Primghar, IA

Urban Forestry Management Plan

SUMMER 2022

JEO CONSULTING GROUP

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Executive Summary

EXECUTIVE SUMMARY

Overview

This plan was developed to assist the City of Primghar in managing its urban forest, including budgeting and future planning. Trees bring numerous benefits to a community, and sound management helps leaders take advantage of these benefits. Management is especially important now considering the serious threats posed by forest pests like 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 except mountain ash. There is a strong possibility that 19% of Primghar's city-owned trees will die once EAB becomes established in the community, unless local leaders begin preventative treatment. 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 2022, JEO conducted a tree inventory 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 541 trees inventoried.

- Primghar trees provide $105,462 of benefits annually, an average of $195 per tree
- There are over 28 species of trees
- The top three genera are: Maple 59%, Ash 19%, and Basswood/Linden 6%
- 27% of trees need some type of management
- 15 trees should be removed

Recommendations

We detail our core recommendations in the Recommendations Section. In the Emerald Ash Borer Plan, we include management recommendations. Below are some key recommendations.

- Out of the 15 trees needing removal, 9 trees are over 24 inches in diameter at 4.5 ft and must be addressed immediately. *City ownership of the trees recommended for removal should be verified prior to any removal*
- 28 of the 101 ash trees should be carefully examined, as they have one or more symptoms that could be related to an EAB infestation.
- All trees should be pruned on a routine schedule: one third of the city every other 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 yearly with a visual survey.
- With the current budget it could take 24 years to remove ash. We suggest that city officials request a budget increase to $6,000 annually and apply for grants to plant replacement trees.

Introduction

INTRODUCTION

This plan was developed to assist Primghar with managing, budgeting, and future planning of their urban forest. Across the state, forestry budgets continue to decrease as a higher percentage of the budgets are devoted to 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, treatment, and replacement planting. With proper planning and management of the current canopy in Primghar, these costs can be spread out over the years and public safety issues from dead and dying ash trees can be mitigated.

Trees are an important part of Primghar's infrastructure and one of the city's greatest assets. The benefits of trees are immense. Trees improve air quality, intercept stormwater runoff, conserve energy, lower traffic speeds, increase property values, reduce crime, improve mental health, and create a desirable place to live, to name just a few. Good urban forestry management will maintain these important benefits for the people of Primghar and future generations.

Urban forestry management sets goals and develops management strategies to achieve them. To develop management strategies, a comprehensive public tree inventory must be conducted. The inventory informs maintenance, removal schedules, tree planting, and budgeting. Aligning management actions with the tree inventory results will help meet Primghar's urban forestry goals.

Assist Primghar with Managing its Urban Forest

Inform on the Benefits of a Healthy Urban Forest

Establish Preventative Treatment for Emerald Ash Borer

Develop Efficient City Tree Management Techniques

Mitigate Public Safety Issues

Findings

INVENTORY

In 2022, JEO conducted a tree inventory that included 100% of the city-owned trees on both streets and parks. The team collected tree data 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 data collectors' programming 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, for all ash trees, the team notes signs and symptoms associated with EAB including canopy dieback, epicormic shoots, bark splitting, D-shaped borer exit holes, and wood pecker damage.

INVENTORY RESULTS

JEO entered the data collected for the 541 city trees into the USDA Forest service program Street Tree Resource Analysis Tool for Urban forestry Management as part of the i-Tree suite. Following are results from the i-Tree STREETS analysis.

ANNUAL BENEFITS

Annual Energy Benefits

Trees conserve energy by shading buildings and blocking winds. Primghar's trees reduce energy-related costs by approximately $26,227 annually (Appendix A, Table 1). These savings are both in electricity (125.1 MWh) and in natural gas (17,071.4 Therms).

Annual Stormwater Benefits

Primghar's trees intercept about 1,394,888 gallons of rainfall or snow melt per year (Appendix A, Table 2). This interception provides $37,801 in benefit 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 lessens emissions of volatile organic matter (ozone). In Primghar, it is estimated that trees remove 1,635 lbs of air pollution (ozone (O3), particulate matter less than 10 microns (PM10), carbon monoxide (CO), nitrogen dioxide (NO2), and sulfur dioxide (SO2)) per year with a net value of $4,593 (Appendix A, Table 3).

Annual Carbon Benefits

Carbon sequestration and storage reduce the amount of carbon in the atmosphere, mitigating climate change. In Primghar, trees sequester about 345,256 lbs of carbon per year with an associated value of $3,983 (Appendix A, Table 5). In addition, the trees store 4,743,102 lbs of carbon, with a yearly benefit of $35,573 (Appendix A, Table 4).

Annual Aesthetics Benefits

The social benefits of trees are hard to capture. The i-Tree 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. Primghar receives $32,858 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, Primghar's trees provide $105,462 of benefits annually. Benefits of individual trees vary based on size, species, health and location, but on average each of the 541 trees in Primghar provide approximately $195 annually (Appendix A, Table 7).

ENERGY	STORMWATER	AIR QUALITY	CARBON	AESTHETICS	SUMMARY
• Reduce energy cost by **$26,227**	• Intercept 1,394,888 **gallons** • Provides **$37,801** benefit	• Remove 1,635 **lbs** of pollution • Net value of **$4,593**	• Sequester 345,256 **lbs** • Value of **$3,983** • Store 4,743,102 **lbs** • Value of **$35,573**	• **$32,858** in social benefits	• **$105,462** annual benefits • Each tree provides **$195** annually

FOREST STRUCTURE

Species Distribution

Primghar has over 28 different tree species along city streets and parks (Appendix A, Figure 1).

The distribution of trees by genera is as follows:

Maple	317	59%	Pear	5	1%
Ash	101	19%	Pine	2	<1%
Basswood/Linden	31	6%	Plum	2	<1%
Spruce	18	3%	Cottonwood	1	<1%
Oak	16	3%	Conifer Evergreen	1	<1%
Apple	13	2%	Boxelder	1	<1%
Walnut	12	2%	Cherry	1	<1%
Locust	11	2%	Elm	1	<1%
Hackberry	8	1%			

Age Class

Most of Primghar's trees (23%) are between 18 and 24 inches in diameter at 4.5 ft (Appendix A, Figure 2).

To prepare for natural mortality and to maintain canopy cover, most trees should be in the smallest size category (a downward slope), indicating youth. Primghar's size curve is on the larger side, indicating a older than average stand.

Condition: Wood and Foliage

Both wood condition and leaf condition are good indicators of the urban forest's overall health. The foliage condition results for Primghar indicate that 93% of the trees are in good health, with only 2% of the foliage in poor health, dead, or dying (Appendix A, Figure 3 & Appendix B, Figure 3). Similarly, 76% of Primghar's trees are in good health for wood condition (Appendix A, Figure 4 & Appendix B, Figure 3). Five percent of the tree population's wood condition is in poor health, dead, or dying. This 5% is an estimate of trees that need management follow up.

Management Needs

The following outlines the specific management needs of the street and park trees by number of trees and percent of canopy (Appendix B, Figure 3).

Action	Number of Trees	Percentage
Crown Cleaning	109	20%
Crown Raising	16	3%
Tree Removal	15	3%
Crown Reduction	8	1%
Tree Staking	1	<1%

Canopy Cover

The total canopy with both private and public trees is 82 acres or 9% cover. The canopy cover included in the Primghar inventory includes approximately 14 acres (Appendix A, Figure 4). The city's canopy goal is to increase canopy by 10% in 30 years. To achieve this goal it is estimated that 9 trees need to be planted annually on public and private lands.

Land Use and Location

The majority of Primghar'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	Percentage
Single Family Residential	92%
Park/Vacant/Other	7%
Industrial/Large Commercial	1%
Small Commercial	<1%
Multifamily Residential	<1%

Recommendations

RECOMMENDATIONS

Risk Management

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

HAZARDOUS TREES

Primghar has 4 critical concern trees that need immediate removal. These trees can be seen on the Location of Trees with Recommended Maintenance Map (Appendix B, Figure 4). We recommend starting with the large-diameter, critical concern trees first. There are 2 trees over 24 inches in diameter at 4.5 ft that should be addressed immediately. Please refer to the Six-Year Maintenance Plan at the end of this section. After all of the critical concern trees are addressed, there should be follow up on the trees marked as needing maintenance. There are a total of 17 trees with maintenance needs.

POOR TREE SPECIES

After removing the critical concern trees, ash trees in poor health should be assessed for removal (Appendix B, Figure 3 & Appendix B, Figure 4). Of the 15 removals, 4 are ash trees. There are a total of 101 ash trees, and 28 of those have signs and symptoms that have been associated with EAB. In addition, there are 5 trees that are in poor health. *City ownership of the trees recommended for removal should be verified prior to any removal*

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 removes lower branches that are two inches in diameter or larger to provide clearance for pedestrians or vehicles. Crown reduction removes individual limbs from structures or utility wires. We recommend 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 five years will replace the trees that are removed. We recommend planting 1.2 trees for every tree removed, since survival rates will not be 100%. 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 Primghar.

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 (59%) (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: crabapple, Japanese Lilac, serviceberry, oak (red, white), hackberry, linden, elm (disease resistant), cork, London plane, ironwood hornbeam as outlined in section 3.02 of the city ordinance (Appendix C). All trees planted must meet the restrictions in city ordinance 3.02 (Appendix C).

Continual Monitoring

Due to the threat of EAB, it is important to continuously check the health of ash trees. We recommend 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 by first removing dead, dying, hazardous trees (Appendix B, Figure 4). Next will be all ash in poor condition that display EAB signs and symptoms (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 an effective tool for communities to spread removal costs out over several years while allowing trees to continue providing 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 normally disposed of 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 3.02 (Appendix C). The new plantings will be a diverse mix and will not include crabapple, Japanese Lilac, serviceberry, oak (red, white), hackberry, linden, elm (disease resistant), cork, London plane, ironwood hornbeam.

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.

