49	16.39	27.12	71.47 (N/A)
Mulberry	26.57	2.52	4.54	15.43	9.13	58.19 (N/A)
Norway spruce	34.08	2.19	-1.07	106.68	6.95	148.83 (N/A)
Conifer Evergreen Larg	26.67	2.71	2.27	57.20	38.22	127.07 (N/A)
Kentucky coffeetree	47.50	6.59	7.90	47.34	48.81	158.14 (N/A)
White ash	52.49	7.67	9.03	55.64	73.14	197.97 (N/A)
Sugar maple	47.37	5.89	7.35	55.39	48.97	164.97 (N/A)
River birch	55.38	4.24	10.21	73.30	19.23	162.36 (N/A)
Siberian elm	77.94	9.40	16.42	130.64	46.99	281.39 (N/A)
American sycamore	70.91	9.97	12.48	106.85	65.59	265.81 (N/A)
Birch	35.62	4.33	5.69	27.03	32.69	105.37 (N/A)
Broadleaf Deciduous I	70.91	9.97	12.48	106.85	65.59	265.81 (N/A)
Bur oak	31.57	4.42	5.11	37.43	36.21	114.74 (N/A)
Callery pear	35.62	4.33	5.69	27.03	32.69	105.37 (N/A)
Northern catalpa	70.91	9.97	12.48	106.85	65.59	265.81 (N/A)
Black ash	24.47	2.95	3.47	15.88	26.22	72.99 (N/A)
Black locust	70.84	4.88	13.58	102.01	15.73	207.05 (N/A)
Broadleaf Deciduous M	46.78	5.71	7.92	38.19	39.16	137.75 (N/A)
Willow	24.47	2.95	3.47	15.88	26.22	72.99 (N/A)
Elm	91.02	10.90	19.04	196.17	58.34	375.47 (N/A)
Broadleaf Deciduous S	46.14	5.84	8.35	31.82	28.80	120.94 (N/A)
Swamp white oak	46.78	5.71	7.92	38.19	39.16	137.75 (N/A)
Ginkgo	40.40	3.91	6.92	33.60	17.46	102.29 (N/A)
Citywide Total	58.54	8.14	10.50	86.36	60.34	223.89 (N/A)
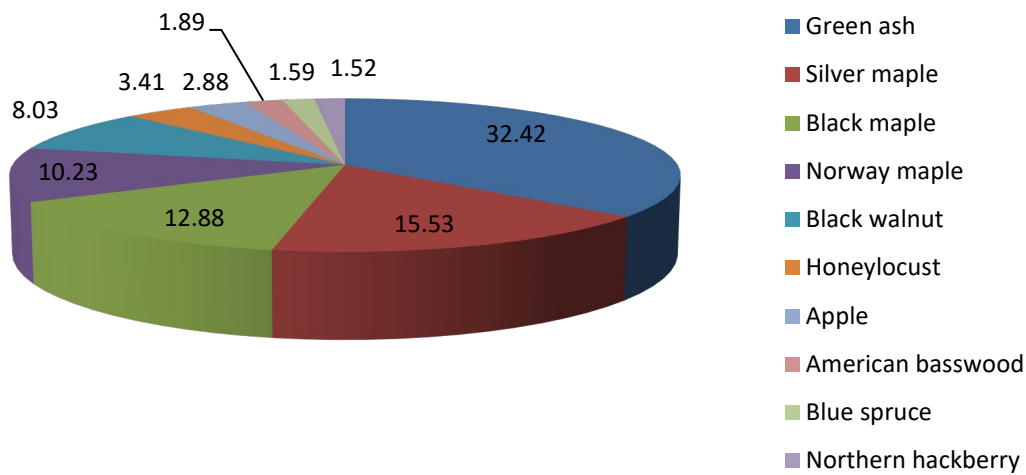
Figure 1: Species Distribution

