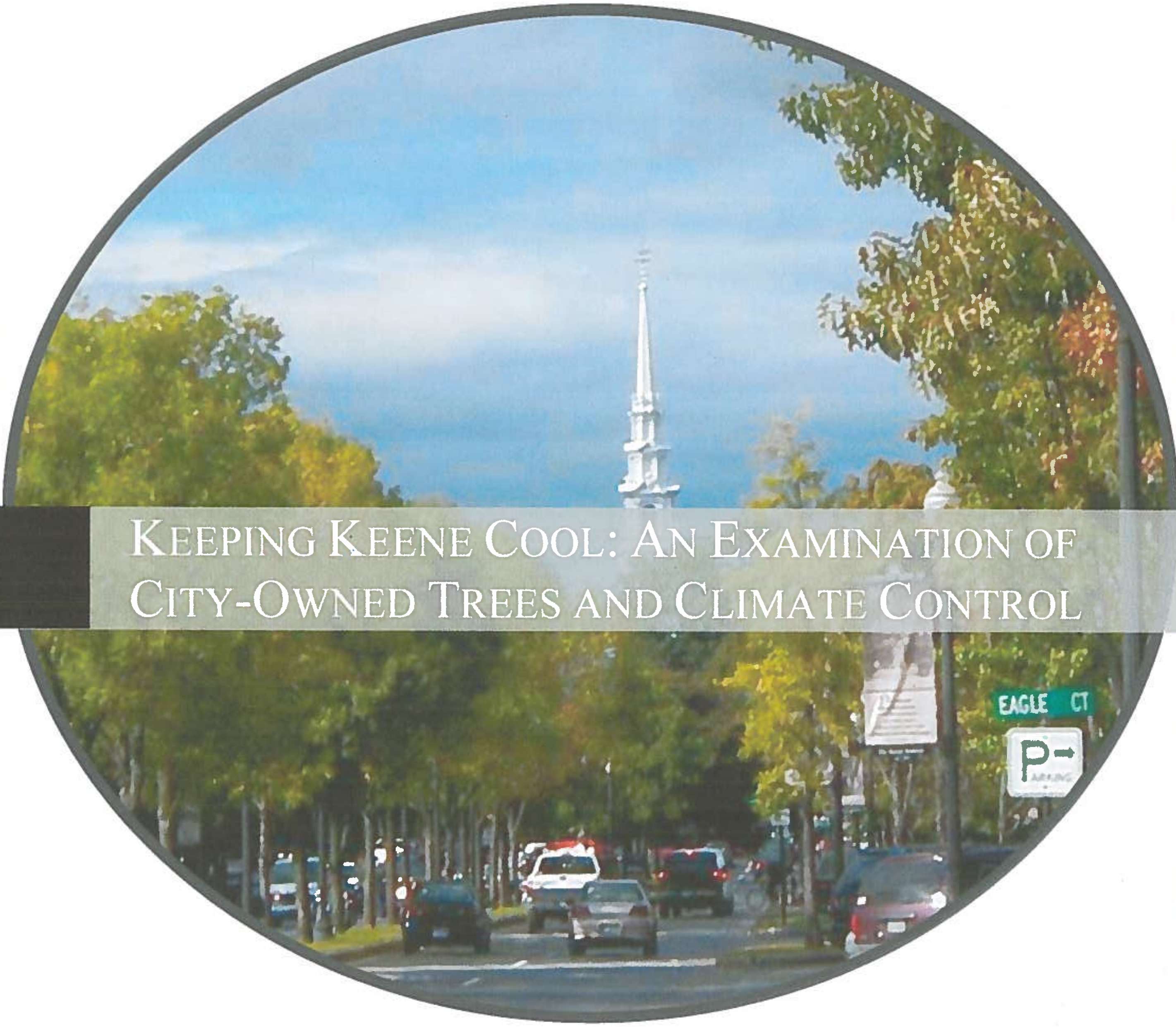
Keeping Keene Cool: An Examination of City-Owned Trees and Climate Control



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Cities for Climate Protection Committee

ABSTRACT

For the past few decades the issue of global climate change has gained increasing concern from the public, as well as a majority of scientists and governmental organizations around the world. It has been found that human-generated carbon dioxide emissions into the earth's atmosphere have been a major catalyst in altering the planet's climate. The ability of trees to sequester carbon dioxide released into the atmosphere has been found to play a substantial role in mitigating this process. This study focuses on the benefits in which trees located in urban areas such as Keene, New Hampshire can provide for the community and the surrounding environment. City-owned trees in Keene have the potential to be beneficial in the mitigation of climate change; however, a lack of adequate information on the city's tree population makes it difficult to properly assess their effect on the urban environment. This study presents the results of an inventory of tree data collected within Keene's urban center, with information gathered on tree species, diameter, age, and condition. Using this data a carbon sequestering model was implemented to calculate the amount of atmospheric carbon dioxide absorbed each year. Other benefits such as energy savings, property value, and urban cooling were also included when assessing the benefits that trees provide. Our research, along with the results from a survey administered to the public, aims to provide more awareness and knowledge of the benefits trees can provide as well as implement our findings into an urban forest program in the City of Keene's master plan.

CHAPTER 1: INTRODUCTION

For the past few decades the issue of global climate change has seen increasing concern within the public, as well as a majority of scientists and governmental organizations around the planet. It has been found that human generated carbon dioxide emissions into the earth's atmosphere have been a major catalyst in altering the planet's climate. Since the environmental movement there have been numerous laws passed in order to better protect our environment, including the revolutionary Clean Air Act of 1970. This was the first ever major Federal law that put regulations on greenhouse gas emissions from area, stationary, and mobile sources across the United States (Rogers 1990). Since the Act's implementation it has been amended twice. It was amended the first time in 1977 and most recently in 1990 in order to set new goals and achieve higher and more realistic standards in air quality (EPA-B 2011). As more methods to mitigate greenhouse gas emissions and climate change have been researched, earth's forests have been found to sequester the primary greenhouse gas of atmospheric carbon dioxide very effectively, which is not regulated under the Clean Air Act (USDA 2009). As this research continues, particular regions with high carbon emissions such as cities have been found to benefit greatly by the service that trees can provide.

As urban areas have expanded in the past decades so have their effects on the climate. According to the U.S. Census Bureau, 84% of people in the United States in the year 2010 were living in areas classified as urbanized. This is up from 79% in 1990, and 75% in 1980. As this trend continues, the adverse environmental effects caused by these urban areas have become more evident. Conditions such as smog, the urban heat island effect, and poor water and soil conditions have all arisen due to urban conditions (US Global Change Research Program 2009). The presence of trees within urban areas has been found to be very effective in mitigating some of these adverse environmental and atmospheric conditions. Urban forests can contribute to the reduction of carbon dioxide in the atmosphere, which is the number one greenhouse gas fueling climate change. Urban trees also provide cooling of air temperature through transpiration and shade, as well as reduce energy use in nearby buildings (Nowak, Crane, and Stevens 2006). The services performed by urban forests are a practical and sustainable way for cities to help mitigate their associated negative impacts on the local and surrounding environment. The City of Chicago has been a leader among U.S. cities in the effort to increase their urban forest. During a three year study of Chicago's urban vegetation, the city was found to have an estimated 4.1 million trees within the city limits (McPherson, Nowak, and Rowntree 1994). The study concluded that trees could produce air temperature modifications, reduce human stress, mitigate air pollution, and an improved sense of community (McPherson, Nowak, and Rowntree 1994). This study is a valuable model for cities across the United States, and shows the great potential urban forests have for making cities more environmentally sustainable.

The City of Keene, New Hampshire, also known as the "Elm City" because of the large numbers of elm trees that inhabited the city prior to Dutch elm disease, has been on the forefront of implementing urban tree development within the cityscape for decades. Keene has worked closely with organizations and projects such as the Cities for Climate Protection Campaign, and was the first location in the state of New Hampshire to join. The city has also been part of the Tree-City USA program for 31 consecutive years. In order for a city to qualify for membership in this program it must have a Tree Board or Department, a Tree Care Ordinance, a Community Forest Program with at least two dollars per capita, and an Arbor Day Observance and Proclamation (Arbor Day Foundation 2011). Keene State College is also the only college in New Hampshire to have an arborist in charge of taking care of tree health across campus.

At the same time, Keene is also facing many of the environmental problems that larger cities are experiencing. Climate change problems such as carbon dioxide released into the atmosphere and the urban heat island effect have become more apparent as the city has grown in size. The city's population has steadily risen from 20,406 in 1970, to 23,409 in 2010, and from the year 2000 to 2010 a 4.7% increase could be noticed (NHOEP 2010). In a place with support progams and desire for the presence of trees, it is important to have knowledge on what species of trees are found within the city. With this knowledge, city officials and citizens can realize the benefits trees can contribute to the city's environmental health. City-owned trees in Keene have the potential to be beneficial in the mitigation of climate change; however, a lack of adequate information on the city's tree population makes it difficult to properly assess their effect on the urban environment.

The Keeping Keene Cool project consisted of an extensive inventory and assessment of Keene's city-owned trees in order to obtain more information on the potential benefits they possess as well as provide the city with data to manage and promote Keene's urban forest. Data on tree species, condition, and size was gathered in order to evaluate the carbon sequestering potential that these trees have. A survey was also administered to the public in order to gain information on the general public's knowledge and attitudes towards city-owned trees. The goal of this study was to use the information gathered through the inventory and survey, so that city planners and officials can continue to contribute toward Keene's outstanding reputation as a city that values its urban tree population.

CHAPTER 2: LITERATURE REVIEW

significant vegetative growth in an urban area affected by the UHI. The temperatures of parks in Vancouver, B.C. have been found to be on average one to two degrees Celsius lower than that of the surrounding area due to the PCI (Spronken-Smith and Oke 1998). In a study done in Sacramento, the temperature in parks or highly vegetated areas was found to be five to seven degrees Celsius lower than the adjacent area (Spronken-Smith and Oke 1998). Despite the positive results of the study, another study was conducted to look at the effectiveness of park cooling which yielded surprising results. Parks were found to be up to 7 degrees Celsius cooler than that of the adjacent areas but the PCI could also extend almost 100 meters downwind from the park (Slater 2009). This could increase the effectiveness of urban street side trees for lowering temperatures, maximizing the potential of urban trees. If properly placed throughout the city, an abundant amount of small, interconnected parks coupled with the planting of street side trees could immensely decrease the temperature of the air in urban landscapes (Slater 2009).

Even in places as small as Keene, New Hampshire the effects of urban heat island effect can be felt. This is a concern especially since Keene's population has grown from 22,563 in 2000 to 23, 409 in 2010 to a total of 846 people (USCB 2010, NHOEP 2011, and Keene Chamber of Commerce 2000). This wouldn't be a substantial concern until the previous ten years are taken into account. From 1990 to 2000 the population grew from 22,430 to 22,563 to a total of 133 people (USCB 2010, NHOEP 2011, and Keene Chamber of Commerce 2000). The change in population growth is over six times that from 1990 to 2000 which could lead to an even greater amplification in the future. With an increase in people comes an increase in urban landscape, total energy cost, and most importantly heat. Planning ahead of the rising population is the only way to be able to properly address the negative effects of the UHI. Urban tree planting agendas and other means of UHI reduction should be completed to prepare for future generations of enlarged population and enhanced urbanization.

Tree Species:

There are many factors that go into selecting trees within an urban landscape. Degraaf (1985) describes the desired attributes of urban trees in residential forest structure in urban and suburban environments. Urban landscapes are not suited for all tree species growth and habitat. Many "street trees" selected for cityscapes must be resistant to diseases, have straight growth, and be tolerant of urban air and soil conditions. Tree species that can tolerate these urban conditions are especially recommended because they will require much less maintenance and replacement in the future, which can cost money, resources, and time. This study also collected data on tree species diversity, and found that urban settings had substantially less diversity than did rural settings. This directly correlates back to urban areas having to be more selective about which trees they plant due to more unforgiving growing conditions.

Santamour (2002) states the need for a broad diversity of trees in urban landscapes. Selecting species that are appropriate for the region and tolerant of urban environmental conditions is extremely important. The author explains how a diversity of species leads to more benefits to the community and recommends that urban foresters follow guidelines for tree selection. He states that in order to maximize urban forest potential, there should be no more than 10% of any species, no more than 20% of any genus, and no more than 30% of any family.

There are many factors that determine how valuable a tree will be for providing important benefits to an urban forest, such as Keene. Establishing the value of trees is essential to urban forestry. Without a proper estimation of these values, there is a greater chance of poor quality trees going unnoticed. When these trees are assessed, their benefits are often based on size, condition, location, and species. In order to put a price on these evaluations, each benefit must be considered. McPherson (2007) explains a trunk formula method that can be used based on each feature to determine this price. Each feature is valued according to the trees productivity. The best species are also determined based on their maintenance requirements and their ability to adapt to the local environments. Conditions are rated in light of each tree's structure and health, as well as their trunk size. Larger and therefore older trees are considered more valuable due to their aesthetic features and their ability to store larger amounts of carbon dioxide. The locations of city-owned trees are in a sense, the most important aspect of estimating their ability to provide benefits to the environment. This is because their contributions to society vary based on where they are situated within a community.

CHAPTER 3: METHODS

In order to fulfill the research objectives in this study the team carried out four different methods to collect data and produce results. These four methods were comprised of tree identification/classification, a carbon sequestration calculator, GIS analysis, and a survey administered to the public. The ways in which each one of these methods were carried out is explained in greater detail in the sections to follow.

Fieldwork Overview:

Fieldwork was conducted in the autumn months of September and October 2011 in the City of Keene, NH in Cheshire County (Refer to Appendix B). Our study area comprised of a one mile radius area surrounding the Keene State College Putnam Science Center, as seen in Figure 2.

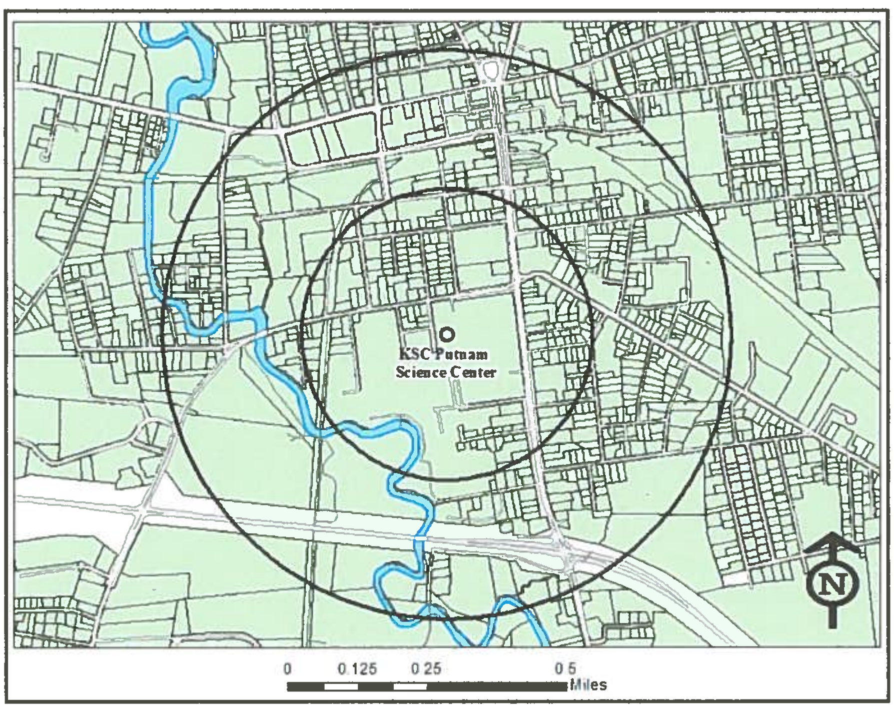

Figure 2 *Location of study area within Keene, NH*

This particular area was chosen because it contains a significant portion of Keene's urban areas containing city-owned trees including, Main Street, the central downtown square, and several residential areas. This area was also chosen because our study provides a continuation of a previous city-owned tree research project conducted in the fall of 2010. Through our field work, we collected data on city-owned trees. Information included tree species and location, tree diameter, and the tree's condition. All of this data was plotted into a handheld GPS unit for each individual tree. The data gathered through our fieldwork was used to produce GIS maps, as well as provide an estimate for the city-owned tree's carbon sequestration rates.

Tree Classification & Identification:

The entire field data collected on city-owned trees in this study was plotted into a handheld Trimble Juno SB GPS unit. Each specific tree point plotted in the GPS had the corresponding species, diameter, and condition data. The process of gathering this data is explained below.

Whether a tree was city-owned was completely dependent on its specific location, and other significant criteria. The most common identifier of a city-owned tree was if it fell within a specific distance from the center line of the bordering street. The required distance from the center line was determined by dividing the street width in half. For example, on a street with a width of 40 feet, any tree that was within 20 feet of the center line is city-owned. Since several streets varied in width, the city tree warden, Harry Mckelvey, supplied our research group with a list of street widths for all the streets located in the study area. Group members used a 100 foot surveyor's tape measure to gauge the distance from the center line to each tree. This was carried out by one group member standing at the center line of the street, while the other group member extended the tape measure to the required distance. All trees that were located within this distance were classified as city-owned and their locations were plotted into the GPS.

Once a tree had been identified as city-owned, it was then a part of our fieldwork to collect data on tree species, diameter, and condition. In order to identify the species correctly, the field work needed to be complete prior to the autumn leaf drop. Tree leaf shape provided a very important aspect of tree identification. Different species would be nearly impossible to determine without adequate foliage. Individual tree species were determined through the use of an identification index created by the group. This index was comprised of a list of fourteen tree species identified in the previous study, along with corresponding photos of their leaves and bark patterns. This provided a useful field guide for identifying the most common tree species in the study area. The fieldwork was carried out in teams of two with one group member identifying trees using the index while the other plotted the species type into the GPS unit. While two group members were determining the tree's species, the other two members were measuring the tree's diameter and rating the tree's condition. The diameter of a tree was calculated by measuring the tree's circumference in inches, and then dividing that measurement by pie. The diameter for each individual tree was also plotted into the GPS unit. Additional information was also collected on tree condition and health in order to see if Keene's urban trees were being adequately maintained. This was done through the tree rating system consisting of four different values. The previous study used four categories to rate trees in the study area; needs attention, poor, fair, and good. After an interview with KSC arborist Jeff Garland, it was determined that the previous rating system could be slightly improved and made clearer. In our study trees were rated excellent, good, fair, or poor depending on their trunk and canopy condition. A tree in excellent condition had little or no flaws. Trees in good condition were allowed a few minor imperfections such as small dead limbs. Trees rated in fair condition would have 1/4 to 1/3 of their canopy either dead or dying, and trees in poor condition would have over half of their canopy dead or dying. A tree could also be considered in poor condition if it was a safety hazard and require removal. Each tree individual tree condition was plotted in the GPS unit as well.

Carbon Sequestration Calculator:

An important aspect of our research was to calculate the carbon sequestering benefits that Keene's city-owned trees provide. In many previous studies, complicated mathematical formulas were used in order to calculate carbon sequestration. After some extensive online research our research group decided to use the Arbor Day Foundation Tree Benefits Calculator (USDAFS, 2011). This calculator was primarily chosen because it could provide a yearly carbon sequestration rate for all fourteen of the tree species in the study area. This calculator was also selected because it was simple, easy to use, and only required tree species, diameter, and land use type of the area nearest to the tree. These three characteristics were supplied through our fieldwork data collected and recorded in the GPS. Each individual tree's species, diameter, and closest land use were then plugged into the tree benefits calculator for all 813 trees in the study. Group members then put these results into excel spreadsheets where the total carbon sequestration estimate was calculated for both the entire study area and for individual tree species. Additional benefits that were estimated by the calculator included electricity savings, property value increase, savings in natural gas use, carbon avoided, and an overall tree benefit. It was important to include these additional benefits because they added more than just an environmental aspect to the overall study. It is understood that some people may not be able to relate to carbon sequestering benefits of city-owned trees. Including monetary aspects such as electric savings or increased property values produced by trees could produce results that a larger audience could understand.

GIS Analysis and Map Creation:

The data collected by the GPS unit as well as the results of the carbon sequestering benefits calculator were exported into ArcMap10 and used together to create thirteen maps for our study. The maps illustrate where city-owned trees are located in the study area by species, how large they are, and the amount of carbon they sequester yearly. These maps can also help in identifying where trees are abundant compared to where more could be planted.

