

Lake Oswego Urban & Community Forestry Plan

City of Lake Oswego | December 2007

PREPARED BY

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and support of Urban and Community
Forestry Technical Advisory Committee.

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Tree

It is foolish
to let a young redwood
grow next to a house.

Even in this
one lifetime,
you will have to choose.

That great calm being,
this clutter of soup pots and books—

Already the first branch-tips brush at the window.
Softly, calmly, immensity taps at your life.

--Jane Hirshfield, 2000

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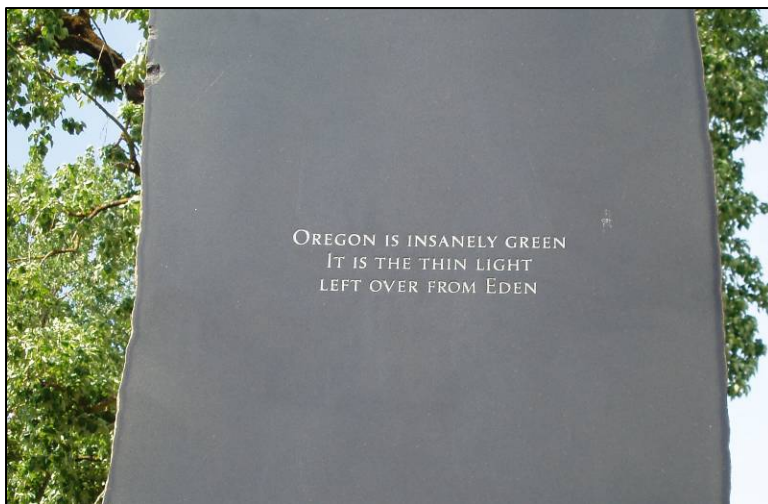
VISION

The City of Lake Oswego's community forest is a thriving and sustainable mix of tree species and age classes that contribute to a healthy ecosystem. The forest is valued and cared for by the community as an essential environmental, economic, and cultural asset.

PURPOSE

The purpose of the Urban and Community Forestry Plan is to bring together policies, practices, and plans related to Lake Oswego's urban forest. The Plan is intended to support tree stewardship on both public and private property with an integrated and cooperative approach.

The City recognizes the need to manage the community forest as vital infrastructure similar to roads, water systems, and other necessities of the urban environment, so that Lake Oswego residents can realize the full environmental, economic, and social benefits of our urban forest.



Poem by William Stafford, sculpture in Millennium Park.

INTRODUCTION

Anyone who has walked through a shower of Shiro-fugen cherry blossoms on B Avenue, admired a centenarian Oregon White Oak in Iron Mountain Park, or heard an out-of-town guest marvel at the height of Douglas-fir trees in Lake Grove, knows something about the value of trees in our city. They define the sense of place for much of Lake Oswego.

Since the early 1970s, the City has been a leader in protecting urban trees. The Tree Code is now the City's primary tool for tree protection and preservation. The Tree Code aims to "preserve the wooded character of the City of Lake Oswego and protect trees as a natural resource of the City." (LOC 55.02.010)

While the Tree Code works to preserve many trees in the City, it does little to manage the whole health and integrity of the urban ecosystem. Community Forestry seeks to integrate regulatory measures with voluntary community stewardship and City-led management.

The Urban and Community Forestry Plan ("the Plan") is a planning and policy tool. It does not aim to replace the Tree Code, the City's primary regulatory tool. Instead it provides direction and focus for development of an urban and community forestry program. The Plan includes specific goals and actions to protect, restore, and improve trees in parks and on public lands, educate and encourage property owners to care for privately-owned trees, and better manage the intersection of public and private interests in trees located in public in rights-of-way.

The Plan proposes an integrated approach to tree selection, planting, care, and maintenance in the City. Through Community Forestry Programs, the City can partner with residents to manage forest health holistically,

understand current conditions and develop baseline data, track the success of our efforts, and make adaptive management decisions.

A successful Community Forestry Program includes contributions from Planning, Engineering, Parks and Recreation, and Maintenance Divisions.

Lake Oswego's Community Forestry Plan is modeled on the proven success of Community Forestry in other Northwest cities such as Portland, Olympia, and Eugene.



Okame cherry blossoms in Millennium Park.

