STREET TREE INVENTORY: HILLSIDE CEMETERY

Natural Resources Conservation Academy

Jenna Lopardo
Wamogo Regional High School

University of Connecticut

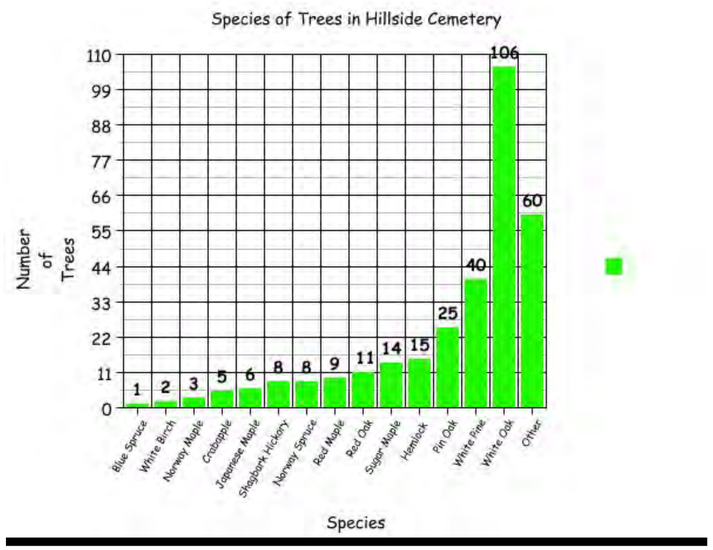
ABSTRACT

Tree inventories encompass many aspects of the of Natural Resource field. I chose to do a street tree inventory for the Hillside Cemetery Association because the October, 2011 snowstorm caused a ton of damage. The storm destroyed several of the old growth trees, and left many other trees forever altered. The purpose of this street tree inventory is to provide the Hillside Cemetery Association with a detailed outline of the remaining trees, useful statistics about them and suggestions on how to deal with the damaged trees. I used many different tools to assist me with preparing my inventory, such as DBH tape, tree ID manuals and damage control manuals. Over the past several months I surveyed more than 300 trees, calculated the average DBH (diameter at breast height), determined the damage to the tree, and provided suggestions on how to manage the damaged trees. Knowing what to do with problem trees is important because damaged trees can be hazardous to people driving or walking by or near them. Fallen trees and limbs can also damage property creating economic loss. I determined that out of the 313 trees in Hillside Cemetery, 63 have a weak fork or multiple weak forks, 18 are dead, 55 have missing or hanging limbs and 14 have frost cracks.

In conclusion, conducting a street tree inventory has been both a fulfilling and worthwhile experience for me. Throughout this process, I have learned valuable information and methods that I will be able to utilize in the future. This street tree inventory project allowed me the opportunity to present the Hillside Cemetery Association with suggestions for maintaining the health and integrity of the remaining trees in the cemetery in order to make it a safe, beautiful and an ecologically viable area.

INTRODUCTION

A street tree inventory is the systematic collection of data and forest information for assessment or analysis. For the past few months, I have been going to Hillside Cemetery and analyzing the various trees on the premises, determining if they are safe to keep around after the damage from the snowstorm of 2011 and Superstorm Sandy, which devastated older trees and many of the other trees around the area.



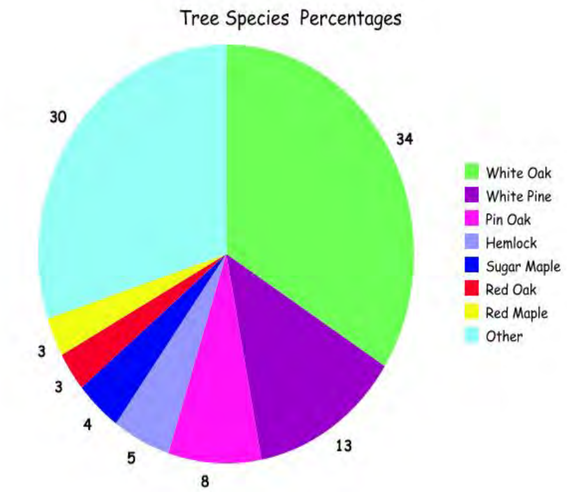
MATERIALS AND METHODS

In order to conduct my street tree inventory I used many different tools, including a DBH tape, to measure the diameter of the tree at breast height, the "How To Recognize Hazardous Defects in Trees" manual, tree identification pamphlets and other identification manuals. I also used the knowledge that I have gained throughout my several years of taking natural resources classes in high school, as well as through my participation in the Natural Resource Conservation Academy. In addition, my Agricultural Education Advisor, Mr. Christopher Brittain, provided guidance and support.