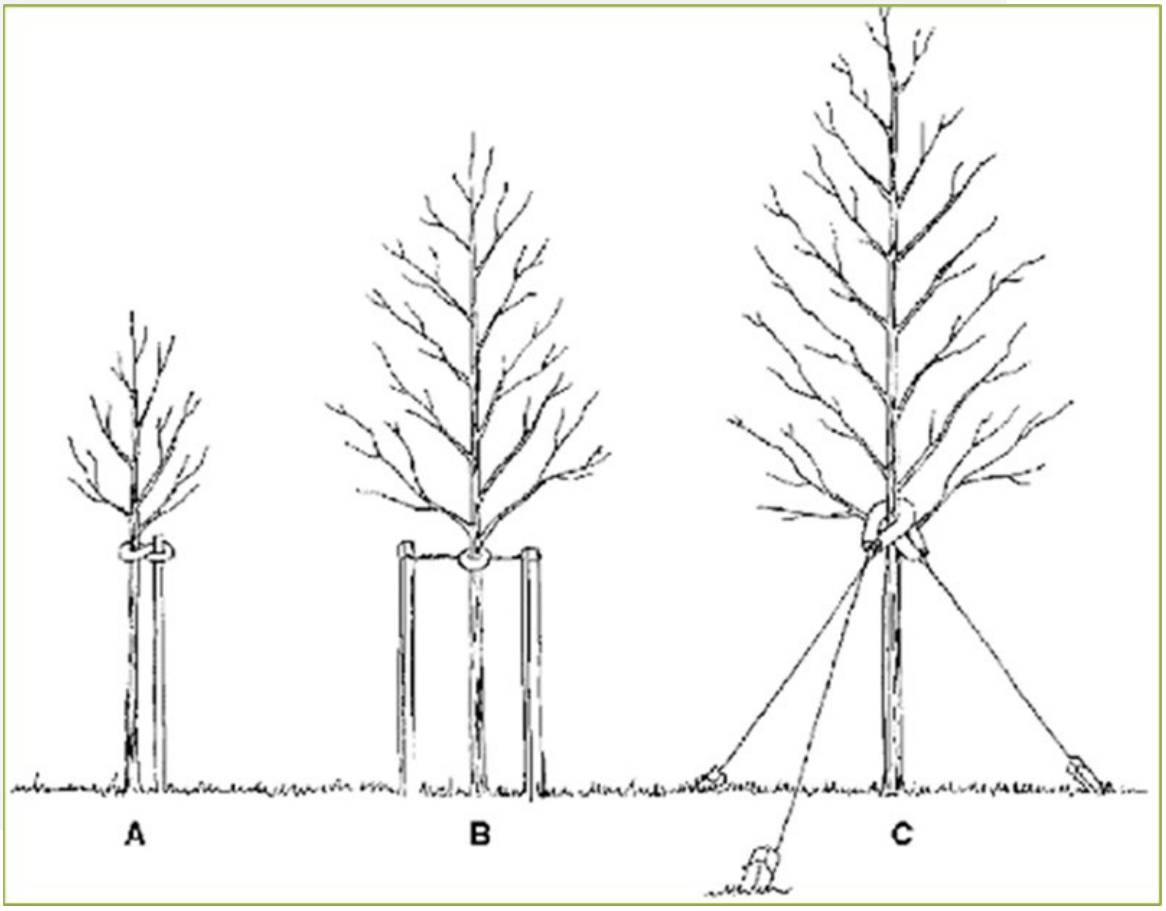
Monitoring

It is recommended that ash trees be checked with a visual survey every year for tree death and for EAB signs and symptoms including 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 3.06 (Appendix C) states “A property owner may remove a tree that is on personal property as long as the property owner does the actual work. Otherwise, the property owner must hire a licensed tree surgeon to remove the tree.”

Schedule & Budget



PROPOSED WORK SCHEDULE & BUDGET

Budget Allowance of $3,000/Year – (Based off Reported Yearly Tree Budget)

YEAR 1	Est. Cost
Remove 2 trees recommended for immediate removal	$1,400
Remove 1 ash tree in poor condition	$700
Plant 6 trees in open locations	$900
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$3,000**

YEAR 2	Est. Cost
Remove 2 trees recommended for immediate removal	$1,400
Plant 2 trees in open locations	$300
Prune 1/6 of city owned trees	$1,300
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$3,000**

YEAR 3	Est. Cost
Remove 1 tree recommended for immediate removal	$700
Remove 2 ash trees in poor condition	$1,400
Plant 6 trees in open locations	$900
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$3,000**

YEAR 4	Est. Cost
Remove 2 ash trees	$1,400
Plant 2 trees in open locations	$300
Prune 1/6 of city owned trees	$1,300
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$3,000**

YEAR 5	Est. Cost
Remove 3 ash trees	$2,100
Plant 6 trees in open locations	$900
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$3,000**

YEAR 6	Est. Cost
Remove 2 ash trees	$1,400
Plant 2 trees in open locations	$300
Prune 1/6 of city owned trees	$1,300
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$3,000**

Estimated costs based on average costs of $700/tree for removal, $150/tree for planting and maintenance, and $15/tree for pruning.

***To remove all ash trees within 6 years alone, the budget would need to be $12,000 a year. If the budget were increased to $10,000 a year all ash could be removed in 7 years.*

PROPOSED WORK SCHEDULE WITH INCREASED BUDGET

Budget Allowance of $6,000/Year – (Budget Increase Suggested to Best Manage City Trees)

YEAR 1	Est. Cost
Remove 3 trees recommended for immediate removal	$2,100
Remove 4 ash trees in poor condition	$2,800
Plant 7 trees in open locations	$1,050
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$5,950**

YEAR 2	Est. Cost
Remove 3 ash trees in poor condition	$2,100
Plant 8 trees in open locations	$1,200
Prune 1/3 of city owned trees	$2,700
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$6,000**

YEAR 3	Est. Cost
Remove 6 trees recommended for immediate removal	$4,200
Plant 12 trees in open locations	$1,800
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$6,000**

YEAR 4	Est. Cost
Remove 3 trees recommended for immediate removal	$2,100
Plant 8 trees in open locations	$1,200
Prune 1/3 of city owned trees	$2,700
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$6,000**

YEAR 5	Est. Cost
Remove 6 ash trees	$4,200
Plant 12 trees in open locations	$1,800
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$6,000**

YEAR 6	Est. Cost
Remove 3 ash trees	$2,100
Plant 8 trees in open locations	$1,200
Prune 1/3 of city owned trees	$2,700
Visual Survey of EAB Signs/Symptoms	n/a
TOTAL	**$6,000**

Purposed Budget Increase

EAB could potentially kill all ash trees in Primghar within four years of its arrival. To remove all ash trees within six years, the budget would need to be increased to $12,000 a year. If the budget were increased to $10,000 per year all ash could be removed within 7 years. Additionally, we recommend that Primghar apply for grants to fund replacement trees. Utility

Company grants are usually between $500 and $10,000 for community-based, tree-planting projects that include parks, gateways, cemeteries, nature trails, libraries, nursing homes, and schools.

Another option considered by many communities is treating selected trees, either to maintain those trees in the landscape or to delay their removal – to spread out the costs and number of trees needing removal all at once. Trunk injection is administered every two years for the life of the tree. If treatment is discontinued, the tree dies. For instance, in this treatment scenario, the average ash diameter is 20 inches and at $15 per inch, about 4 trees could be treated per year (every other year treatment). Eight trees would be selected for treatment, and Primghar would still need to find $65,100 for removal. Alternatively, if there are 12 treatable trees, it would cost approximately $1,800 a year for treatment and leave $1,200 for removal. These are alternatives to straight removal of ash trees. However, whether or not the treatment option is selected, there will be an increased cost of dealing with ash trees if EAB is found in Primghar. We suggest considering an increased budget to plan for this.

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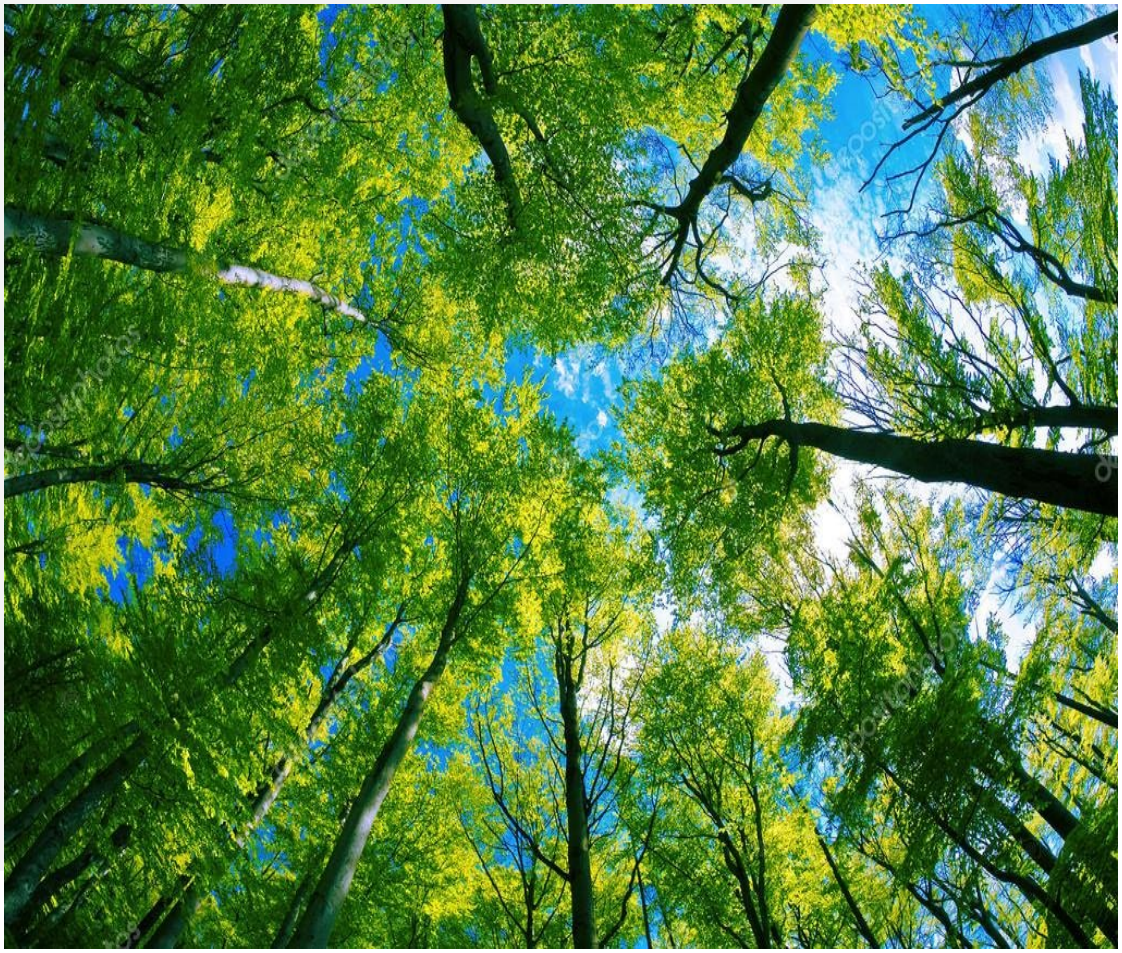
Appendices



