

# 2015 State of the Urban Forest Annual Report

Presented to the  
City of Everett  
Board of Park Commissioners  
March 2016

by the  
**Everett Tree Committee**

*To protect, strengthen and expand Everett's urban forest  
through education, planning and maintenance*



**Green It Up  
Everett**

*Everett Tree  
Committee*

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# Executive Summary

## Background

The Tree Committee is happy to report to the City of Everett Parks Board that the City is working to actively improve the health and canopy of its urban forest in parks and on large public works owned land. City departments charged with the maintenance and health of these parcels of wooded land are working diligently and in good faith.

The urban forest includes all the trees within the City; it is owned and maintained by the City and thousands of private land owners. Maintaining a healthy urban forest is cost effective and provides many benefits. Recent studies demonstrate that urban trees, especially large ones, provide a strong net dollar benefit to the community.

At this time, the size and health of the urban forest in the City of Everett is not fully quantified and assessed. The Parks Department and Forterra's (formerly the Cascade Land Conservancy) "Green Everett" Partnership (started in 2012) continues to make significant progress toward restoring forest health on park properties in the City. Forest stewards are trained for priority parks to coordinate various work parties in priority areas to remove invasive plants and replant with an appropriate mix of evergreen and deciduous native plants.

The Tree Committee looks forward to a time when the entire urban forest of Everett can be similarly assessed and maintained, with a full time urban forester at the helm and a dedicated maintenance staff to fulfill tasks now performed by Parks and Public Works staff and contractors. Towards that end, a full time Urban Forester was hired by Parks in January 2015 to lead the assessment and maintenance efforts for Parks-maintained properties. We can report on the planting and maintenance efforts the City has undertaken in the last seven years.

## Tree Ownership

The City of Everett manages most of the city-owned urban forest through the Public Works Department and the Parks Department. Public Works is responsible for trees on city-owned property such as street medians and corners, utility corridors and detention ponds, as well as sensitive areas such as wetlands, ravines and steep slopes. Both departments share in planting and maintaining various landscaped gateways and medians throughout the city. Private citizens and businesses are responsible for street trees planted in their right-of-way.

## 2015 Summary of Tree Numbers

In 2015, Parks planted 112 trees in 11 parks, and performed maintenance on 105 trees. That same year Public Works planted 340 trees and performed maintenance on 1,396 trees. Its popular Street Tree program involved 24 households in nine neighborhoods (out of 19 neighborhoods) throughout the city. There were several significant wind storms in Fall 2015 that resulted in the city losing a total of 411 trees. Below is a general summary of tree activity in 2015:

Everett Parks Department planted:	112 trees
Everett Public Works Department planted:	340 trees
City departments removed:	-601 trees (including old, diseased, damaged)
<b>City of Everett had a net LOSS of:</b>	<b>-149 trees</b>

A net planting of 1,504 trees has occurred between the years 2000 and 2015. This is a 9% drop from a year earlier. The total is very likely an over-estimate as tree removal data from Parks was not available prior to 2011, and was not available from Public Works prior to 2005. Over just the past five years however, the public tree total has shown a net gain of 1,886 trees. This is a positive trend, especially in light of recent severe wind storms.

Evergreen trees are critical to plant in urban areas – they continue to intercept rain, reduce runoff and flooding during our rainy season, and continue to sequester carbon all year long. Deciduous trees can only intercept rain and absorb carbon when they are in leaf. While it makes sense that Parks can more easily accommodate often large, view-blocking evergreen trees, it’s encouraging to see that neighborhood and other Public Works tree plantings are now 60% evergreen to 40% deciduous.

**Parks Tree Plantings and Removals**

Since the year 2000, approximately 4,603 trees have been planted on Parks property. In 2015, Parks planted 112 trees in 11 parks (see Table 2), and performed maintenance on 105 trees. The overall planting ratio is 6% deciduous trees to 94% evergreen trees. The number of Parks trees removed since 2000 is 1,099. In 2015, the number removed was high at 216 trees. Most of these trees had to be removed due to strong wind storms in September and November. The overall tree removal ratio is 65% deciduous to 35% evergreen trees. In 2015, Parks lost more trees than they planted, for a net loss of 104 trees.

**Table 2. City Trees Planted and Removed from 2006-2015**

Department	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<b><i>Parks</i></b>										
Planted	112	459	2,850	191	130	109	143	186	97	760
Removed	-40	-64	-102	-630	-76	?	?	?	?	
Wind downed	-176	-5	-6	-10	?	?	?	?	?	
Total	-104	390	2,742	-449	54	109	143	186	97	
<b><i>Public Works</i></b>										
Planted	340	365	515	301	240	454	220	350	476	434
Removed	-150	-1,315	-48	-567	-176	-145	-33	-55	-86	-142
Wind downed	-235	-3	-1	-13	-2	-4	-2	-2	-62	-119
Total	-45	-953	466	-279	64	305	185	293	328	173
<b>Net Planted*</b>	<b>-149</b>	<b>-563</b>	<b>3,208</b>	<b>-728</b>	<b>118</b>	<b>414*</b>	<b>328*</b>	<b>479*</b>	<b>425*</b>	<b>933*</b>

\* This is an overestimate, as the number of Parks trees removed in past years is unknown

**Public Works Tree Plantings and Removals**

Since the year 2000, approximately 6,522 trees have been planted along more than 1,428 lane miles in the city’s 19 neighborhoods. In addition, 3,502 trees have been planted on other Public Works or city-owned properties (ravines, utility corridors, detention ponds, green belts, etc). Table 2 (above) shows the number of trees planted and removed.

In 2015, the Public Works Department planted 340 trees, and performed maintenance on 1,396 trees. Its popular Street Tree program involved 24 households in ten (out of 19) neighborhoods

throughout the city. The overall tree planting ratio for the past 15 years is 62% evergreen trees to 38% deciduous trees. Evergreens continue to be consolidated in eight of the 19 neighborhoods. Sadly, four neighborhoods have had less than ten evergreens planted in each of them over the past 15 years.