Relative Age Distribution of Public Tree Species for All Zones (%)
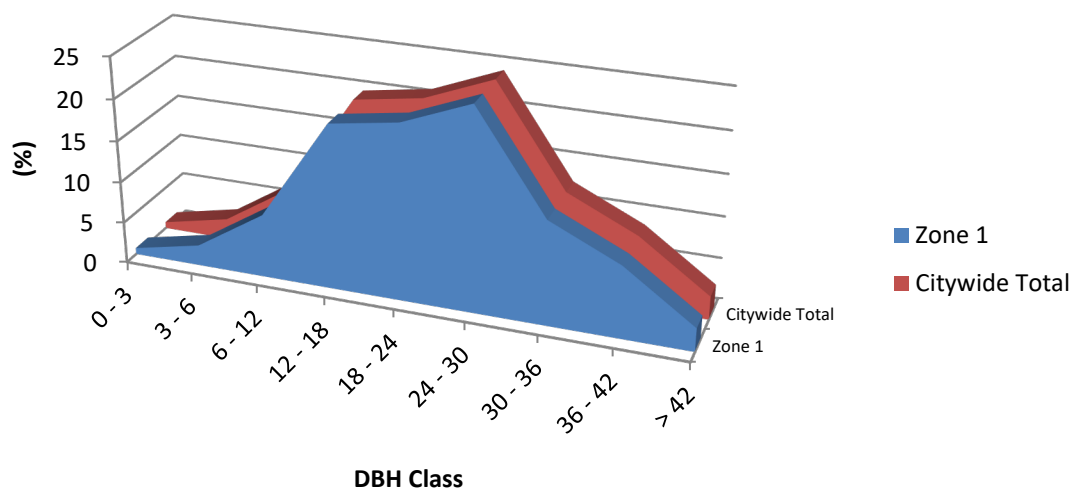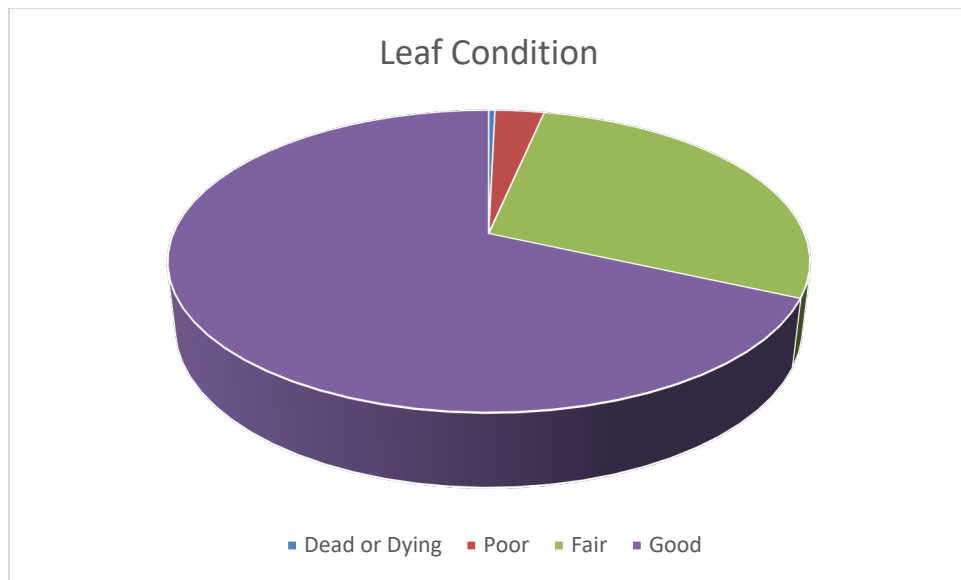