Using a DBH tape, I calculated the average DBH by adding the measurements together and dividing by the number of measured trees. This gave me an idea of the average size of the trees in Hillside Cemetery. Of course, there were some outliers, such as extremely old and massive trees that have been strong and healthy enough to survive many years, as well as many newly planted replacement trees.

I also looked at all the trees to observe and survey any damage. Even something that seems minor, such as moss or mushroom growth on trees, can be very dangerous as it signals that the tree is decaying. It is very important to know the health of the trees in the Hillside Cemetery in order to keep people and property safe, and maintain a positive effect on the environment.

Finally, I calculated the economic value of the trees in Hillside Cemetery, by taking into account the average DBH, species of tree and the amount of money it would take to replace any given tree with a new one three inches in diameter. I determined that the replacement value of the average tree in Hillside Cemetery is $10,200. Part of the formula to calculate this value includes factoring in the aesthetic value of a particular tree, which can substantially increase the value of the tree.



REFERENCES

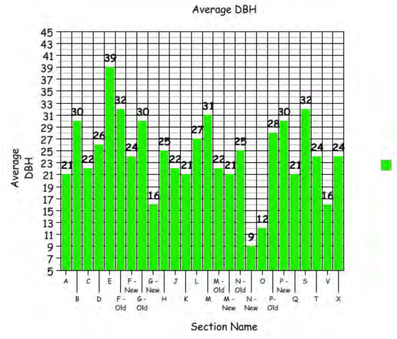
Tree and Plant Appraisal Booklet
How To: Recognize Hazardous Defects in Trees
R. Christopher Brittain: Natural Resource Teacher Wamogo Regional High School
Brian Good: Hillside Cemetery Association Groundskeeper
Rules and Regulations: The Hillside Cemetery Association of Torrington Incorporated
Hillside Cemetery Map Book

I really enjoyed all aspects of the Natural Resources Conservation Academy program. It was a great experience that I will have with me forever. I would not hesitate to recommend this program to others.

RESULTS

I determined that there are a total of 313 trees, ranging in species, size and age, in Hillside Cemetery. The major species in the area are White Oak, White Pine, Pin Oak, Hemlock and Sugar Maple, along with various others. The percentages of trees in Hillside Cemetery are as follows:

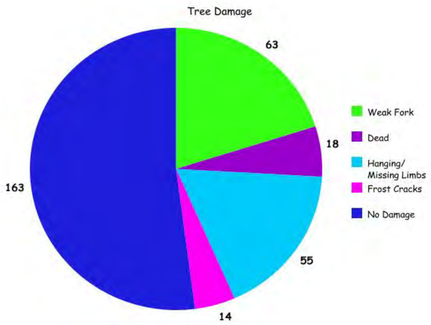
White Oak 34%
White Pine 13%
Pin Oak 8%
Hemlock 5%
Sugar Maple 4%
Red Oak 3%
Red Maple 3%
Other 30%



I also determined that the average DBH (diameter at breast height) is 24 inches. Much of the old growth was brought down in the past few years due to the many storms that hit, and is now being replaced with a younger generation of trees. The DBH ranged from 4 inches to 76 inches, which is a dramatic difference in size.

Finally I determined the damage to all of the trees. Out of the entire population of trees in Hillside Cemetery I found the following:

Weak Fork: 20% (63/313)
Dead: 6% (18/313)
Hanging/Missing Limbs; 18% (55/313)
Frost Cracks: 4% (14/313)
No Damage: 52% (163/313)



CONCLUSIONS

The damage that was inflicted by the recent heavy storms on the trees located in Hillside Cemetery was extensive. I determined that out of the 313 trees in Hillside Cemetery, 63 have a weak fork or multiple weak forks, 18 are dead, 55 have missing or hanging limbs and 14 have frost cracks. The ones with weak forks need to be watched carefully, because limbs can fall and hurt someone or cause property damage. There are a few different options which can be used to provide support for damaged trees, such as cabling the two weak limbs together, removing one of the limbs or as a last resort, removing the tree altogether if the other suggested support methods fail. Dead trees need to be removed immediately, unless they are in the woods. In the woods they serve an important role in the environment, providing shelter to many different forest critters such as squirrels and birds. Also, decaying trees are perfect habitats for insects which birds and other animals use for food, and should only be removed if they pose a threat to passers- by or property. Hanging limbs need to be removed as well because they pose the same dangers as dead trees. Trees with missing limbs are not such a big threat, unless they start to grow mold or fungus, which are both signs of decay within the tree, and at that point, the tree should be removed.