Public Works removed 385 trees in 2015, resulting in a net loss 45 trees for the year. There is no data to link removed trees to the neighborhood or area they were planted in. The overall tree removal ratio of deciduous to evergreen species is also unknown.

## **Natural Filtering Areas**

### Bio-filtration ponds:

New in 2015 were several bio-filtration ponds created to naturally filter out road pollutants (antifreeze, oils, gasoline, etc.) and yard chemicals (fertilizers, pesticides, etc.) from rain or snow melt before that water enters the city's drainage system, and is piped into Puget Sound. The ponds vary in size and volume. All were planted with only three native species (to make maintenance of these areas as fool-proof and efficient as possible): Juncus (grass), Oregon grape (shrub) and wild strawberry (groundcover) – 1,845 plants total were installed.

### Filtrerra storm drains:

Another natural filtering system installed in 2015 was the Filterra storm drain. These drains are much smaller but similar to bio-retention ponds in function and application. However, they can handle higher volumes of polluted water from streets and yard runoff, and can remove more pollutants quantity-wise. Their small footprint allows them to be used in landscaped areas, parking lots and along streets. Only certain species of trees and shrubs can be used. as the plant and special planting soil mixture are key to capturing certain pollutants.

## **2015 Tree Committee Actions and Accomplishments**

### Under Action #1, Emphasize education and engagement:

- Finalized Master Tree List containing 240 species
- Attended Arbor Day planting event
- Work with Public Works on adding photo and hot link to each tree species (2016)
- Review 'Top 25 Street Trees' with Public Works and area wholesalers (2016)

### Under Action #3, Develop a city-wide urban forest management plan:

- Reviewed tree removal requests
- Suggested increase in species and age diversity

### Under Action #6, Update the city's tree policy:

- Offer substantive suggestions and comments (2016)
- Modernize concepts, language and flow of document (2016)
- Create flow chart of how tree policy affects/interacts with other city departments (2016)
- Researched/reviewed other city tree policies and tree manuals

# Introduction

The purposes of this annual report are to:

- Define the urban forest and enumerate the benefits of a vibrant, functioning urban forest
- Provide the current status of Everett's urban forest and its current management to the Parks Board, elected city officials, city staff and the public
- Recommend actions that will achieve a sustainable and beneficial urban forest within the city limits
- Review this year's accomplishments by the Tree Committee

Development of the City of Everett's Tree Policy began in 1991. The final policy was approved by the Everett Park Board and Planning Commission on April 27, 1993. Everett then adopted a Public Tree Policy and a 'City of Everett Public Tree Management Ordinance' in June of that year. This ordinance authorized a subcommittee of the board of Park Commissioners, entitled the Tree Committee. The primary responsibility of the Tree Committee is to make recommendations to the Parks Board concerning implementation of the City's Tree Policy.

The Tree Committee's main goals are:

- Maintain the health of the existing urban forest on city-owned lands
- Increase the city's urban forest
- Maximize species diversity
- Incorporate native trees and understory plants where appropriate
- Improve communication and partnerships with city boards, departments and elected officials
- Inform neighborhoods about the City's free tree planting program
- Educate residents and businesses about the benefits of trees as well as proper tree care and pruning practices

Our goals are divided among seven broad recommendations in this report, as are our accomplishments. See Appendix A for a list of Tree Committee members and City department liaisons.

This report attempts to recommend some steps the City of Everett needs to take to better preserve its existing tree base and enhance the future of its urban forest. While much information has been collected from city departments, the recommendations stated within this report are solely those of the current Everett Tree Committee, a subcommittee of the Everett Parks Board.

## What is an Urban Forest?

Everett's urban forest consists of all the trees within the city limits, on both public and private property. Our urban forest includes street trees, gateway plantings, park trees, forested ravines, natural areas, trees on institutional and commercial campuses, and those on private property. Everett's urban forest is currently co-managed by private property owners, the city's Parks and Recreation Department, and the Public Works Department.

# Why is our Urban Forest Important?

An urban forest is much more than trees – it's a not-so-obvious and invaluable resource with a life cycle and essential public benefits that extend over many decades. Trees provide an incredible variety of proven health, social, environmental and economic benefits. They are a community's living (green) infrastructure. The list below is from the WA Arbor Day Council website (2008).

## Trees Rejuvenate Us (People Like Trees)

- People would rather walk, ride bikes, and work outdoors where trees are present.
- Hospital patients who have a view of trees heal faster, use fewer pain medications and spend eight percent fewer days in the hospital.
- Trees in the landscape relax us, lower our heart rates, and reduce stress.
- Trees provide "white noise"; leaves and branches moving in the breeze mask other human-caused sounds.

## Trees Are Good for Business

- Workers are more productive and happier when they see trees along their commute and from their office windows.
- Consumers say they'd spend up to 13 percent more at businesses landscaped with trees.
- Tree landscaping has the highest correlation with office occupancy rates, higher even than direct access to arterial routes.
- In one survey, 74 percent of the public preferred to patronize businesses whose structures and parking lots were beautified with trees and other landscaping.

## Trees Can Make/Save Us Money

- Trees increase the value of residential properties. Houses surrounded by trees sell for 18 to 25 percent more than houses with no trees.
- A mature tree canopy reduces surrounding air temperatures by 5-10 degrees, can lower the air conditioning needs of nearby buildings.
- Researchers found a 30 percent increase in appraised home values based on the amount and variation of tree cover.

## Trees Clean the Air We Breathe

- In one year, an average size tree produces enough oxygen to keep a family of four alive.
- Leaves filter the air we breathe by removing dust and other particles.
- Tree leaves absorb air pollutants such as ozone, carbon monoxide, and sulfur dioxide.

## Trees Clean the Water We Drink

- Trees hold soil in place on steep slopes and trap pollutants.
- By slowing down rain and runoff, trees allow water to sink into the soil and help replenish underground water tables.
- Runoff from forested areas is 17 percent less than that from developed areas.
- The nation's urban trees provide \$400 billion worth of storm water management by soaking up rain water from storms and reducing floods.