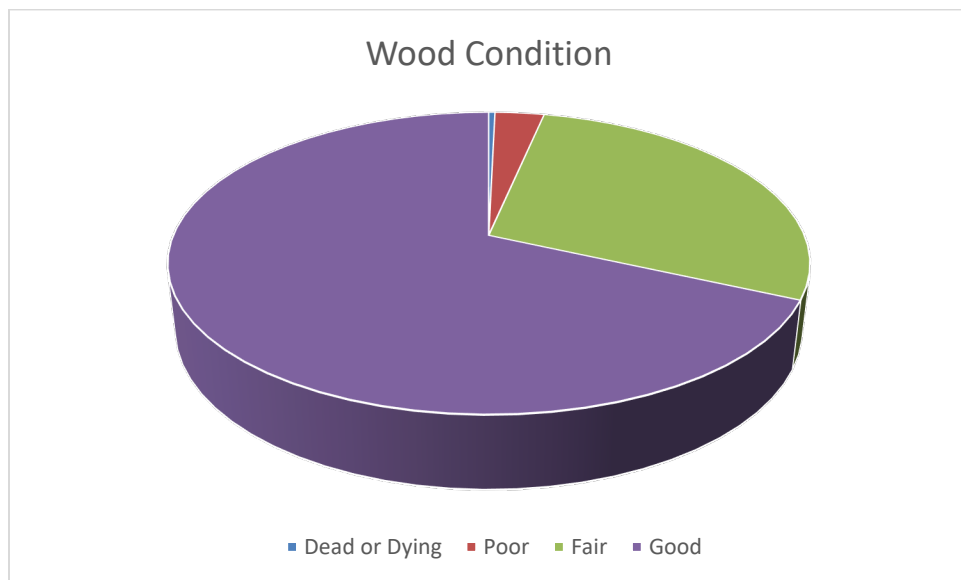Figure 2: Relative Age Class

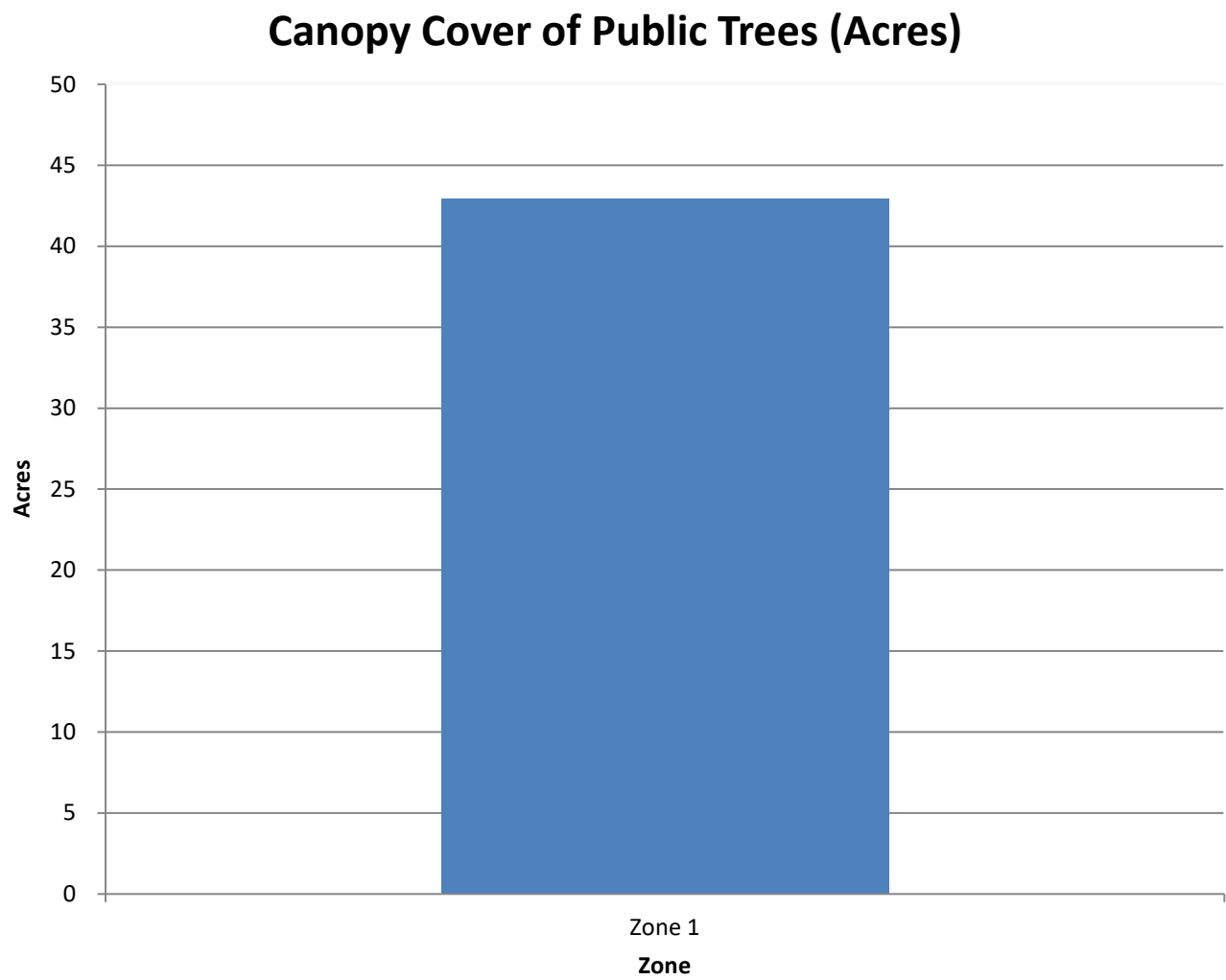**Figure 3: Foliage Condition**