VALUE OF THE URBAN FOREST

The City of Lake Oswego is fortunate to have many valuable community assets: a vital downtown, good schools, beautiful neighborhoods, and access to many cultural, social, and educational facilities. Our tree canopy is among our most valuable assets.

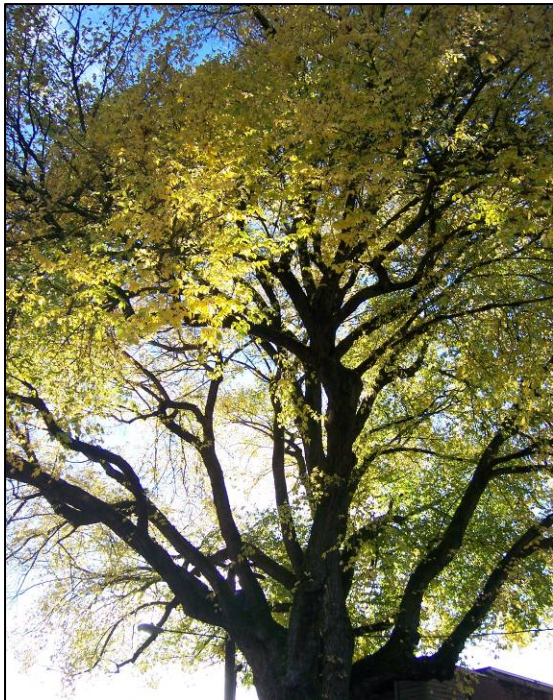
By a conservative estimate, 60,000 trees line Lake Oswego's streets. Many more trees exist in parks and on private property. The total canopy cover in Lake Oswego is approximately 39%. This resource represents a multi-million dollar investment and a considerable benefit to the community.

The City of Lake Oswego acknowledges the importance of trees to community health and welfare. The City derives much of its aesthetic appeal from the tree canopy, a dominant visual element of the landscape. But trees are more than ornaments. Trees in Lake Oswego benefit the community in many important ways.

Trees:

- Increase property value
- Provide shade and cooling
- Conserve energy
- Provide erosion control
- Reduce storm water run-off
- Release oxygen and filter airborne pollutants
- Reduce noise
- Provide wildlife habitat
- Enhance our connection to the natural world
- Create a sense of historical continuity

Many of the benefits listed above depend on tree condition, size, and species. Active management of the urban forest will secure and expand these benefits into the future.



Lake Oswego Heritage Tree: American Elm at First and B Streets.

ECONOMIC BENEFITS FROM THE URBAN FOREST

Trees not only beautify streets and neighborhoods and provide wildlife habitat, they also function to increase water, air, and soil quality and provide tangible economic benefits to homeowners and commercial districts. A tree that will live 50 years is worth about \$14,000 in today's dollars for the infrastructure services it provides, without considering its effect on adjacent property values or its esthetic value.¹

Air Quality

Trees in the Portland Metro area remove 178 million pounds of pollutants annually, a savings valued at \$419 million.² Sulfur dioxide, carbon monoxide, nitrogen dioxide, ozone, and particulate matter are among the pollutants trees absorb.

Storm Water Management

Leaves and branches intercept and store rainfall, and tree roots increase capacity and rate of soil infiltration by rainfall. Trees also break the force of rain and reduce erosion. Trees thus promote groundwater recharge and improve overall watershed health and aquatic habitat. A study by the non-profit American Forests³ estimates that in the Portland Metropolitan area, a mature tree saves \$10/year in storm water management costs, intercepting an average of 760 gallons of rainfall a year. The same study estimated that tree loss between 1972 and 2000 resulted in an increase of 963 million cubic feet of storm water flow during a peak storm event. Using a local cost estimate of \$6.00/cubic foot to build storm water systems in urban areas, and \$2.00/cubic foot in rural areas, this vegetation loss is equivalent in value to a \$2.4 billion system.