## **Trees Reduce Global Climate Change**

- Trees store carbon dioxide in their trunks, branches, leaves and roots.
- Trees that shade city streets are 15 times more effective in reducing carbon dioxide build-up than trees in rural areas.
- One large healthy tree can absorb 75 percent of the carbon dioxide produced by the average car.

## **Costs and Benefits of an Urban Forest**

Existing tree covered landscapes need to be recognized for their essential environmental services and budget-saving economic values. When urban forests are healthy, they provide communities with many invaluable services that can now be measured in dollar benefits.

Thanks to much research done within the past ten years by the USDA Forest Service, American Forests (a leading national organization in urban forest management and research) and universities, it is now possible to quantify to some degree the environmental benefits of trees, as well as property values related to trees. Cost/benefit analysis has also been performed using data from Pacific Northwest cities that have an extensive urban forest (McPherson et al. 2002, McPherson et al. 2003). Since costs and benefits can vary (depending on tree size) while others remain intangible or difficult to quantify, this analysis can only produce estimates. But those estimates are valid and useful for making decisions.

McPherson and his group studied small, medium and large trees in three cities in western Washington (Longview, Olympia and Seattle) and three cities in western Oregon (Portland, Tigard and Albany). Their research showed that Pacific Northwest cities spend an average of \$3.25 per tree, annually, for street and park tree management (McPherson et al. 2002). Generally, the single largest expense was for pruning, followed by tree removal and planting. McPherson et al. also found that in most Pacific Northwest cities, tree planting has not kept pace with removals, especially as older plantings succumb to declining health, new development pressures, and the like.

More importantly, they found that limited growing space in cities is responsible for an increase in planting smaller, shorter-lived trees that provide far fewer benefits compared to larger trees. This selection is driven heavily by concerns over interference with above- and below-ground utility lines, sidewalks, vehicle sight distances, etc. as well as long-term maintenance costs.

The planting of trees and other landscaping is most often considered last in any planning effort. By default, making sure there is adequate space for tree growth above ground and root growth below ground is usually not an option late in a project's development. However, if trees were considered essential infrastructure, and if they were incorporated at the start of planning and design processes as 'must haves', and if planners and developers were encouraged to think 'outside the box', this Committee believes the outcome could be far different from what it is currently.

McPherson et al. (2002) considered the costs of urban street trees to be planting, pruning, removal, pest and disease control, maintenance and irrigation, while the benefits of urban street

trees included energy savings, reduced atmospheric carbon dioxide, improved air quality, reduced stormwater runoff, and amenity benefits. [See Chapter 2: *Quantifying Benefits and Costs of Community Forests in Western Washington and Oregon Communities* in McPherson et al. (2002) for a detailed explanation of how these costs and benefits were determined.]

When costs are compared to benefits, they found that individual trees actually generate positive net values over a 40-year life cycle (McPherson et al. 2002). One small tree generates \$1-8 in net benefits annually, one medium tree generates \$19-25 in net benefits annually, and one large tree generates \$48-53 in net benefits annually. When comparing tree sizes, it becomes obvious that large trees provide conservatively at least six times more benefits than small trees.

As Table 1 shows, the benefits of planting, retaining and protecting large trees far outweigh the benefits of planting and protecting small trees (USDA Forest Service 2005). When urban trees are large and healthy, the surrounding environment is healthy. Large trees are the result of healthy soils, adequate space and water and healthy air.

**Table 1. Annual Air Quality Benefit of 100 Trees at Year 40, Longview, WA**

Tree Size	Pollutant Uptake (lbs)	Value	CO2 (lbs)	Value
Large	235.5	\$543.00	46,600	\$699.00
Small	67.0	\$162.00	2,700	\$40.00

All forests in the Puget Sound are in decline while the need for their ecological functions is increasing. In 1998, American Forests conducted a regional ecosystem analysis of the Puget Sound metropolitan area to determine how the landscape had changed between 1972 and 1996 (American Forests 1998). This included the cities of Seattle, Tacoma, Seatac, Redmond, Bellevue and Everett. Using GIS and their CITYgreen software, American Forests found the following:

- Areas with 50 percent tree cover or more declined by more than one-third (<37%)
- Areas with less than 20 percent tree cover more than doubled (>57%)
- Replacing this lost stormwater retention capacity with man-made systems = \$2.4 billion
- Removing all the pollutants from the atmosphere with man-made systems = \$95 million

Cities spend tremendous amounts of money installing stormwater control systems and repairing damage from unmanaged water flow. In addition, cities that cannot meet EPA attainment levels for air and water quality jeopardize federal funding for capital improvements. Nonstructural methods, including planting trees as green infrastructure, can significantly reduce budget costs and help cities meet current air and water quality standards.

## Tree Policy History

Development of the City of Everett’s Tree Policy began in 1991. The final policy was approved by the Everett Park Board and Planning Commission on April 27, 1993. Everett then adopted a Public Tree Policy and a ‘City of Everett Public Tree Management Ordinance’ in June of that year. This ordinance authorized a subcommittee of the board of Park Commissioners, entitled the Tree Committee. The primary responsibility of the Tree Committee is to make recommendations to the Parks Board concerning implementation of the City’s Tree Policy.

The Tree Committee's main goals include increasing the urban forest canopy on city-owned lands; optimizing species diversity; using native trees and understory plants where appropriate, improving communication with city boards, departments and elected officials; informing neighborhoods about the City's free tree planting program, and educating residents and businesses about proper tree choices, care and pruning practices. See Appendix A for a list of Tree Committee members.