Survey Development & Administration:

Another important aspect of the research project was the development and implementation of a survey to be administered to Keene residents in order to get information on their attitude and general knowledge of city-owned trees and the benefits that they can provide (See Appendix A). Section one of the survey consisted of four questions regarding the respondent's demographics (gender, age, type of residence, and area of Keene where the survey taker lived). These questions aimed to analyze whether or not different age groups played a role in urban tree knowledge, and whether or not certain types of residences and residence locations impact attitudes towards urban trees. A map of the urban section of Keene was divided into four separate sections with a fifth option for people outside the mapped area. It was decided that this was the most effective and non-invasive way of gathering information on where people lived without being too specific.

Section two of the survey was used to determine the respondent's attitudes and knowledge towards city-owned trees. The questions asked respondents their feelings on the overall importance of trees, both environmental and economic benefits, levels of support, and possible future locations for urban tree planting. A fourth section consisted of Likert-scale questions in order to give us more options for statistical analysis. A four point scale was used for this section so that there would be no option for a neutral answer. It was the overall goal that this survey would help us answer three main questions. These questions were;

1. Do Keene's residents understand/ have adequate knowledge on the important benefits of city-owned trees?

2. Do Keene's resident's age, gender, location, and housing type play a role in their understanding and support of urban trees?

3. Would Keene's residents be supportive of planting more trees within urban areas, and if they answered yes where would they like to see more trees planted?

One-hundred surveys were administered by group members to Keene residents during the month of October. The majority of surveys were handed out during the day in high pedestrian areas such as Downtown, Main Street, and the Keene State College Campus. Surveys were also administered to parents waiting for their kids at the Wheelock Elementary School during the week October 10, 2011 and to residents visiting the Pumpkin Festival.

CHAPTER 4: RESULTS

Tree Inventory:

The continued inventory of the City of Keene's tree population resulted in 340 city-owned trees in addition to the previous study's 473 trees. This amounts to a total of 813 city-owned trees located within the study area (Refer to Appendix C for full list). From both the 2010-2011 studies, a total of 14 different species of city-owned trees were identified and their population distributions are displayed below (Figure 3).

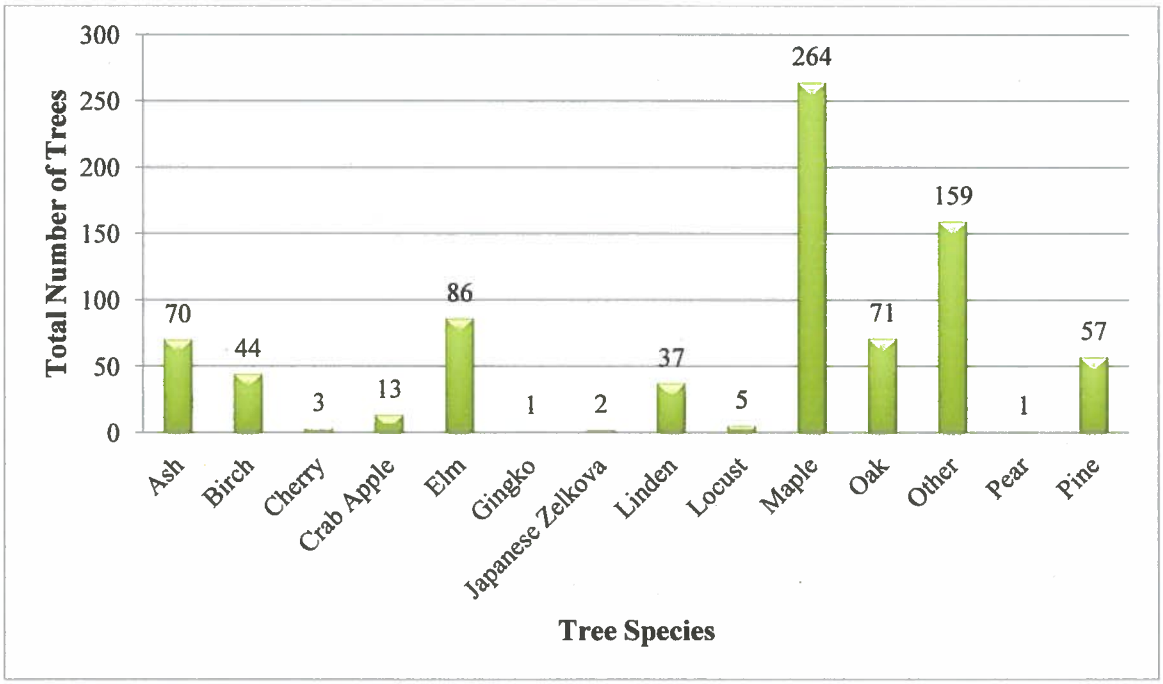

Figure 3 *City-owned tree species population, 2010-2011.*

Maple trees made up 33 percent of city-owned trees located within the study area with a total population count of 264. The largest maple in the study area has a diameter of 61 inches and the ability to sequester 2252.3 atmospheric pounds of carbon dioxide each year. The majority of maple trees surveyed were located within residential neighborhoods in the study area. Out of the 264 maple trees that were surveyed, 33 large older maples over 25 inches in diameter were identified. The map below identifies where the maples trees are located within the study area and also shows their relative diameter (Figure 4). Appendix B also contains six maps that display six additional tree species found and their diameter.

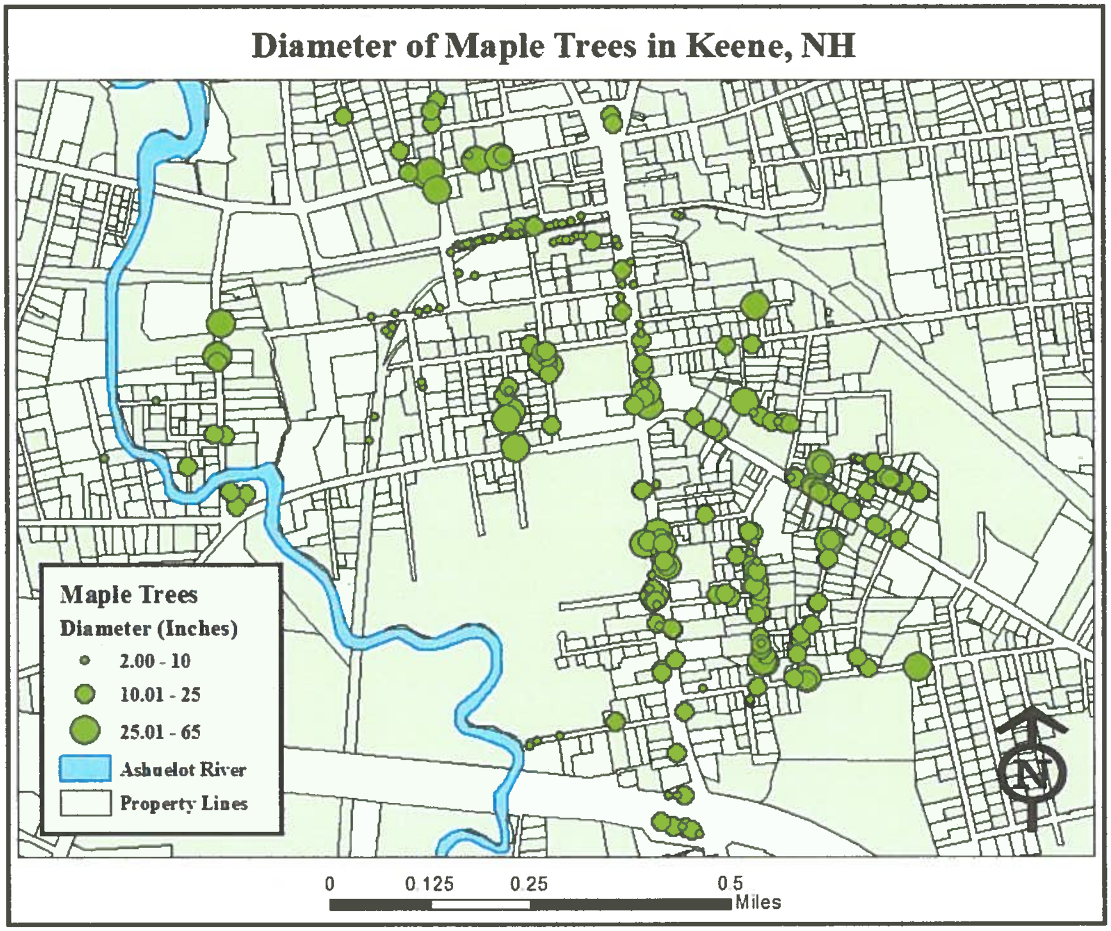

Figure 4 *Maple tree diameter size in Keene study area.*

The Arbor Day Foundation Tree Benefit calculator gave results on each tree's carbon sequestering benefit based on certain trees diameter, species, and land use type. The total carbon sequestering benefit for the 813 trees within the study area amounted to 185,206.44 pounds of carbon absorbed from the atmosphere each year. The EPA estimates that the average passenger car emits 11,450 pounds of carbon dioxide yearly. This means that the benefits provided by the city-owned trees in the study area are the equivalent of taking 16 cars off the road each year. The total yearly carbon sequestering benefits for each specific tree species were also calculated

(Table 1). The top three carbon sequestering tree species in the study area were maples, oaks, and trees classified as other broad-leafed deciduous species.

Table 1 *Total Sums of Yearly Carbon Sequestered by Tree Species, 2010-2011*

Tree Species	Total Yearly Carbon Sequestered (lbs)	Tree Species	Total Yearly Carbon Sequestered (lbs)
Ash	4,517.3	Linden	5,241.1
Birch	1,032.2	Locust	413.2
Cherry	484.8	Maple	90,964.5
Crab Apple	434	Oak	44,844.9
Elm	12,604.5	Other (Deciduous)	24,023.7
Gingko	5.7	Pear	15.6
Japanese Zelkova	61.0	Pine	554.0

From the data provided by the carbon sequestration model, we were able to calculate the average amount of carbon that each individual species absorbs. To do this we divided the total yearly carbon sequestered for each species by the total number of trees per species. Figure 5 displays the average yearly CO_2 sequestered per individual tree by species. Tree species with the highest yearly averages included oaks, maples, and unidentifiable trees classified as others.

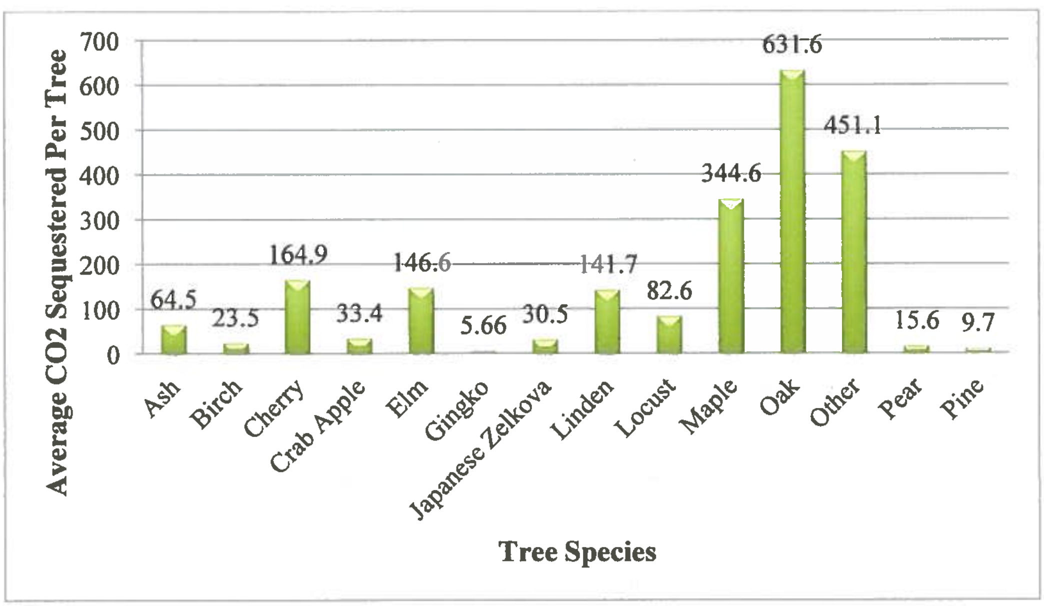

Figure 5 *Average yearly carbon sequestered by tree species, 2010-2011.*

Figure 6 displays the three aspects observed in our study, the first being locations of city owned trees. This also illustrates where the best carbon sequestering trees are located within the study area, as well as, how much yearly carbon they sequester measured in atmospheric pounds, while also comparing the diameters of these trees. The areas containing the larger trees that sequester the most carbon (green points) are located along lower Main Street, the northwest portion of the study area, and in the residential areas in the southeast portion of the map. The areas containing the smaller trees that sequester the least amount of carbon (red points) are mostly located along the bike path and portions of downtown Main Street.

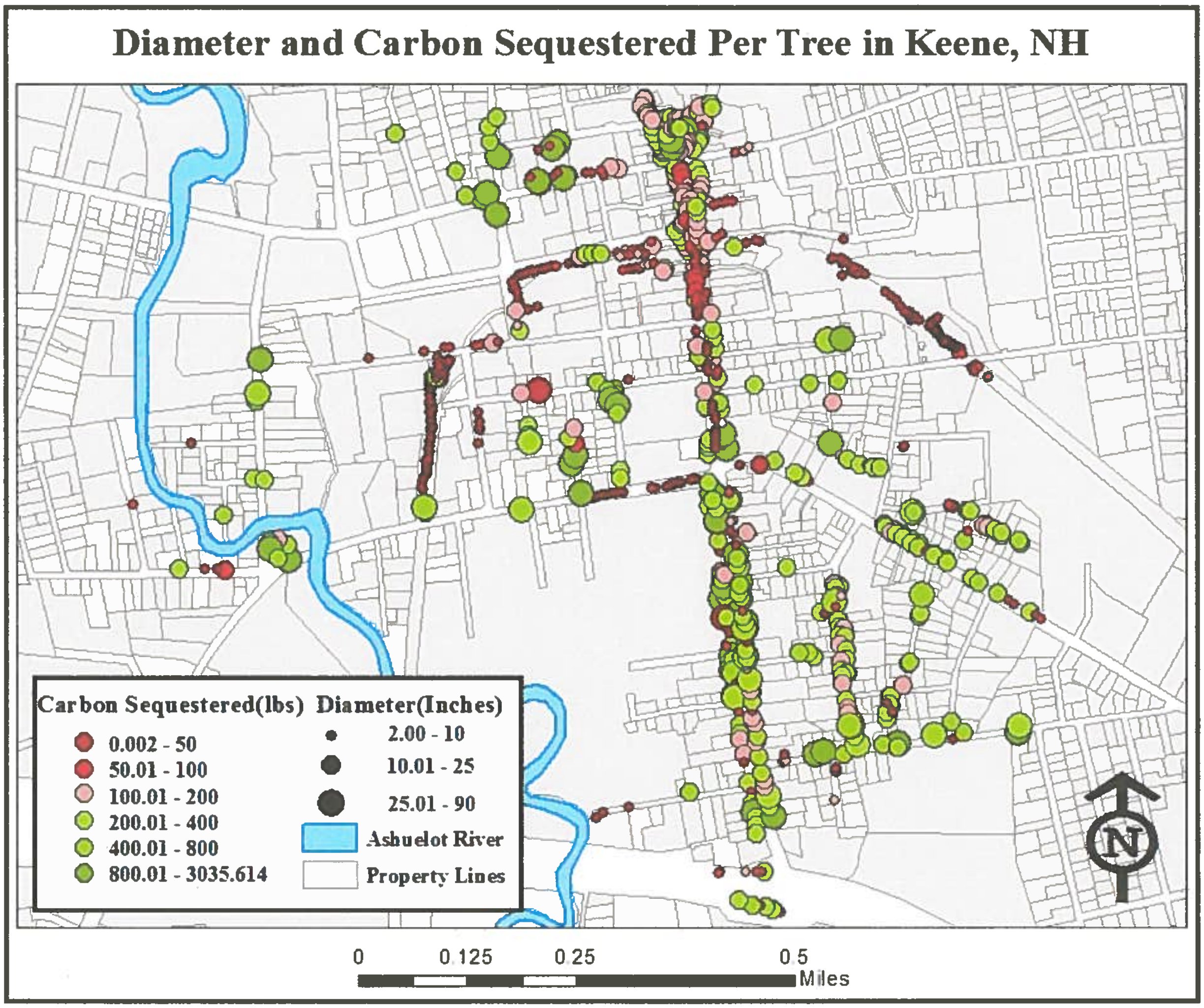

Figure 6 *Tree location and carbon sequestered by individual trees, 2010-2011.*

The tree benefit calculator also provided the total carbon dioxide avoided through the presence of city-owned trees. This is the amount of carbon that is prevented from being produced because of the various forms of energy saving benefits from trees, such as shading. The total carbon dioxide avoided by Keene's city-owned tree within the study area was 171,899.10. Table 2 lists the yearly amounts avoided by specific tree species.

Table 2 *Total Sums of Yearly Carbon Dioxide Avoided by Tree Species, 2010-2011*

Tree Species	Total Carbon Avoided (lbs)	Tree Species	Total Carbon Avoided (lbs)
Ash	10,879.4	Linden	6,479.1
Birch	1,032.6	Locust	1,024.0
Cherry	406.7	Maple	66,054.5
Crab Apple	674.8	Oak	33,912.2
Elm	13,591.2	Other (Deciduous)	35,959.5
Gingko	7.7	Pear	9.7
Japanese Zelkova	218.2	Pine	1,649.5

Figure 7 displays the average yearly carbon dioxide avoided by tree species. The species that were the best CO_2 avoiders were oaks, maples, and unidentifiable trees classified as others. Similarities between the tree species best used for carbon avoidance and sequestration can be seen due to those trees being the largest and most abundant throughout our study area.

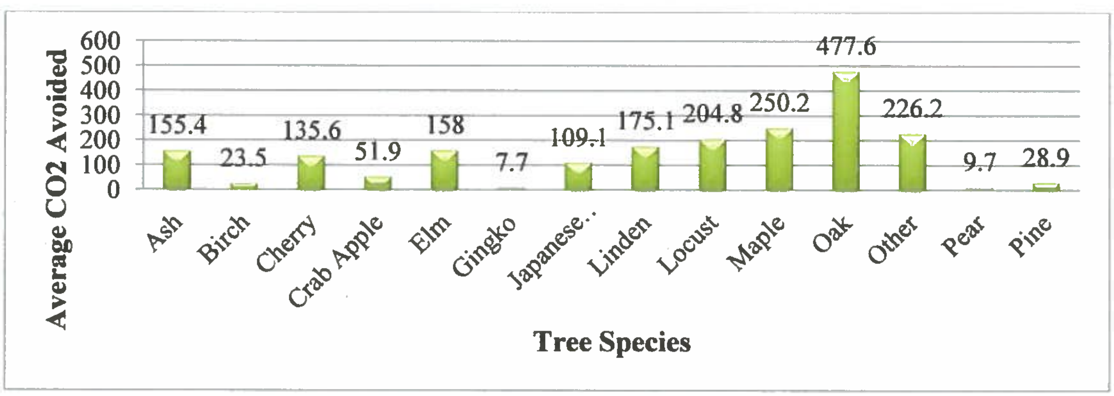

Figure 7 *Average yearly carbon avoided by tree species, 2010-2011.*

Figure 8 illustrates both where the best carbon avoiding city-owned trees are located within the study area and their relative diameter. Similar to Figure 6, many of the larger trees that avoided the most carbon are located along the south end of Main Street, as well as, the northwest and southeast sections of the map. An additional area with greater carbon avoiding trees is also noticed in the northern portion of the map at the north end of Main Street. City-owned trees that were small and calculated to avoid the least amount of carbon dioxide are located along the bike path and near the middle stretch of Main Street and as would be expected, the same trees that sequester carbon are the ones that are the best for carbon avoiding.

