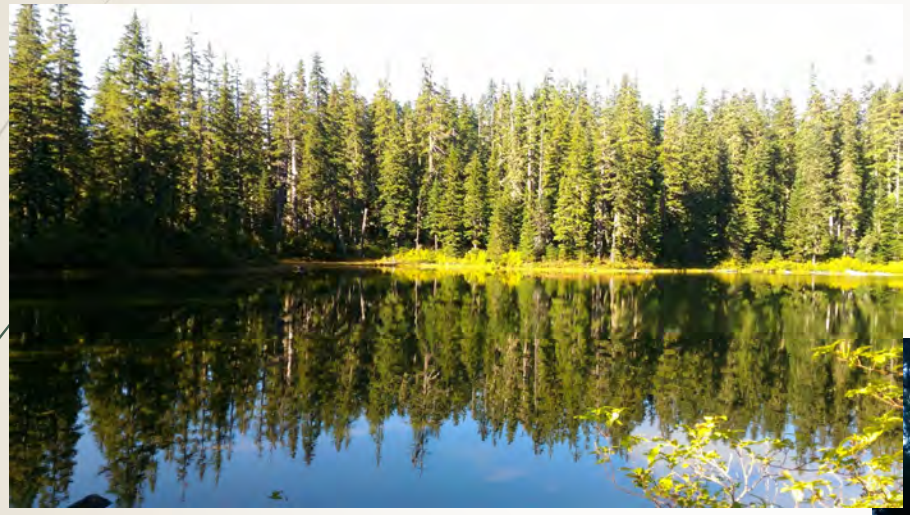
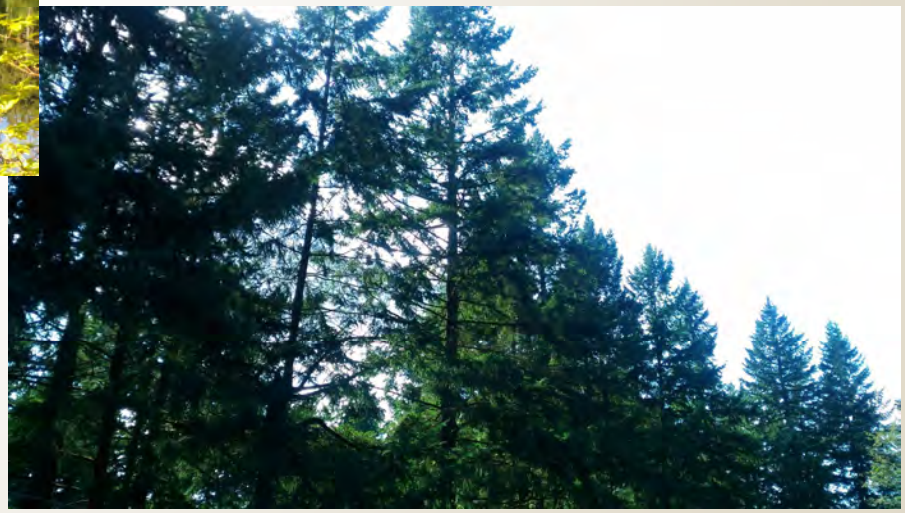
What is the difference between a forest and the urban forest in your mind?





Mountain Park

Nature’s Neighborhood

One of the largest HOA in Oregon with more than 8,500 residents, 1/5th of Lake Oswego resides here

Established in 1968

677 acres of land including 185 acres of Common Property

Landscape Stewardship Department manages the Common Property

Parks, trails, monuments, ornamental landscapes, stream corridors - that are designated as environmentally sensitive areas – are complementing the upland mixed broad leaf coniferous forest

Highest point in Lake Oswego – Mt. Sylvania

Headwaters of streams that lead to the Willamette, Tualatin rivers and Oswego Lake

Stewardship of Urban Forest

What is urban forestry?

It is the management of naturally occurring and planted trees and associated plants in urban areas.

What is the primary goal urban forestry?

Management of tree resources to maximize benefits of trees while managing any associated risks and costs.

Why is it important to steward our urban forests?

Because of the many direct and indirect benefits that trees provide. However, there are costs associated with trees such as planting, maintenance and management.

Management of Trees

How can you manage trees in the urban forest?

You need a plan.

What is a management plan?