## **State of Everett's Urban Forest**

The current size and health of the City of Everett's urban forest is unknown. Based on regional data, we know there are many pressures on urban forests, resulting in their likely decline. While street tree and landscape plantings appear to be increasing faster than trees are being removed due to age, disease or hazards, ongoing residential and commercial development pressures in Everett are eliminating remaining pockets of large and small native forest, leading to an overall reduction in urban forest canopy and health. The work initiated by the Parks Department and Forterra is a major milestone toward urban forest restoration, and the Tree Committee is committed to working with the City to establish a baseline urban forest inventory for the entire city.

## **Current City Urban Forest Management**

"Plant the right tree in the right place" is a common theme for urban forest management in Everett. The two city agencies in charge of trees are the Parks and Recreation Department and the Public Works Department. Both are working very hard to be smarter about what trees they plant and where they plant them. Putting the right tree in the right place can reduce maintenance costs and associated repairs, while increasing tree health, longevity and environmental services.

Public Works, Parks and Tree Committee are finalizing recommended tree lists and planting criteria to help inform tree selection along city streets, on commercial and residential properties, and in larger open spaces. This information will be shared with other interested city departments such as the Planning Department, commercial builders, landscape professionals and city residents via public planning documents and the city's website.

## **Parks and Recreation Department**

The Everett Parks and Recreation Department manages urban forests within the city park system and other areas as assigned (city gateways, downtown corridors). The Parks Department manages approximately 65 parks and open spaces, which include about 1,600 acres of land and 354 acres of urban forest. The Parks Department employs one Horticultural Supervisor, one full time arborist and two full time laborers, plus seasonal labor, to perform all tree maintenance, including planting, watering, staking, fertilizing, pest management, trimming and removal.

The total number of trees planted in Everett's parks is unknown prior to 2007. In addition, the number or species of trees planted or removed during this time was not collected. This is critical information that needs to be recorded for current and future management purposes (landscaping choices, maintenance needs, diversity, diseases, etc.), especially since no overall parks inventory for trees has ever been conducted.

## Tree Plantings and Removals

Since the year 2000, approximately 4,603 trees have been planted on Parks property. In 2015, Parks planted 112 trees in 11 parks (see Table 2). The overall planting ratio is 6% deciduous trees to 94% evergreen trees. The number of Parks trees removed since 2000 is 1,099. In 2015, the number removed was high at 212 trees. Most of these trees had to be removed after two high wind storms (in September and November). The overall tree removal ratio is 65% deciduous to 35% evergreen trees. In 2015, Parks lost more trees than they planted (-104 trees).

**Table 2. City Trees Planted and Removed from 2006-2015**

Department	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
<b>Parks</b>										
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\* This is an overestimate, as the number of Parks trees removed in past years is not known

Parks staff continues to work with Forterra and the growing number of forest stewards and volunteers, along with schools, businesses, community groups and work release crews to plant trees and promote tree stewardship. Parks staff also partners with the Public Utilities District, local schools, and businesses to hold an excellent annual Arbor Day celebration and planting in April for the City of Everett.

## Public Works Department

The Everett Public Works Department manages the urban forest within developed and undeveloped right-of-ways and open spaces, via its Street Division. The Department uses one-eighth of one supervisor's time to manage trees within the city right-of-way and utilities property, and one-fourth of two crew member's time to maintain clearances over sidewalks and streets.

### Free Street Tree Program

The Street Division assists property owners in managing the urban forest within these right-of-ways and partnering with neighborhoods to manage the city's free street tree planting program. Their well-established Street Tree program is largely responsible for increasing tree cover on or near private property in the city.

Tree planting totals by neighborhood, since the year 2000, vary greatly:

1-100 trees = 5 neighborhoods (Westmont has had only 1 tree planted in 15 years)

101-250 trees = 3 neighborhoods

251-500 trees = 6 neighborhoods  
501-1,000 trees = 5 neighborhoods (Port Gardner holds the record with 1,110 trees planted)

### **Tree Plantings and Removals**

Since the year 2000, approximately 6,522 trees have been planted along more than 1,428 lane miles in the city's 19 neighborhoods. In addition, 3,502 trees have been planted on other Public Works or city-owned properties (ravines, utility corridors, detention ponds, green belts, etc). Table 2 (above) shows the number of trees planted and removed (due to hazardous condition, age, disease or wind damage) by Public Works from 2006 through 2015.

The number of street trees planted in 2015 was 340 in ten neighborhoods. The overall tree planting ratio for the past 15 years is 62% evergreen trees to 38% deciduous trees. Evergreens continue to be consolidated in eight of the 19 neighborhoods. Sadly, four neighborhoods have had less than ten evergreens planted in each of them over the past 15 years.

In 2015, the number removed was 385 trees. In 2015, Public Works lost more trees than they planted (-45 trees). There is no data to link removed trees to the neighborhood or area they were planted in. The overall tree removal ratio of deciduous to evergreen species is also unknown.

### **Natural Filtering Areas**

#### Bio-filtration ponds:

New in 2015 were several bio-filtration ponds created to naturally filter out road pollutants (antifreeze, oils, gasoline, etc.) and yard chemicals (fertilizers, pesticides, etc.) from rain or snow melt before that water enters the city's drainage system, and is piped into Puget Sound. The ponds vary in size and volume. All were planted with only three native species (to make maintenance of these areas as fool-proof and efficient as possible): Juncus (grass), Oregon grape (shrub) and wild strawberry (groundcover) – 1,845 plants total were installed.

#### Filtterra storm drains:

Another natural filtering system installed in 2015 was the Filtterra storm drain. These drains are much smaller but similar to bio-retention ponds in function and application. However, they can handle higher volumes of polluted water from streets and yard runoff, and can remove more pollutants quantity-wise. Their small footprint allows them to be used in landscaped areas, parking lots and along streets. Only certain species of trees and shrubs can be used. as the plant and special planting soil mixture are key to capturing certain pollutants.

### **Summary of City Tree Data Collected**

A net planting of 1,504 trees has occurred between the years 2000 and 2015. This is a 9% drop from a year earlier. The total is very likely an over-estimate as tree removal data from Parks was not available prior to 2011, and was not available from Public Works prior to 2005. Over just the past five years however, the public tree total has shown a net gain of 1,886 trees. This is an positive trend, especially in light of recent severe wind storms.