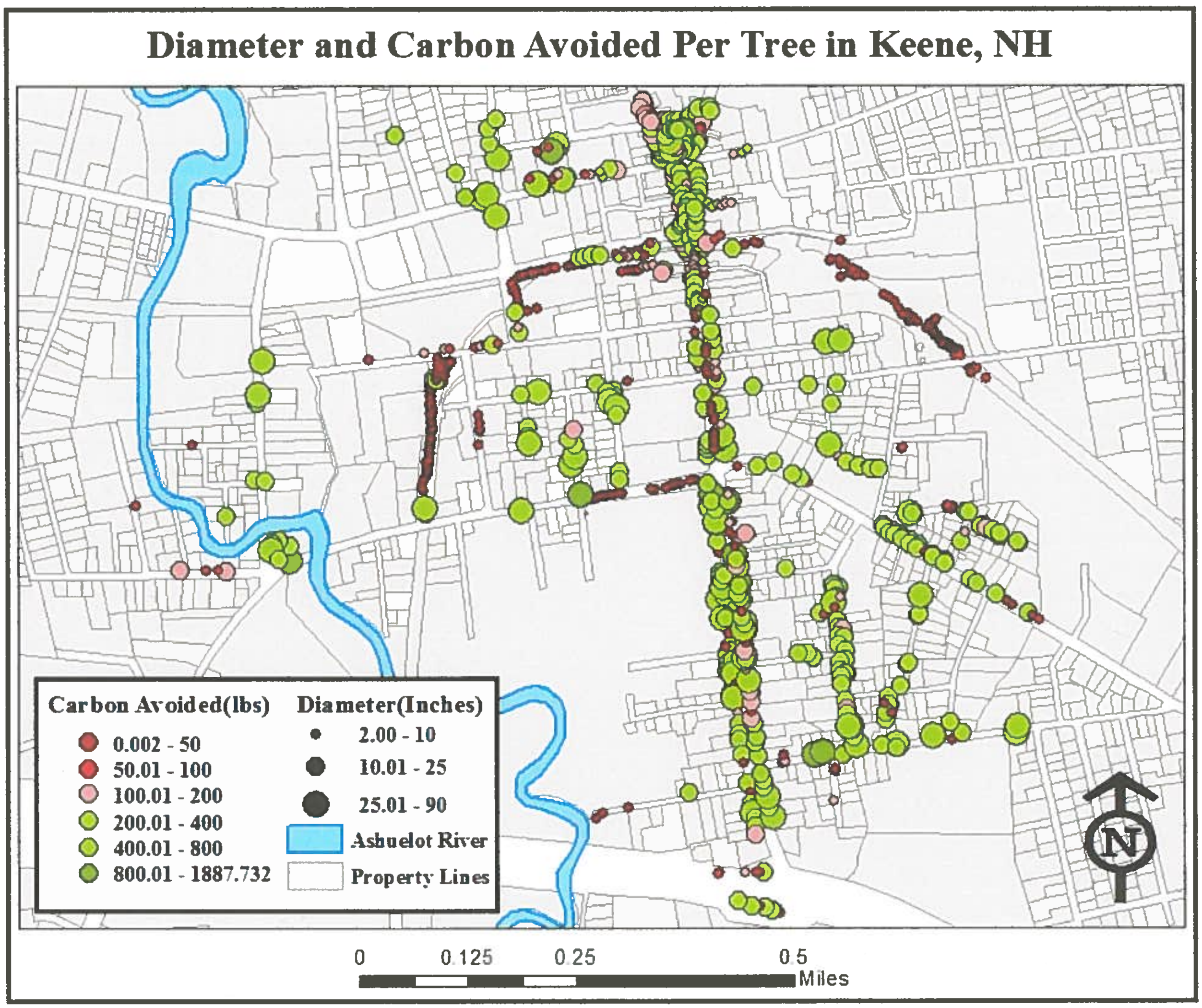

Figure 8 *Tree location and carbon avoided by individual trees, 2010-2011.*

The final values that the carbon sequestering calculator produced for the study area's city-owned trees provided us with an overall monetary value for the trees. It took into account values such as, savings from storm water runoff, the added property value trees provide, electricity and natural gas cost savings from benefits such as shading, improved air quality, and CO_2 reduction from trees being present. All of these aspects combine to provide us with an overall monetary tree value. The 813 trees within the study area accounted for a total of $85,907 in overall value. The combined total property value increase was $31,224.13. Total energy savings in natural gas costs was valued at $29,217.90, and the total energy savings in electricity costs was valued at $8,081. Figure 9 illustrates an example of a tree benefit result produced by the benefit calculator for a 25 inch diameter maple located near a single family residential household. This particular maple tree produced an overall monetary benefit of $244.00.

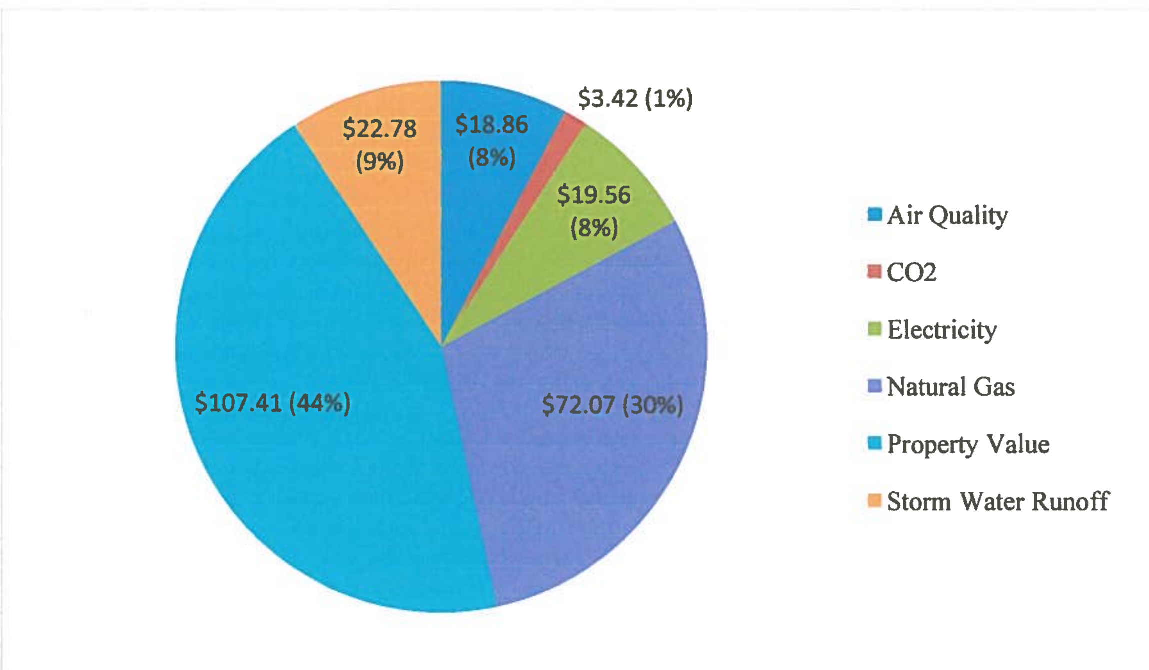

Figure 9 *Example result of the tree benefits calculator for a 25-inch diameter maple.*

Survey:

A section of this study focused on determining Keene resident's attitudes toward and support for city-owned trees through a survey. The information gathered from this survey was important to ascertain whether resident's demographics played a role in their support for city-owned trees. Out of the one hundred surveys that were administered to Keene's residents, 47 percent of the respondents were male and 53 percent were female. Table 3 illustrates the age group distributions of the survey takers. The majority of respondents were in the 18-30 age group.

Table 3 *Age Group Distribution of Keene Residents Surveyed*

Age Groups	Frequency	Percent
18-30	56	56.0
31-45	18	18.0
46-60	18	18.0
61-75	7	7.0
76+	1	1.0
Total	100	100.0

There are many similarities when comparing our survey's age distribution to the age distribution for the City of Keene. Out of a total population of 23,409 people, the age distribution for Keene is shown as the following: 0-19 years (25%), 20-29 years (21.2%), 30-44 years (15.1%), 45-59 years (18.7%), 60-74% (11.8%), and 75+ years (8.1%) (Census 2010). Although the largest age distribution is found in ages 1-19, a very large percent of Keene/s population is between the ages of 18 and 30, thus making our surveys age distribution a close representation to the population of Keene. Table 4 displays the variations of residence type for our survey population. This demographic shows that the largest amount of people surveyed (87%) live in either a house or apartment.

Table 4 *Residence Type of Keene Population Surveyed*

Residence Type	Frequency	Percent
House	52	52.0
Apartment	35	35.0
Dorm	10	10.0
Other	3	3.0
Total	100	100.0

The final question asked respondents to indicate their residential location within Keene. Figure 10 displays the map of Keene for which our survey population chose their residence.

Figure 10 *Residence location of Keene population surveyed*

Table 5 shows the relative location of the survey takers and the population percentages for each section of the map. The majority of respondents live in the downtown section of Keene, which was located in the Southeast section of our map. This was also the location where the majority of surveys were administered.

Table 5 *Residence Location of Keene Population Surveyed*

Locations of Respondents	Frequency	Percent
Northwest Keene	7	7.0
Northeast Keene	9	9.0
Southwest Keene	5	5.0
Southeast Keene	64	64.0
Outside Mapped Area	15	15.0
Total	100	100.0

There were questions in the survey that dealt with whether or not residents would be supportive of more city-owned trees, as well as how important trees are for them to have in their community. Sixty-six percent of those surveyed responded that trees are very important to them in their community, 22 percent responded with important, 9 percent said trees were mildly important, and 3 percent said that trees were not important. Eighty-seven percent of those surveyed said they would be supportive of the City of Keene planting more trees, 2 percent said they were not supportive, and 11 percent were unsure as to whether or not they were supportive.

Several statistical tests were run to see whether or not demographics played a role in determining resident's perception of tree importance as well as support for planting more trees. Two, one-way ANOVA tests were run to see if there was a significant difference between the perceived importance and perceived support of city-owned trees by residence type. Table 6 shows the results of the ANOVA and indicates that there is no statistical difference between both perceived importance by residence type, as well as, perceived support by residence type. This is because the results of the ANOVA test fall above the necessary confidence level (95%) in order to be of significance. However, although the perceived support for trees is not at the required significance level, we can still be 93 percent confident that there is a significant difference in means between residence types. The significance of the perceived importance for respondent's residence type, however, does not fall close to the required confidence level.

Table 6 *One-Way ANOVA on Support and Perceived Tree Importance by Residence Type*

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
Support	Between Groups	2.847	3	.949	2.437	.069
	Within Groups	37.393	96	.390		
	Total	40.240	99			
Importance	Between Groups	3.477	3	1.159	1.935	.129
	Within Groups	57.513	96	.599		
	Total	60.990	99			

The next two ANOVA statistical tests were run on the mean importance rating by the different age groups of our survey respondents. Table 7 shows that there is no statistical difference between age groups regarding support for trees, however, the importance of trees for this test shows us that there is a significant difference between age group means at the 97 percent confidence level.

Table 7 *One-Way ANOVA on Support and Perceived Tree Importance by Age Group*

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
Support	Between Groups	.494	4	.123	.295	.880
	Within Groups	39.746	95	.418		
	Total	40.240	99			
Importance	Between Groups	6.373	4	1.593	2.771	.032
	Within Groups	54.617	95	.575		
	Total	60.990	99			

Additional tests were run to see if there was a significant difference in the perceived importance and support of city-owned trees between residences according to the location from which they live. Table 8 displays the results from this test and indicates that there is no significant difference between the means of either group.

Table 8 *One-Way ANOVA on Support and Perceived Tree Importance by Location*

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
Support	Between Groups	.209	1	.209	.511	.476
	Within Groups	40.031	98	.408		
	Total	40.240	99			
Importance	Between Groups	.043	1	.043	.068	.794
	Within Groups	60.947	98	.622		
	Total	60.990	99			

Other results from the survey asked residents to describe their perceived benefits of city-owned trees, their preferred tree species, and areas in which they would like to see more trees planted within the City of Keene. Figure 11 displays the ways survey respondents felt that trees benefitted their community and the number of responses in the survey. Aesthetic value, shade, and oxygen benefits were the most recognized benefits by respondents. It is important to note that there were no individuals who mentioned carbon sequestration; however, two surveyors did include carbon storage in their response. This indicates a lack of knowledge in the proper terminology, but a slight understanding of the carbon sequestration processes.

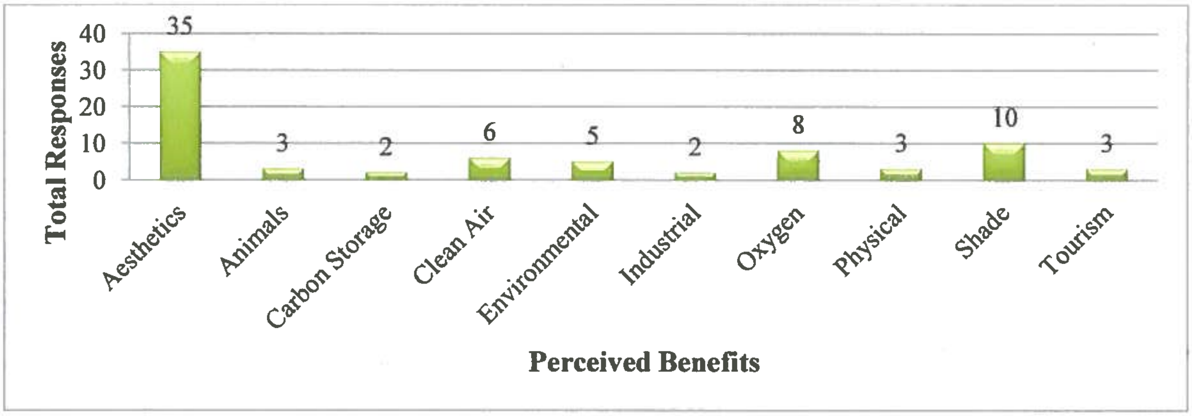

Figure 11 *Survey results on city-owned tree benefits within Keene.*

It was found that many survey participants would also like to see more trees planted in several areas in the community. Seventy-four percent said they would like to see more trees on street sides, 64 percent of survey respondents said they would like to see more trees in park areas, 58 percent selected more trees around public buildings, 57 percent said they would like more trees planted around parking lots, and 55 percent said more trees on yards. In addition, survey respondents were also given the option to list some of the species of trees they would prefer to be planted. Figure 12 illustrates which tree species were suggested by the survey respondents, as well as, the number of times the tree species were suggested.

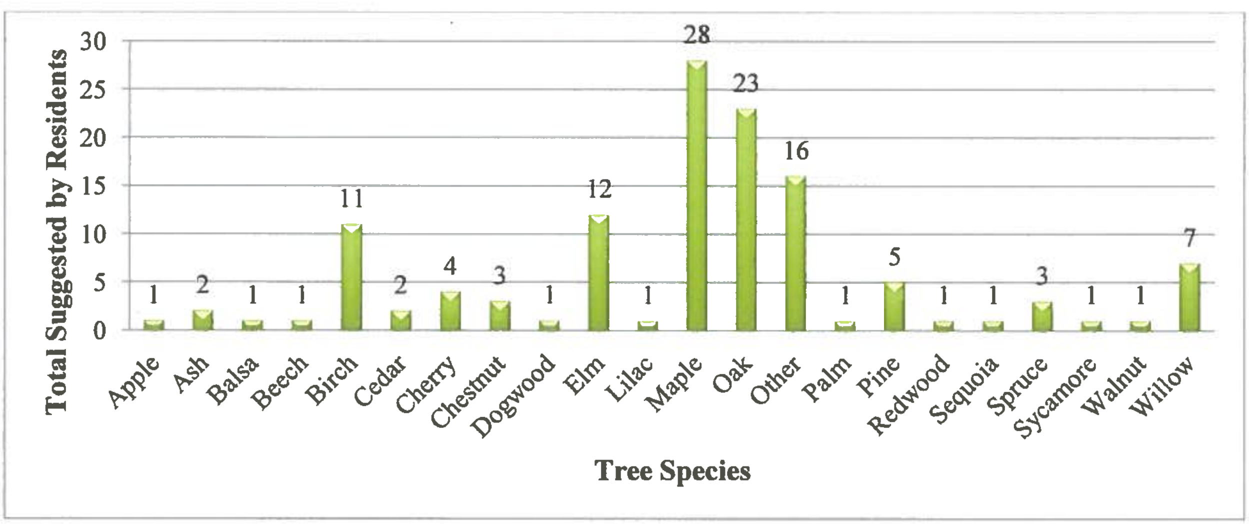

Figure 12 *Survey results on preferred tree species to be planted.*

CHAPTER 5: CONCLUSION

City-owned trees are an underlying aspect of urban landscapes all across the United States. As urbanization increases in many regions throughout the country, trees remain a primary resource for man-made ecosystems. With such a diverse amount of environments within the US and a large distribution of tree species, specific trees that are better adapt to their surrounding urban ecosystems must be selected. City-owned trees can offer significant environmental benefits to many areas within these urban regions as these benefits may also vary according to tree species and their location. However, the lack of an adequate assessment of their positive effects on the urban environment presents a significant barrier to developing these urban tree ecosystems and fully appreciating their benefits. The City of Keene is an example of a city that needed a better evaluation of its urban tree population. It was an aim of this study to address this lack of information.

A review on city tree literature found that multiple studies have been conducted in the United States as well as worldwide on the environmental and social benefits that trees can provide in urban environments. In each study, many of the estimated benefits included carbon dioxide sequestration amounts, shading benefits, aesthetic value, and an increased property value. One specific study estimated that Chicago's urban tree population sequestered a total of 155,000 tons of atmospheric carbon dioxide each year. Our study found that out of the 813 city-owned trees surveyed in Keene, NH, an estimated 92.6 tons of atmospheric carbon could be sequestered each year. This amount is much less than the Chicago study, but it must be taken into account that the City of Keene is a much smaller area than Chicago the third largest city in the United States. Additionally, only the city-owned trees located within the designated study area in Keene were surveyed, meaning there is much more future research to be done. Both the Chicago study and the study in Keene demonstrate that if all trees in our study area were surveyed, the total amount of carbon sequestration would be much more substantial. Another addition to this study would be to find the percentage of total trees surveyed within the study area. This would provide a more thorough understanding of the magnitude of trees that were inventoried.

The field inventory and assessment of city trees provided the fundamental data for our study. However, as resident's outlook and opinion are important parts of any kind of research with regards to improving a community, a survey was administered to Keene's residents to get a better understanding on public knowledge and support for city-owned trees. It was hypothesized that Keene residents would agree that trees are an important part of their community, and that they would be supportive of planting additional trees. This was supported by 66 percent responding that trees were very important to their community, and 22 percent responding that they were important. Eighty-seven percent of survey respondents also answered that they would be supportive of more trees being planted in Keene. This demonstrates that Keene residents would be in support of future tree planting projects, and it also raises the question of whether Keene should include an urban forest section into its city master plan. If an urban forest plan was put into action, specific locations as to where trees should be planted would need to be identified. Our survey respondents selected several general areas where they would like to see more trees planted with 74 percent selecting street sides, 64 percent selecting park areas, 58 percent selecting public buildings, 57 percent selecting parking lots, and 55 percent selecting yards.

Updated on September 30, 2010, Keene, New Hampshire's Land Use and Energy Policy Audit incorporates many well thought out plans and ideas for creating a sustainable future for the City. Plans for improving and managing Keene's environment have been based on a series of regulations and requirements to different sections of the environmental zones. Some of these sections include: Agriculture and Forestry, Storm Water, Air Quality, and Landscaping. Our study strongly suggests that the implementation of an Urban Tree section to Keene's Master Plan would greatly assist with improving sustainability methods for the Land Use and Energy Policy Audit.

Future research could be conducted in order to find specific areas within Keene where urban trees would be highly desirable to community members and the most effective at mitigating climate change. Areas such as parking lots would particularly benefit from tree shading. The sunlight blocked by the trees located in the parking lot would result in less radiation reaching the pavement, therefore potentially cooling the surrounding area. Urban trees that are allowed to grow to maturity will increase in canopy size to effectively shade a larger area of buildings and pavement from the sun's rays. This could ultimately help to reduce the urban heat island effect, and the energy demanded for buildings. Our research also strongly suggests that larger, more mature trees help to sequester more carbon and add more value to both public and private property. It is important that the city both protect and care for these older trees as well as let younger trees reach maturity. Keene has a large concentrated group of young, newly-planted trees along the bike path that runs throughout the city. By allowing these trees to reach maturity, Keene has the potential to greatly increase the overall benefits trees provide for the city. For these reasons, urban forests in the community must be given the necessary care that is required to sustain future healthy tree populations.