A comprehensive and well though out document that provides information and guidance for stewarding the urban forest.

This plan should define goals and objectives, establish guidelines and determine the resources needed to maintain a sustainable urban forest.

Tree Management Plan - GOALS

Establish an inventory

Provide mechanism for managing inventory

Maximize immediate and long term tree health and aesthetics

Manage immediate and long term risks associated with trees in high use areas

Identify areas where invasive woody plant species are prevalent and negatively affect the forest

Maximize the understanding and implementation of the plan

Identify methods, practices, locations and species to rejuvenate the forest

Tree Management Plan - Components

1. Tree inventory
2. Operation & Maintenance plan
3. Tree removal plan
4. Replacement & Planting plan
5. Preservation plan
6. Risk management plan
7. Education plan

Tree Management Plan (TMP) - 1. Tree inventory

Tree inventory is the record of location, assessment and characteristics of trees and tree stands in a well defined area.

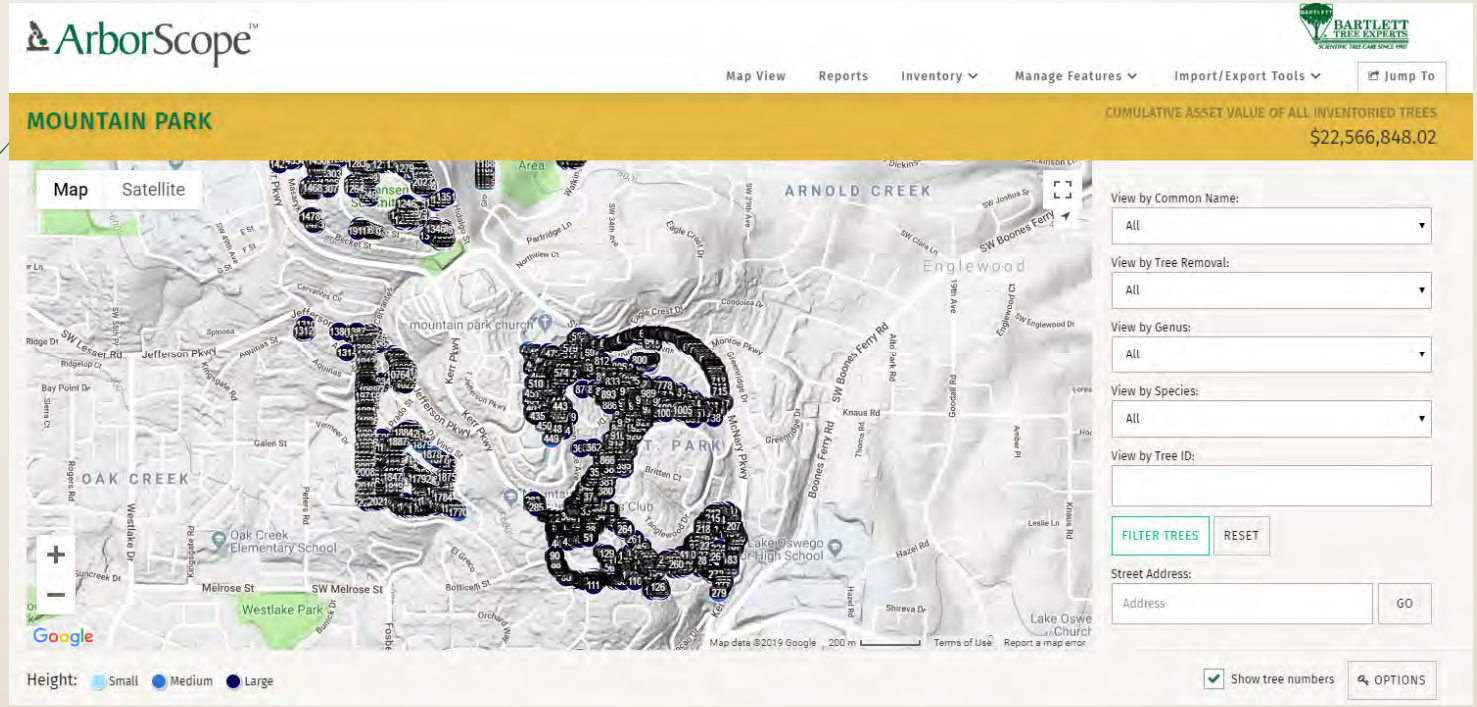
Accurate inventory helps to better manage the tree resources. Trees can be quickly located in the database with notes on condition, history and maintenance.