APPENDIX A: i-TREE DATA

Table 1: Annual Energy Benefits

Primghar

Annual Energy Benefits of Public Trees

2/7/2023

Species	Total Electricity (MWh)	Electricity ($)	Total Natural Gas (Therms)	Natural Gas ($)	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Silver maple	48.8	3,706	6,450.0	6,321	10,027	(N/A)	28.8	38.2	64.28
Maple	29.2	2,218	3,932.0	3,853	6,071	(N/A)	26.4	23.1	42.46
Ash	22.6	1,717	3,305.3	3,239	4,956	(N/A)	17.7	18.9	51.62
Littleleaf linden	3.6	272	499.0	489	761	(N/A)	4.4	2.9	31.72
Spruce	2.3	178	309.7	304	481	(N/A)	3.0	1.8	30.07
Apple	0.5	36	75.6	74	110	(N/A)	2.4	0.4	8.49
Black walnut	3.1	238	437.0	428	666	(N/A)	2.2	2.5	55.48
Honeylocust	3.1	232	398.7	391	623	(N/A)	2.0	2.4	56.61
Northern red oak	1.7	128	228.9	224	353	(N/A)	2.0	1.3	32.07
Northern hackberry	2.1	159	304.3	298	458	(N/A)	1.5	1.7	57.21
American basswood	1.7	132	244.6	240	372	(N/A)	1.3	1.4	53.16
Norway maple	0.1	7	16.3	16	23	(N/A)	1.3	0.1	3.35
Pear	0.8	61	111.5	109	171	(N/A)	0.9	0.7	34.14
Green ash	1.2	90	170.4	167	257	(N/A)	0.9	1.0	51.42
Amur maple	0.3	23	52.0	51	74	(N/A)	0.9	0.3	14.73
Red maple	0.3	20	38.2	37	57	(N/A)	0.6	0.2	19.00
Pin oak	1.0	79	140.6	138	217	(N/A)	0.6	0.8	72.29
Swamp white oak	0.4	28	56.4	55	83	(N/A)	0.4	0.3	41.58
Plum	0.0	1	1.2	1	2	(N/A)	0.4	0.0	0.87
Sugar maple	0.3	25	41.8	41	66	(N/A)	0.4	0.3	33.17
Red pine	0.2	14	24.1	24	38	(N/A)	0.4	0.1	18.86
Blue spruce	0.1	10	20.4	20	30	(N/A)	0.4	0.1	14.80
Cottonwood	0.4	29	53.7	53	82	(N/A)	0.2	0.3	82.02
Conifer Evergreen Medium	0.1	10	15.2	15	25	(N/A)	0.2	0.1	24.51
Boxelder	0.2	17	30.8	30	47	(N/A)	0.2	0.2	46.76
Black cherry	0.2	14	24.7	24	38	(N/A)	0.2	0.1	38.13
Black maple	0.3	19	30.1	29	49	(N/A)	0.2	0.2	48.95
Elm	0.4	33	59.0	58	91	(N/A)	0.2	0.3	91.02
Total	125.1	9,497	17,071.4	16,730	26,227	(N/A)	100.0	100.0	48.48

Table 2: Annual Stormwater Benefits

Primghar

Annual Stormwater Benefits of Public Trees

2/7/2023

Species	Total rainfall interception (Gal)	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Silver maple	700,609	18,987	(N/A)	28.8	50.2	121.71
Maple	239,248	6,484	(N/A)	26.4	17.2	45.34
Ash	216,065	5,855	(N/A)	17.7	15.5	60.99
Littleleaf linden	27,715	751	(N/A)	4.4	2.0	31.30
Spruce	47,179	1,279	(N/A)	3.0	3.4	79.91
Apple	1,637	44	(N/A)	2.4	0.1	3.41
Black walnut	30,912	838	(N/A)	2.2	2.2	69.81
Honeylocust	22,938	622	(N/A)	2.0	1.6	56.51
Northern red oak	13,822	375	(N/A)	2.0	1.0	34.05
Northern hackberry	17,933	486	(N/A)	1.5	1.3	60.75
American basswood	18,158	492	(N/A)	1.3	1.3	70.30
Norway maple	386	10	(N/A)	1.3	0.0	1.50
Pear	2,931	79	(N/A)	0.9	0.2	15.88
Green ash	13,085	355	(N/A)	0.9	0.9	70.92
Amur maple	1,065	29	(N/A)	0.9	0.1	5.77
Red maple	1,388	38	(N/A)	0.6	0.1	12.54
Pin oak	12,399	336	(N/A)	0.6	0.9	112.00
Swamp white oak	3,065	83	(N/A)	0.4	0.2	41.53
Plum	15	0	(N/A)	0.4	0.0	0.20
Sugar maple	1,914	52	(N/A)	0.4	0.1	25.93
Red pine	2,134	58	(N/A)	0.4	0.2	28.92
Blue spruce	1,511	41	(N/A)	0.4	0.1	20.47
Cottonwood	5,491	149	(N/A)	0.2	0.4	148.79
Conifer Evergreen Medium	1,544	42	(N/A)	0.2	0.1	41.85
Boxelder	2,233	61	(N/A)	0.2	0.2	60.52
Black cherry	667	18	(N/A)	0.2	0.0	18.06
Black maple	1,604	43	(N/A)	0.2	0.1	43.46
Elm	7,239	196	(N/A)	0.2	0.5	196.17
Citywide total	1,394,888	37,801	(N/A)	100.0	100.0	69.87

Table 3: Annual Air Quality Benefits

Primghar

Annual Air Quality Benefits of Public Trees

2/7/2023

Species	Deposition (lb)				Total Depos. ($)	Avoided (lb)				Total Avoided ($)	BVOC Emissions (lb)	BVOC Emissions ($)	Total (lb)	Total ($)	Standard Error	% of Total Trees	Avg. $/tree
	O_3	NO_2	PM_{10}	SO_2		NO_2	PM_{10}	VOC	SO_2								
Silver maple	119.7	20.3	58.9	5.3	646	230.4	33.7	32.2	220.9	1,441	-62.1	-233	659.2	1,854	(N/A)	28.8	11.88
Maple	55.6	9.5	26.1	2.5	297	138.7	20.3	19.3	132.4	866	-18.9	-71	385.5	1,092	(N/A)	26.4	7.63
Ash	44.5	7.7	21.8	2.0	240	110.0	15.9	15.1	102.6	681	-10.4	-39	309.2	882	(N/A)	17.7	9.19
Littleleaf linden	3.8	0.7	2.0	0.2	21	17.2	2.5	2.4	16.3	107	-2.0	-8	43.1	121	(N/A)	4.4	5.03
Spruce	5.5	1.1	4.5	0.7	36	11.0	1.6	1.5	10.6	69	-23.6	-89	13.0	17	(N/A)	3.0	1.05
Apple	0.3	0.1	0.2	0.0	2	2.4	0.3	0.3	2.2	15	0.0	0	5.8	16	(N/A)	2.4	1.26
Black walnut	3.3	0.5	1.7	0.1	18	15.0	2.2	2.1	14.2	93	0.0	0	39.1	111	(N/A)	2.2	9.28
Honeylocust	4.1	0.7	1.9	0.2	22	14.4	2.1	2.0	13.8	90	-2.7	-10	36.6	102	(N/A)	2.0	9.26
Northern red oak	2.7	0.5	1.3	0.1	15	8.0	1.2	1.1	7.7	50	-3.8	-14	18.9	51	(N/A)	2.0	4.61
Northern hackberry	2.5	0.4	1.3	0.1	14	10.2	1.5	1.4	9.5	63	0.0	0	27.0	77	(N/A)	1.5	9.62
American basswood	2.4	0.4	1.2	0.1	13	8.4	1.2	1.2	7.9	52	-2.1	-8	20.8	57	(N/A)	1.3	8.21
Norway maple	0.0	0.0	0.0	0.0	0	0.5	0.1	0.1	0.4	3	0.0	0	1.1	3	(N/A)	1.3	0.44
Pear	0.9	0.1	0.4	0.0	5	3.9	0.6	0.5	3.7	24	0.0	0	10.1	29	(N/A)	0.9	5.75
Green ash	1.5	0.2	0.7	0.1	8	5.7	0.8	0.8	5.4	36	0.0	0	15.3	44	(N/A)	0.9	8.74
Amur maple	0.2	0.0	0.1	0.0	1	1.5	0.2	0.2	1.4	9	0.0	0	3.6	10	(N/A)	0.9	2.06
Red maple	0.2	0.0	0.1	0.0	1	1.3	0.2	0.2	1.2	8	-0.1	0	3.0	8	(N/A)	0.6	2.80
Pin oak	2.3	0.4	1.2	0.1	12	4.9	0.7	0.7	4.7	31	-4.2	-16	10.8	28	(N/A)	0.6	9.18
Swamp white oak	0.5	0.1	0.3	0.0	3	1.8	0.3	0.2	1.7	11	-0.1	-1	4.8	14	(N/A)	0.4	6.81
Plum	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0	0.1	0	(N/A)	0.4	0.11
Sugar maple	0.2	0.0	0.1	0.0	1	1.6	0.2	0.2	1.5	10	-0.1	-1	3.7	10	(N/A)	0.4	5.10
Red pine	0.2	0.0	0.2	0.0	2	0.9	0.1	0.1	0.8	5	-0.7	-3	1.7	4	(N/A)	0.4	2.15
Blue spruce	0.1	0.0	0.1	0.0	1	0.6	0.1	0.1	0.6	4	-0.5	-2	1.2	3	(N/A)	0.4	1.53
Cottonwood	0.8	0.1	0.4	0.0	4	1.9	0.3	0.3	1.8	12	0.0	0	5.5	16	(N/A)	0.2	15.71
Conifer Evergreen Medium	0.2	0.0	0.2	0.0	1	0.6	0.1	0.1	0.6	4	-0.6	-2	1.2	3	(N/A)	0.2	2.89
Boxelder	0.3	0.0	0.1	0.0	1	1.0	0.2	0.1	1.0	7	-0.1	0	2.7	8	(N/A)	0.2	7.54
Black cherry	0.2	0.0	0.1	0.0	1	0.9	0.1	0.1	0.8	5	0.0	0	2.3	7	(N/A)	0.2	6.56
Black maple	0.3	0.1	0.2	0.0	2	1.2	0.2	0.2	1.2	7	-0.1	0	3.1	9	(N/A)	0.2	8.75
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)	0.2	19.04
Citywide total	253.5	43.3	125.7	11.7	1,373	596.2	86.9	82.8	566.7	3,716	-132.1	-496	1,634.8	4,593	(N/A)	100.0	8.49