Energy Savings

Trees shade and cool residential homes during hot summer months and reduce the amount of electricity needed to run air conditioners. Trees provide an estimated \$1.86 million in annual energy savings for communities in the Portland area. Reducing energy use also reduces the amount of carbon emissions by utility companies. Direct tree shading prevents approximately 140,000 tons of carbon from being emitted into the atmosphere annually in our region.⁴

Residential Real Estate Value

Conserving and protecting existing trees on a development property also enhances its appeal to potential buyers and increases the property's value. According to Northwest Builder Magazine, one mature tree can add approximately \$6,000 to a property's value. Each large tree increases home value by 1% on average, and a large specimen tree can increase the home value by 10% or more.⁵

Commercial District Appeal

Numerous studies have also shown that trees benefit commercial districts. A national study conducted by the University of Washington found that consumers are willing to drive farther to shop in tree-lined shopping districts; they rated "amenity and comfort" levels 80% higher in these areas compared to non-shaded streets. Remarkably, patrons even perceived the quality of goods to be 30% higher in districts lined with trees.⁶

¹ McPherson et al. 2002.

² Regional Ecosystem Analysis. 2001.

³ *ibid.*

⁴ *ibid.*

⁵ "Blending In." 2000.

⁶ "Grow for the Gold." 1999.

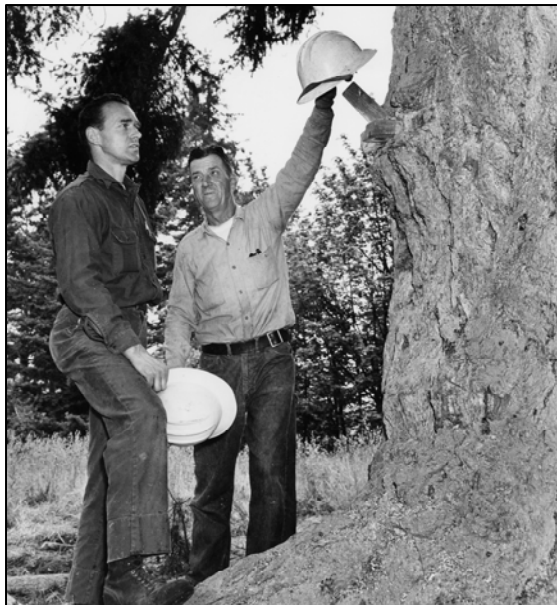
HISTORICAL BACKGROUND

The primary goal of the Plan is to conserve, restore, and enhance the community forest over the long term. As a result, we must consider how the resource has been managed in the past.

Early Lake Oswego

Early Oswegans saw the City's old-growth forests primarily as an economic resource to be exploited. In 1850, Oswego founder Albert Durham staked a claim and built a sawmill on Sucker Creek (now Oswego Creek). Other mills followed, and lumber became Oswego's first industry. Early settlers needed lumber for building, and much timber was also exported to California and to Hawaii.

Oswego's economy shifted in 1865 when the Oregon Iron Company began construction of the first charcoal iron smelter on the West Coast. Pig iron production requires immense amounts of charcoal to fuel the blast furnaces, and charcoal-making became an important home industry for farm families. Many Chinese laborers also came to work the charcoal pits. The Oregon Iron Company



The Old Peg Tree, 1967. Early Oswegans held the town's first Sunday school and town meetings under this tree.

shifted fortunes and ownership several times before its demise in 1894.

The 1890s heralded an American "wilderness vogue" for healthful outdoor recreation. The Lake offered opportunities for fishing and swimming, picnicking, and soon boat rentals, concessions, and summer cabins. In 1912 Lake View Villas was platted and the Oregon Iron Company was reincarnated as a real estate development firm that urged prospective buyers to "Live where you play." The City's remaining forests were essential to its image as a natural playground.

City Efforts Begin

Oswego's municipal efforts at tree and open space preservation began in earnest in the 1920s, with concern over the historical and natural landscape of the present-day George Rogers Park. However, it was not until 1945 that the City purchased the twelve and a half acre tract that became the park. This citizen-led initiative served as the impetus for future tree protection measures.

The next major step in tree and natural space preservation came with the Tree Code in 1971. It was through citizen activism that the Tree Code was adopted to preserve the natural beauty and character of trees in the City. This foresight helped preserve large stands and single trees that continue to represent the aesthetic of Lake Oswego.

After development of the Tree Code, new citizen initiatives led to the Lake Oswego Physical Resources Inventory (LOPRI) in 1975. This City-wide inventory was accomplished almost entirely by volunteer labor. The inventory included descriptions and photos of important natural areas in the City, including many individual trees that Lake Oswego residents considered important to the character of the City.