Additional research regarding whether or not residence type and location is a factor in tree importance, as well as support for trees and tree program, could be valuable information in determining future urban tree locations in Keene. Results from this survey indicated that neither the type of residence nor the location within Keene played a role in determining whether or not residents supported trees. In other words, people residing in southwest Keene are just as likely to support urban tree planting as people in northeast Keene. However, we found that all are overwhelmingly supportive.

While this study provides important information on city-owned tree benefits throughout the study area in Keene, it is important to take into account that many trees within the City are located on privately-owned land. These trees were not included in the city tree inventory and their benefits were not included in this report. Future research on these privately-owned trees could be valuable in order to gain a more complete understanding of the total benefits provided by urban forests within Keene.

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APPENDIX A: SURVEY

Keene State College Geography Seniors are conducting a semester-long research project looking at the climate control effects of city-owned trees within the City of Keene. Please take a few minutes and fill this survey out to help us.

1. Please indicate your gender.

   ☐ Male ☐ Female

2. Please indicate your age group.

   ☐ 18-30 ☐ 31-45 ☐ 46-60 ☐ 61-75 ☐ 76+

3. What kind of residence do you live in?

   ☐ House

   ☐ Apartment

   ☐ Dorm

   ☐ Other

4. Use the map below to indicate what area of Keene you reside in by checking the corresponding number. If you live in Keene, but outside the mapped area, please select the fifth option.

   ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

5. How important is it for you to have trees present in your community?

☐ Very Important ☐ Mildly Important

☐ Important ☐ Not Important

6. In what ways do you think trees are beneficial to Keene, NH?

____

In your opinion…	Strongly Disagree	Disagree	Agree	Strongly Agree
Trees are aesthetically pleasing.	☐	☐	☐	☐
Trees help regulate temperature.	☐	☐	☐	☐
Trees help lower carbon dioxide in the atmosphere.	☐	☐	☐	☐
Trees increase property value.	☐	☐	☐	☐
Trees can lower cooling cost in the summer months through shading.	☐	☐	☐	☐

7. Would you be supportive of Keene planting more trees within the city limit?

☐ Yes ☐ No ☐ Unsure

8. If yes, please identify some areas within Keene where you would like to see more trees?

☐ Parks ☐ Street sides ☐ Yards

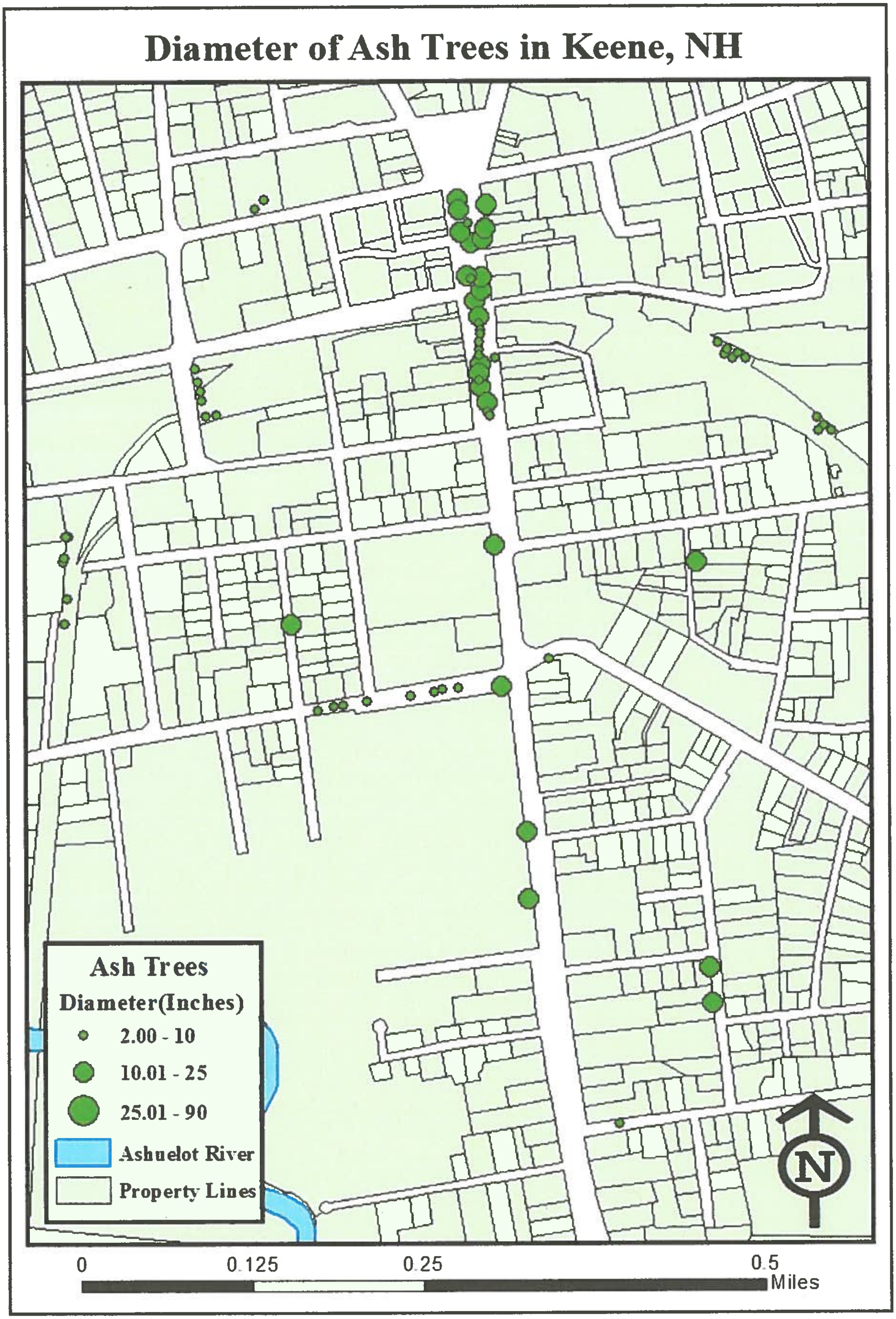
☐ Public Buildings ☐ Parking Lots Other: ____________

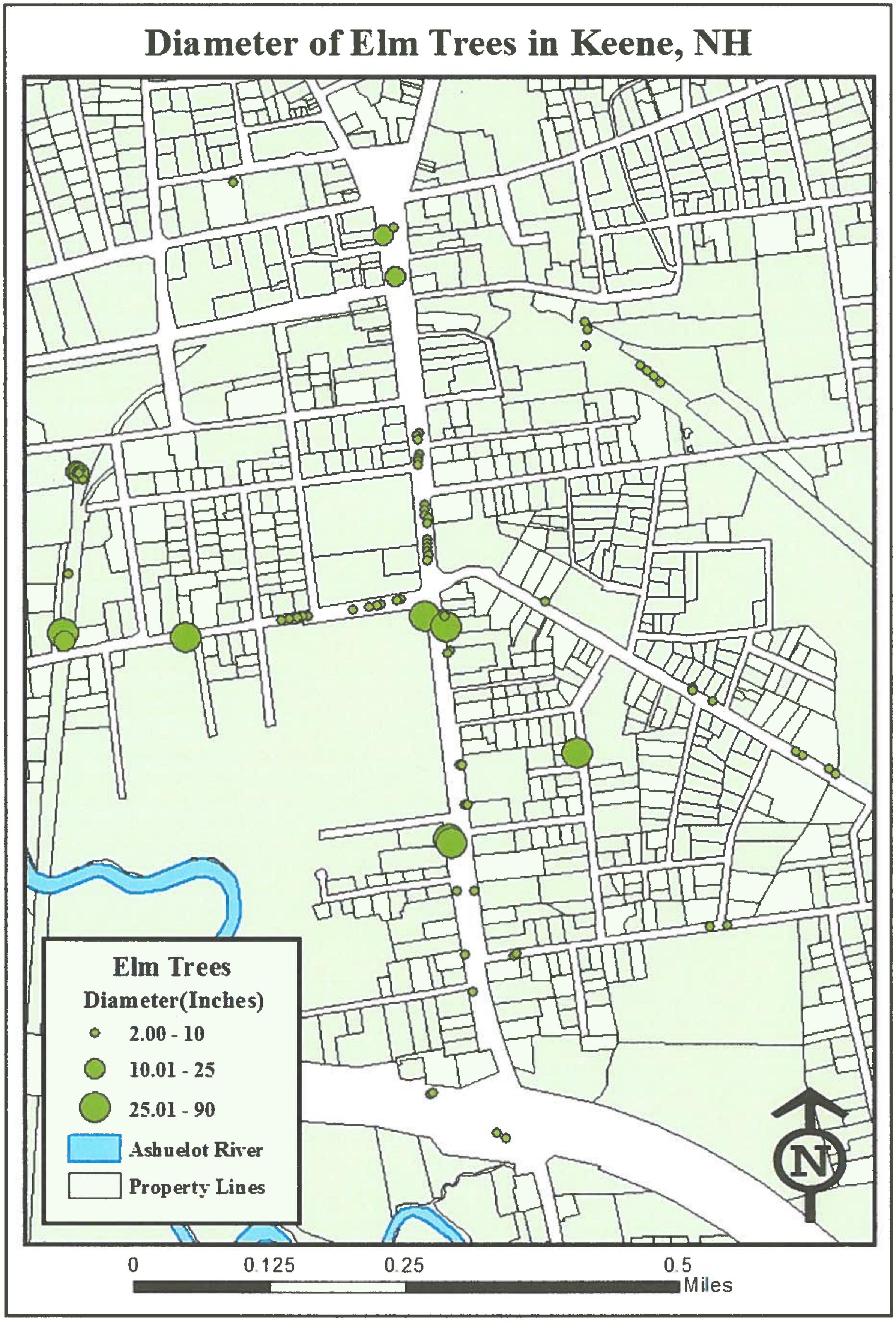
9. Would there be any specific tree types you would like to see planted? If yes, write your answers in the space below.

____

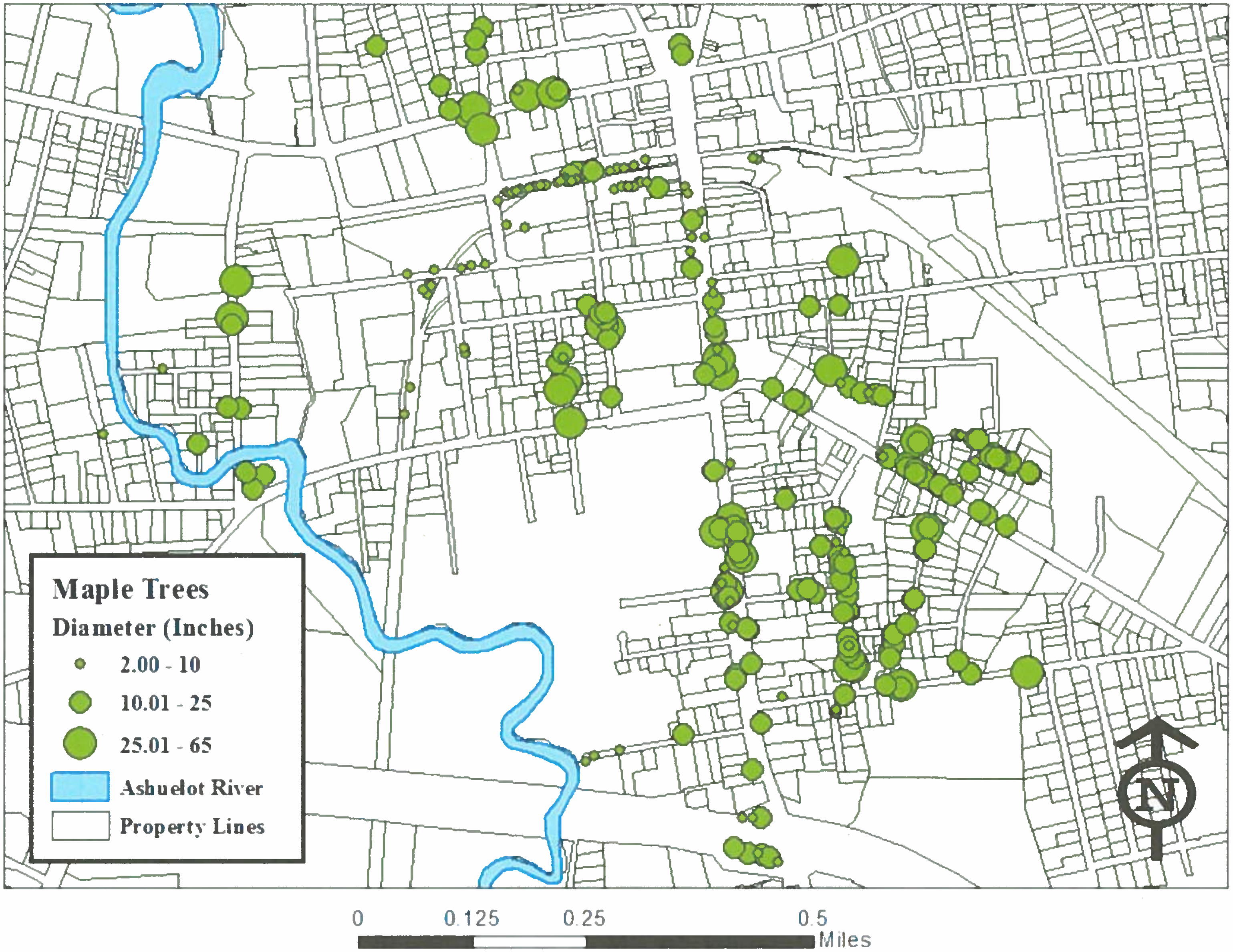
Thank you for your help!

APPENDIX B: MAPS

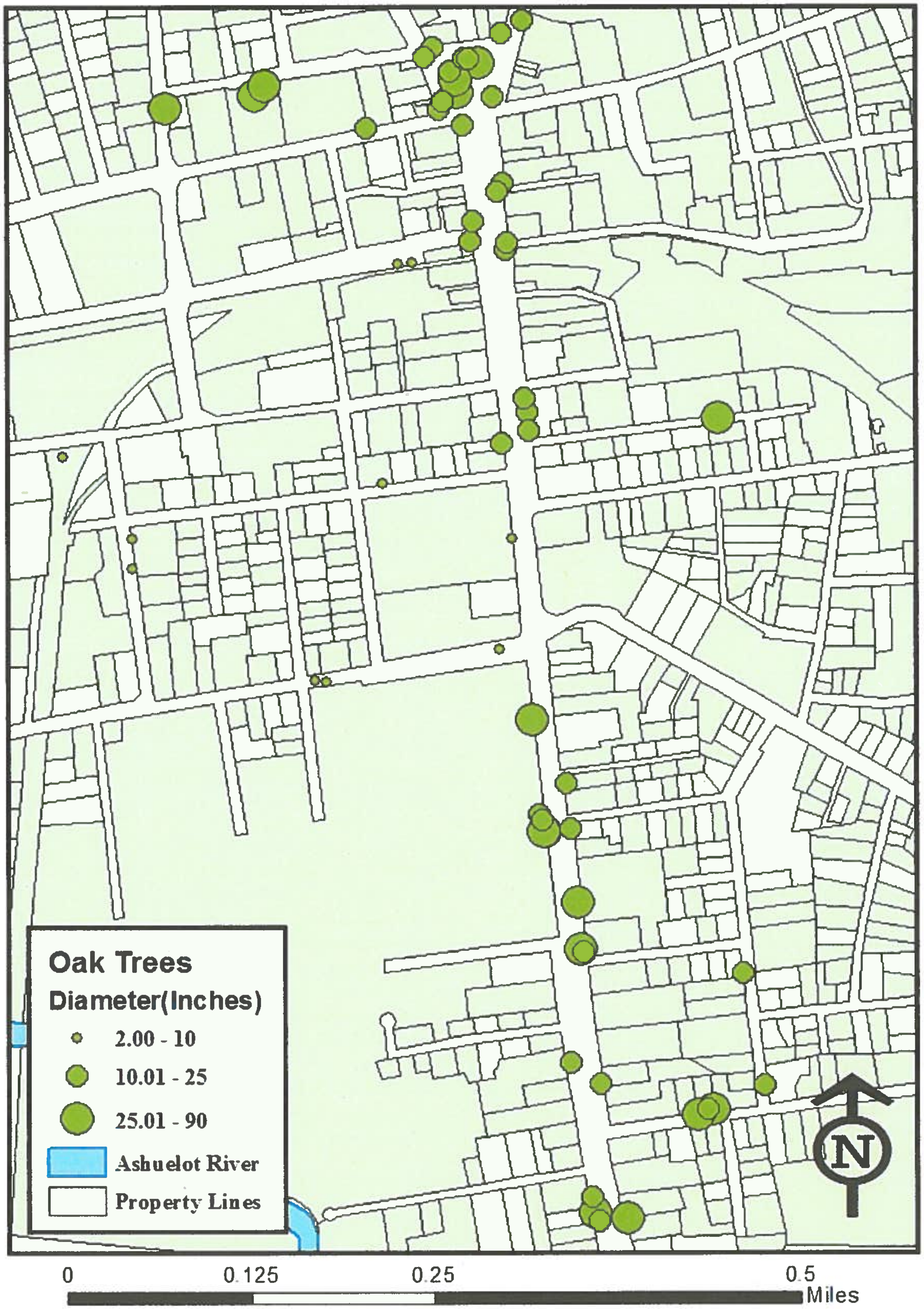

Diameter of Ash Trees in Keene, NH
Ash Trees
Diameter(Inches)
2.00 - 10
10.01 - 25
25.01 - 90
Ashuelot River
Property Lines
N
0
0.125
0.25
0.5
Miles


Diameter of Elm Trees in Keene, NH
Elm Trees
Diameter(Inches)
2.00 - 10
10.01 - 25
25.01 - 90
Ashuelot River
Property Lines
N
0
0.125
0.25
0.5
Miles