Table 4: Annual Carbon Stored

Primghar

Stored CO2 Benefits of Public Trees

2/7/2023

Species	Total Stored CO2 (lbs)	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Silver maple	2,684,063	20,130	(N/A)	28.8	56.6	129.04
Maple	608,410	4,563	(N/A)	26.4	12.8	31.91
Ash	736,286	5,522	(N/A)	17.7	15.5	57.52
Littleleaf linden	84,906	637	(N/A)	4.4	1.8	26.53
Spruce	58,496	439	(N/A)	3.0	1.2	27.42
Apple	5,975	45	(N/A)	2.4	0.1	3.45
Black walnut	106,443	798	(N/A)	2.2	2.2	66.53
Honeylocust	49,807	374	(N/A)	2.0	1.1	33.96
Northern red oak	52,752	396	(N/A)	2.0	1.1	35.97
Northern hackberry	36,700	275	(N/A)	1.5	0.8	34.41
American basswood	93,356	700	(N/A)	1.3	2.0	100.02
Norway maple	521	4	(N/A)	1.3	0.0	0.56
Pear	13,057	98	(N/A)	0.9	0.3	19.58
Green ash	48,473	364	(N/A)	0.9	1.0	72.71
Amur maple	3,645	27	(N/A)	0.9	0.1	5.47
Red maple	2,420	18	(N/A)	0.6	0.1	6.05
Pin oak	61,073	458	(N/A)	0.6	1.3	152.68
Swamp white oak	9,046	68	(N/A)	0.4	0.2	33.92
Plum	28	0	(N/A)	0.4	0.0	0.10
Sugar maple	4,725	35	(N/A)	0.4	0.1	17.72
Red pine	1,427	11	(N/A)	0.4	0.0	5.35
Blue spruce	568	4	(N/A)	0.4	0.0	2.13
Cottonwood	25,943	195	(N/A)	0.2	0.5	194.57
Conifer Evergreen M	1,118	8	(N/A)	0.2	0.0	8.39
Boxelder	7,945	60	(N/A)	0.2	0.2	59.59
Black cherry	3,037	23	(N/A)	0.2	0.1	22.78
Black maple	3,624	27	(N/A)	0.2	0.1	27.18
Elm	39,259	294	(N/A)	0.2	0.8	294.44
Citywide total	4,743,102	35,573	(N/A)	100.0	100.0	65.75

The value of stored carbon dioxide is calculated as the total amount of carbon dioxide sequestered annually over the life of each tree, summed for the population. This value should not be added to the Replacement Value or double-counting of the carbon dioxide storage benefit will occur.

Table 5: Annual Carbon Sequestered

Primghar

Annual CO Benefits of Public Trees

2/7/2023

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
Silver maple	201,730	1,513	-12,888	-539	-101	81,905	614	270,207	2,027 (N/A)	28.8	50.9	12.99
Maple	62,429	468	-2,921	-269	-24	49,020	368	108,258	812 (N/A)	26.4	20.4	5.68
Ash	26,258	197	-3,534	-251	-28	37,935	285	60,408	453 (N/A)	17.7	11.4	4.72
Littleleaf linden	10,628	80	-408	-42	-3	6,017	45	16,195	121 (N/A)	4.4	3.0	5.06
Spruce	2,670	20	-281	-44	-2	3,924	29	6,269	47 (N/A)	3.0	1.2	2.94
Apple	758	6	-29	-9	0	802	6	1,523	11 (N/A)	2.4	0.3	0.88
Black walnut	7,628	57	-511	-32	-4	5,250	39	12,335	93 (N/A)	2.2	2.3	7.71
Honeylocust	7,255	54	-239	-25	-2	5,129	38	12,120	91 (N/A)	2.0	2.3	8.26
Northern red oak	2,664	20	-253	-20	-2	2,839	21	5,230	39 (N/A)	2.0	1.0	3.57
Northern hackberry	2,404	18	-176	-20	-1	3,524	26	5,732	43 (N/A)	1.5	1.1	5.37
American basswood	5,445	41	-448	-20	-4	2,926	22	7,902	59 (N/A)	1.3	1.5	8.47
Norway maple	218	2	-4	-2	0	165	1	377	3 (N/A)	1.3	0.1	0.40
Pear	1,184	9	-63	-9	-1	1,358	10	2,471	19 (N/A)	0.9	0.5	3.71
Green ash	3,036	23	-233	-13	-2	1,992	15	4,782	36 (N/A)	0.9	0.9	7.17
Amur maple	464	3	-18	-5	0	502	4	944	7 (N/A)	0.9	0.2	1.42
Red maple	369	3	-12	-3	0	432	3	786	6 (N/A)	0.6	0.1	1.97
Pin oak	5,283	40	-293	-11	-2	1,747	13	6,726	50 (N/A)	0.6	1.3	16.82
Swamp white oak	694	5	-43	-4	0	616	5	1,262	9 (N/A)	0.4	0.2	4.73
Plum	17	0	0	0	0	11	0	28	0 (N/A)	0.4	0.0	0.10
Sugar maple	468	4	-23	-3	0	562	4	1,004	8 (N/A)	0.4	0.2	3.77
Red pine	168	1	-7	-3	0	311	2	469	4 (N/A)	0.4	0.1	1.76
Blue spruce	77	1	-3	-2	0	212	2	285	2 (N/A)	0.4	0.1	1.07
Cottonwood	960	7	-125	-4	-1	650	5	1,481	11 (N/A)	0.2	0.3	11.11
Conifer Evergreen Mediun	91	1	-5	-2	0	213	2	296	2 (N/A)	0.2	0.1	2.22
Boxelder	694	5	-38	-3	0	366	3	1,020	8 (N/A)	0.2	0.2	7.65
Black cherry	268	2	-15	-2	0	308	2	560	4 (N/A)	0.2	0.1	4.20
Black maple	483	4	-17	-2	0	431	3	895	7 (N/A)	0.2	0.2	6.71
Elm	912	7	-188	-5	-1	734	6	1,453	11 (N/A)	0.2	0.3	10.90
Citywide total	345,256	2,589	-22,774	-1,344	-181	209,880	1,574	531,017	3,983 (N/A)	100.0	100.0	7.36

Table 6: Annual Social and Aesthetic Benefits

Primghar

Annual Aesthetic/Other Benefits of Public Trees

2/7/2023

Species	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Silver maple	15,831	(N/A)	28.8	48.2	101.48
Maple	8,102	(N/A)	26.4	24.7	56.66
Ash	2,575	(N/A)	17.7	7.8	26.82
Littleleaf linden	1,197	(N/A)	4.4	3.6	49.88
Spruce	603	(N/A)	3.0	1.8	37.71
Apple	41	(N/A)	2.4	0.1	3.14
Black walnut	663	(N/A)	2.2	2.0	55.26
Honeylocust	1,518	(N/A)	2.0	4.6	138.00
Northern red oak	214	(N/A)	2.0	0.7	19.46
Northern hackberry	364	(N/A)	1.5	1.1	45.55
American basswood	389	(N/A)	1.3	1.2	55.50
Norway maple	39	(N/A)	1.3	0.1	5.64
Pear	68	(N/A)	0.9	0.2	13.67
Green ash	252	(N/A)	0.9	0.8	50.36
Amur maple	26	(N/A)	0.9	0.1	5.13
Red maple	67	(N/A)	0.6	0.2	22.32
Pin oak	405	(N/A)	0.6	1.2	135.07
Swamp white oak	69	(N/A)	0.4	0.2	34.64
Plum	0	(N/A)	0.4	0.0	0.03
Sugar maple	61	(N/A)	0.4	0.2	30.43
Red pine	48	(N/A)	0.4	0.1	23.87
Blue spruce	42	(N/A)	0.4	0.1	21.08
Cottonwood	67	(N/A)	0.2	0.2	66.60
Conifer Evergreen Medium	25	(N/A)	0.2	0.1	25.23
Boxelder	52	(N/A)	0.2	0.2	51.63
Black cherry	15	(N/A)	0.2	0.0	15.48
Black maple	66	(N/A)	0.2	0.2	65.89
Elm	58	(N/A)	0.2	0.2	58.34
Citywide total	32,858	(N/A)	100.0	100.0	60.74

Table 7: Summary of Benefits in Dollars

Primghar

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

2/7/2023

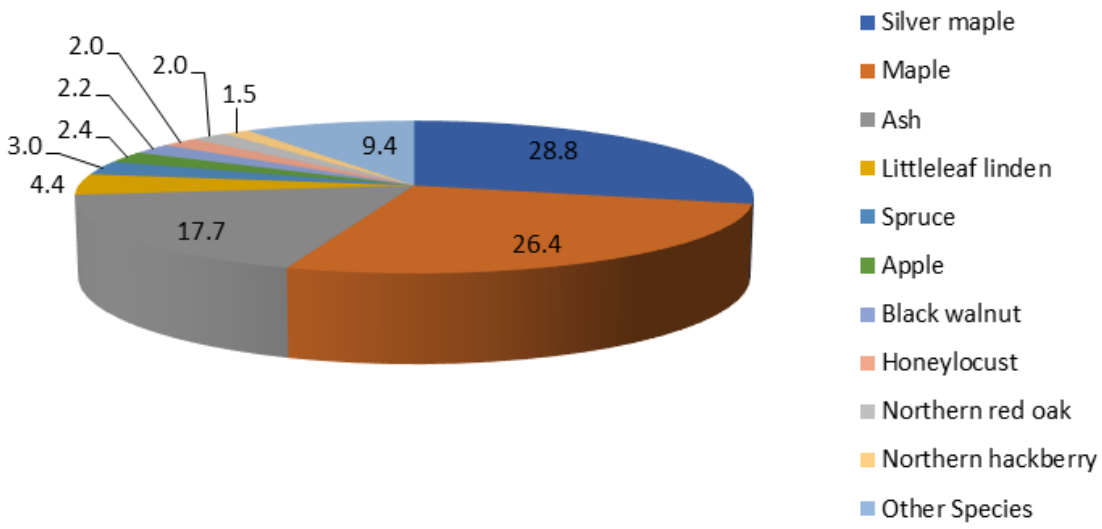
Benefits	Total ($)	Standard Error	$/tree	Standard Error	$/capita	Standard Error
Energy	26,227	(N/A)	48.48	(N/A)	29.27	(N/A)
CO2	3,983	(N/A)	7.36	(N/A)	4.44	(N/A)
Air Quality	4,593	(N/A)	8.49	(N/A)	5.13	(N/A)
Stormwater	37,801	(N/A)	69.87	(N/A)	42.19	(N/A)
Aesthetic/Other	32,858	(N/A)	60.74	(N/A)	36.67	(N/A)
Total Benefits	105,462	(N/A)	194.94	(N/A)	117.70	(N/A)
Costs						
Planting	0		0.00		0.00	
Contract Pruning	0		0.00		0.00	
Pest Management	0		0.00		0.00	
Irrigation	0		0.00		0.00	
Removal	0		0.00		0.00	
Administration	0		0.00		0.00	
Inspection/Service	0		0.00		0.00	
Infrastructure Repairs	0		0.00		0.00	
Litter Clean-up	0		0.00		0.00	
Liability/Claims	0		0.00		0.00	
Other Costs	0		0.00		0.00	
Total Costs	0		0.00		0.00	
Net Benefits	105,462	(N/A)	194.94	(N/A)	117.70	(N/A)
Benefit-cost ratio	0.00	(N/A)				