Figure 4: Wood Condition

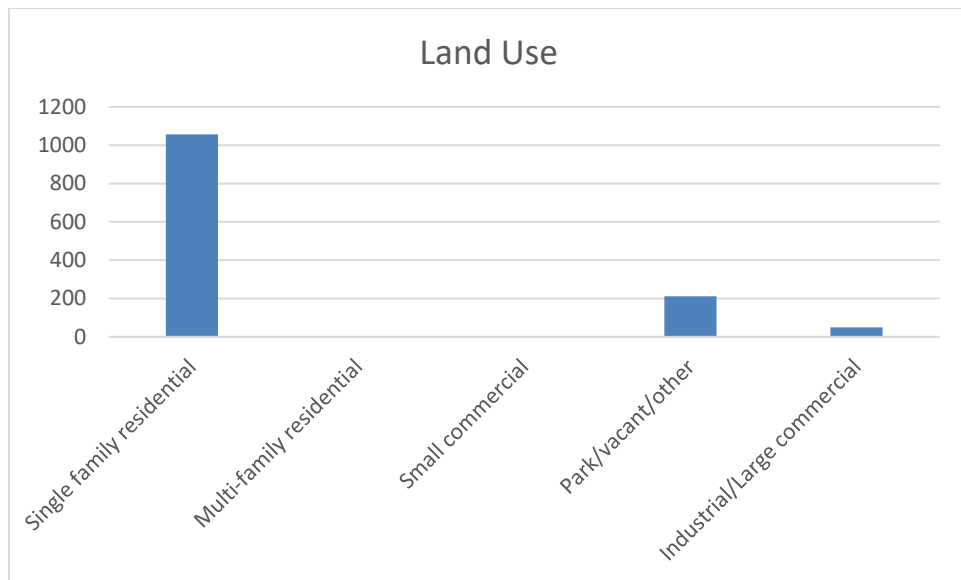# Canopy Cover of Public Trees (Acres)