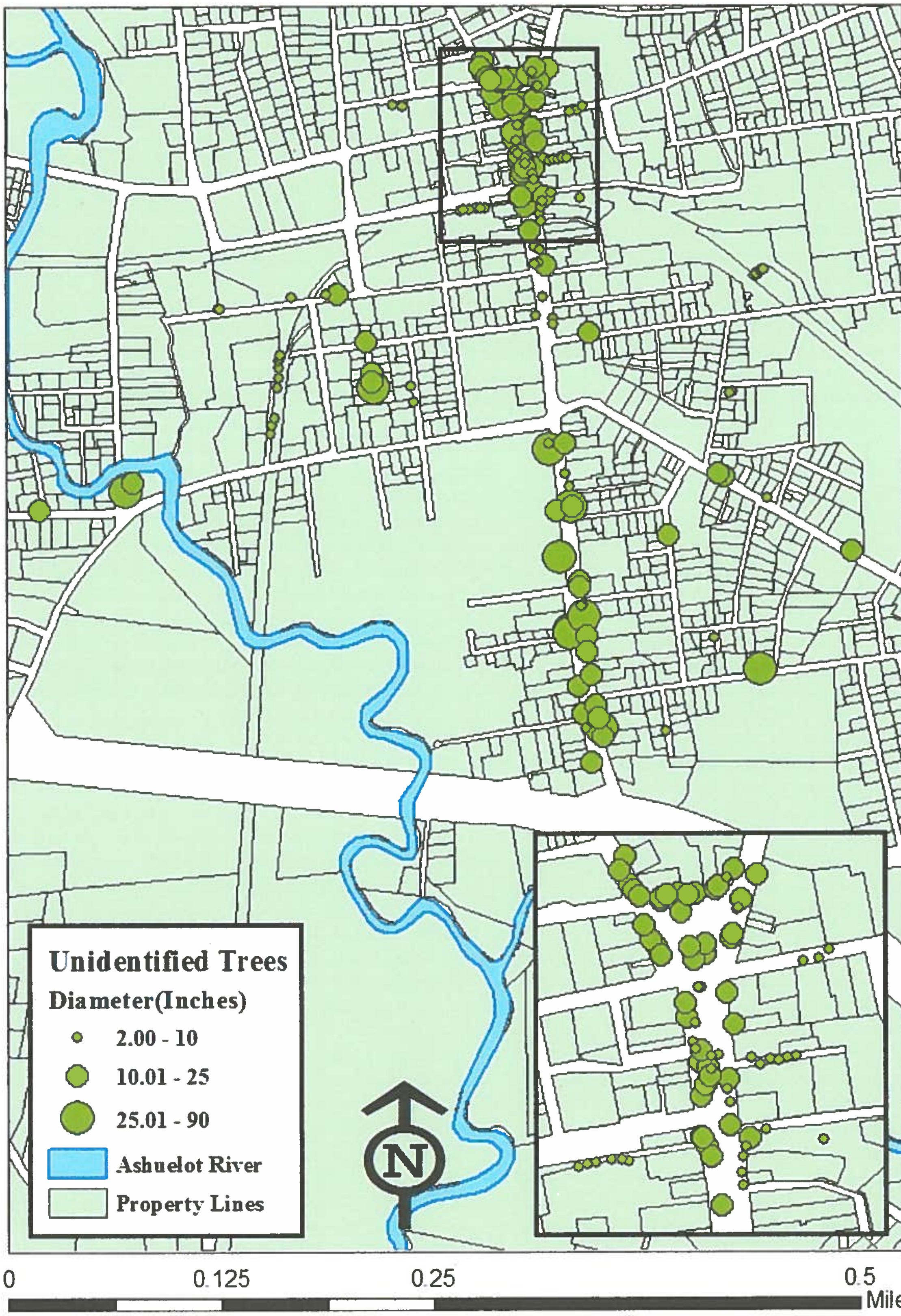
Diameter of Maple Trees in Keene, NH



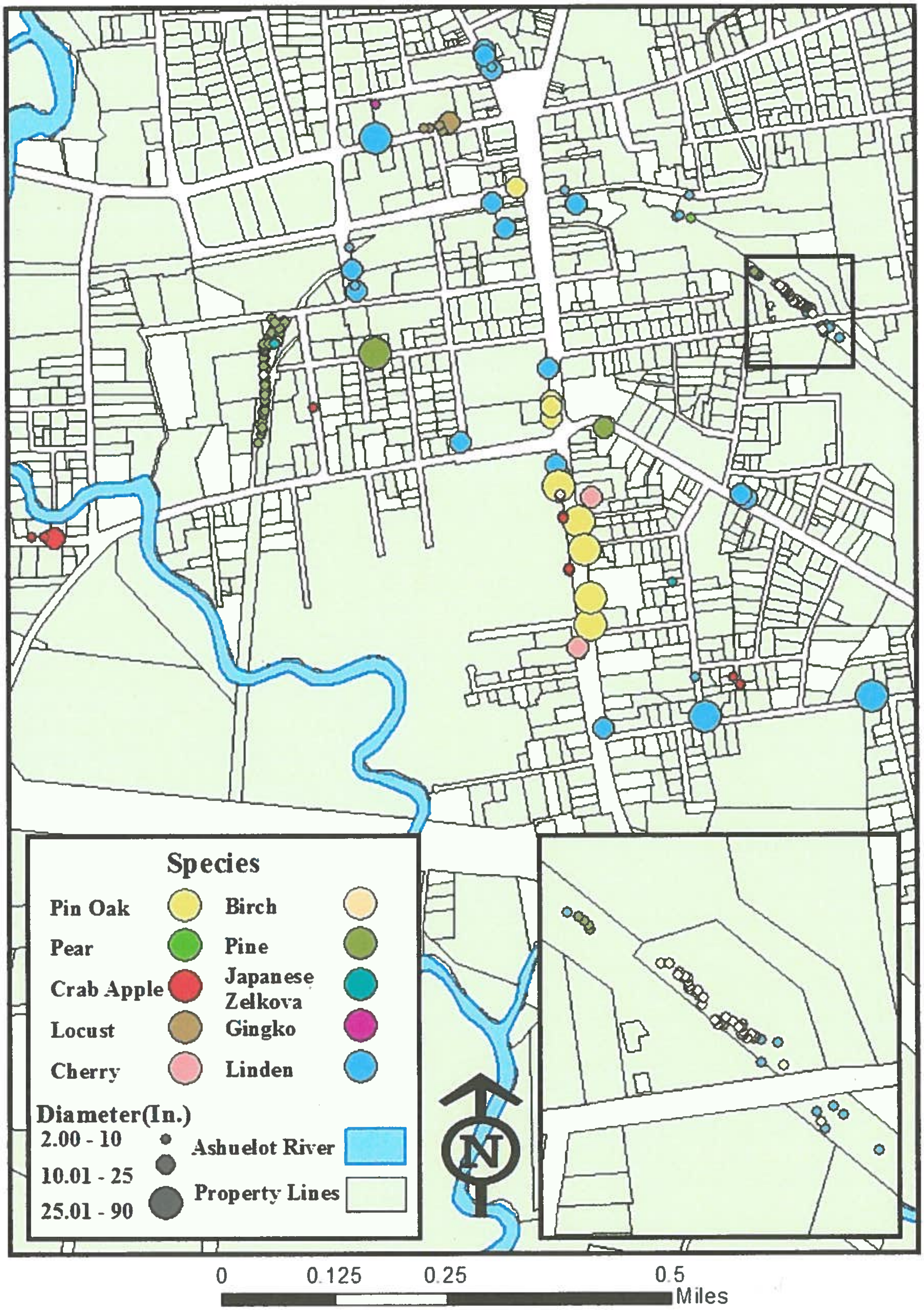
Diameter of Oak Trees in Keene, NH



Diameter of Unidentified Trees in Keene, NH

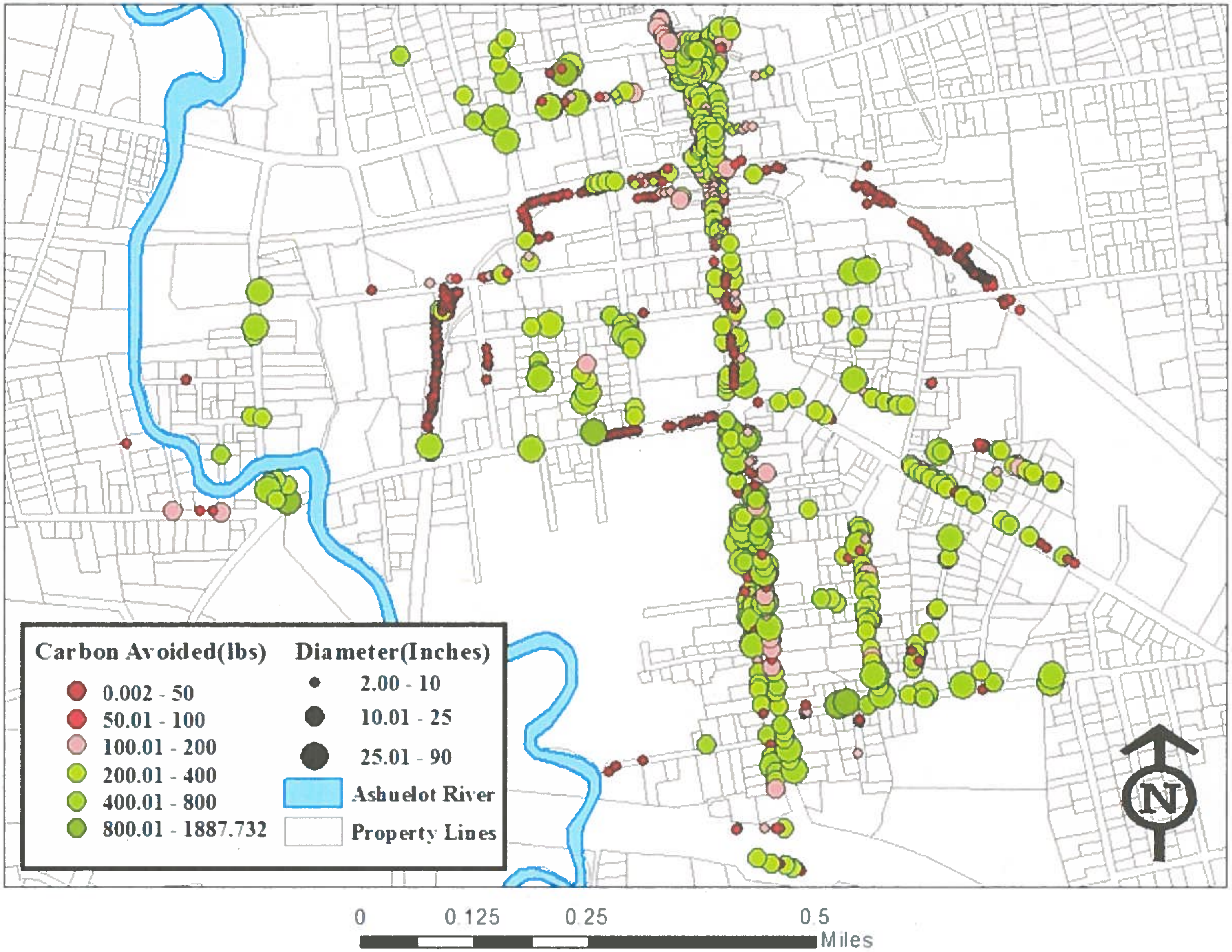


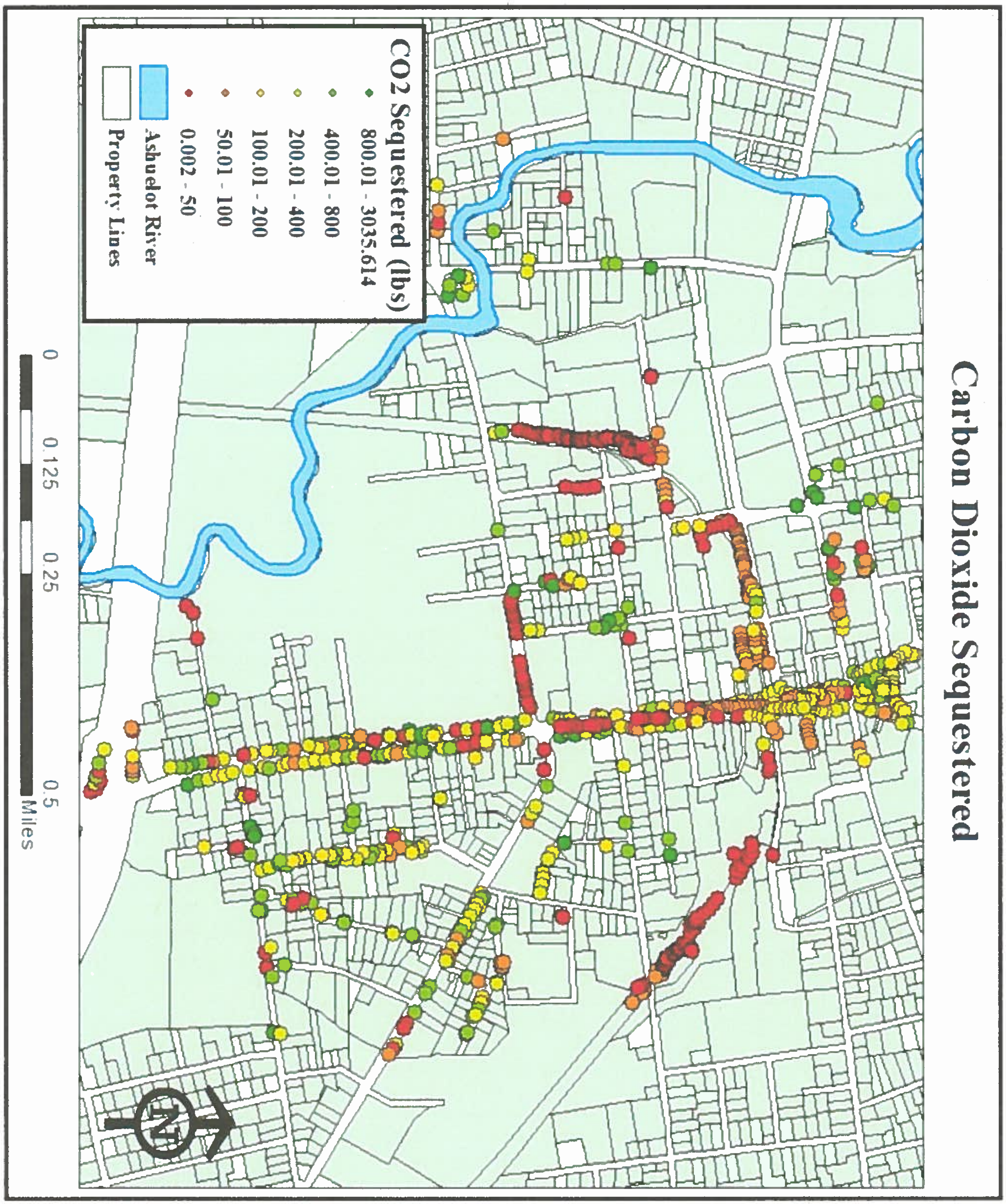
Diameter of Various Tree Species in Keene, NH

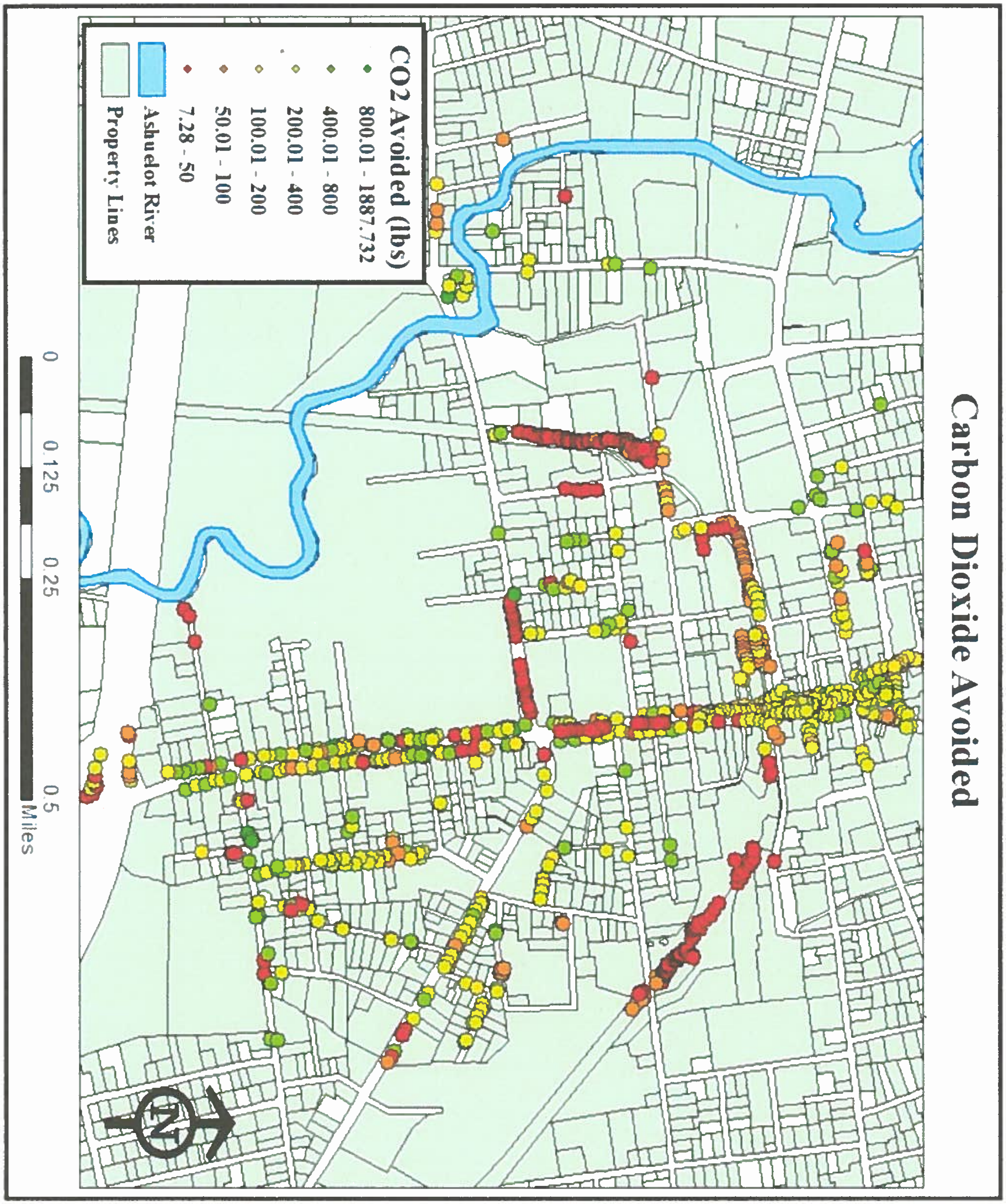


Diameter and Carbon Sequestered Per Tree in Keene, NH

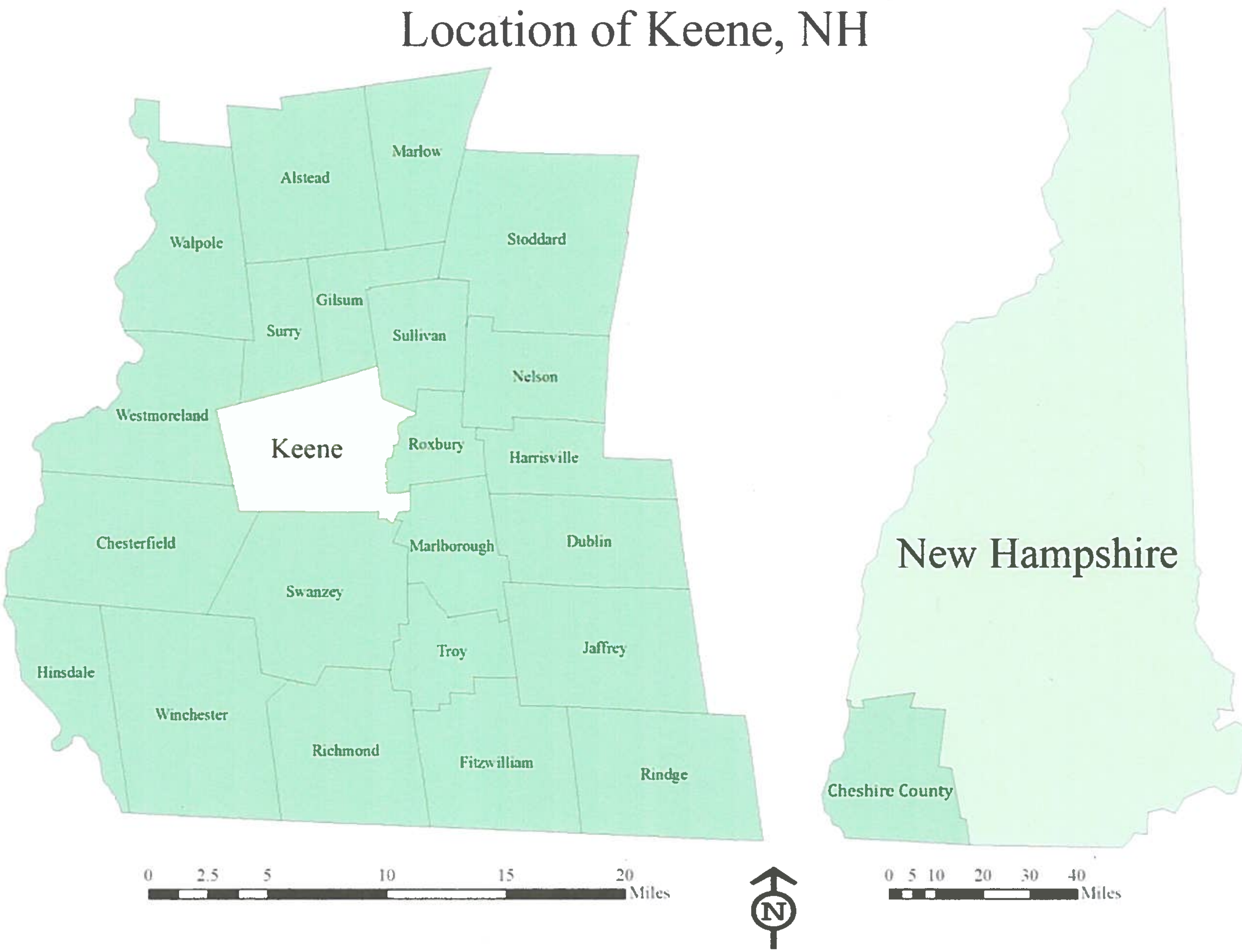
Diameter and Carbon Avoided Per Tree in Keene, NH