Figure 1: Species Distribution

Primghar

Species Distribution of Public Trees

2/7/2023



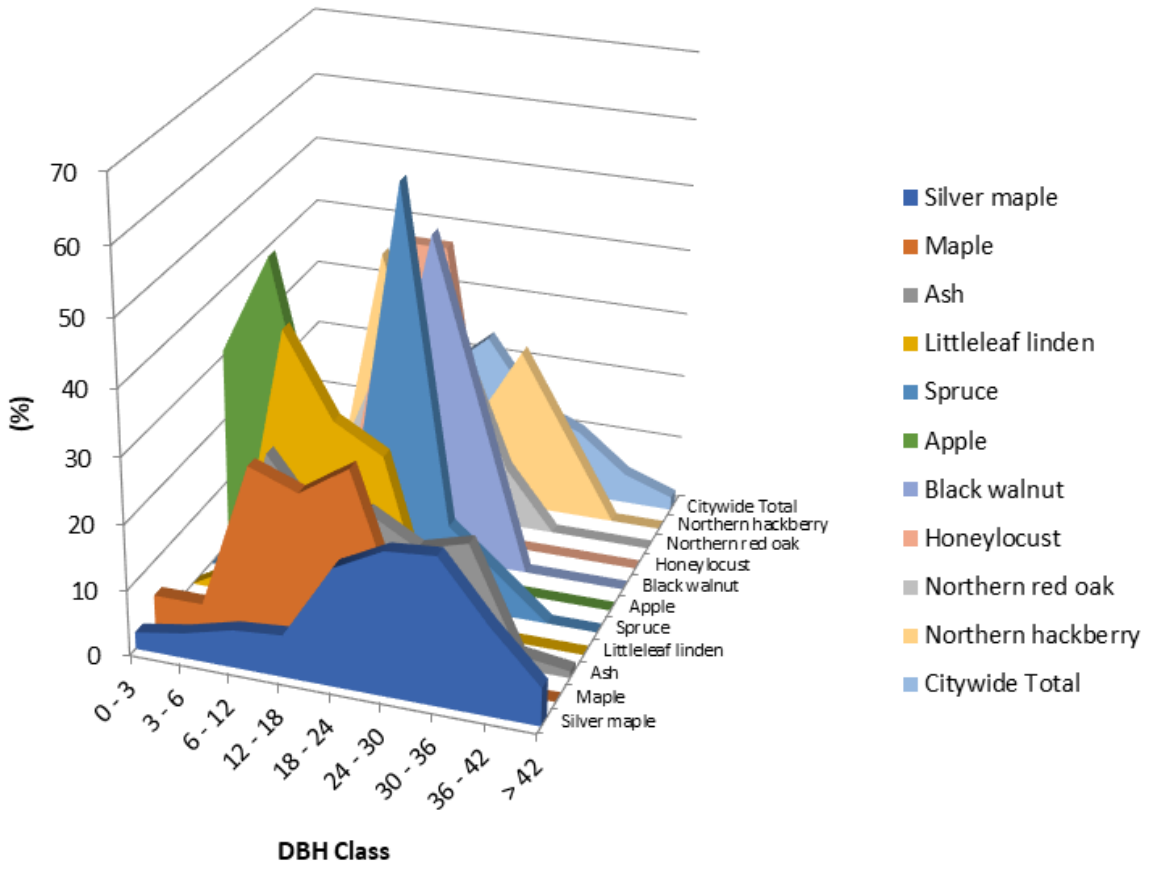
Species	Percent
Silver maple	28.8
Maple	26.4
Ash	17.7
Littleleaf linden	4.4
Spruce	3.0
Apple	2.4
Black walnut	2.2
Honeylocust	2.0
Northern red oak	2.0
Northern hackberry	1.5
Other Species	9.4
Total	100.0

Figure 2: Relative Age Class

Primghar

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

2/7/2023



	DBH class (in)								
Species	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	> 42
Silver maple	2.56	3.85	5.77	6.41	17.95	21.79	22.44	13.46	5.77
Maple	4.90	4.90	27.27	24.48	29.37	8.39	0.70	0.00	0.00
Ash	1.04	0.00	26.04	16.67	19.79	15.63	17.71	2.08	1.04
Littleleaf linden	0.00	4.17	41.67	29.17	25.00	0.00	0.00	0.00	0.00
Spruce	0.00	0.00	6.25	12.50	62.50	12.50	6.25	0.00	0.00
Apple	30.77	46.15	15.38	7.69	0.00	0.00	0.00	0.00	0.00
Black walnut	0.00	0.00	8.33	16.67	50.00	25.00	0.00	0.00	0.00
Honeylocust	0.00	0.00	9.09	45.45	45.45	0.00	0.00	0.00	0.00
Northern red oak	18.18	0.00	18.18	27.27	27.27	9.09	0.00	0.00	0.00
Northern hackberry	0.00	0.00	37.50	12.50	12.50	25.00	12.50	0.00	0.00
Citywide Total	4.99	4.25	19.59	17.19	23.48	13.49	10.35	4.62	2.03