The higher ratio of evergreen to deciduous trees is also essential for sustaining the City's green infrastructure. Evergreen trees are critical to plant in urban areas – they continue to intercept rain, reduce runoff and flooding during our rainy season, and continue to sequester carbon all year long. Deciduous trees can only intercept rain and absorb carbon when they are in leaf.

While it makes sense that Parks can more easily accommodate often large, view-blocking evergreen trees, it's encouraging to see that neighborhood and other Public Works plantings are now 60% evergreen to 40% deciduous.

The Tree Committee commends both departments for the creative and beautiful landscaping plans they design, the high standards they maintain, and the fine and timely work they've been able to accomplish with such limited staffing. We also applaud their outreach efforts in the community and their encouragement of volunteer assistance from residents via the Forest Stewardship program and planting/weeding events.

## **Private Property Owners**

Collectively, private property owners (residential and commercial) manage most of Everett's urban forest. That is, they manage the urban forest that is located on their property. This includes the planting strip between sidewalk and street (usually but not always in the right-of-way), front and back yards, buffers, green belts, critical areas, and sometimes stormwater retention or detention areas. Private property owners are expected to properly maintain and care for all the vegetation on their property.

Business and commercial property owners also have extra landscaping required in their undeveloped right-of-way and around their property. They are also required to properly maintain and care for all trees planted in the right-of-way. No data exists regarding maintenance activities, number of trees, species, size, etc. on private property within the City of Everett. Estimates should be developed as part of any urban forest inventory.

## **Recommended Actions**

The Tree Committee recommends the following broad actions to ensure that this valuable living element of the City is at least maintained at a minimum threshold, and used as a versatile planning tool as Everett continues to develop.

### **1. Emphasize Education and Engagement**

#### *For Tree Committee Members*

Before the Tree Committee can reach out to Everett citizens and businesses, its members need to be somewhat fluent in the identification/general biology of trees and benefits of urban forests; the procedures and policies that govern the committee, city departments, trees and other vegetation in the City; the tree committee's history and goals, and effective education and outreach tools and techniques.

### **Tree Committee Recommendations and Accomplishments:**

#### **1A. Members Receive Background Information before First Meeting**

- Read latest version of Annual Urban Forest Report
- Review latest version of City of Everett Tree Policy
- Learn Roberts Rules of Order for meeting protocol
- Receive short bio of current tree committee members and city liaisons
- Write short bio to share with committee (outline provided)

### **1B. Members Take Tree Board University Course/s (free online training)**

*Funded by the USDA Forest Service Urban and Community Forestry Assistance Program*

- Eight short courses (<http://www.treeboardu.org/>):
  - Tree Board 101
  - Partnerships and Collaboration
  - Engaging in the Political Process
  - Community Forestry Planning
  - Communications and Marketing
  - Financing, Budgeting, Grants, Fundraising
  - Getting Things Done
  - Moving Forward

### **1C. Members Attend Conferences and Gatherings**

- Learn new ideas and latest successful approaches
  - attend annual Urban Forest Symposium, Univ. Of Washington, Seattle (*past years*) (<http://depts.washington.edu/uwbg/news/urban-forest/>)
  - attend International Society of Arboriculture Conference (*Jan 2011*)
- Network with tree professionals
  - co-wrote a proposal for 2011 WA Planning Conference, a street profile design charrette with trees as foundational elements (*not accepted, 2011*)

### **1D. Members Share New Information (at meetings)**

- Explore tree/urban forestry related websites
  - Human Dimensions of Urban Forestry and Greening (<http://www.naturewithin.info/>)
  - International Society of Arboriculture (<http://www.isa-arbor.com/>)
  - Seattle reLeaf (<http://www.seattle.gov/trees/>)
  - (State) Urban and Community Forestry Program (<http://www.dnr.wa.gov/urbanforestry>)

#### *For Citizens, Businesses and City Staff*

Citizen and business support is vital to an effective tree management program. For example, if citizens and businesses appreciate and understand trees, they will help support urban forestry causes and issues, and promote the urban forest's health into the future. Also, volunteers can help absorb some of the labor and costs associated with tree planting and maintenance. Forterra's involvement in the Green Everett Partnership assures consistency and continuity in volunteer recruitment and support.

Urban forest best practices, such as 'right tree, right place' plant choices, and tree protection procedures during development and construction are integral individual actions that collectively improve urban forest health. Education and outreach are ways that tree-related departments can share those best practices with the public.

While U.S. cities spent an average of 2.4 percent of their annual budgets on citizen education in 2000, Pacific Northwest cities spent 8.6 percent (Cascadia Consulting Group 2000). By default, private property owners manage a majority of the City of Everett's urban forest. The City should encourage and be prepared to assist citizens and businesses in properly caring for the urban forest on and/or close to their property.

## **Tree Committee Recommendations and Accomplishments:**

### **1E. Produce annual 'State of the Urban Forest' Report**

- Review tree data from Public Works and Parks (*monthly*)
- Present update and Tree Committee accomplishments to Parks Board (*annually*)
- Place on City's Tree Committee web page for public access (*2011, updated annually*)
- Distribute to city staff with tree-related responsibilities

### **1F. Update City's Recommended Tree List**

- Public Works add photo link for each tree species (*2016*)
- Have Public Works review 'Top 25 Street Trees', check with wholesalers (*2016*)
- Finalize Master Tree List (*2015*)
- Create Master tree list with detailed information and hot links for web use (*2012, updated 2013*)
- Create abbreviated list for staff and landscapers (*2012*)
- Create 'Top 25 Street Trees' list for public/residents (*2012*)
- Put lists on city's website (*put on site after new website is up and running, mid-2015?*)
- Work with city staff to update and expand tree species data (*2011*)

