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City of Shoreline
Washington Department of Natural Resources
Urban and Community Forestry Inventory Summary

For:
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SUMMARY

The City of Shoreline street tree inventory was funded by a grant from the Washington Department of Natural Resources (WADNR) Urban and Community Forestry Program (UCF) and United States Forest Service (USFS). The data was collected by International Society of Arboriculture (ISA) certified arborists employed by Community Forestry Consultants, Inc. (CFC). The data was collected using TreeWorks™ tree management software and Trimble™ field units.

Inventory Sites

The data was collected along city arterial and residential streets. Street tree sites included sections of the following: Meridian Avenue NW; 5th Avenue NE; 185th Street; 175th Street; 155th Street; Aurora Avenue N; 15th Avenue NE; N 145th Street; 8th Avenue NE; and 205th Street (Figure 1, Figure 2).

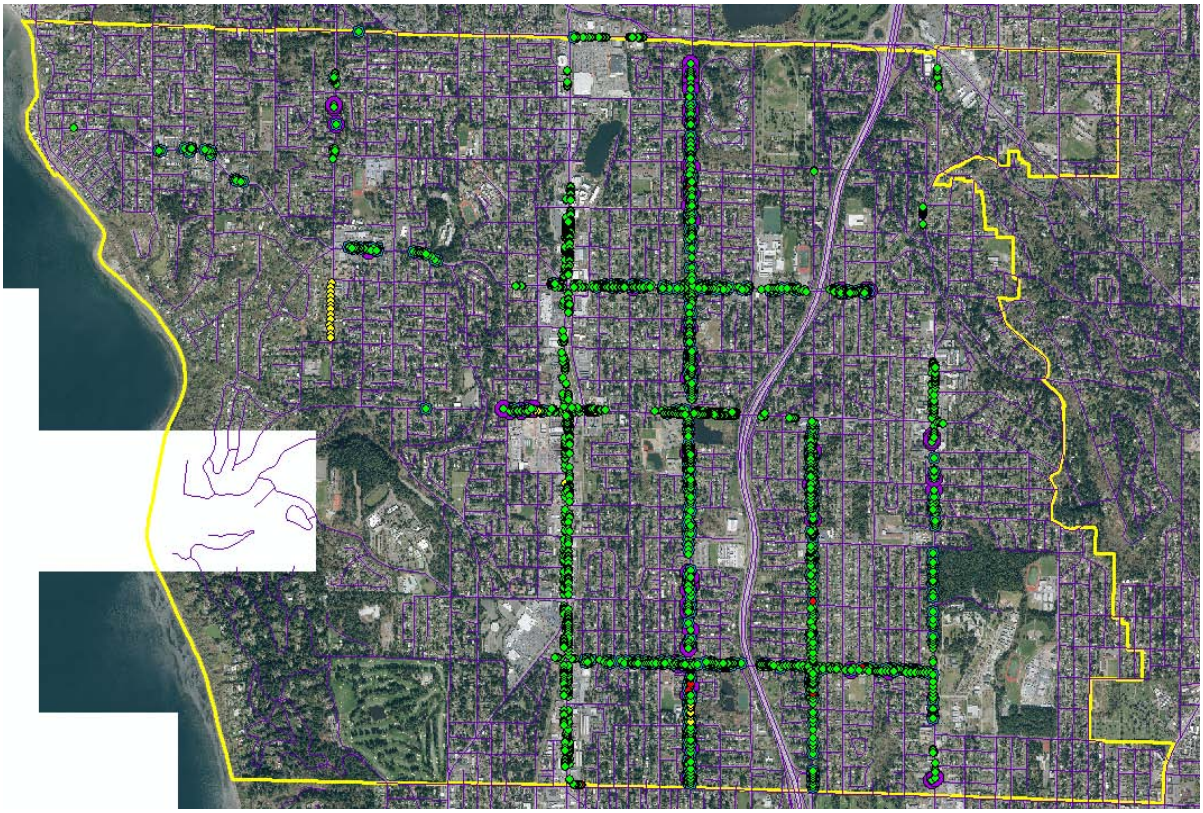


Figure 1 – Aerial map showing areas of inventory data collection. Green dots – trees; yellow dots – potential planting sites; red dots – stumps; purple rings - trees with DBH larger than 24 inches.