Figure 3: Foliage Condition

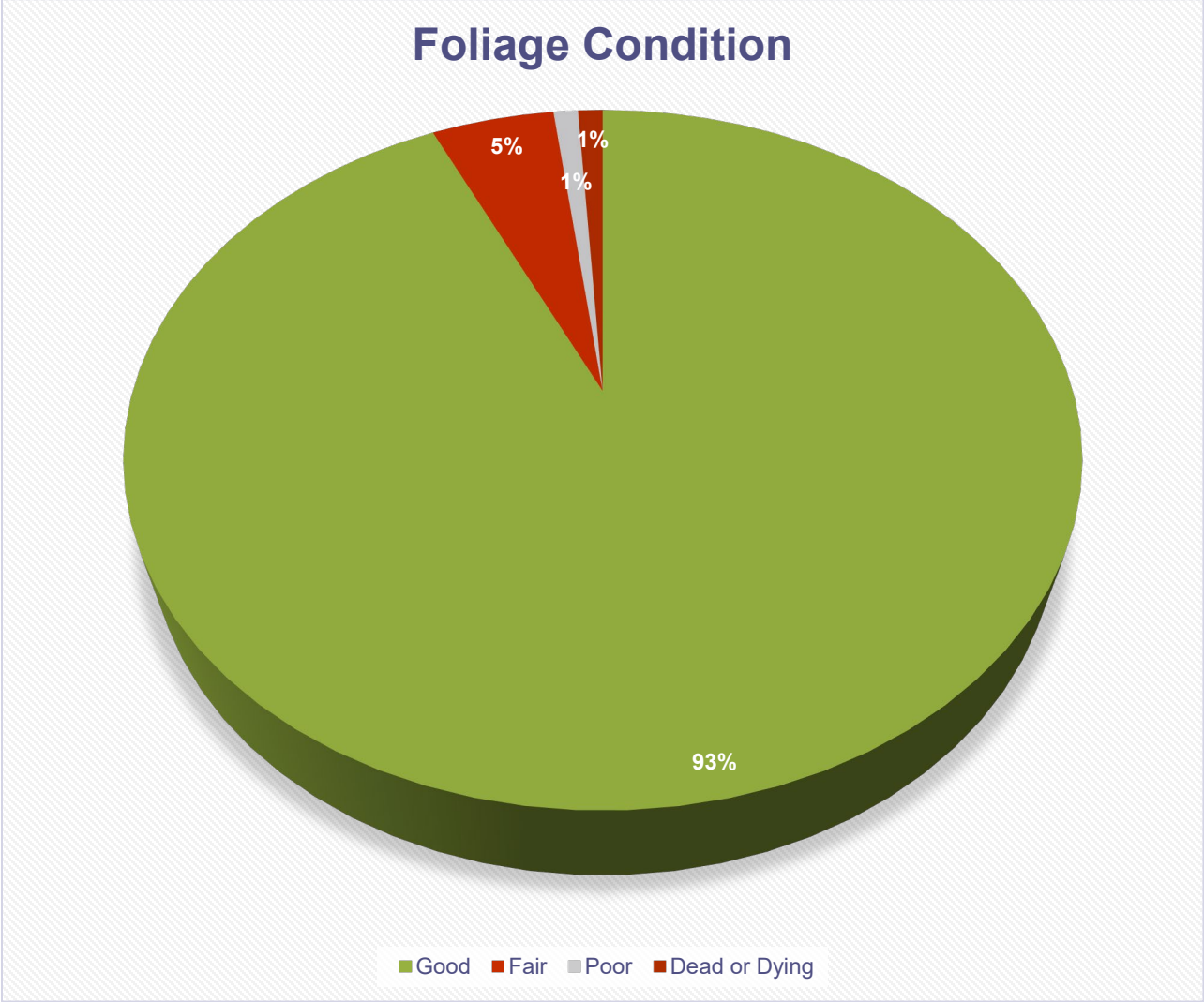


Figure 4: Wood Condition

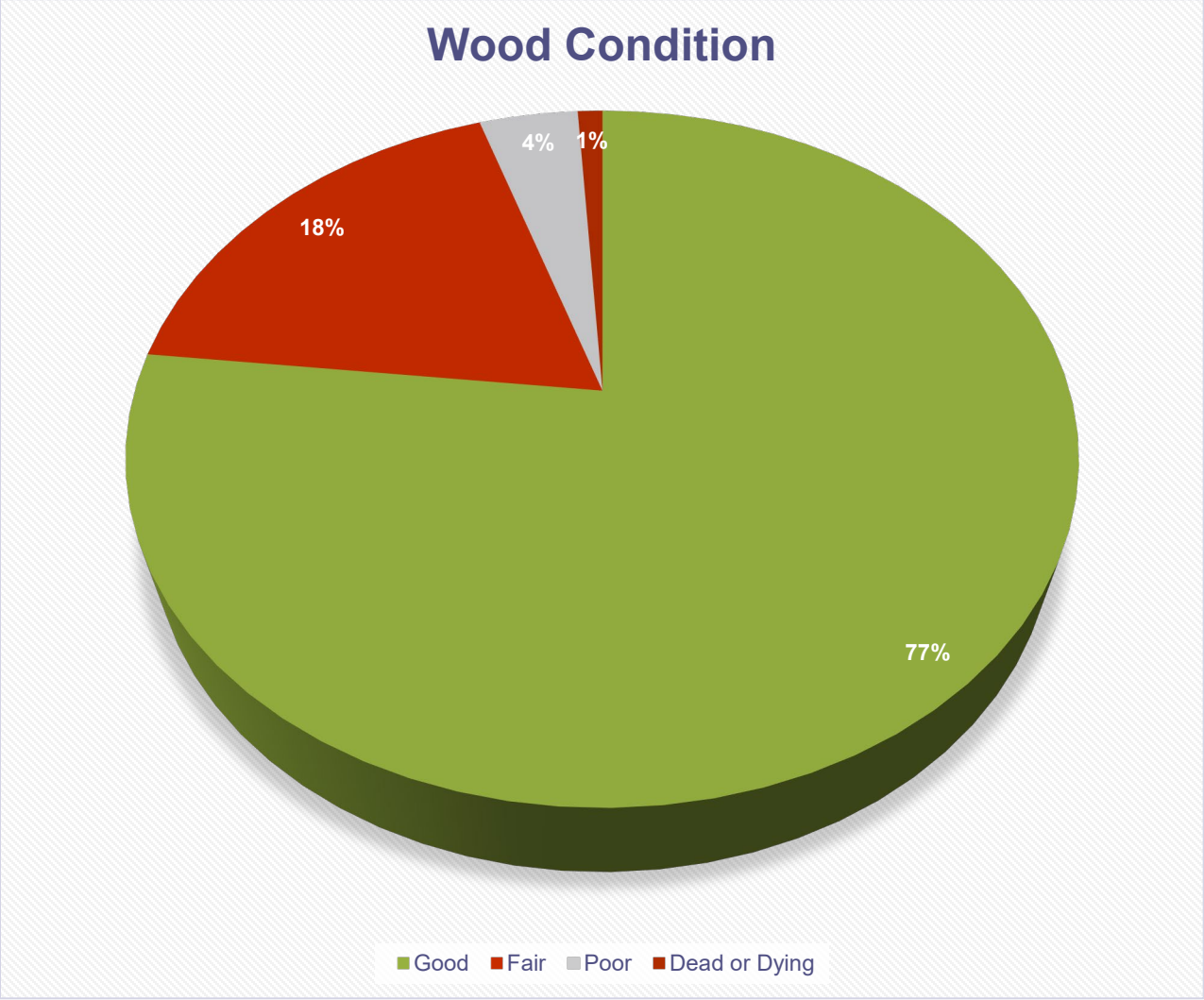
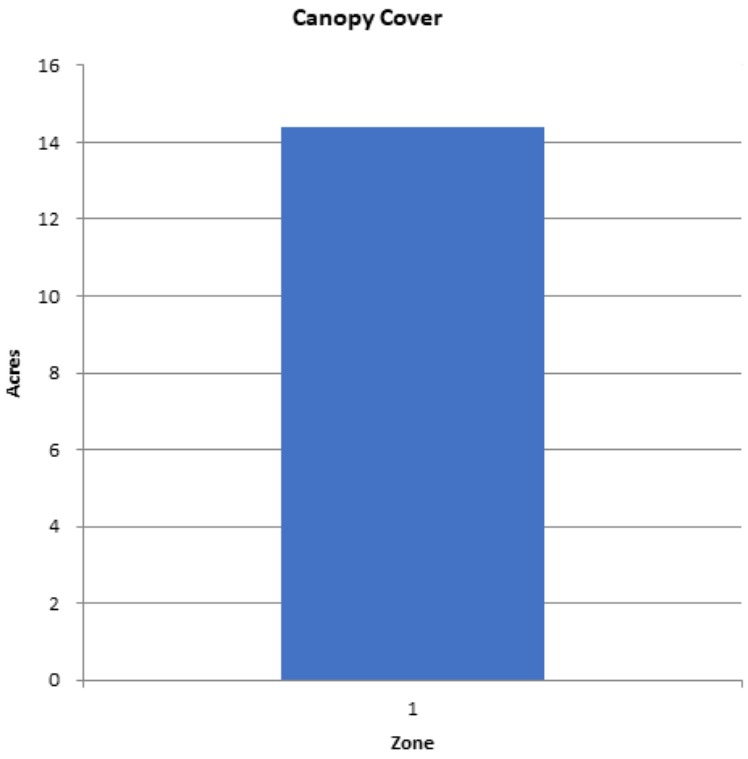


Figure 5: Canopy Cover in Acres

Primghar

Canopy Cover of Public Trees (Acres)

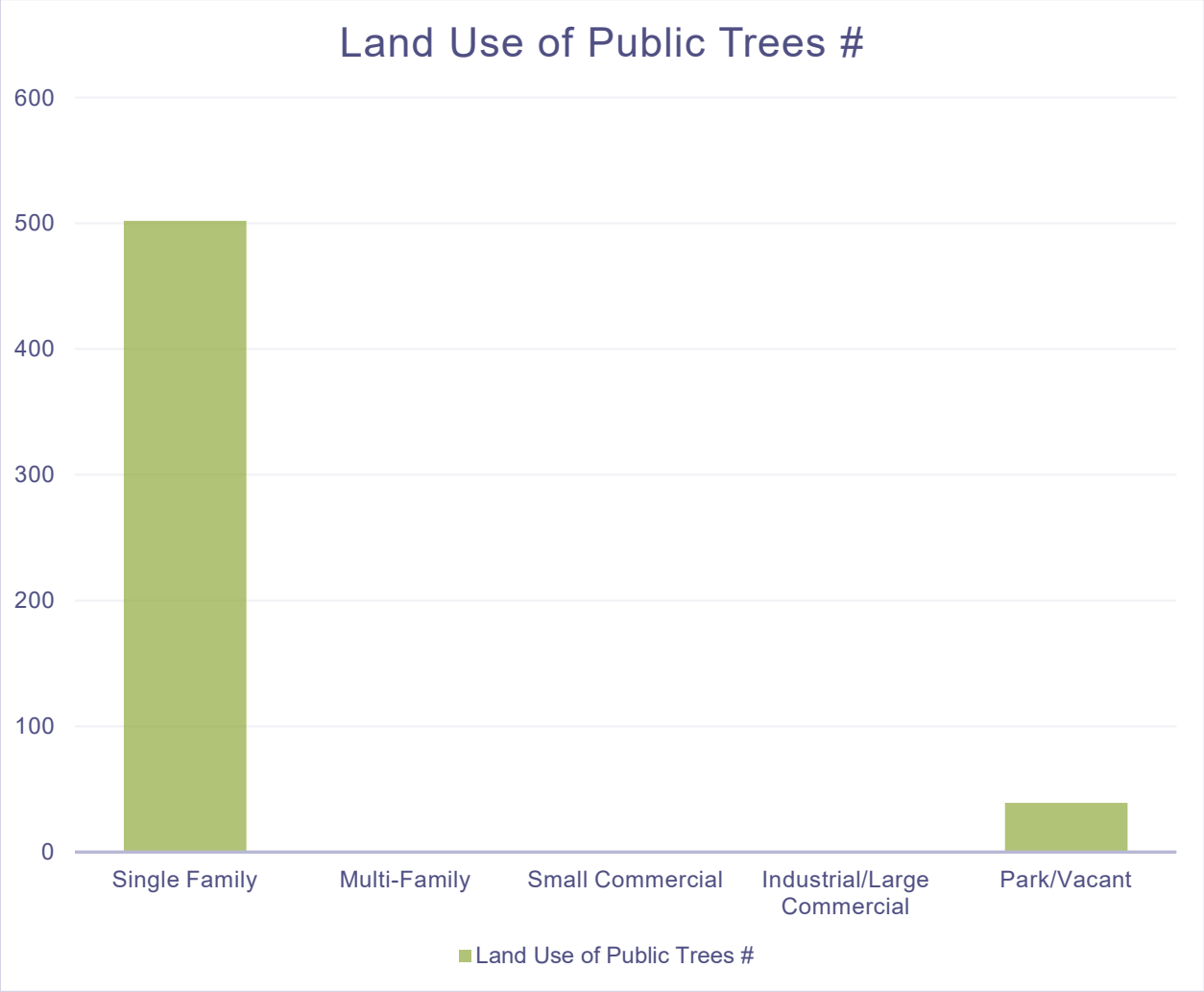
2/7/2023



Zone	Acres	% of Total Canopy Cover
1	14	100.0
Citywide total	14	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	14	0.00	0.00

Figure 6: Land Use of City/Park Trees



APPENDIX B: ArcGIS MAPPING

Figure 1: Location of Ash Trees

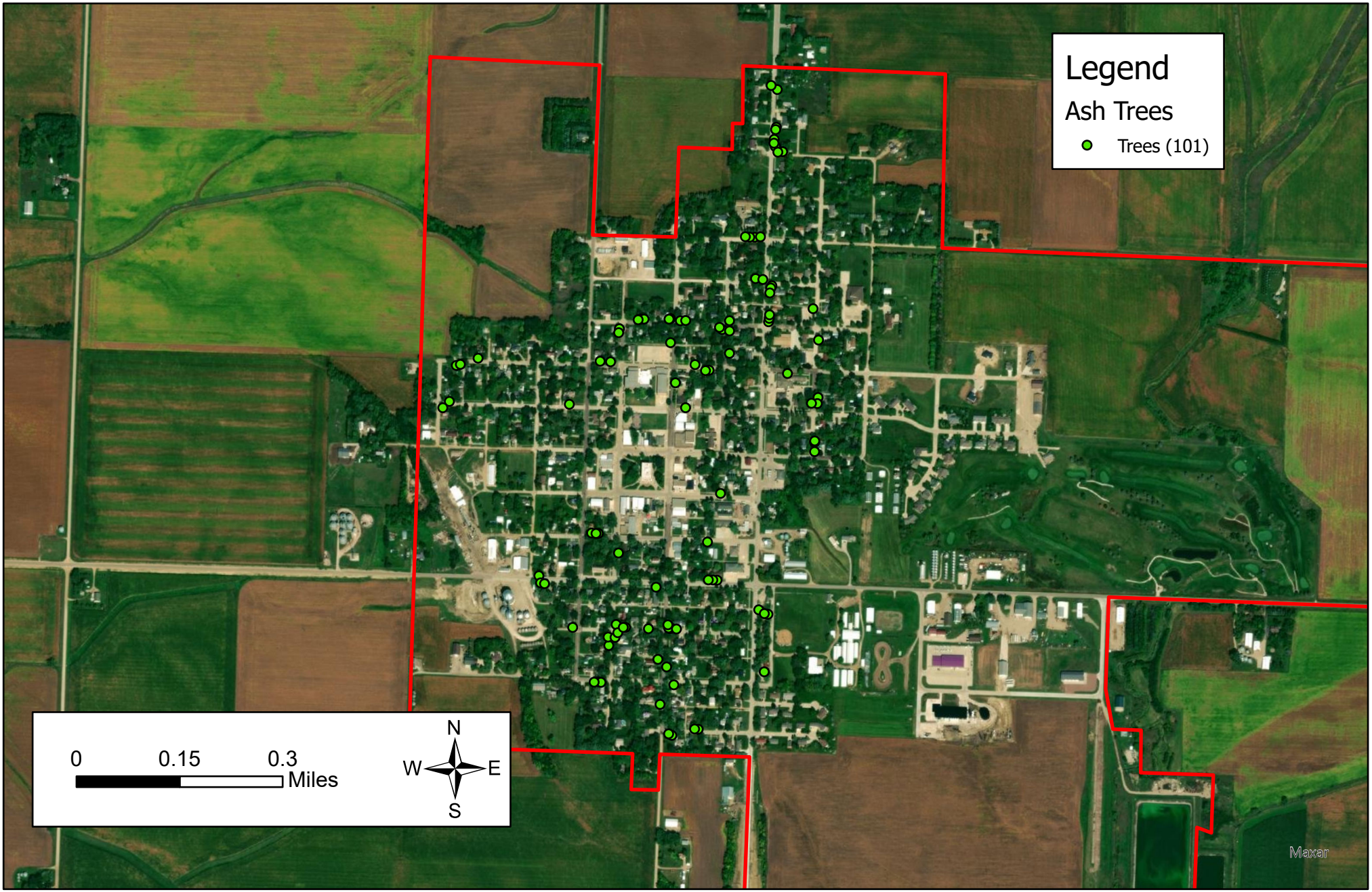
Figure 2: Location of EAB Symptoms

Figure 3: Location of Poor Condition Trees

Figure 4: Location of Trees with Recommended Maintenance

Figure 5: Maintenance Tasks

City ownership of the trees recommended for removal should be verified prior to any removal