Minimum data collected:
Location, Species, Size (height / DBH), Maintenance needs, Notes

Additional details can include: Site information, Crown dimensions, Estimated value, Risk assessment, etc.

TMP – Tree inventory

At Mountain Park our inventory was created by Bartlett Tree Experts in 2015. This is one of our guiding documents that helps manage the urban forest. Tree inventory is web based and can be accessed and updated real time.



TMP – Tree inventory

Data collected: Tree ID / tag number Common name, Genus, Species status, DBH, Height class, Age class, Canopy radius, Condition Class, Root zone infringement, Tree care priority and Estimated value

Tree ID	Common Name	Genus	Species	Species Status	DBH	Height Class	Age Class	Canopy Radius	Condition Class	Root Zone Infringement	Tree Care Priority	Estimated Value
357	Maple-Bigleaf	*Acer*	*macrophyllum*	Native	21	Large	Mature	10	Fair	<25%	3	$6,034.00
358	Maple-Bigleaf	*Acer*	*macrophyllum*	Native	27	Large	Mature	25	Fair	<25%	1	$22,288.87
359	Maple-Bigleaf	*Acer*	*macrophyllum*	Native	13	Large	Semi-mature	15	Good	25-50%	...	$3,237.29
360	Maple-Bigleaf	*Acer*	*macrophyllum*	Native	26	Large	Semi-mature	15	Good	25-50%	2	$24,557.44
361	Western Red Cedar	*Thuja*	*plicata*	Naturalized	19	Large	Semi-mature	15	Good	<25%	...	$10,372.74
362	Western Red Cedar	*Thuja*	*plicata*	Naturalized	23	Large	Semi-mature	15	Good	25-50%	2	$20,831.68
363	Pine-Austrian	*Pinus*	*nigra*	Ornamental	17	Large	Semi-mature	10	Good	<25%	3	$7,381.28
364	Pine-Austrian	*Pinus*	*nigra*	Ornamental	19	Large	Semi-mature	10	Good	<25%	...	$9,220.21
365	Pine-Austrian	*Pinus*	*nigra*	Ornamental	13	Large	Semi-mature	10	Good	<25%	...	$4,316.39
366	Cedar-Deodar	*Cedrus*	*deodara*	Ornamental	21	Large	Mature	20	Good	<25%	...	$11,263.48
367	Poplar-Balsam	*Populus*	*balsamifera*	Native	37	Large	Mature	20	Good	25-50%	1	$28,995.25
368	Maple-Bigleaf	*Acer*	*macrophyllum*	Native	21	Large	Mature	20	Good	<25%	...	$13,351.43
369	Poplar-Balsam (30)	*Populus*	*balsamifera*	Native	13	Large	Semi-mature	10	Good	<25%	...	$3,776.84

TMP - 2. Operations & Maintenance plan

Goal is to help guide the long term management of urban forest including understory and associated plants.

Our basic guiding documents are:

- 2019 Common Property Master Plan
- Policies and Practices of the Common Property Committee
- Tree inventory & Management Plan
- Weekly, Monthly, Seasonal and Annual activities of the Landscape Stewardship Department are developed around the Operations & Maintenance plan


Mountain Park
Tree Inventory & Management Plan | 2014

Submitted by
The Bartlett Inventory Solutions Team

Mason Patterson, Inventory Arborist
ISA Certified Arborist & Municipal Specialist #SO-6547AM, ISA Tree Risk Assessment Qualified

Michael Sherwood, Bartlett Inventory Solutions Manager
ISA Board Certified Master Arborist & Municipal Specialist #SO-1845BM, ISA Tree Risk Assessment Qualified, Registered Consulting Arborist #524

Kevin Carr, District Manager, Local Manager, and Arborist Representative
ISA Board Certified Master Arborist #MA-MA06B, ISA Tree Risk Assessment Qualified, Certified Tree Care Safety Professional #744, Tree Care Industry Accreditation www.tcia.org and www.bartlett.com