### **1G. Provide Outreach to Citizens and Businesses**

- Recognize businesses for properly caring for their green infrastructure (*need stronger City support; has not happened since 2012*)
- Changed meeting time from 4-6pm to 6-8pm to encourage public attendance (*2011*)
- Write short paragraph on tree-related topics for neighborhood newsletters
- Make presentations at community and business meetings
- Write tree-related articles for local newspapers, magazines and professional journals
- Create City of Everett historical tree list with photographs
  - develop brochure with walking tours
  - put on City's website

### **1H. Create Printed Materials**

- #1 priority = brochure to help businesses understand financial and other values of trees, foster greater tree stewardship in business community, reduce downtown tree topping and bad pruning (*2014*)
  - applied for and received grant funding (\$6,000) from WA Dept. of Natural Resources Urban Forestry Program to produce/mail brochure to businesses in city (*2012-13*)
  - work out financial/administrative partnership with Parks for grant funding (*2012*)
  - use best information from federal, state and local entities (*gathered in 2011*)

### **1I. Develop Canned Presentations**

- Topics to include benefits of trees, right tree–right place, get a free tree, proper tree care
- Link presentation dates to planting events, holidays, etc

### **1J. Plan/support Tree-related Events**

- Attend/speak at annual Arbor Day Planting event (*ongoing every April*)
- Have a booth at Sorticulture (*too expensive, not enough volunteers to staff booth*)
- Support neighborhood plantings (*ongoing*)

- Participate in Forterra volunteer events (*2012 onward*)
- Have a booth/partial booth at Everett Home and Garden Show (*no volunteers*)
- Have a booth/partial booth at PUD Earth Day event (*no volunteers*)

## 2. Conduct a Tree Inventory

A tree inventory is a database that enables city staff to record, and then plan for, the health and character of its urban forest. An inventory may contain data on each tree (on public lands) or data about tree canopy cover across all properties (usually derived from remote sensing materials such as aerial photography). Most cities now record any inventory as a data layer in a GIS system for use in planning and/or public works. Inventory data is usually collected by city staff or by contract, though trained volunteers can also assist. Inventory data can be linked to work plans so that urban forestry actions are efficient and effective.

The City of Bellevue, for example, has conducted a tree inventory approximately every ten years since 1972. They collect data on each tree on public land and have partnered with American Forests using Landsat satellite imagery to obtain the current tree cover for all land within the city limits (Dewald 2008).

The Tree Committee is very pleased that the city Parks Department has partnered with Forterra to produce and implement a 20-year Forestry Management Plan, starting in 2012. This is a huge step forward and can only bode well for the future of the City's parks and green infrastructure.

### **Tree Committee Recommendations and Accomplishments:**

#### **2A. Track Tree Plantings, Removals and Damage**

- Review tree plantings/removals/damage at monthly meetings (*ongoing*)
- Request annual totals, including location and tree species (*ongoing*)

#### **2B. Conduct on-the-ground Tree Inventory**

- Encourage Parks to inventory their holdings (*doing so project by project*)
- Research funding options, software programs and partnerships (*ongoing*)
- Literature review of how other PNW cities have accomplished this (*ongoing*)
- Contact local Edmonds Community College about student internship
- Update inventory every ten years

## 3. Develop an Urban Forest Management Plan

A tree or forest management plan provides policy guidance for using the tree inventory and other tools, as it directs resources to the greatest forest needs. A good plan considers the full scope of a community's forest, communicates its mission and goals, and takes a long-range view of forest health, function and benefits. Plans are often a joint effort of community stakeholders and city staff, making them responsive to the diverse needs and concerns of a community. Fiscal and staff needs are established by the plan, and priorities for field work are set.

The City of Everett does not have a comprehensive management plan for its entire urban forest. As stated in the Public Tree Policy, "the Parks and Recreation Department, with other

appropriate City Departments, shall create management plans for the park-owned urban forest, establishing goals and criteria for trees on City-owned parks, park lands and open spaces”.

We applaud these park-specific management plans. They involve the local community, use the best available science available, and are professionally done. And, the work with Forterra to develop a 20 Year Plan and complete a forest health assessment is comprehensive. Unfortunately, these Parks plans do not apply to the rest of Everett’s urban forest -- street tree areas, downtown plantings, traffic corridor plantings, gateway areas, and undeveloped lands not owned by Parks.

From research done in Washington and other states within the past 11 years, Washington is in the lower range of cities having completed or updated tree inventories and management plans (Corletta 2001, Studer 2003). Also, fewer cities in our state are doing routine tree care compared to other states. Local managers note poor pruning and insufficient planting space issues, and struggle to address the challenges of hazard trees, pests and diseases, loss of trees and low species diversity.

The City of Seattle in 2007 produced a 30-year Urban Forest Management Plan, after five years of work. To do so, they created an interdepartmental working group representing all city departments with tree management or regulatory responsibilities. Their vision is to “. . . **create a thriving and sustainable mix of tree species and ages that creates a contiguous and healthy ecosystem that is valued and cared for by the City and all of its citizens as an essential environmental, economic, and community asset**”.

Since a comprehensive Urban Forest Management Plan for the City of Everett does not currently exist, the Tree Committee is committed to applying consistent standards and procedures to all tree-related city projects, plans, policies and codes as appropriate. These include: right tree-right place, proper pruning and maintenance, irrigation and protection for first two to three years after planting, having the necessary root volume/space as needed per species, using structural soils, optimizing species diversity, increasing use of evergreen trees, using native trees and shrubs, and adding compost as a natural soil amendment.