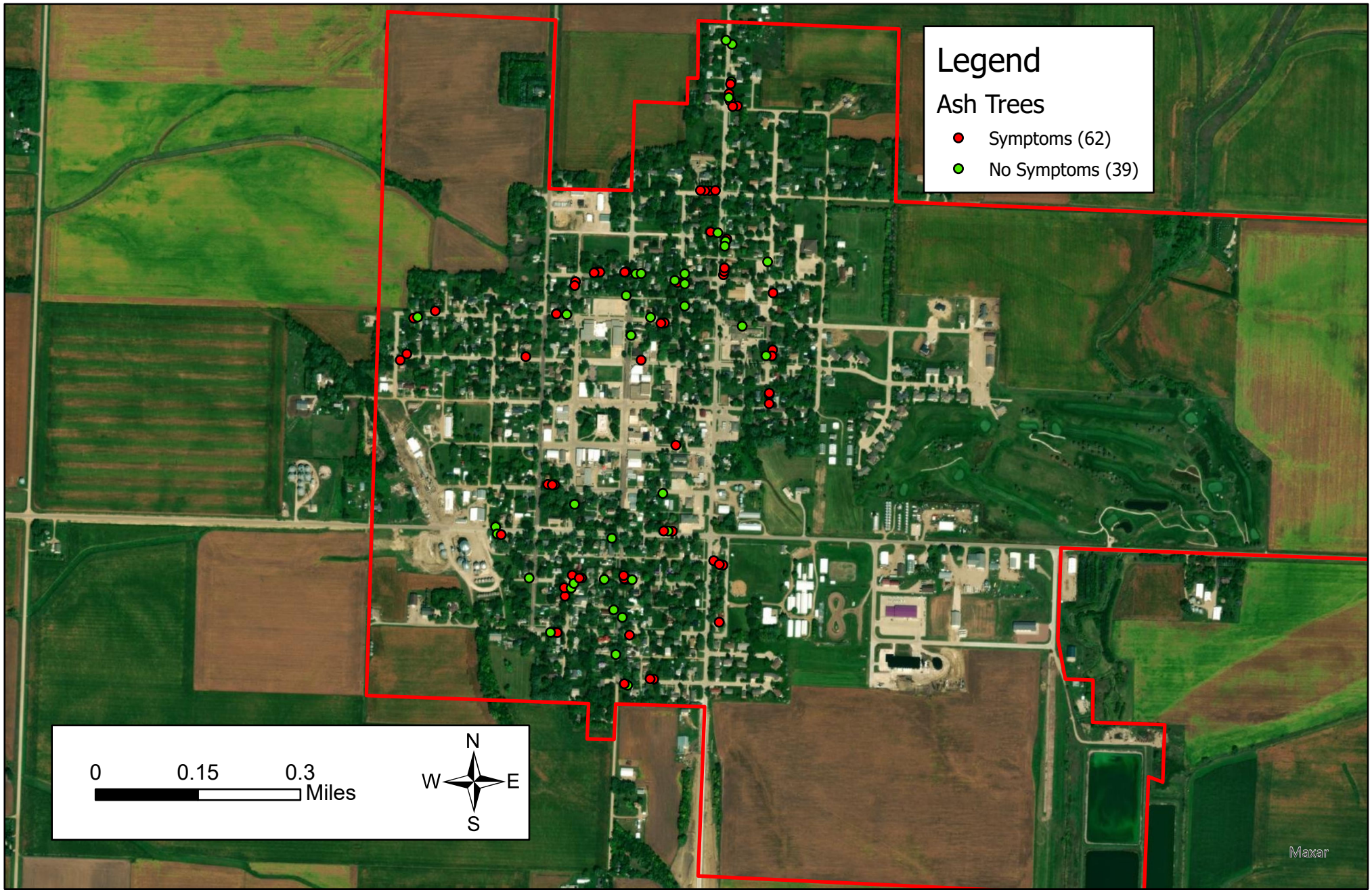


Created By: D. Genereux
Date: 1/26/2023
Software: ArcGIS Pro 3.0.3
File: 2022 IDNR Tree Inventory.aprx

2022 IDNR Tree Inventory

Figure 1 - Ash Tree Location
Primghar, Iowa

JEO CONSULTING GROUP INC

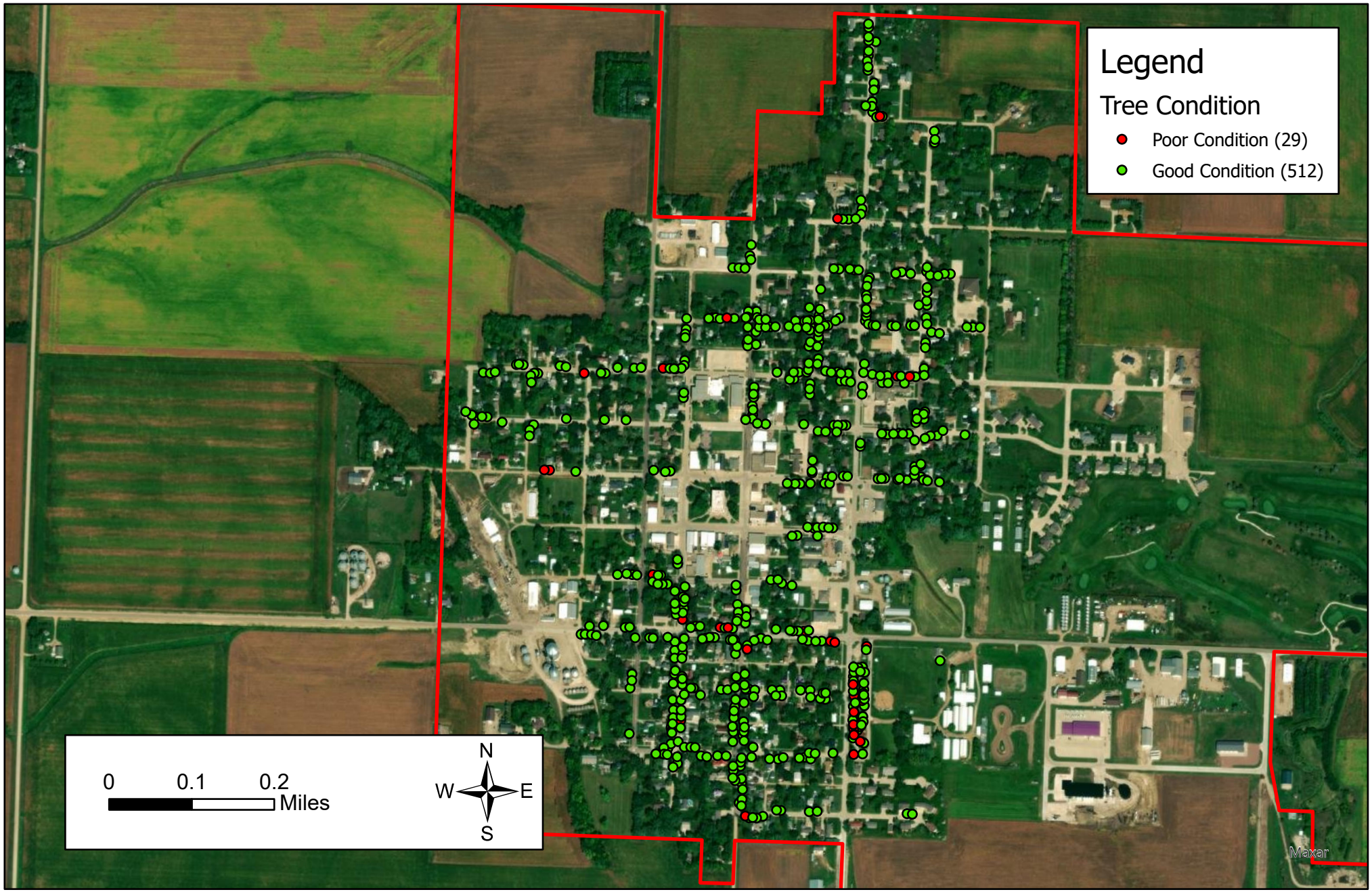


Created By: D. Genereux
Date: 1/26/2023
Software: ArcGIS Pro 3.0.3
File: 2022 IDNR Tree Inventory.aprx

2022 IDNR Tree Inventory

Figure 2 - EAB Symptoms
Primghar, Iowa

JEO CONSULTING GROUP INC



Created By: D. Genereux
Date: 1/26/2023
Software: ArcGIS Pro 3.0.3
File: 2022 IDNR Tree Inventory.aprx