Russell Clark, Plant Health Care Technician
ISA Certified Arborist #NE-6983A

BARTLETT INVENTORY SOLUTIONS

Bartlett Inventory Solutions
The R.A. Bartlett Tree Research Laboratories
13768 Hamilton Road
Charlotte NC 28278-8213
704-588-1150
www.bartlett.com

TMP - 3. Tree removal plan

Our urban forest is aging faster than it should, based on the combination of tree species, forest conditions and past decisions

Removal plan is based on:

- Tree inventory recommendations
- Observations provided by stakeholders (residents and staff)

Removals follow applicable City Code and Common Property Policies

We only remove dead, dying or diseased trees (determination is based on actual risk assessment and not perceived danger).
Removal of biomass is minimized – leaving tall snags and large woody debris for forest regeneration

TMP - 4. Replacement & Planting plan

The aging urban forest lacks diversity in species, size and age based on our tree inventory and observations

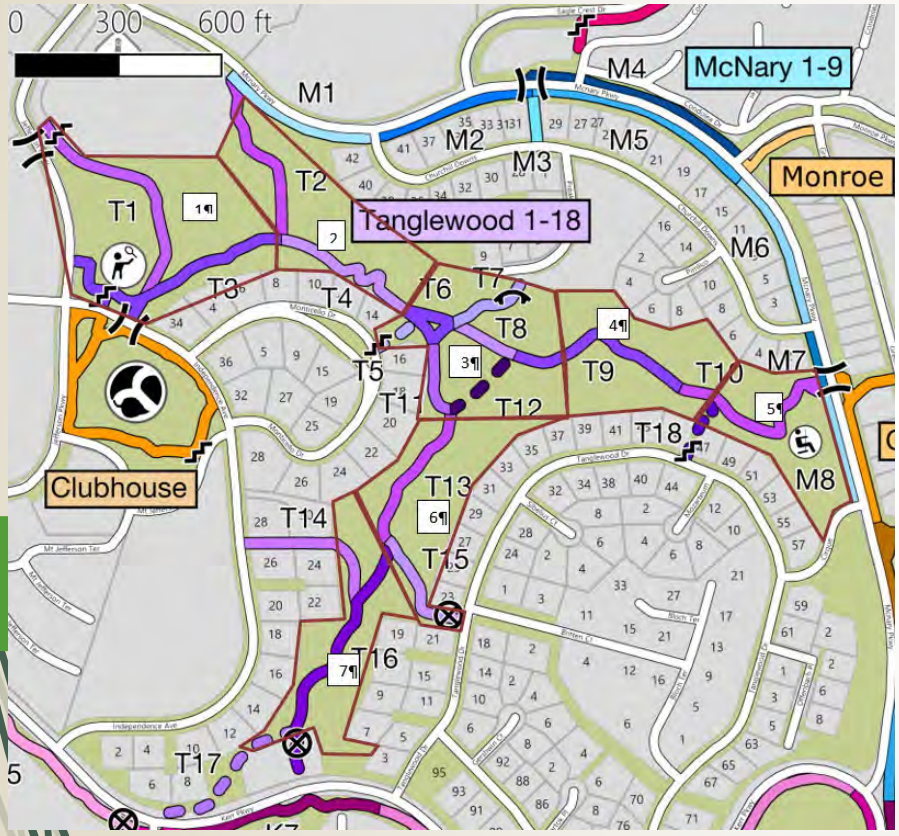
Our goal is to rectify this situation by choosing appropriate species to reinvigorate the forest

Some guidelines can be found in the Master Plan, but a comprehensive Replacement and Planting plan needs to developed

What has to happen first:

- Catching up on deferred tree maintenance by following tree inventory recommendations
- Starting a process to remove invasive species (woody and groundcover varieties)

Tanglewood woody invasive species removal plan



Section	Species	<6"	>6"			Section	Species	<6"	>6"	
1	Holly	132	1			4	Holly	70	10	
	Hawthorne	314	18				Hawthorne	50	10	
	Cherry	7	13				Cherry	1	1	
	Section Total	453	32	485			Section Total	121	21	142
2	Holly	192	1			5	Holly	35	5	
	Hawthorne	305	8				Hawthorne	59	6	
	Cherry	5	12				Cherry	0	1	
	Section Total	502	21	523			Section Total	94	12	106
3	Holly	73	4			6	Holly	39	2	
	Hawthorne	78	3				Hawthorne	43	7	
	Cherry	6	3				Cherry	0	1	
	Section Total	157	10	167			Section Total	82	10	92
						7	Holly	80	1	
							Hawthorne	120	19	
							Cherry	1	0	
							Section Total	201	20	221
	All Species	1112	63	1175		All Species		297	43	340
Combined Totals		1409	106	1515						

TMP - 5. Preservation plan

Tree inventory contains over 2,000 surveyed trees with a value over $23 million dollars – Preserve this!