### **Tree Committee Recommendations and Accomplishments:**

#### **3A. Work Collaboratively with City Staff**

- Identify all city departments/staff with tree planning, landscaping, management or regulatory responsibilities including city hall, libraries, fire and police stations, etc. (*ongoing*)
  - conduct informal survey to gather updated contact information (staff or contractor)
- Invite staff to discuss their responsibilities/issues at Tree Committee meetings (*ongoing*)

#### **3B. Continue the Public Works Street Tree program**

- Review tree removal requests (*ongoing as needed*)
- Suggest disease-free street trees (*ongoing as needed*)
- Suggest increased specie and age diversity (*ongoing as needed*)

#### **3C. Develop City-wide Tree Care Standards and Procedures**

- Reviewed/made recommendations on City’s Comprehensive Plan Review to: standardize tree and landscaping standards throughout the business corridors and in developing

residential areas, create/fund a street tree maintenance crew, and emphasize natural forests and native vegetation in open space areas (2014)

- Reviewed/made recommendations on tree removal and pruning language within critical areas, especially hillsides with views, Chapter 37 of the Zoning Code (2012)
- Reviewed/made recommendations on Evergreen Way Revitalization Plan (2011)
  - concerned street tree planting strips are not wide enough to support a healthy tree
  - concerned about inadequate soils and very low soil requirements in these types of settings
- Reviewed projects/made recommendations concerning action at Forest Park, Harborview Park, Lowell Park and Madison Ave Park (2011)
- Recommended tree replacements for Walnut Street (2011)
- Assisted Planning Department with tree planting guidelines for commercial parking lots
  - researched best guidelines in other cities (2010)
  - discussed suggestions with Planning director and staff (2010, 2012)
- Suggested flexible, site-specific guidelines for commercial plantings
  - replaced existing, rigid planting formulas to encourage more tree planting
  - discussed suggestions with Planning director (2010)
- Advocate for increasing the evergreen/deciduous canopy mix in Everett
  - increase evergreen tree plantings (ongoing)

### **3D. Protect and Enhance Open Spaces**

- Work with staff to better protect and enhance existing native forests in ravines, wet areas, power corridors, steep hillsides, and other city-owned areas (ongoing)
  - addressed trees topped/debris/runoff on steep hill along W. Marine View Drive (2011)
  - improve native understory - small trees, shrubs, ground plants (ongoing)

### **3E. Develop a Comprehensive Urban Forest Management Plan**

- Reviewed/made recommendations on draft/final 20 year Forest Management Plan for Everett Parks (2012)
- Include interdepartmental working group, other city departments, urban foresters and community stakeholders in developing this plan (ongoing, suggested various contacts)
- Cohesively manage Everett's urban forest as one entity
- Annually assess the health, challenges and needs of Everett's urban forest (private and public)
- Adjust goals and field work accordingly

## **4. Set City-wide Tree Canopy Cover Goals**

As part of the Urban Forest Management Plan, the City should set city-wide tree cover goals. Tree cover is the percentage of land within a city that is covered by tree canopies. It is a more accurate measure of the health, value and function of an urban forest than a tree inventory. While American Forests offers guidelines on canopy cover, each community must first identify what their tree canopy cover is, and then set their own goals to help meet environmental and quality of life goals, including federal and local clean air and water regulations.

American Forests, a leading urban forest management, conservation and research group, uses tree cover/canopy to determine the condition of urban forests. Tree cover is a good indicator of an urban ecosystem's health, as they are directly related. Based on studies done by urban forest scientists and public policy makers in the last 15 to 20 years, the average tree canopy goal for urban areas nation-wide is 40 percent (Cascadia Consulting Group 2000). More specifically, tree canopy goals in major cities (i.e. Seattle) are often broken into smaller zones, such as business districts - 15% tree canopy goal, urban residential - 25% canopy, and suburban areas - 50% canopy (City of Seattle 2007).

Three early surveys (1986, 1989 and 1991) that American Forests conducted focused on the health and condition of public street trees (American Forests 2008). The organization's understanding of the environmental benefits of urban forests grew at the same time as the technology improved to more accurately measure an urban forest's extent. These two developments in tandem made it possible to measure actual land cover, quantify its environmental benefits, and for the first time link tree canopy cover goals to community-wide goals for clean air and water.

At this time, no on-the-ground analysis or satellite canopy coverage inventory has been conducted for Everett's urban forest. The City does possess the technology and aerial photography to distinguish green space (trees, shrubs, grass) from gray space (buildings, roads, parking lots, etc) and calculate those percentages. However, these numbers are not a true estimate of the urban forest canopy itself.

The City's Street Tree Program is the most advanced in terms of inventory, with some detailed information (planting date, species, location) dating back to 2000. It is the Tree Committee's understanding that the Parks Department is considering inventorying trees in parks when funding allows, but only in terms of size (small, medium, large) to better allocate tight maintenance dollars.

## **Tree Committee Recommendations and Accomplishments:**

### **4A. Complete a Comprehensive Baseline Tree Cover Inventory**

- Undertake as soon as fiscally possible
- Conduct or contract for this inventory
- Research and apply for grant funding
- Seek partners (county, cities, colleges, environmental and community groups, etc)
- Use proven techniques/protocols developed by USDA that have City GIS capabilities

### **4B. Set Tree Canopy Goals**

- Include interdepartmental working group, other city departments, urban foresters and community stakeholders
- Set goals for business districts, urban and suburban areas (goals for each neighborhood?)
- City and Tree Committee will use goals to inform tree policy and related funding decisions

## **5. Increase Investments in Routine Tree Care**

Routine tree care gives the greatest return for public spending on trees. Tree care in many cities is done on-demand in response to citizen complaints, emergencies (such as wind or snow

storms), new developments, or updating planning documents. On-demand tree work means that crews will move among scattered sites, resulting in greater travel times and personnel downtime per tree pruned.

The Parks Department's maintenance crew does a most commendable job of providing tree care on a three- to five-year cycle, in spite of the large number of trees and other plants they must attend to and the limited number of staff in the field. The City's street trees, however, are the responsibility of the residential or commercial property owner. The degree to which each owner knows they are responsible for and actually properly cares for its trees is spotty, varying widely from outright negligent to sufficient regular attention.