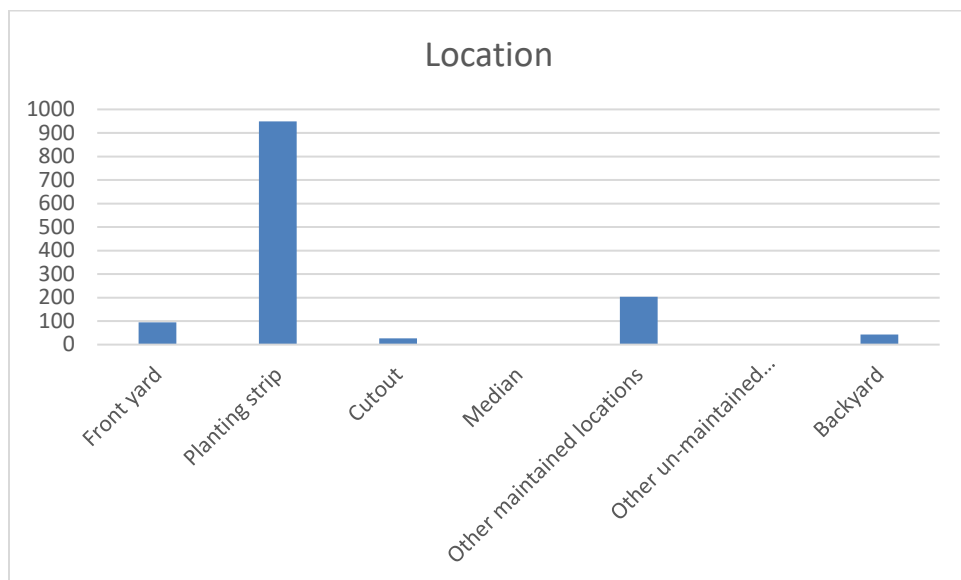**Figure 5: Canopy Cover in Acres**

Figure 6: Land Use of city/park trees

Figure 7: Location of city/park trees