Preservation of the green infrastructure is a major part of our forest stewardship activities. It is more economical / beneficial to preserve a mature tree rather than trying to mitigate a removal of said tree.

Manage the forest – removals can be beneficial, increase biodiversity, leaving as much intact as possible - snags and thickets

Manage canopy – pruning, cabling and other structural support systems for valuable trees

Manage understory – remove invasive species, replant with natives

Manage the soil – improve, avoid compaction, mulch, mulch and mulch (woodchips)

TMP - 6. Risk management plan

Risk management is based on our Tree inventory / Management plan

Inventory includes Basic tree risk assessment report and mitigation

Our goal is to prioritize necessary work to reduce risks by evaluating the likelihood of failure and likelihood of impacting a target

Same tree condition presents different risk based on location: middle of a thicket (leave it) vs. along a trail (remove)

Combination of these likelihoods determine the consequences of tree failure

The biggest part of our tree budget goes to risk reduction

TMP - 6. Risk management plan

Tree ID	Common Name	DBH	Tree Care Priority	Clean	Reduce	Structural	Removal	Cable	Brace Rod	Primary Target	Risk Rating	Condition or Defect
1899	Alder-Red *	10	1	...	Yes	Yes	...	...	...	Street	Low	...
1997	Willow	28	1	...	...	...	Remove	...	...	Walking path	Low	• Burl • Cavity-stem • Codominant stems • Included bark
26	Fir-Douglas	31	2	Yes	...	...	...	...	...	Street	Low	• Deadwood >2
94	Birch-European White	15	2	Yes	Yes	Yes	...	...	...	Building	Low	• Wound-stem • Wound-branch • Deadwood >2 • Hanger
115	Maple-Bigleaf	20	2	Yes	...	...	...	Yes	Yes	Sidewalk	Low	• Codominant leaders • Included bark • Deadwood >2
124	Maple-Bigleaf	20	2	Yes	...	...	...	...	...	Street	Low	• Deadwood >2 • Codominant stems
130	Maple-Bigleaf	38	2	Yes	...	...	...	Yes	...	Sidewalk	Low	• Deadwood >2 • Codominant leaders • Included bark
137	Maple-Bigleaf	22	2	Yes	...	...	...	...	...	Deck	Low	• Deadwood >2 • Codominant stems
143	Maple-Bigleaf	20	2	...	Yes	...	...	...	...	Parking	Low	• Deadwood >2 • Included bark
152	Maple-Bigleaf	21	2	...	...	...	...	Yes	...	...	Low	• Codominant leaders • Included bark
163	Maple-Bigleaf	28	2	...	...	...	Wildlife snag	...	...	Street	Low	• Hanger • Deadwood >2 • Cavity-stem
167	Maple-Bigleaf	43	2	...	Yes	...	...	...	...	Building	Low	• Cavity-stem • Deadwood>2 • Included bark

TMP - 6. Risk management plan

TMP - 7. Education plan

Our biggest challenge / job is to educate our stakeholders

Benefits of trees are not or under reported, while dangers are exasperated

The Landscape Stewardship Department is continuously updating MPHOA's website to provide as much information as possible

We are spending time to talk with residents and explain the science and industry’s best management practices behind everything we do in the urban forest

Tree Summit !!

Questions

What do you think about wood chips (arborist chips) as mulch?

What do you do with leaves on your property?

Thank you!

Resources:

MPHOA Landscape Stewardship Department
Bartlett Tree Services - Arborscope.com
Lilly, S. Arborists' Certification Study Guide - 2010
Urban Forestry Best Management Practices for Public Works Managers- APWA
https://www2.apwa.net/Documents/About/CoopAgreements/UrbanForestry/UrbanForestry-4.pdf