### **Tree Committee Recommendations and Accomplishments:**

#### **5A. Hire one or more Dedicated Field Crews**

- To properly care for increasing number of downtown business landscapes, and plantings along major traffic corridors and gateways
- To improve the health and public benefits of the City park system's forest

#### **5B. Encourage Proper Tree Care**

- Ensure all owners properly care for street trees on their property (*Parks created tree brochure for businesses, 2014*)
- Attend educational conferences and share information
  - Healthy Soils and Trees in the Built Environment, UW Botanic Gardens (*October 2014*)
  - Climate Change and the Urban Forest, Urban Forest Symposium (*May 2014*)
  - Tree and Views, Urban Forest Symposium (*May 2013*)

## **6. Update the City's Tree Policy**

Tree policies maintain, preserve and enhance the urban forest and increase the overall canopy, health and longevity of its trees. Everett's tree policy governs only public trees – those in parks, right-of-ways, and on other city-owned land managed by the Parks or Public Works departments.

Tree policies can include goals for tree and vegetation work, hazardous tree management, pruning standards, tree retention and protection during construction, tree protection and replacement, viewpoints, permits, slope stability, wildlife and habitat, vegetation management plans and partnerships. Everett's current tree policy was created in 1993. Parks began the process to update this 23-year-old policy in 2015.

Some communities in Puget Sound have also extended precautions to trees on private property that are deemed significant due to age, size, historic, or natural resource value (Bellevue, Kirkland, Seattle). Private property code is particularly important for detecting and treating pest and disease outbreaks before all forest areas in a community are invaded.

### **Tree Committee Recommendations and Accomplishments:**

#### **6A. Assist Parks and Public Works in Updating Tree Policy**

- Offer substantive suggestions and comments (*2016*)
- Modernize concepts, language and flow of document (*2016*)

- Create flow chart of how tree policy affects/interacts with other city departments (2016)
- Research/review other city tree policies and tree manuals (2015)

#### **6B. Implement Proven Protection Techniques**

- Research what other cities are doing to save trees during construction (*ongoing*)
  - require trees be fenced at their drip line
  - levy hefty fines for any tree damage during construction
- Research what other cities are doing to protect newly planted trees (*ongoing*)
- Make suggestions for inclusion in appropriate city codes, policies, etc. (*ongoing*)

#### **6C. Promote Monetary Value of Trees**

- Incorporate the dollar value associated with a tree's environmental services when making land-use decisions (*current and future financial benefits - as a tree grows its benefits increase*)
- Push for the creation of a City-wide Tree Fund, funded by permit fees, donations, etc.

#### **6D. Incorporate Trees in Planning Documents**

- Use trees as an essential 'green infrastructure' tool to help meet air and water quality regulations, reduce erosion, stabilize slopes, provide cooling effects, calm traffic, etc.
- Use trees as a valuable, foundational element of urban design, not an after thought

### **7. Create a Strong Tree Protection and Retention Ordinance**

The greatest hazard to trees is their removal to make way for new development or views. As discussed earlier, studies have shown that large, mature trees offer the greatest level of services and benefits when compared to medium and small sized trees. If designed and constructed carefully, a new development can retain its beautiful stands of large trees.

Retention and preservation ordinances are meant mainly for private property (particularly parcels that are in review for development) to optimize tree retention and health in new built environments. In Atlanta, Georgia for example, developers now must plant street trees in all new developments (American Forests 2008). If that's not possible, they must contribute to a Tree Trust Fund. To date, the fund contains more than \$1 million for trees to be planted in other areas of the city.

The City of Everett's Public Tree Policy contains a tree protection section that states one can not impact or excavate near a tree on city owned land without first obtaining a written permit, and can not deposit anything near same such tree unless it's an emergency. Under valuation of trees, both deciduous and evergreen trees are to be replaced at a two to one ratio (two replanted for every one removed). However, there is no language regarding retention and protection of existing mature trees (which provide the highest level of environmental and economic benefits). Nor is there any language regarding retaining or protecting trees on private property.

In Kirkland, WA for example, as of January 2006, private homeowners are only allowed to remove two 6-inch dbh trees within a 12-month period, even if those trees are hazards or nuisances (City of Kirkland 2008). When developing property, an applicant must submit a "Tree Plan". Plus the homeowner's responsibility of caring for street trees includes getting prior City

approval for pruning. A tree brochure from Kirkland states, “**The City of Kirkland is committed to protecting and enhancing trees as part of the community’s urban forest and its valuable natural resources**”.

The Snohomish County Council in February 2009 updated their tree retention regulations for unincorporated areas. Residential builders now have to leave existing trees in place or plant replacement trees for any they remove.

### **Tree Committee Recommendations and Accomplishments:**

#### **7A. Update Permit Submittal Process**

- For any new construction and major remodeling
- All public trees and significant private trees, including their drip lines and critical root zones on the subject property, must be incorporated on the site plan
- All of the same must be protected from harm

#### **7B. Create Tree Coverage Density**

- For all new construction and major remodeling
- Require each site to meet a minimum density of tree coverage following project construction

#### **7C. Add Protective Tree Language**

- Such as, “Existing mature trees shall be retained and protected” (*ongoing*)
- Such as, “No street tree shall be topped, sheared or pollarded” (*ongoing*)
- Such as, “Proper irrigation shall be provided and maintained” (*ongoing*)
- Such as, “Any street tree damaged shall be replaced by the property owner within three months”
- Set accumulative fines for wayward property owners
- Include above language in appropriate city codes, ordinances and other documents
- Developers shall plant an approved number of street trees in all new developments, and maintain those trees for five consecutive years, or contribute to a Tree Care Trust Fund

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# Appendix A

## **2015 Tree Committee Members**

Grant Hopper, chair

Laura McMurray, co-chair

Ajay Mathison

Donna Gleisner

Kurt Munnich

Jim Staniford, Historical Commission liaison, downtown business owner

Karen Stewart, City Planning Commission liaison

## **Tree Committee City Department Liaisons**

John Petersen, Parks and Recreation Department

Geoff Larson, Parks and Recreation Department

Paul Crane, Public Works Department