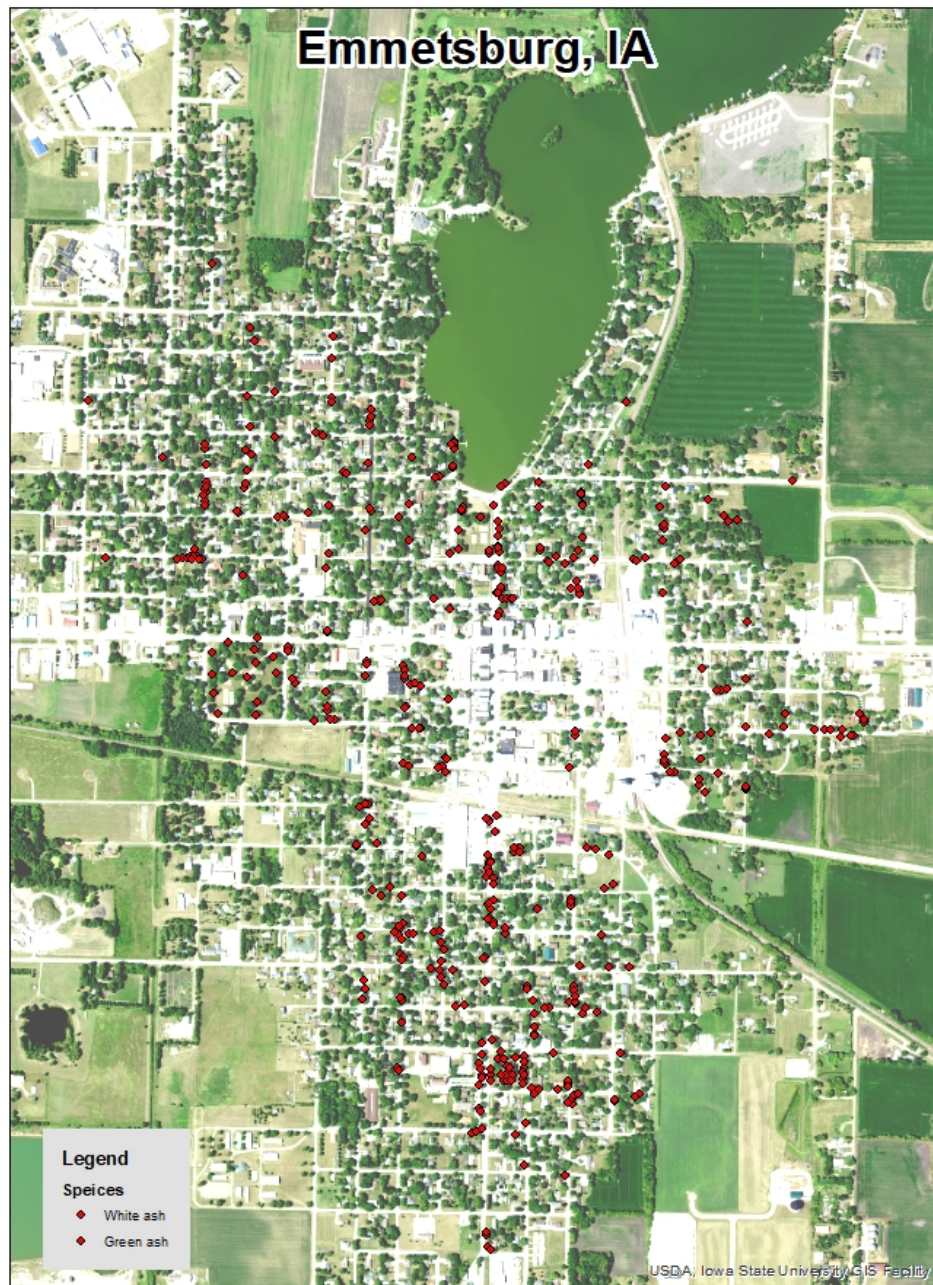
Figure 1: Location of Ash Trees
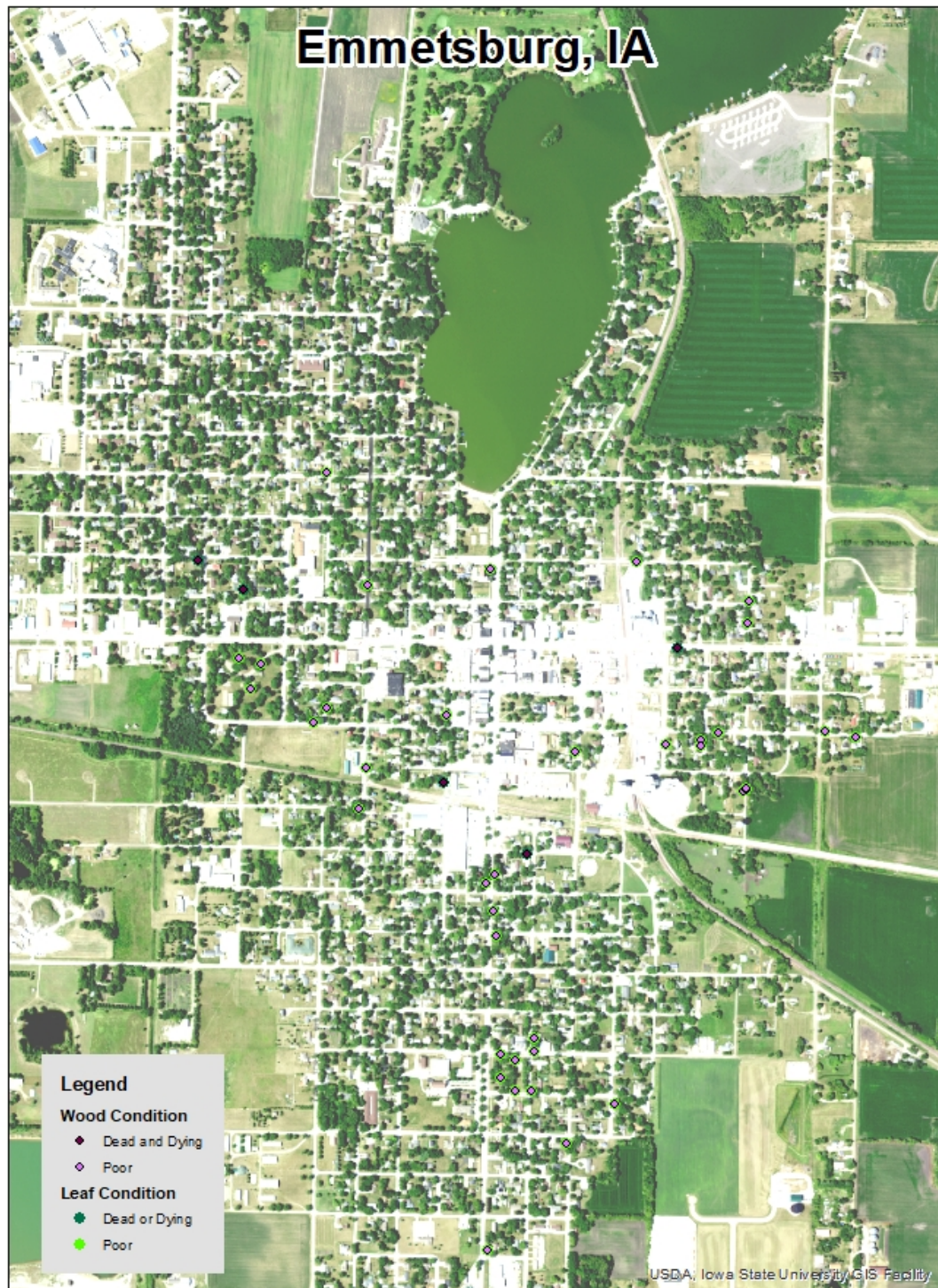
Figure 3: Location of Poor Condition Trees