The 1975 inventory was a part of Lake Oswego's first Comprehensive Plan, adopted in 1978. Because of the significant citizen involvement in the LOPRI and the Comprehensive Plan process, the Natural Resource Advisory Board (NRAB) was formed in 1979 to provide a direct channel for citizen involvement in natural resource matters.

The value of trees to the Lake Oswego community was highlighted again in 1997 by the creation of a Heritage Tree Program.

Current Efforts

In recent years, many City documents have included tree protection and preservation as an important focus. For example the City of Lake Oswego Quality of Life Task Force Report (1999), the Lake Oswego Open Space Plan (2001), and the Parks and Recreation Comprehensive Plan (2002) all identified the City of Lake Oswego as a community that values and protects trees via planning and management strategies.

Another important channel of community support for the urban and community forestry is individual neighborhood plans. Many of these plans include policies and recommendations for tree protection as goals and actions. Throughout neighborhoods in Lake Oswego the aesthetic and environmental benefits of trees are an important part of community planning and quality of life.

In program years 2006-2007 and 2007-2008, the City received grants to fund an AmeriCorps Community Forestry Coordinator, which has furthered the program through a focus on public education and outreach. In 2007, both the Natural Resources Advisory Board and City Council listed creation of an Urban and Community Forestry Plan as an annual goal.



School children planting fig trees for Arbor Day, George Roger's Park, circa 1950.

URBAN FOREST ASSETS

The City of Lake Oswego has a tremendous asset in its urban forest.

High Canopy Cover

Photogrammetric analysis indicates the City's canopy cover (percentage of land area covered by tree canopy) is about 39%. This is quite high for an urban area. The City's tree canopy cover far exceeds Portland, which has a canopy cover of 26%⁷. Lake Oswego almost meets the American Forests recommendations for tree canopy cover in urban areas.⁸

Strong Tree Code

The City may have a relatively high level of canopy cover because of the protections provided by the Tree Code. The original Tree Code was put in place in 1971. The City's Tree Code is the strongest in Oregon and among the strongest in the nation for protecting individual trees on private and public property.



Child visits Community Forestry Table at the Lake Oswego Farmer's Market, Summer 2007

⁷ Poracsky and Lackner. This 2002 number includes Forest Park; without it, the cover would be 23.6%.

⁸ *Setting Urban Tree Canopy Goals*. 2001. American Forests, a national research and advocacy organization, sets 40% as the goal for urban areas overall and 50% for suburban residential areas in the Pacific Northwest.

Investment in Natural Area Park Land

The City has made a significant investment in natural area parks, acquiring over 490 acres of open space. Three of the City's largest parks, Iron Mountain, Cook's Butte, and Springbrook Park, totaling about 150 acres, have a canopy cover of more than 80%. These permanently protected, public forests are a significant part of our urban forest and central to maintaining wildlife in Lake Oswego.

Engaged Citizens

In addition to a large urban forest and a strong Tree Code, the City is fortunate to have an engaged citizenry that is concerned with tree protection. Many neighborhood plans highlight the importance of trees to neighborhood character.

Knowledgeable Staff

The City has also invested in knowledgeable staff. The City has certified arborists working in Planning and Maintenance Divisions. Their experience and training enables them to make good decisions when they are charged with planting, pruning, and removing trees.

Commitment to Sustainability

The City's overall commitment to sustainability supports urban forest management efforts. A community forestry program is an element of the City's adopted Sustainability Plan.

THREATS TO THE URBAN FOREST

While the City has significant forest assets, the City's urban forest also faces many challenges.

Invasive Plants

Like other areas in the Pacific Northwest, Lake Oswego has a tremendous problem with invasive plants. These plants come to dominate forest ecosystems, climb and eventually topple and kill trees. While some areas such as Tryon Creek State Park have successful ivy removal programs, the City presently has no systematic efforts to control ivy on public lands or in private open space.

Infrastructure Damage

Over time, all asphalt becomes brittle and cracks. Heat accelerates this process. For that reason, shade trees can significantly lengthen the life of asphalt.⁹ However, trees are not always kind to roads. Improperly planted or maintained street trees can also damage infrastructure, especially curbs and sidewalks. The City's Maintenance Division does not have sufficient resources to repair the majority of sidewalks damaged by trees, and has no program to improve street tree planters, redesign sidewalks, or replace destructive street trees.