2022 IDNR Tree Inventory

Figure 3 - Poor Condition Trees
Primghar, Iowa

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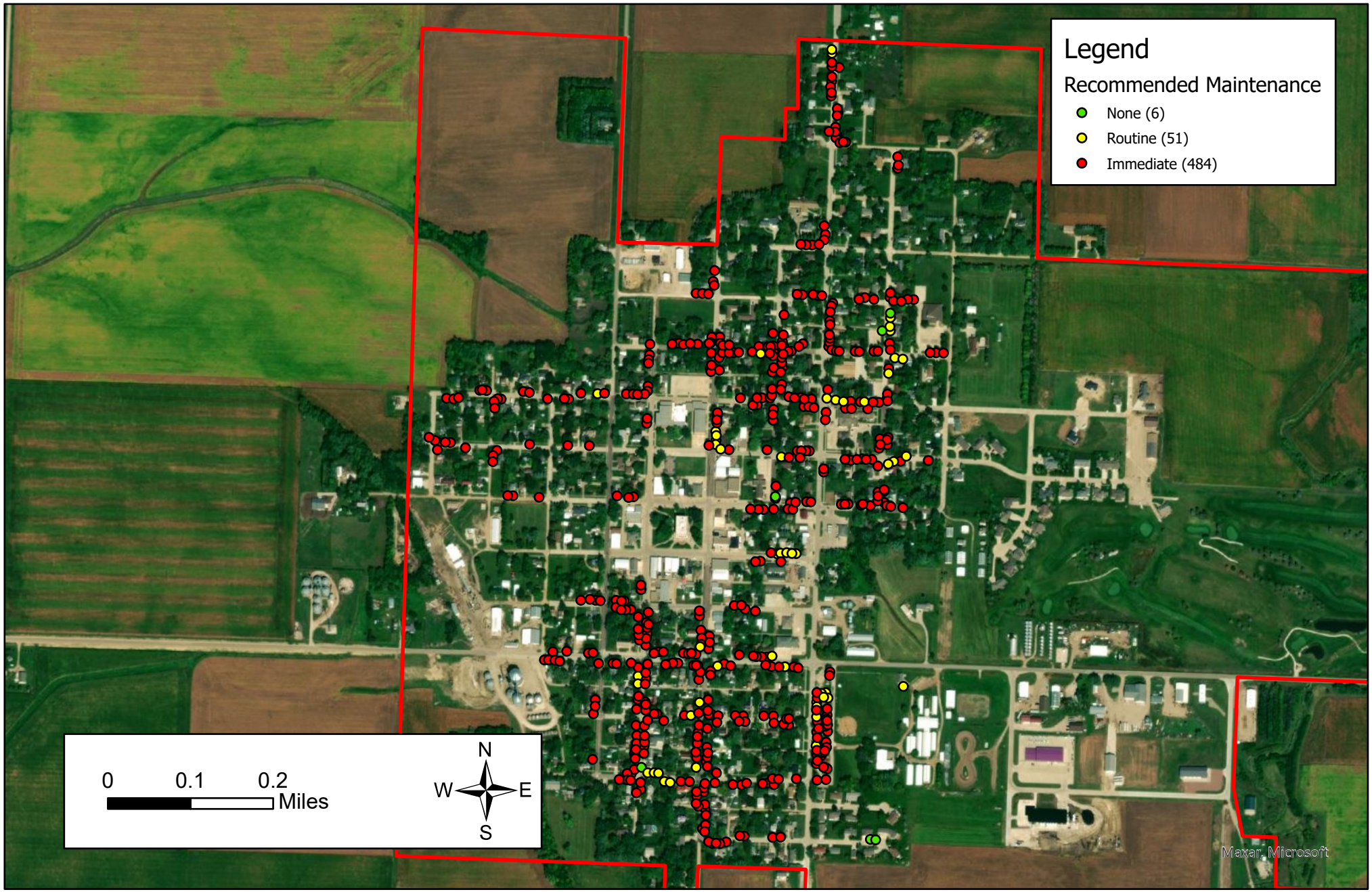
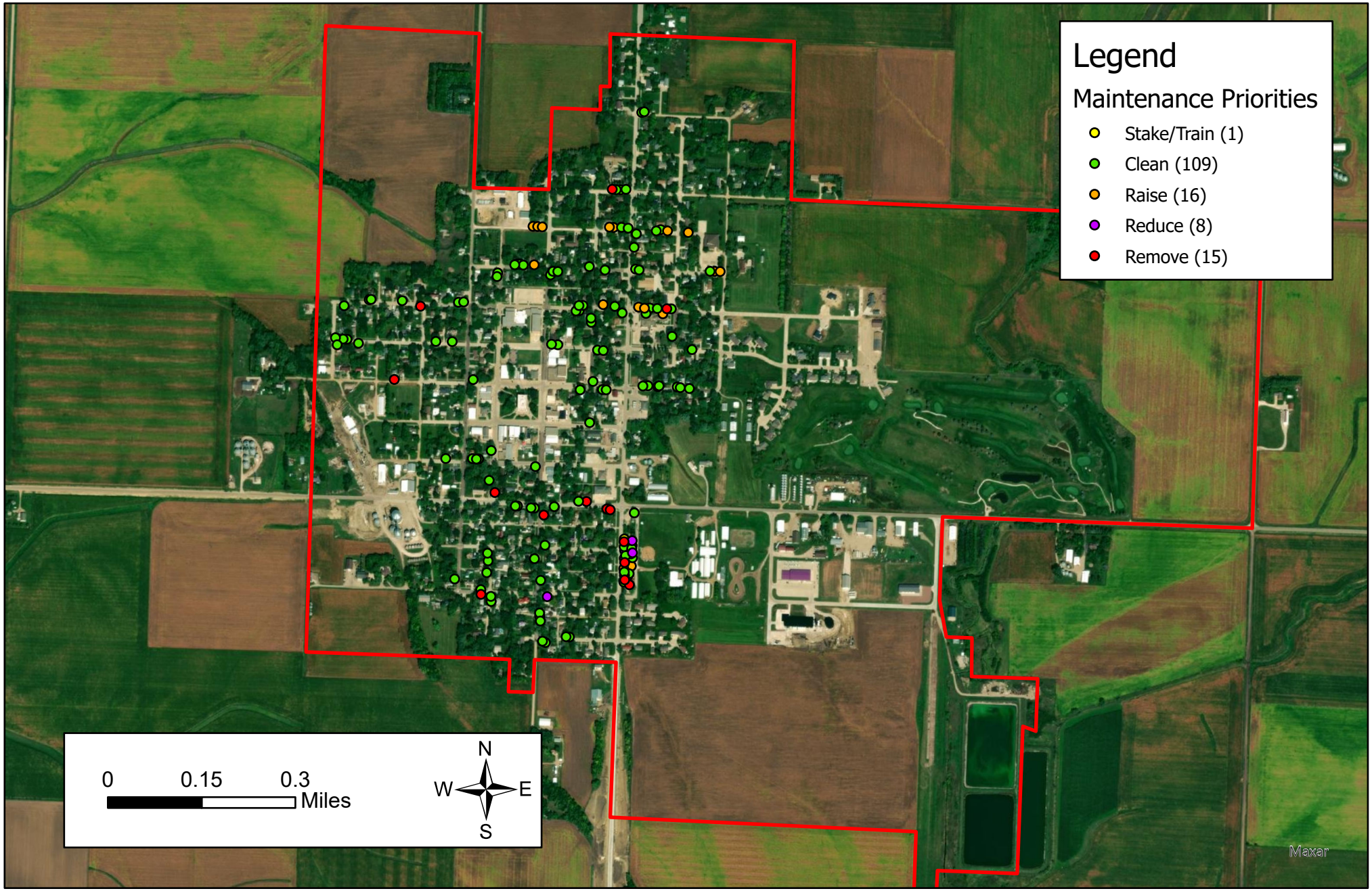


Created By: D. Genereux
Date: 1/26/2023
Software: ArcGIS Pro 3.0.3
File: 2022 IDNR Tree Inventory.aprx

2022 IDNR Tree Inventory

Figure 4 - Recommended Maintenance
Primghar, Iowa

JEO CONSULTING GROUP INC



Created By: D. Genereux
Date: 1/26/2023
Software: ArcGIS Pro 3.0.3
File: 2022 IDNR Tree Inventory.aprx

2022 IDNR Tree Inventory

Figure 5 - Maintenance Priorities
Primghar, Iowa

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APPENDIX C: PRIMGHAR TREE ORDINANCES

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CHAPTER 3: TREES

ARTICLE 3 - GENERAL PROVISIONS

3.01 DEFINITIONS. For use in this chapter, the following term is defined:

1. "Parking" 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.

3.02 ARBORICULTURAL SPECIFICATIONS AND STANDARDS OF PRACTICE.

1. PLANTING. The following regulations shall be followed in the planting of trees within the city.

a. Size. All trees planted on the streets shall be of sufficient size to warrant satisfactory results and stand the abuse common to street trees.

b. Grade. Unless otherwise allowed for substantial reasons, all standard sized trees shall have comparatively straight trunks, well-developed leaders, and tip and root characteristics of the species or variety showing evidence of proper nursery pruning. All trees must be free of insect, disease, mechanical injuries and other objectionable features at the time of planting. To compensate for any serious loss of roots, the top of the tree should be reduced by thinning or cutting back as determined by the growth characteristics of the tree species. The leader shall not be cut off in such trimming.

c. Planting. Trees shall not be planted on the parking if it is less than nine (9) feet in width, or contains less than eighty-one (81) square feet of

exposed soil surface. Trees shall not be planted closer than twenty-five (25) feet to street intersections (property lines extended) and ten (10) feet to driveways. Trees planted in the parking shall not be of a fruit bearing species, nor be of a evergreen species or any other species that may interfere with the travel on streets.

d. Method of support. Trees may be guyed or supported in an upright position according to accepted arboricultural practices. The guys or supports shall be fastened in such a way that they will not girdle or cause serious injury to the trees or endanger public safety.

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2. TRIMMING OR PRUNING. Trees shall be trimmed or pruned according to the following:

a. All cuts are to be made sufficiently close to the parent stem so that healing can readily start under normal conditions.

b. All dead and diseased wood shall be removed.

c. All limbs one inch in diameter or more must be precut to prevent splitting. All branches in danger of injuring the tree in falling shall be lowered by ropes.

d. A crossed or rubbing branch shall be removed where practicable, but removal shall not leave large holes in the general outline of the tree. Crossed or rubbing branches may be cabled apart.

e. All cuts, old or new, one inch in diameter or more, shall be painted with an approved tree wound dressing. On old wounds, care shall be taken to paint exposed wood only.

f. Where there is a known danger of transmitting disease by tools, said tools

shall be disinfected with alcohol before use on another tree.

g. Improperly healed scars, where callous growth is not established, are to be traced and painted, unless the city designates other treatment.

h. No topping or dehorning of trees shall be permitted except by special written permission of the city. Trees becoming stag-headed may have the dead portions removed back to sound green wood, with a proper forty-five (45) degree cut only.

i. Elm wood trimmed, pruned or removed shall not be used for any purpose, but shall be disposed of immediately by burning or burying.

3.03 REMOVAL OF TREES. The city shall have removed, on the order of the council, any tree on the streets of the city which interferes with the making of improvements or with travel thereon. He shall additionally remove any trees on the street, not on private property, which have become diseased, or which constitute a danger to the public or which may otherwise be declared a nuisance.
(Code of Iowa, Sec. 364.12(2c))

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3.04 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 fifteen (15) feet above the surface of the street and eight (8) feet above the sidewalks.
(Code of Iowa, Sec. 364.12(2c))

3.05 TRIMMING TREES TO BE SUPERVISED. It shall be 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.

3.06 ASSESSMENT. If the abutting property owner fails to trim the trees as required in this chapter, the city may serve notice on the abutting property owner requiring him to do so within five (5) days. If he fails to trim the trees 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(2d&e))