Appendix C: Emmetsburg Tree Ordinances

CHAPTER 151
TREES AND GRASS

151.01 DEFINITION. For use in this chapter, "boulevard" means that part of the street, avenue or highway in the City not covered by sidewalk and lying between the lot line and the curb line; or, on unpaved streets, that part of the street, avenue or highway lying between the lot line and that portion of the street usually traveled by vehicular traffic.

151.02 PLANTING RESTRICTIONS. No tree shall be planted in any boulevard or street except in accordance with the following:
1. Alignment. All tress planted in any street shall be planted in the boulevard midway between the outer line of the sidewalk and the curb. In the event a curb line is not established, trees shall be planted on a line ten (10) feet from the property line.
2. Spacing. Trees shall not be planted on any boulevard which is less than nine (9) feet in width, or contains less than eighty-one (81) square feet of exposed soil surface per tree. Trees shall not be planted closer than twenty (20) feet from street intersections (property lines extended) and ten (10) feet from driveways. If it is at all possible trees should be planted inside the property lines and not between the sidewalk and the curb.
3. Prohibited Trees. No person shall plant in any street any fruit-bearing tree or any tree of the kinds commonly known as cottonwood, poplar, box elder, Chinese elm, evergreen, willow or black walnut.

151.03 DUTY TO TRIM TREES. The owner or agent of the abutting property shall keep the trees on, or overhanging the street, trimmed so that all branches will be at least eighteen (18) feet above the surface of a street, twenty (20) feet above the surface of a primary highway, and eight (8) feet above the sidewalks. If the abutting property owner fails to trim the trees, the City may serve notice on the abutting property owner requiring that such action be taken within five (5) days. If such action is not taken within that time, the
City may perform the required action and assess the costs against the abutting property for collection in the same manner as a property tax.
(Code of Iowa, Sec. 364.12[2c, d, & e])

151.04 TRIMMING TREES TO BE SUPERVISED. Except as allowed in Section 151.03, it is unlawful for any person to trim or cut any tree in a street or public place unless the work is done under the supervision of the City.

151.05 DISEASE CONTROL. Any dead, diseased or damaged tree or shrub which may harbor serious insect or disease pests or disease injurious to other trees is hereby declared to be a nuisance.

151.06 INSPECTION AND REMOVAL. The Council shall inspect or cause to be inspected any trees or shrubs in the City reported or suspected to be infected with or damaged by any disease or insect or disease pests, and such trees and shrubs shall be subject to removal as follows:

1. City Property. If it is determined that any such condition exists on any public property, including the strip between the curb and the lot line of private property, the Council may cause such condition to be corrected by treatment or removal. The Council may also order the removal of any trees on the streets of the City which interfere with the making of improvements or with travel thereon.

2. Private Property. If it is determined with reasonable certainty that any such condition exists on private property and that the danger to other trees or to adjoining property or passing motorists or pedestrians is imminent, the Council shall notify by certified mail the owner, occupant or person in charge of such property to correct such condition by treatment or removal within fourteen (14) days of said notification. If such owner, occupant or person in charge of said property fails to comply within 14 days of receipt of notice, the Council may cause the condition to be corrected and the cost assessed against the property.

(Code of Iowa, Sec. 364.12[3b & h])

151.07 CUTTING OR MOWING OF GRASS.

1. Duty to Cut and Mow Lawns and Lots. The owner of any property shall cut and mow all lawns and lots so that such growth shall be less than four (4) inches at all times.

2. Cutting and Mowing by City. If a property owner refuses or fails to cut and mow lawns and lots within forty-eight (48) hours after being delivered a notice from the City to perform such action, the Council may require said work to be done and the cost and expenses thereof shall be assessed to the property owner after due notice is given. The amount of such assessment shall be certified to the County Auditor as provided by law and the same shall be collected with and in the same manner as general property taxes.

The State of Iowa is an Equal Opportunity Employer and provider of ADA services.

Federal law prohibits employment discrimination on the basis of race, color, age, religion, national origin, sex or disability. State law prohibits employment discrimination on the basis of race, color, creed, age, sex, sexual orientation, gender identity, national origin, religion, pregnancy, or disability. State law also prohibits public accommodation (such as access to services or physical facilities) discrimination on the basis of race, color, creed, religion, sex, sexual orientation, gender identity, religion, national origin, or disability. If you believe you have been discriminated against in any program, activity or facility as described above, or if you desire further information, please contact the Iowa Civil Rights Commission, 1-800-457-4416, or write to the Iowa Department of Natural Resources, Wallace State Office Bldg., 502 E 9th St, Des Moines IA 50319.

If you need accommodations because of disability to access the services of this Agency, please contact the Director at 515-725-8200.