2013 ROW Corridors for Tree Inventory
Map Feature
City of Shoreline Park
Other City Park
Water
1) Meridian Ave N
2) 5th Ave NE
3) 185th St
4) 175th St
5) 155th St
6) Aurora Ave N
7) 15th Ave NE
8) N 145th St
9) 8th Ave NE
10) 205th St
Feet
0 470 940 1,880 2,820 3,760
N
City of Lake Forest Park
Puget Sound
Echo Lake
NE 205TH ST
NE 195TH ST
25TH AVE NE
19TH AVE NE
FOREST PRK DR NE
24TH AVE NE
NE 180TH ST
NE 185TH ST
5TH AVE NE
1ST AVE NE
MERIDIAN AVE N
ASHWORTH AVE N
N 200TH ST
N 192ND ST
N 195TH ST
NW 200TH ST
NW 195TH ST
PREMONT AVE N
3RD AVE NW
8TH AVE NW
NW 180TH ST
SPRINGDALE CT NW
15TH AVE NW
20TH AVE NW
NW 196TH ST
RICHMOND BEACH DR NW
171ST ST NE
NE 168TH ST
NE 165TH ST
NE 150TH ST
NE 145TH ST
NE 155TH ST
CORLISS PL N
N 165TH ST
N 155TH ST
N 152ND ST
N 160TH ST
N 172ND ST
CARLYLE HALL RD N
DAYTON AVE N
GREENWOOD AVE N
WESTMINSTER WAY N
N 145TH ST
6TH AVE NW
10TH AVE NW
NW INNIS ARDEN W

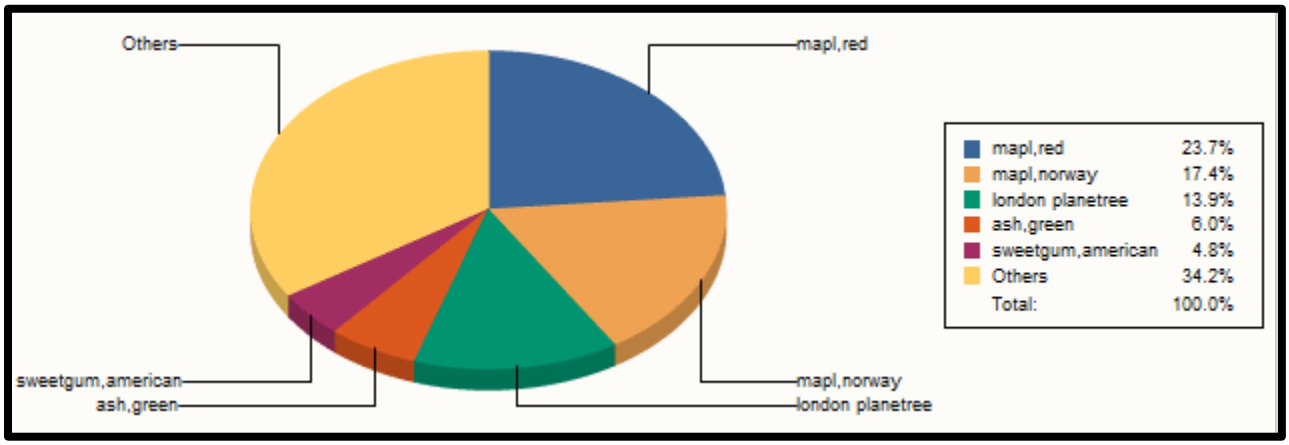
Figure 2 – Right-of-way street corridors inventoried.