Carbon Dioxide Sequestered
CO2 Sequestered (lbs)
800.01 - 3035.614
400.01 - 800
200.01 - 400
100.01 - 200
50.01 - 100
0.002 - 50
Ashuelot River
Property Lines
0
0.125
0.25
0.5
Miles
N


Carbon Dioxide Avoided
CO2 Avoided (lbs)
800.01 - 1887.732
400.01 - 800
200.01 - 400
100.01 - 200
50.01 - 100
7.28 - 50
Ashuelot River
Property Lines
0
0.125
0.25
0.5
Miles
N

Location of Keene, NH



APPENDIX C: TREE INVENTORY

Count	Condition Rating	Species Type	Diameter	Overall Benefit	Property Value	Electricity	Natural Gas	CO2 Sequestered	CO2 Avoided
1	Excellent	Elm	17	156	40.15	18.15	63.10	304.19	389.49
2	Fair	Elm	28	249	52.64	30.00	98.92	610.39	643.67
3	Good	Other	3	14	3.87	1.32	6.84	20.92	28.31
4	Good	Maple	4	19	5.56	1.66	8.54	33.09	35.66
5	Good	Other	3	14	3.87	1.32	6.84	20.92	28.31
6	Excellent	Pine	3	16	10.12	0.77	3.20	8.60	16.57
7	Good	Other	3	14	3.87	1.32	6.84	20.92	28.31
8	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
9	Good	Pine	4	20	10.32	1.21	4.87	12.81	25.87
10	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
11	Good	Pine	2	13	9.93	0.34	1.53	4.40	7.28
12	Good	Maple	3	13	4.42	1.07	5.53	22.45	23.06
13	Good	Pine	4	20	10.32	1.21	4.87	12.81	25.87
14	Good	Pine	4	20	10.32	1.21	4.87	12.81	25.87
15	Good	Elm	3	34	23.43	1.49	6.28	26.14	32.00
16	Good	Pine	4	20	10.32	1.21	4.87	12.81	25.87
17	Good	Pine	4	20	10.32	1.21	4.87	12.81	25.87
18	Excellent	Pine	4	20	10.32	1.21	4.87	12.81	25.87
19	Good	Ash	4	33	15.45	2.25	10.82	17.32	48.36
20	Good	Other	3	14	3.87	1.32	6.84	20.92	28.31
21	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
22	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
23	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
24	Good	Other	3	14	3.87	1.32	6.84	20.92	28.31
25	Good	Pine	4	20	10.32	1.21	4.87	12.81	25.87
26	Excellent	Pine	4	20	10.32	1.21	4.87	12.81	25.87
27	Good	Pine	4	20	10.32	1.21	4.87	12.81	25.87
28	Good	Ash	3	26	14.80	1.47	7.10	12.09	31.54
29	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
30	Good	Other	4	19	4.14	1.86	9.43	30.82	39.84
31	Good	Pine	4	20	10.32	1.21	4.87	12.81	25.87
32	Good	Pine	4	20	10.32	1.21	4.87	12.81	25.87
33	Good	Pine	4	20	10.32	1.21	4.87	12.81	25.87
34	Good	Other	3	14	3.87	1.32	6.84	20.92	28.31
35	Good	Birch	8	62	20.51	5.19	23.93	73.95	111.37
36	Good	Birch	7	55	20.56	4.29	20.01	64.59	92.04
37	Fair	Other	3	14	3.87	1.32	6.84	20.92	28.31
38	Good	Other	3	14	3.87	1.32	6.84	20.92	28.31
39	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
40	Good	Pine	2	13	9.93	0.34	1.53	4.40	7.28

41	Excellent	Pine	3	16	10.12	0.77	3.20	8.60	16.57
42	Good	Ash	3	26	14.80	1.47	7.10	12.09	31.54
43	Good	Ash	3	26	14.80	1.47	7.10	12.09	31.54
44	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
45	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
46	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
47	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
48	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
49	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
50	Good	Ash	4	33	15.45	2.25	10.82	17.32	48.36
51	Excellent	Oak	4	34	16.74	2.28	10.70	42.47	49.02
52	Fair	Maple	24	172	40.68	18.80	69.83	632.09	403.30
53	Excellent	Pine	27	106	0.00	15.07	54.60	0.00	323.23
54	Fair	Other	18	125	19.26	15.57	57.84	165.97	334.05
55	Excellent	Other	3	14	3.87	1.32	6.84	20.92	28.31
56	Excellent	Other	3	14	3.87	1.32	6.84	20.92	28.31
57	Good	Maple	8	48	10.82	4.93	22.78	98.93	105.77
58	Good	Pine	2	13	9.93	0.34	1.53	4.40	7.28
59	Excellent	Other	8	75	33.84	5.19	23.93	73.95	111.37
60	Excellent	Maple	6	38	13.43	3.23	15.50	64.35	69.31
61	Good	Maple	6	38	13.43	3.23	15.50	64.35	69.31
62	Good	Other	10	88	33.58	7.43	31.46	92.96	159.30
63	Fair	Maple	6	38	13.43	3.23	15.50	64.35	69.31
64	Good	Other	12	102	33.22	10.09	38.67	112.28	216.49
65	Fair	Maple	5	30	11.22	2.38	11.86	47.05	51.08
66	Good	Oak	29	250	69.77	27.44	87.00	782.23	588.79
67	Good	Maple	28	235	82.58	21.80	78.37	828.57	467.74
68	Good	Ash	4	43	26.49	2.25	10.82	17.32	48.36
69	Good	Pine	2	13	9.93	0.34	1.53	4.40	7.28
70	Good	Pine	2	13	9.93	0.34	1.53	4.40	7.28
71	Excellent	Pine	3	16	10.12	0.77	3.20	8.60	16.57
72	Excellent	Pine	3	16	10.12	0.77	3.20	8.60	16.57
73	Excellent	Pine	2	13	9.93	0.34	1.53	4.40	7.28
74	Good	Elm	8	71	29.44	5.59	24.34	102.14	119.97
75	Good	Japanese Zelkova	5	71	26.52	6.31	29.32	40.91	135.42
76	Good	Birch	5	41	20.66	2.49	12.16	45.87	53.37
77	Good	Birch	5	41	20.66	2.49	12.16	45.87	53.37
78	Good	Birch	5	41	20.66	2.49	12.16	45.87	53.37
79	Fair	Birch	5	41	20.66	2.49	12.16	45.87	53.37
80	Fair	Pine	9	45	10.87	4.60	17.91	41.00	98.79
81	Good	Elm	13	119	35.37	13.24	46.36	206.71	284.13

82	Excellent	Elm	9	79	30.60	6.52	28.55	118.52	139.89
83	Good	Elm	9	79	30.60	6.52	28.55	118.52	139.89
84	Good	Elm	13	119	35.37	13.24	46.36	206.71	284.13
85	Good	Elm	4	40	24.74	2.06	8.50	38.58	44.17
86	Good	Elm	4	40	24.74	2.06	8.50	38.58	44.17
87	Good	Elm	4	40	24.74	2.06	8.50	38.58	44.17
88	Good	Elm	4	40	24.74	2.06	8.50	38.58	44.17
89	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
90	Excellent	Pine	3	16	10.12	0.77	3.20	8.60	16.57
91	Good	Pine	2	13	9.93	0.34	1.53	4.40	7.28
92	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
93	Fair	Pine	3	16	10.12	0.77	3.20	8.60	16.57
94	Fair	Pine	3	16	10.12	0.77	3.20	8.60	16.57
95	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
96	Good	Crab Apple	2	11	5.99	0.62	3.43	9.94	13.31
97	Good	Oak	4	45	27.61	2.28	10.70	42.47	49.02
98	Good	Maple	4	23	9.17	1.66	8.54	33.09	35.66
99	Good	Maple	4	23	9.17	1.66	8.54	33.09	35.66
100	Good	Oak	3	40	25.69	1.80	8.67	28.31	38.63
101	Good	Maple	3	13	4.42	1.07	5.53	22.45	23.06
102	Good	Pine	2	13	9.93	0.34	1.53	4.40	7.28
103	Good	Pine	4	20	10.32	1.21	4.87	12.81	25.87
104	Good	Maple	3	13	4.42	1.07	5.53	22.45	23.06
105	Good	Maple	3	13	4.42	1.07	5.53	22.45	23.06
106	Fair	Pine	3	16	10.12	0.77	3.20	8.60	16.57
107	Fair	Pine	3	16	10.12	0.77	3.20	8.60	16.57
108	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
109	Good	Pine	3	16	10.12	0.77	3.20	8.60	16.57
110	Good	Pine	4	20	10.32	1.21	4.87	12.81	25.87
111	Excellent	Pine	2	13	9.93	0.34	1.53	4.40	7.28
112	Excellent	Oak	5	40	17.82	2.88	13.01	58.95	61.84
113	Good	Maple	3	13	4.42	1.07	5.53	22.45	23.06
114	Good	Maple	22	180	59.58	17.28	65.36	538.42	370.63
115	Good	Maple	27	226	78.43	21.08	76.55	772.61	452.32
116	Good	Maple	28	235	82.58	21.80	78.37	828.57	467.74
117	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54
118	Good	Maple	6	38	13.43	3.23	15.50	64.35	69.31
119	Good	Maple	6	38	13.43	3.23	15.50	64.35	69.31
120	Good	Maple	6	38	13.43	3.23	15.50	64.35	69.31
121	Good	Maple	8	55	17.85	4.93	22.78	98.93	105.77
122	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54

123	Good	Maple	6	38	13.43	3.23	15.50	64.35	69.31
124	Good	Maple	6	38	13.43	3.23	15.50	64.35	69.31
125	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54
126	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54
127	Good	Maple	6	38	13.43	3.23	15.50	64.35	69.31
128	Good	Maple	8	55	17.85	4.93	22.78	98.93	105.77
129	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54
130	Excellent	Maple	7	47	15.64	4.08	19.14	81.64	87.54
131	Excellent	Maple	4	23	9.17	1.66	8.54	33.09	35.66
132	Good	Maple	6	38	13.43	3.23	15.50	64.35	69.31
133	Good	Maple	5	30	11.22	2.38	11.86	47.05	51.08
134	Good	Maple	4	23	9.17	1.66	8.54	33.09	35.66
135	Good	Maple	5	30	11.22	2.38	11.86	47.05	51.08
136	Good	Maple	6	38	13.43	3.23	15.50	64.35	69.31
137	Good	Maple	8	55	17.85	4.93	22.78	98.93	105.77
138	Good	Maple	12	92	28.27	9.66	36.52	195.55	207.19
139	Good	Maple	17	137	42.92	14.53	52.12	347.11	311.69
140	Good	Maple	20	163	52.59	16.02	60.37	455.46	343.64
141	Good	Maple	17	137	42.92	14.53	52.12	347.11	311.69
142	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54
143	Good	Maple	10	73	22.80	7.07	29.78	142.67	151.73
144	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54
145	Excellent	Oak	7	64	32.70	4.30	18.19	96.56	92.32
146	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54
147	Good	Oak	5	51	29.40	2.88	13.01	58.95	61.84
148	Good	Linden	13	119	51.49	10.51	37.40	191.43	225.54
149	Good	Maple	6	38	13.43	3.23	15.50	64.35	69.31
150	Good	Other	7	68	33.92	4.29	20.01	64.59	92.04
151	Fair	Other	6	62	34.01	3.39	16.08	55.23	72.70
152	Good	Other	10	141	59.02	12.52	49.37	117.39	268.62
153	Good	Other	8	75	33.84	5.19	23.93	73.95	111.37
154	Good	Other	6	62	34.01	3.39	16.08	55.23	72.70
155	Good	Other	10	141	59.02	12.52	49.37	117.39	268.62
156	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54
157	Fair	Maple	6	38	13.43	3.23	15.50	64.35	69.31
158	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54
159	Good	Maple	6	38	13.43	3.23	15.50	64.35	69.31
160	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54
161	Fair	Maple	7	47	15.64	4.08	19.14	81.64	87.54
162	Fair	Maple	9	63	20.07	5.78	26.42	116.23	123.99
163	Good	Maple	9	63	20.07	5.78	26.42	116.23	123.99

164	Good	Maple	8	55	17.85	4.93	22.78	98.93	105.77
165	Good	Maple	17	137	42.92	14.53	52.12	347.11	311.69
166	Good	Linden	11	100	46.78	7.87	30.44	154.30	168.94
167	Good	Maple	18	170	69.91	15.02	54.87	383.23	322.34
168	Good	Japanese Zelkova	3	83	56.15	3.86	18.72	20.10	82.76
169	Good	Elm	10	137	79.48	8.20	33.00	140.57	175.95
170	Good	Ash	7	84	43.18	5.40	24.22	40.93	115.77
171	Good	Elm	10	137	79.48	8.20	33.00	140.57	175.95
172	Good	Maple	3	16	7.30	1.07	5.53	22.45	23.06
173	Good	Oak	43	413	141.92	42.10	114.79	1422.42	903.28
174	Good	Oak	23	228	90.74	20.54	69.79	557.82	440.75
175	Good	Oak	49	430	146.89	44.00	117.79	1517.80	943.87
176	Good	Maple	2	12	8.22	0.49	2.53	11.81	10.45
177	Good	Maple	2	12	8.22	0.49	2.53	11.81	10.45
178	Good	Maple	2	12	8.22	0.49	2.53	11.81	10.45
179	Good	Maple	33	287	109.63	25.40	87.46	1108.38	544.83
180	Good	Elm	4	58	43.29	2.06	8.50	38.58	44.17
181	Good	Elm	4	58	43.29	2.06	8.50	38.58	44.17
182	Excellent	Maple	32	323	150.32	24.68	85.64	1052.42	529.41
183	Fair	Maple	21	200	84.56	16.51	63.12	491.58	354.29
184	Good	Crab Apple	3	20	10.78	1.17	6.12	17.67	25.19
185	Good	Maple	17	159	65.02	14.53	52.12	347.11	311.69
186	Good	Maple	24	233	101.70	18.80	69.83	632.09	403.30
187	Good	Maple	21	200	84.56	16.51	63.12	491.58	354.29
188	Good	Crab Apple	3	20	10.78	1.17	6.12	17.67	25.19
189	Good	Maple	21	200	84.56	16.51	63.12	491.58	354.29
190	Good	Maple	13	117	46.97	10.95	39.88	221.99	234.93
191	Good	Maple	25	244	107.41	19.56	72.07	678.93	419.64
192	Good	Maple	20	190	79.68	16.02	60.37	455.46	343.64
193	Fair	Maple	8	64	27.05	4.93	22.78	98.93	105.77
194	Good	Maple	12	106	42.83	9.66	36.52	195.55	207.19
195	Good	Maple	12	106	42.83	9.66	36.52	195.55	207.19
196	Fair	Maple	20	190	79.68	16.02	60.37	455.46	343.64
197	Good	Maple	21	200	84.56	16.51	63.12	491.58	354.29
198	Excellent	Maple	23	222	95.99	18.04	67.59	585.26	386.97
199	Good	Maple	18	170	69.91	15.02	54.87	383.23	322.34
200	Good	Maple	5	36	16.99	2.38	11.86	47.05	51.08
201	Good	Maple	7	55	23.70	4.08	19.14	81.64	87.54
202	Good	Maple	6	45	20.35	3.23	15.50	64.35	69.31
203	Excellent	Maple	7	55	23.70	4.08	19.14	81.64	87.54
204	Good	Maple	7	55	23.70	4.08	19.14	81.64	87.54

205	Fair	Maple	26	255	113.12	20.32	74.31	725.77	435.98
206	Good	Maple	24	233	101.70	18.80	69.83	632.09	403.30
207	Good	Other	3	20	9.67	1.32	6.84	20.92	28.31
208	Good	Other	5	30	11.03	2.36	11.90	43.61	50.67
209	Good	Linden	5	33	17.86	2.09	9.22	52.18	44.92
210	Good	Linden	6	41	19.77	2.88	12.78	68.43	61.77
211	Good	Linden	4	27	15.89	1.44	6.32	38.55	30.88
212	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
213	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
214	Good	Linden	2	15	11.82	0.39	1.85	16.51	8.43
215	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
216	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
217	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
218	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
219	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
220	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
221	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
222	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
223	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
224	Good	Birch	4	36	20.70	1.73	8.69	35.86	37.11
225	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
226	Good	Birch	4	36	20.70	1.73	8.69	35.86	37.11
227	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
228	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
229	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
230	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
231	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
232	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
233	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
234	Good	Birch	3	30	20.73	1.12	5.67	25.19	23.94
235	Good	Birch	3	30	20.73	1.12	5.67	25.19	23.94
236	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
237	Good	Birch	3	30	20.73	1.12	5.67	25.19	23.94
238	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
239	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
240	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
241	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
242	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
243	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
244	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
245	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76

246	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
247	Good	Birch	2	25	20.75	0.50	2.66	14.53	10.76
248	Good	Birch	4	36	20.70	1.73	8.69	35.86	37.11
249	Good	Other	3	14	3.87	1.32	6.84	20.92	28.31
250	Good	Other	3	14	3.87	1.32	6.84	20.92	28.31
251	Good	Other	5	23	4.41	2.36	11.90	43.61	50.69
252	Good	Other	2	10	3.60	0.78	4.24	11.02	16.78
253	Good	Other	2	10	3.60	0.78	4.24	11.02	16.78
254	Good	Other	2	10	3.60	0.78	4.24	11.02	16.78
255	Fair	Other	2	10	3.60	0.78	4.24	11.02	16.78
256	Good	Ash	3	26	14.88	1.47	7.10	12.08	31.54
257	Good	Ash	3	26	14.88	1.47	7.10	12.08	31.54
258	Good	Ash	3	26	14.88	1.47	7.10	12.08	31.54
259	Good	Ash	3	26	14.88	1.47	7.10	12.08	31.54
260	Good	Pine	2	13	9.93	0.34	1.53	4.40	7.28
261	Good	Pine	2	13	9.93	0.34	1.53	4.40	7.28
262	Good	Pine	2	13	9.93	0.34	1.53	4.40	7.28
263	Good	Pine	2	13	9.93	0.34	1.53	4.40	7.28
264	Good	Linden	4	27	15.89	1.44	6.32	38.55	30.88
265	Good	Elm	3	34	23.43	1.49	6.28	26.14	32.00
266	Good	Elm	4	56	40.81	2.06	8.50	38.58	44.17
267	Good	Elm	4	56	40.81	2.06	8.50	38.58	44.17
268	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
269	Good	Linden	4	27	15.89	1.44	6.32	38.54	30.88
270	Excellent	Linden	7	49	21.68	3.66	16.35	84.68	78.63
271	Excellent	Linden	6	41	19.77	2.88	12.78	68.43	61.77
272	Good	Birch	4	36	20.70	1.73	8.69	35.86	37.11
273	Good	Linden	4	27	15.89	1.44	6.32	38.54	30.88
274	Good	Linden	6	41	19.77	2.88	12.78	68.43	61.77
275	Good	Birch	6	48	20.61	3.39	16.08	55.23	72.70
276	Good	Ash	3	36	24.41	1.47	7.10	12.08	31.54
277	Good	Ash	3	36	24.41	1.47	7.10	12.08	31.54
278	Good	Ash	4	43	25.49	2.25	10.82	17.32	48.36
279	Good	Ash	3	36	24.41	1.47	7.10	12.08	31.54
280	Good	Ash	3	36	24.41	1.47	7.10	12.08	31.54
281	Good	Ash	3	36	24.41	1.47	7.10	12.08	31.54
282	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
283	Good	Pear	2	23	19.01	0.45	2.18	15.60	9.69
284	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
285	Good	Linden	4	37	26.22	1.44	6.32	38.55	30.88
286	Good	Linden	4	37	26.22	1.44	6.32	38.55	30.88

287	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
288	Good	Maple	4	23	9.17	1.66	8.54	33.09	35.66
289	Good	Maple	4	23	9.17	1.66	8.54	33.09	35.66
290	Good	Other	3	17	6.39	1.32	6.84	20.92	28.31
291	Good	Linden	14	128	53.85	11.83	40.88	209.99	253.84
292	Good	Linden	7	63	35.77	3.66	16.35	84.68	78.63
293	Good	Linden	3	30	22.86	0.92	4.08	27.53	19.56
294	Excellent	Linden	12	109	49.14	9.19	33.92	172.86	197.24
295	Good	Linden	10	91	44.42	6.56	26.96	135.74	140.64
296	Excellent	Linden	14	128	53.85	11.83	40.88	209.99	253.84
297	Good	Linden	11	100	46.78	7.87	30.44	154.30	168.94
298	Excellent	Linden	14	128	53.85	11.83	40.88	209.99	253.84
299	Excellent	Oak	36	309	81.72	35.15	102.88	1086.92	754.12
300	Good	Other	2	12	5.93	0.78	4.24	11.02	16.78
301	Good	Elm	7	81	46.66	4.66	20.14	85.76	100.05
302	Excellent	Oak	55	380	96.95	44.00	117.79	1517.81	943.87
303	Good	Other	6	30	7.71	2.84	14.24	59.30	60.86
304	Good	Gingko	2	8	4.89	0.36	1.69	5.66	7.67
305	Excellent	Maple	19	154	49.36	15.52	57.62	419.35	332.99
306	Excellent	Maple	28	235	82.58	21.80	78.37	828.57	467.74
307	Excellent	Oak	11	95	39.29	8.60	30.00	184.29	184.54
308	Good	Locust	12	159	63.72	14.80	54.87	151.66	317.46
309	Good	Locust	8	212	53.44	10.12	42.29	85.41	217.00
310	Good	Locust	8	212	53.44	10.12	42.29	85.41	217
311	Good	Locust	7	110	50.21	8.85	37.97	70.58	189.81
312	Good	Locust	3	64	37.06	3.86	18.72	20.10	82.76
313	Good	Ash	9	87	30.48	7.60	33.45	57.32	162.97
314	Good	Ash	5	51	26.53	3.20	14.99	24.13	68.57
315	Excellent	Linden	30	197	34.76	23.39	80.79	211.67	501.73
316	Good	Maple	29	244	86.74	22.52	80.19	884.53	483.15
317	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54
318	Excellent	Oak	35	305	84.78	34.10	100.92	1038.99	731.59
319	Good	Maple	20	190	79.68	16.02	60.37	455.46	343.64
320	Good	Maple	14	128	51.11	12.24	43.25	248.44	262.66
321	Good	Maple	19	180	74.79	15.52	57.62	419.35	332.99
322	Excellent	Maple	31	268	100.81	23.96	83.82	996.45	513.99
323	Good	Maple	29	249	92.00	22.52	80.19	884.53	483.15
324	Good	Maple	25	212	75.19	19.56	72.06	678.93	419.64
325	Good	Maple	20	190	79.68	16.02	79.68	455.46	343.64
326	Good	Maple	25	244	107.41	19.56	72.07	678.93	419.64
327	Good	Maple	28	235	82.58	21.80	78.37	828.57	467.74

328	Good	Ash	3	36	24.41	1.47	7.10	12.09	31.54
329	Good	Maple	5	30	11.22	2.38	11.86	47.05	51.08
330	Good	Linden	7	63	35.77	3.66	16.35	84.68	78.63
331	Good	Ash	3	36	24.41	1.47	7.10	12.09	31.54
332	Good	Ash	4	43	25.49	2.25	10.82	17.83	48.36
333	Good	Ash	4	43	25.49	2.25	10.82	17.83	48.36
334	Good	Maple	3	16	7.30	1.07	5.53	22.45	23.06
335	Good	Ash	4	43	25.49	2.25	10.82	17.83	48.36
336	Good	Ash	3	36	24.41	1.47	7.10	12.09	31.54
337	Good	Maple	3	16	7.30	1.07	5.53	22.45	23.06
338	Good	Linden	13	119	51.49	10.51	37.40	191.43	225.54
339	Good	Linden	18	157	59.00	14.64	52.99	271.62	314.00
340	Good	Linden	9	81	42.00	5.24	23.48	117.17	112.34
341	Good	Other	20	147	31.16	16.56	63.41	182.44	355.23
342	Good	Oak	25	215	63.18	22.86	75.89	629.81	490.33
343	Good	Oak	30	258	71.42	28.58	89.50	822.46	613.22
344	Good	Maple	40	348	137.52	29.79	97.66	1603.89	639.21
345	Good	Crab Apple	5	27	9.27	2.28	11.54	33.47	48.905
346	Good	Other	40	220	0.00	32.68	103.63	0.00	701.13
347	Good	Maple	10	73	22.80	7.07	29.78	142.67	151.73
348	Good	Maple	15	120	36.47	13.54	46.62	274.88	290.39
349	Good	Maple	30	253	90.90	23.24	82.00	940.49	498.57
350	Good	Maple	15	120	36.47	13.54	46.62	274.88	290.39
351	Good	Elm	70	684	201.28	75.24	225.24	1703.89	1614.18
352	Good	Cherry	15	64	11.72	7.72	31.21	245.99	165.65
353	Good	Maple	20	163	52.59	16.02	60.37	455.46	343.64
354	Good	Other	70	502	77.54	60.67	197.80	423.51	1303.66
355	Good	Maple	20	166	55.78	16.02	60.37	455.46	343.64
356	Good	Other	50	568	233.94	47.92	167.64	680.01	1027.98
357	Good	Other	10	47	10.04	4.84	22.92	129.66	103.76
358	Good	Pin Oak	60	524	151.50	57.16	179.00	1644.92	1226.45
359	Good	Other	20	149	33.04	16.56	63.41	182.44	355.23
360	Good	Elm	5	66	45.44	2.81	11.72	52.99	60.22
361	Good	Pin Oak	40	347	94.10	39.25	110.26	1278.62	842.10
362	Good	Maple	30	253	90.90	23.24	82.00	940.49	498.57
363	Fair	Maple	20	163	52.59	16.02	60.37	455.46	343.64
364	Good	Elm	10	110	52.46	8.20	33.00	140.57	175.95
365	Good	Maple	30	259	96.40	23.24	82.00	940.49	498.57
366	Good	Maple	60	518	192.80	46.48	164.00	1880.98	997.14
367	Good	Pin Oak	40	347	94.10	39.25	110.26	1276.62	842.10
368	Good	Other	35	254	41.12	30.38	98.90	211.75	651.83

369	Good	Pin Oak	60	524	151.50	57.16	179.00	1644.92	1226.45
370	Good	Elm	10	110	52.46	8.20	33.00	140.57	175.95
371	Good	Elm	60	602	181.58	64.54	206.42	1355.32	1384.53
372	Good	Elm	10	110	52.46	8.20	33.00	140.57	175.95
373	Good	Elm	70	684	201.28	75.24	225.24	1703.89	1614.18
374	Good	Other	10	46	9.47	4.48	22.92	129.66	103.76
375	Good	Other	30	261	67.37	27.30	91.94	338.24	585.71
376	Good	Pin Oak	90	760	193.90	88.00	235.58	3035.61	1887.73
377	Good	Cherry	10	54	13.31	5.25	24.69	72.59	112.53
378	Good	Maple	15	120	36.47	13.54	46.62	274.88	290.39
379	Good	Crab Apple	3	17	7.12	1.17	6.12	17.67	25.19
380	Good	Maple	10	74	24.18	7.07	29.78	142.67	151.73
381	Good	Maple	16	131	42.10	14.03	49.37	311.00	301.04
382	Good	Other	8	28	6.83	2.76	12.57	69.29	59.27
383	Good	Maple	16	131	42.10	14.03	49.37	311.00	301.04
384	Good	Elm	6	75	47.47	3.74	15.93	69.38	80.14
385	Fair	Maple	20	166	55.78	16.02	60.37	455.46	343.64
386	Good	Maple	14	113	35.78	12.24	43.25	248.44	262.66
387	Good	Maple	18	149	48.94	15.02	54.87	383.23	322.34
388	Good	Linden	20	173	64.55	15.63	58.75	300.32	335.24
389	Good	Linden	12	112	52.11	9.19	33.92	172.86	197.24
390	Poor	Maple	20	166	55.78	16.02	60.37	455.46	343.64
391	Good	Maple	14	113	35.78	12.24	43.25	248.44	262.66
392	Good	Maple	8	55	17.85	4.93	22.78	98.93	105.77
393	Good	Elm	33	326	96.70	35.67	109.66	778.57	765.15
394	Good	Crab Apple	8	44	12.07	3.93	19.78	58.72	84.21
395	Good	Maple	10	73	22.80	7.07	29.78	142.67	151.73
396	Good	Other	30	261	67.37	27.30	91.94	338.24	585.71
397	Good	Elm	7	81	46.66	4.66	20.14	85.76	100.05
398	Good	Oak	25	218	67.01	22.86	75.89	629.81	490.33
399	Good	Maple	16	131	42.10	14.03	49.37	311.00	301.04
400	Good	Maple	12	94	29.98	9.66	36.52	195.55	207.192
401	Fair	Other	20	149	33.04	16.56	63.41	182.44	355.23
402	Good	Elm	3	52	41.01	1.49	6.28	26.14	32.00
403	Good	Other	25	172	30.74	20.19	74.79	212.00	433.18
404	Good	Elm	6	75	47.47	3.74	15.93	69.38	80.14
405	Good	Other	2	13	6.29	0.78	4.24	11.02	16.78
406	Good	Oak	25	218	67.01	22.86	75.89	629.81	490.33
407	Good	Oak	32	280	79.25	30.86	94.50	902.92	662.09
408	Good	Oak	25	218	67.01	22.86	75.89	629.81	490.33
409	Needs Attention	Maple	25	180	42.96	19.56	72.07	678.93	419.64

410	Good	Other	16	62	7.36	7.90	32.47	274.18	169.50
411	Good	Maple	2	7	3.29	0.49	2.53	11.81	10.45
412	Good	Elm	2	29	22.13	0.92	4.05	13.70	19.83
413	Good	Maple	15	106	22.10	13.54	46.62	274.88	290.39
414	Good	Elm	2	29	22.13	0.92	4.05	13.70	19.83
415	Needs Attention	Maple	20	142	31.87	16.02	60.37	455.46	343.64
416	Good	Maple	2	7	3.29	0.49	2.53	11.81	10.45
417	Good	Maple	20	142	31.87	16.02	60.37	455.46	343.64
418	Good	Maple	14	97	20.44	12.24	43.25	248.44	262.66
419	Fair	Maple	13	89	18.79	10.95	39.88	221.96	234.93
420	Good	Oak	5	40	17.82	2.88	13.01	58.95	61.84
421	Poor	Maple	7	41	9.48	4.08	19.14	81.64	87.54
422	Poor	Maple	9	55	12.16	5.78	26.42	116.23	123.99
423	Fair	Elm	3	34	23.43	1.49	6.28	26.14	32.00
424	Fair	Elm	5	47	25.97	2.81	11.72	52.99	60.22
425	Good	Maple	24	203	71.19	18.80	69.83	632.09	403.30
426	Good	Maple	4	23	9.73	1.66	8.54	33.09	35.66
427	Good	Maple	3	16	7.74	1.07	5.53	22.45	23.06
428	Good	Maple	3	16	7.74	1.07	5.53	22.45	23.06
429	Good	Linden	28	226	73.41	21.80	77.17	289.28	467.65
430	Good	Maple	24	233	101.70	18.80	69.83	632.09	403.30
431	Good	Other	28	197	41.47	22.52	80.80	223.76	483.14
432	Good	Maple	23	222	95.99	19.04	67.59	585.26	386.97
433	Good	Maple	24	233	101.70	18.80	69.83	632.09	403.30
434	Good	Other	10	51	14.34	4.84	22.92	129.66	103.76
435	Good	Maple	24	233	101.70	18.80	69.83	632.09	403.30
436	Good	Linden	30	199	36.87	23.39	80.79	211.67	501.73
437	Good	Oak	15	132	48.66	14.36	43.25	284.52	308.03
438	Good	Maple	33	287	109.63	25.40	87.46	1108.38	544.83
439	Good	Maple	24	203	71.19	18.80	69.83	632.09	403.30
440	Good	Maple	20	166	55.78	16.02	60.37	455.46	343.64
441	Good	Linden	8	75	41.27	4.45	19.91	100.92	95.48
442	Good	Maple	20	190	79.68	16.02	60.37	455.46	343.64
443	Good	Maple	22	211	90.28	17.28	65.36	538.42	370.63
444	Good	Maple	24	233	101.70	18.80	69.83	632.09	403.30
445	Good	Other	2	15	8.99	0.78	4.24	11.02	16.78
446	Good	Crab Apple	2	14	9.08	0.62	3.43	9.94	13.31
447	Good	Maple	12	106	42.83	9.66	36.52	195.55	207.19
448	Good	Oak	36	314	86.67	35.15	102.88	1086.92	754.12
449	Good	Other	20	174	58.13	17.59	60.28	452.32	377.30
450	Good	Other	26	177	30.24	20.98	76.94	217.33	450.03

492	Good	Other	14	61	11.95	7.14	29.55	222.73	153.27
493	Good	Elm	4	58	43.29	2.06	8.50	38.58	44.17
494	Good	Oak	28	241	68.13	26.31	84.50	742.00	564.36
495	Good	Maple	21	171	55.81	16.51	63.12	491.58	354.29
496	Fair	Maple	14	111	33.73	12.24	43.25	248.44	262.66
497	Good	Elm	5	63	42.84	2.81	11.72	52.99	60.22
498	Good	Maple	18	149	48.94	15.02	54.87	383.23	322.34
499	Good	Maple	25	212	75.19	19.56	72.07	678.93	419.64
500	Fair	Oak	25	218	67.01	22.86	75.89	629.81	490.33
501	Good	Other	14	61	11.95	7.14	29.55	222.73	153.27
502	Good	Oak	25	218	67.01	22.86	75.89	629.81	490.33
503	Good	Other	3	17	6.77	1.32	6.84	20.92	28.31
504	Good	Maple	3	16	7.74	1.07	5.53	22.45	23.06
505	Poor	Other	3	17	6.77	1.32	6.84	20.92	28.31
506	Good	Elm	8	93	51.52	5.59	24.34	102.14	119.97
507	Good	Other	25	249	81.88	23.96	83.82	340.00	513.99
508	Good	Elm	7	84	49.49	4.66	20.14	85.76	100.05
509	Fair	Maple	30	253	90.90	23.54	82.00	940.94	498.57
510	Good	Maple	21	171	55.81	16.51	63.12	491.58	354.29
511	Good	Maple	28	235	82.58	21.80	78.37	828.57	467.74
512	Good	Maple	10	73	22.80	7.07	29.78	142.67	151.73
513	Good	Maple	21	171	55.81	16.51	63.12	491.58	354.29
514	Fair	Maple	20	163	52.59	16.02	60.37	455.46	343.64
515	Good	Maple	10	73	22.80	7.07	29.78	142.67	151.73
516	Good	Maple	14	111	33.73	12.24	43.25	248.44	262.66
517	Good	Other	3	17	6.77	1.32	6.84	20.92	28.31
518	Good	Other	4	22	6.84	1.86	9.43	30.82	39.84
519	Good	Maple	8	55	17.85	4.93	22.78	98.93	105.77
520	Good	Maple	10	73	22.80	7.07	29.78	142.67	151.73
521	Good	Oak	16	138	47.66	15.00	46.65	318.08	321.88
522	Good	Oak	24	209	65.26	21.70	72.84	593.83	465.54
523	Good	Oak	16	138	47.66	15.00	46.65	318.08	321.88
524	Good	Maple	3	16	7.74	1.07	5.53	22.45	23.06
525	Good	Other	3	17	6.77	1.32	6.84	20.92	28.31
526	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
527	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
528	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
529	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
530	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
531	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
532	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00

451	Good	Other	15	125	34.68	14.09	49.50	141.25	302.28
452	Good	Maple	12	94	29.98	9.66	36.52	195.55	207.19
453	Good	Other	24	168	31.41	19.41	72.64	206.67	416.34
454	Good	Linden	14	131	57.11	11.83	40.88	209.99	253.84
455	Poor	Other	15	125	34.68	14.09	49.50	141.25	302.28
456	Fair	Oak	25	218	67.01	22.86	75.89	629.81	490.33
457	Good	Maple	12	94	29.98	9.66	36.52	195.55	207.19
458	Good	Other	12	54	11.00	5.99	26.23	176.19	128.51
459	Good	Elm	6	75	47.47	3.74	15.93	69.38	80.14
460	Good	Other	14	61	11.95	7.14	29.55	222.73	153.27
461	Good	Maple	11	84	27.08	8.36	33.15	169.11	179.46
462	Good	Other	28	261	77.96	26.03	88.95	351.97	558.45
463	Needs Attention	Other	10	73	22.80	7.07	29.78	142.67	151.73
464	Good	Oak	27	236	70.51	25.17	82.00	701.78	539.92
465	Good	Maple	6	39	14.24	3.23	15.50	64.35	69.31
466	Good	Maple	5	31	11.90	2.38	11.86	47.05	51.08
467	Good	Ash	21	184	45.19	19.99	75.48	245.23	428.89
468	Good	Crab Apple	4	22	8.24	1.73	8.81	25.39	37.08
469	Good	Maple	18	146	46.14	15.02	54.87	383.23	322.34
470	Good	Oak	30	258	71.42	28.58	89.50	822.46	613.22
471	Good	Oak	24	206	61.53	21.70	72.84	593.83	465.54
472	Good	Ash	16	147	37.55	17.02	60.26	155.48	365.20
473	Good	Crab Apple	3	17	7.12	1.17	6.12	17.67	25.19
474	Good	Maple	14	111	33.73	12.24	43.25	248.44	262.66
475	Good	Crab Apple	4	22	8.24	1.73	8.81	25.39	37.08
476	Good	Oak	30	258	71.42	28.58	89.50	822.46	613.22
477	Good	Linden	16	144	57.14	13.65	47.24	242.91	292.76
478	Poor	Linden	14	131	57.11	11.83	40.88	209.99	253.84
479	Good	Ash	21	184	45.19	19.99	75.48	245.23	428.89
480	Good	Pin Oak	25	215	63.18	22.86	75.89	629.81	490.33
481	Good	Maple	14	111	33.73	12.24	43.25	248.44	262.66
482	Good	Pin Oak	17	146	49.45	15.65	50.06	385.20	349.59
483	Good	Pin Oak	18	154	51.23	16.30	53.47	385.20	349.59
484	Good	Oak	7	64	32.70	4.30	18.19	96.56	92.32
485	Good	Linden	17	150	58.07	14.14	50.11	257.26	303.38
486	Good	Ash	18	161	39.57	18.21	66.35	191.38	390.68
487	Good	Other	10	46	9.47	4.84	22.92	129.66	103.76
488	Good	Oak	22	188	58.24	19.39	66.74	521.86	415.95
489	Good	Maple	12	92	28.27	9.66	36.52	195.55	207.19
490	Good	Maple	7	47	15.64	4.08	19.14	81.64	87.54
491	Good	Oak	24	209	65.26	21.70	72.84	593.83	465.54