Species Characteristics

The inventory collected data for 1,602 trees. Planting sites and stumps were also collected in the inventory. There are 9 stumps and 29 planting sites at the various inventory sites.

Over 40 species were represented in the inventory which seems to indicate a diverse population of tree species. This appears to be a diverse population but distribution figures indicate the population is dominated by a few genera. Over 55% of the tree population is represented by three species. The three species are red maple, Norway maple and London planetree.

If you consider all 44 species, the *Acer* genus represented 45% of the population inventoried. The genus *Platanus* represented 14% of the population inventoried. Industry guidelines recommend no more than 10% represented by one genus.



Appraisal Value

The value of trees is calculated based on appraisal factors of species, size, condition of tree, and the location of the tree. The appraised value for the 1,602 trees is estimated at 5 million dollars. Appraisal values are determined using the Guide for Plant Appraisal 9th edition, 2000. It is written by the Council of Tree & Landscape Appraisers. The guide provides the processes used to generate appraised values of trees.

Maintenance Requirements

The majority of the trees inventoried are young, immature trees. The primary maintenance task on the younger trees is pruning for crown reduction (subordination) to correct co-dominant stems, the primary structural defect. Clearance pruning and crown cleaning are the next most common maintenance tasks (Table 1). Over 1,000 pruning treatments are required.

It appears pruning maintenance historically has been utility line clearance. The utility line clearance pruning has removed a large amount of the tree crown in some cases. Some of the trees have been topped. Topping or intermodal cutting is not an industry practice.

All tree maintenance practices should follow American National Standards Institute (ANSI) A 300, Part 1, Pruning and the ISA Best Management Practices for tree pruning. Industry terms and definitions and recommended practices can be found in these documents.

Five percent of the tree population requires removal. Some are large trees and should be dealt with in a timely manner. Most of the removals are small trees.

An issue exists with the depth of the root collar on some trees planted in the last five years. The root collar is buried below soil grade which reduces oxygen content to the root system and often enhances stem girdling root formation. These defects reduce the ability of the tree to thrive. Young trees planted recently can be replanted so the root collar is at grade level. Older trees cannot be replanted. They can have soil excavated from around the base of the tree to the drip line of the tree to expose the root collar.

All tree maintenance practices should follow American National Standards Institute (ANSI) A 300, Part 8 Root Management Standard, and the ISA Best Management Practices for tree planting and transplanting. Industry terms and definitions and recommended practices can be found in these documents.

Planting sites are very limited in the right-of-way because of limited space between the curb and sidewalk (often less than 3 feet) and overhead utility restrictions.

There are many trees planted recently that are still staked (Table 1). These stakes should be removed immediately. In some cases the staking material is girdling the trunk.

Maintenance Task Details	
Task	Trees
clearance	142
crown clean	55
crown restoration	15
remove	81
root collar/excavate	153
stake removal	397
subordinate	1009

Table 1 – Maintenance tasks found in the inventory. Some trees have multiple tasks assigned.

Recommendations

CFC recommends the following maintenance.

- The city should adopt tree planting diversity guide that states that no more than 10% of the tree population is comprised of any one genus as a guiding principle.

- The city should emphasize a diversity of species in the planting program. Avoid species that have high maintenance costs, invasive characteristics, high storm damage potential or a history of failure.

- Develop a structural pruning plan to correct co-dominant stems and other structural defects.

- Remove dead trees.

- Correct planting depth problems and modify planting specifications to eliminate plant depth issues.

- Remove staking material from trees immediately.

The data available from this inventory will provide City of Shoreline tree managers the ability to manage the tree population proactively. It will provide advice on the best direction to manage the tree program; anticipate needs and problems; assist with prioritization and scheduling; and allow for execution on maintenance programs based on data analysis. The inventory information can be used to project program costs and justify program budgets and develop an efficient urban forestry management plan.