533	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
534	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
535	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
536	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
537	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
538	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
539	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
540	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
541	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
542	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
543	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
544	Good	Maple	3	16	7.74	1.07	5.53	22.45	23.06
545	Good	Other	5	26	7.28	2.36	11.90	43.61	50.69
546	Poor	Maple	16	129	39.69	14.03	49.37	311.00	301.04
547	Fair	Other	11	50	9.92	5.41	24.58	152.93	116.13
548	Good	Maple	9	63	20.07	5.78	26.42	116.23	123.99
549	Poor	Maple	10	73	22.80	7.07	29.78	142.67	151.73
550	Good	Other	15	64	11.72	7.72	31.21	245.99	165.65
551	Good	Other	16	128	32.39	14.58	52.28	149.49	312.87
552	Good	Other	12	54	10.37	5.99	26.23	176.19	128.51
553	Good	Other	15	64	11.72	7.72	31.21	245.99	165.65
554	Good	Oak	17	146	49.45	15.65	50.06	351.64	335.74
555	Good	Pin Oak	12	103	40.93	10.04	33.31	209.34	215.41
556	Good	Oak	17	146	49.45	15.65	50.06	351.64	335.74
557	Good	Other	16	128	32.39	14.58	52.28	149.49	312.87
558	Good	Elm	16	173	64.28	17.38	59.19	277.50	372.87
559	Good	Other	12	54	10.37	5.99	26.23	176.19	128.51
560	Good	Other	14	61	11.27	7.14	29.55	222.73	153.27
561	Good	Other	8	38	8.58	3.79	18.92	90.70	81.20
562	Good	Other	10	46	9.47	4.84	22.92	129.66	103.76
563	Good	Elm	18	192	68.22	18.93	67.01	330.89	406.11
564	Good	Other	8	38	8.58	3.79	18.92	90.70	81.20
565	Good	Other	16	128	32.39	14.58	52.28	149.49	312.87
566	Good	Other	15	64	11.72	7.72	31.21	245.99	165.65
567	Good	Oak	20	171	54.81	17.59	60.28	452.32	377.30
568	Good	Oak	20	171	54.81	17.59	60.28	452.32	377.30
569	Good	Oak	16	138	47.66	15.00	46.65	318.08	321.88
570	Good	Other	16	128	32.39	14.58	52.28	149.49	312.87
571	Good	Other	24	166	29.45	19.41	72.64	206.67	416.34
572	Good	Other	20	183	71.31	15.80	51.76	329.99	338.89
573	Good	Other	15	64	11.72	7.72	31.21	245.99	165.65

574	Good	Oak	20	171	54.81	17.59	60.28	452.32	377.30
575	Good	Oak	22	191	61.77	19.39	66.74	521.86	415.95
576	Good	Other	15	64	11.72	7.72	31.21	245.99	165.65
577	Good	Other	15	64	11.72	7.72	31.21	245.99	165.65
578	Good	Other	15	64	11.72	7.72	31.21	245.99	165.65
579	Good	Other	20	183	71.31	15.80	51.76	329.99	338.89
580	Good	Other	16	128	32.39	14.58	52.28	149.49	312.87
581	Good	Other	18	138	31.77	15.57	57.84	165.97	334.05
582	Good	Other	18	138	31.77	15.57	57.84	165.97	334.05
583	Good	Other	16	128	32.39	14.58	52.28	149.49	312.87
584	Good	Oak	18	154	51.23	16.30	53.47	385.20	349.59
585	Good	Other	12	54	10.37	5.99	26.23	176.19	128.51
586	Good	Other	2	12	5.93	0.78	4.24	11.02	16.78
587	Good	Other	6	30	7.71	2.84	14.24	59.31	60.86
588	Good	Other	15	64	11.72	7.72	31.21	245.99	165.65
589	Good	Other	20	183	71.31	15.80	51.76	329.99	338.89
590	Good	Oak	18	154	51.23	16.30	53.47	385.20	349.59
591	Good	Other	12	54	10.37	5.99	26.23	176.19	128.51
592	Good	Other	11	50	9.92	5.41	24.58	152.93	116.13
593	Good	Other	14	61	11.27	7.14	29.55	222.73	153.27
594	Good	Other	11	50	9.92	5.41	24.58	152.93	116.13
595	Good	Other	11	50	9.92	5.41	24.58	152.93	116.13
596	Good	Oak	59	501	141.18	56.92	157.72	1777.27	1221.02
597	Good	Maple	20	163	52.59	16.02	60.37	455.46	343.64
598	Good	Maple	12	92	28.27	9.66	36.52	195.55	207.19
599	Good	Other	16	128	32.39	14.58	52.28	149.49	312.87
600	Good	Other	21	152	30.85	17.05	66.19	190.68	365.82
601	Good	Other	21	152	30.85	17.05	66.19	190.68	365.82
602	Good	Oak	34	292	78.15	33.05	98.96	991.07	709.06
603	Good	Other	14	61	11.27	7.14	29.55	222.73	153.27
604	Good	Oak	33	284	76.37	32.00	97.00	943.15	686.53
605	Good	Oak	24	206	61.53	21.70	72.84	593.83	465.54
606	Good	Other	19	143	31.46	16.06	60.63	174.21	344.64
607	Good	Oak	17	146	49.45	15.65	50.06	351.64	335.74
608	Good	Oak	14	121	44.23	12.92	39.93	259.46	277.16
609	Good	Other	9	133	56.67	11.38	46.62	100.25	244.21
610	Good	Other	11	150	61.37	13.66	52.12	134.52	293.04
611	Good	Oak	19	162	53.02	16.94	56.87	418.76	363.45
612	Good	Other	15	185	70.77	18.21	63.12	203.08	390.71
613	Good	Other	6	99	46.98	7.58	33.64	55.74	162.62
614	Good	Other	9	133	56.67	11.38	46.62	100.25	244.21

615	Good	Other	9	133	56.67	11.38	46.62	100.25	244.21
616	Good	Other	17	198	73	19.17	67.59	236.17	411.24
617	Good	Ash	21	181	42.61	19.99	75.48	245.23	428.89
618	Fair	Other	14	177	68.42	17.07	60.37	185.94	366.29
619	Good	Ash	13	122	34.52	13.48	49.30	110.93	289.30
620	Good	Ash	14	131	35.53	14.96	53.26	124.23	320.88
621	Good	Oak	16	138	47.66	15.00	46.65	318.08	321.88
622	Poor	Other	9	133	56.67	11.38	46.62	100.25	244.21
623	Fair	Other	8	121	53.44	10.12	42.29	85.41	217.01
624	Fair	Other	8	121	53.44	10.12	42.29	85.41	217.01
625	Fair	Other	7	110	50.21	8.85	37.97	70.58	189.81
626	Good	Other	7	110	50.21	8.85	37.97	70.58	189.81
627	Fair	Other	7	110	50.21	8.85	37.97	70.58	189.81
628	Good	Other	9	133	56.67	11.38	46.62	100.25	244.21
629	Fair	Other	5	88	43.75	6.31	29.32	40.91	135.42
630	Fair	Ash	12	113	33.51	12.01	45.34	97.63	257.72
631	Fair	Ash	11	105	32.50	10.54	41.38	84.33	226.13
632	Fair	Elm	10	110	52.46	8.20	33.00	140.57	175.95
633	Fair	Ash	9	87	30.48	7.60	33.45	57.73	162.97
634	Good	Ash	14	131	35.53	14.96	53.26	124.23	320.88
635	Good	Other	12	159	63.72	14.80	54.87	151.66	317.46
636	Good	Other	10	141	59.02	12.52	49.37	117.39	268.62
637	Good	Ash	17	154	38.56	17.62	63.31	173.43	377.94
638	Good	Other	9	133	56.67	11.38	46.62	100.25	244.21
639	Good	Other	14	177	68.42	17.07	60.37	185.94	366.29
640	Fair	Other	9	133	56.67	11.38	46.62	100.25	244.21
641	Good	Other	11	150	61.37	13.66	52.12	134.52	293.04
642	Good	Ash	12	113	33.51	12.01	45.34	97.63	257.72
643	Fair	Ash	9	87	30.48	7.60	33.45	57.73	162.97
644	Good	Ash	16	147	37.55	17.02	60.26	155.48	365.20
645	Fair	Ash	11	105	32.50	10.54	41.38	84.33	226.13
646	Fair	Ash	9	87	30.48	7.60	33.45	57.73	162.97
647	Fair	Ash	9	87	30.48	7.60	33.45	57.73	162.97
648	Poor	Ash	9	87	30.48	7.60	33.45	57.73	162.97
649	Poor	Ash	9	87	30.48	7.60	33.45	57.73	162.97
650	Fair	Ash	10	96	31.49	9.07	37.41	71.03	194.55
651	Good	Ash	10	96	31.49	9.07	37.41	71.03	194.55
652	Good	Ash	11	105	32.50	10.54	41.38	84.33	226.13
653	Good	Ash	11	105	32.50	10.54	41.38	84.33	226.13
654	Fair	Ash	9	87	30.48	7.60	33.45	57.73	162.97
655	Good	Ash	12	113	33.51	12.01	45.34	97.63	257.72

656	Needs Attention	Other	8	121	53.44	10.12	42.29	85.41	217.01
657	Good	Ash	11	105	32.50	10.54	41.38	84.33	226.13
658	Good	Ash	10	96	31.49	9.07	37.41	71.03	194.55
659	Good	Ash	10	96	31.49	9.07	37.41	71.03	194.55
660	Needs Attention	Other	8	121	53.44	10.12	42.29	85.41	217.01
661	Good	Other	11	150	61.37	13.66	52.12	134.52	293.04
662	Fair	Other	8	121	53.44	10.12	42.29	85.41	217.01
663	Good	Maple	4	23	9.17	1.66	8.54	33.09	35.66
664	Good	Ash	3	36	24.41	1.47	7.10	12.09	31.54
665	Fair	Other	5	88	43.75	6.31	29.31	40.91	135.42
666	Poor	Other	10	141	59.02	12.52	49.37	117.39	268.62
667	Good	Other	10	141	59.02	12.52	49.37	117.39	268.62
668	Good	Other	10	141	59.02	12.52	49.37	117.39	268.62
669	Good	Oak	16	138	47.66	15.00	46.65	318.08	321.88
670	Good	Oak	16	138	47.66	15.00	46.65	318.08	321.88
671	Good	Other	13	168	66.07	15.94	57.62	168.80	341.87
672	Good	Ash	15	140	36.54	16.43	57.22	137.53	352.46
673	Good	Other	9	133	56.67	11.38	46.62	100.25	244.21
674	Good	Ash	13	122	34.52	13.48	49.30	110.93	289.30
675	Poor	Other	10	141	59.02	12.52	49.37	117.39	268.62
676	Good	Other	15	185	70.77	18.21	63.12	203.08	390.71
677	Good	Oak	12	106	43.42	10.04	33.31	209.34	215.41
678	Needs Attention	Maple	20	166	55.78	16.02	60.37	455.46	343.64
679	Good	Other	14	181	72.57	17.07	60.37	185.94	366.29
680	Good	Other	20	223	81.85	20.60	74.31	285.79	442.05
681	Good	Maple	18	149	48.94	15.02	54.87	383.23	322.34
682	Good	Maple	13	103	32.88	10.95	39.88	222.00	234.93
683	Needs Attention	Maple	19	157	52.36	15.52	57.62	419.35	332.99
684	Fair	Elm	6	75	47.47	3.74	15.93	69.38	80.14
685	Poor	Maple	17	140	45.52	14.53	52.12	347.11	311.69
686	Fair	Elm	7	84	49.49	4.66	20.14	85.76	100.05
687	Good	Maple	16	131	42.10	14.03	49.37	311.00	301.04
688	Good	Maple	20	166	55.78	16.02	60.37	455.46	343.64
689	Fair	Maple	24	203	71.19	18.80	69.83	632.09	403.30
690	Good	Maple	20	166	55.78	16.02	60.37	455.46	343.64
691	Good	Elm	2	46	38.73	0.92	4.05	13.70	19.83
692	Poor	Elm	3	52	41.01	1.49	6.28	26.14	32.00
693	Good	Other	20	223	81.85	20.60	74.31	285.79	442.05
694	Good	Elm	4	58	43.29	2.06	8.50	38.58	44.17

695	Good	Elm	5	66	45.44	2.81	11.72	52.99	60.22
696	Good	Maple	12	94	29.98	9.66	36.52	195.55	207.19
697	Good	Maple	11	84	27.08	8.36	33.15	169.11	179.46
698	Poor	Maple	20	166	55.78	16.02	60.37	455.46	343.64
699	Good	Maple	18	149	48.94	15.02	54.87	383.23	322.34
700	Good	Maple	23	193	67.19	18.04	67.59	585.26	386.97
701	Good	Maple	18	149	48.94	15.02	54.87	383.23	322.34
702	Good	Elm	5	66	45.44	2.81	11.72	52.99	60.22
703	Poor	Maple	17	140	45.52	14.53	52.12	347.11	311.69
704	Poor	Maple	14	113	35.78	12.24	43.25	248.44	262.66
705	Poor	Maple	19	157	52.36	15.52	57.62	419.35	332.99
706	Good	Pine	24	114	7.32	15.07	54.60	44.30	323.23
707	Fair	Ash	4	45	27.04	2.25	10.82	17.32	48.36
708	Good	Cherry	12	54	11.00	5.99	26.23	176.19	128.51
709	Good	Maple	15	122	38.68	13.54	46.62	274.88	290.39
710	Poor	Maple	13	103	32.88	10.95	39.88	222.00	234.93
711	Good	Maple	12	94	29.98	9.66	36.52	195.55	207.19
712	Good	Maple	14	113	35.78	12.24	43.25	248.44	262.66
713	Good	Other	13	172	70.08	15.94	57.62	168.80	341.87
714	Good	Elm	33	332	102.56	35.67	109.66	778.57	765.15
715	Fair	Maple	9	65	21.28	5.78	26.42	116.23	123.99
716	Good	Maple	6	39	14.24	3.23	15.50	64.35	69.31
717	Fair	Maple	7	48	16.59	4.08	19.14	81.64	87.54
718	Good	Maple	18	149	48.94	15.02	54.87	383.23	322.34
719	Good	Maple	13	103	32.88	10.95	39.88	222.00	234.93
720	Good	Maple	11	84	27.08	8.36	33.15	169.11	179.46
721	Good	Maple	21	175	59.19	16.51	63.12	491.58	354.29
722	Good	Maple	22	184	63.19	17.28	65.36	538.42	370.63
723	Good	Maple	12	94	29.98	9.66	36.52	195.55	207.19
724	Good	Maple	24	199	67.12	18.80	69.83	632.09	404.30
725	Good	Maple	20	166	55.78	16.02	60.37	455.46	343.64
726	Good	Maple	25	212	75.19	19.56	72.07	678.93	419.64
727	Needs Attention	Maple	17	140	45.52	14.53	52.12	347.11	311.69
728	Good	Maple	18	149	48.94	15.02	54.87	383.23	322.34
729	Good	Ash	15	142	38.76	16.43	57.22	137.53	352.46
730	Good	Oak	21	182	60.02	18.23	63.69	485.88	391.16
731	Good	Maple	20	166	55.78	16.02	60.37	455.46	343.64
732	Good	Maple	15	122	38.68	13.54	46.62	274.88	290.39
733	Good	Ash	13	124	36.61	13.48	49.30	110.93	289.30
734	Good	Maple	16	131	42.10	14.90	49.37	311.00	301.04
735	Good	Maple	10	74	24.18	7.07	29.78	142.67	151.73

736	Good	Maple	11	84	27.08	8.36	33.15	169.11	179.46
737	Good	Maple	12	94	29.98	9.66	36.52	195.55	207.19
738	Good	Maple	27	230	83.18	21.08	76.55	772.61	452.32
739	Fair	Maple	21	175	59.19	16.51	63.12	491.58	354.29
740	Good	Maple	13	103	32.88	10.95	39.88	222.00	234.93
741	Fair	Maple	26	221	79.18	20.32	74.31	725.77	435.98
742	Good	Maple	22	184	63.19	17.28	65.36	538.42	370.63
743	Good	Other	20	223	81.85	20.60	74.31	285.79	442.05
744	Good	Maple	20	166	55.78	16.02	60.37	455.46	343.64
745	Good	Ash	18	163	41.97	18.21	66.35	191.38	290.68
746	Good	Maple	35	307	120.13	26.67	90.45	1251.02	572.08
747	Good	Maple	10	74	24.18	7.07	29.78	142.67	151.73
748	Good	Maple	18	149	48.94	15.02	54.87	383.23	322.34
749	Poor	Maple	16	131	42.10	14.03	49.37	311.00	301.04
750	Good	Maple	10	74	24.18	7.07	29.78	142.67	151.73
751	Good	Maple	16	131	42.10	14.03	49.37	311.00	301.04
752	Good	Maple	13	103	32.88	10.95	39.88	222.00	234.93
753	Good	Maple	19	157	52.36	15.52	57.62	419.35	332.99
754	Good	Maple	19	157	52.36	15.52	57.62	419.35	332.99
755	Poor	Maple	21	175	59.19	16.51	63.12	491.58	352.29
756	Fair	Maple	20	166	55.78	16.02	60.37	455.46	343.64
757	Fair	Maple	28	240	87.59	21.80	78.37	828.57	467.74
758	Poor	Maple	36	317	125.39	27.30	91.94	1322.35	585.71
759	Good	Maple	23	193	67.19	18.03	67.59	585.26	386.97
760	Good	Maple	17	140	45.52	14.53	53.12	347.11	311.69
761	Good	Linden	15	141	59.61	13.15	44.36	228.55	282.14
762	Good	Oak	2	34	23.77	1.32	6.64	14.15	28.24
763	Good	Elm	4	56	40.81	2.06	8.50	38.58	44.17
764	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
765	Good	Ash	3	36	24.41	1.47	7.10	12.09	31.54
766	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
767	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
768	Fair	Ash	3	36	24.41	1.47	7.10	12.09	31.54
769	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
770	Good	Ash	4	43	25.49	2.25	10.82	17.32	48.36
771	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
772	Good	Ash	3	36	24.41	1.47	7.10	12.09	31.54
773	Fair	Ash	2	29	23.34	0.69	3.39	6.85	14.73
774	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
775	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
776	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00

777	Good	Ash	4	43	25.49	2.25	10.82	17.32	48.36
778	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
779	Good	Ash	4	43	25.49	2.25	10.82	17.32	48.36
780	Good	Elm	3	50	38.66	1.49	6.28	26.14	32.00
781	Fair	Oak	2	34	23.77	1.32	6.64	14.15	28.24
782	Fair	Ash	2	29	23.34	0.69	3.39	6.85	14.73
783	Good	Oak	2	36	25.21	1.32	6.64	14.15	28.24
784	Good	Maple	61	533	211.49	46.76	153.21	2252.31	1003.21
785	Fair	Maple	28	240	87.59	21.80	78.37	828.57	467.74
786	Good	Other	2	41	36.32	0.50	2.66	14.53	10.76
787	Good	Maple	51	441	183.63	35.96	119.34	2005.48	771.48
788	Fair	Ash	12	116	35.54	12.01	45.34	97.63	257.72
789	Good	Other	5	26	7.72	2.36	11.90	43.61	50.69
790	Good	Maple	8	56	18.94	4.93	22.78	98.93	105.76
791	Good	Maple	16	131	42.10	14.03	49.37	311.00	301.04
792	Good	Maple	11	84	27.08	8.36	33.15	169.11	179.46
793	Poor	Other	25	249	81.88	23.96	83.82	340.00	513.99
794	Good	Other	17	203	77.78	19.17	67.59	236.17	411.24
795	Good	Other	32	296	92.77	28.57	94.93	324.50	612.97
796	Good	Elm	32	318	94.73	34.53	107.51	744.93	740.86
797	Good	Oak	47	367	73.23	45.32	124.43	1531.96	972.11
798	Good	Maple	22	157	36.11	17.28	65.36	538.42	370.63
799	Good	Other	13	96	20.03	11.42	42.28	121.93	245.09
800	Good	Maple	16	113	24.06	14.03	49.37	311.00	301.04
801	Good	Other	40	293	83.35	29.79	97.66	1603.89	639.21
802	Good	Maple	22	157	36.11	17.28	65.36	538.42	370.63
803	Poor	Crab Apple	15	84	22.46	9.10	35.50	99.83	195.27
804	Good	Crab Apple	6	38	15.46	2.83	14.28	41.89	60.67
805	Good	Crab Apple	8	50	18.29	3.93	19.78	58.72	84.21
806	Good	Other	14	61	11.95	7.14	29.55	222.73	153.27
807	Good	Maple	7	48	16.59	4.08	19.14	81.64	87.54
808	Good	Maple	24	199	67.12	18.80	69.83	632.09	404.30
809	Good	Maple	4	23	9.17	1.66	8.54	33.09	35.66
810	Good	Maple	13	101	31.00	10.95	39.88	222.00	234.93
811	Good	Maple	14	111	33.73	12.24	43.25	248.44	262.66
812	Good	Other	12	54	15.26	5.32	21.25	136.38	114.23
813	Good	Other	8	38	8.58	3.79	18.92	90.70	81.20