Development and Re-Development

As the City experiences continued infill development, larger homes are built on smaller lots. Increased development means more impervious surface and less vegetation; trees are removed to make room for development. While the tree code requires that most of these trees be replaced, large, mature native trees are often replaced with smaller and less-hardy ornamentals that provide fewer benefits.

Lack of Knowledge

Most threats to the urban forest—invasive plants, tree removal for development, planting trees where they cannot be successful and may damage infrastructure—can be resolved when landowners value and maintain trees. However, many people don't have the knowledge to make good decisions about what to plant and how to maintain it. In Lake Oswego, many trees are removed because they were planted in unsuitable locations.

Uncertainty Regarding Tree Ownership

The City is responsible for trees in City parks, and homeowners must care for trees in their backyards. However, responsibility for street trees is less clear. The City may legally remove trees that obstruct the right-of-way, but other maintenance is not necessarily the City's role. Lack of clarity about ownership and maintenance responsibilities sometimes leads abutting property owners to neglect maintenance, or to remove vegetation that does not belong to them. The lack of clarity with regard to maintenance responsibilities also impedes the adequate allocation of city resources for care of street trees.



Sidewalk uplift on B Avenue.

⁹ McPherson and Muchnik. 2005.

PLANNING PROCESS

The planning process leading to the Urban and Community Forestry Goals outlined here was organized by the 2006-2007 and 2007-2008 AmeriCorps Community Forestry Coordinators. The coordinators worked closely with Planning Division staff.

The planning process included three public open houses, in April, June, and July 2007. The open houses built on each other, with the first event asking participants to identify goals and values, the second identifying actions and priorities, and the third providing feedback on the first draft of the plan.

The plan was also informed by the Urban and Community Forestry Technical Advisory Committee, which met monthly while the plan was being developed to provide input and review drafts. The working group included City staff from Planning, Maintenance, and Parks, as well as outside experts with experience in urban forestry and arboriculture.

The Natural Resources Advisory Board also followed the plan development process and reviewed multiple drafts of the plan. The NRAB participated in all of the public open houses as facilitators.

The plan presented here represents the culmination of this work.

GOALS

The overall goal of the Plan is to create a comprehensive, sustainable, and integrated approach to tree management on both public and private property. The goals, actions, and sub-actions outlined in this plan are categorized into **stewardship and education, forest health, forest size, tree maintenance, invasive species, program integration, and funding**. All of these goals are interconnected.



2006-2007 AmeriCorps Volunteers at Arbor Week Art Show 2006

STEWARDSHIP AND EDUCATION

The public is actively engaged in the stewardship of the community forest through education and outreach.

Action Measures:

- A1 Promote an urban forestry stewardship ethic in the community through general education events.** Partner with neighborhood associations and civic groups to offer talks and events. Offer seasonal classes on tree-related topics such as pruning and tree care through Parks and Recreation. Review class offerings and presentation topics and revise annually according to community interest.
- A2 Develop a NeighborWoods Program.** Offer a series of free tree-related classes in exchange for leading a neighborhood stewardship event. Promote neighbor-to-neighbor education. Encourage Neighborhood associations to designate an individual or committee to participate in the program and act as neighborhood tree liaisons.
- A3 Annually, hold a targeted education event for builders and landscapers.** Encourage landowners to retain healthy trees and properly add trees to their landscaping. Promote good tree maintenance. Demonstrate the increased value of homes with trees. Partner with industry organizations and other groups promoting green development, such as Metro.
- A4 Expand and foster Arbor Week events as an education and outreach opportunity.** Engage community volunteers in planning and organizing Arbor Week events such as: Student Art

Show, Park Stewardship Event, Heritage Tree Dedication.

- A5 Celebrate Heritage Trees:** create a brochure for a self-guided tour of the City's designated Heritage Trees. Make Heritage Tree applications available at all City buildings and on the website. Include Heritage Tree Nomination with the Heritage Tree tour brochure. Streamline the processing of Heritage Tree nominations. Announce new Heritage Trees annually during Arbor Week celebrations. Advise homeowners on proper care of very old trees.
- A6 Increase information available on stewardship events and general tree care and maintenance through print publications and the City webpage.** Create an Urban and Community Forestry web page.
- A7 Produce an annual State of the Forest report.** Make it available online and at all City facilities.
- A8 Identify additional incentives for homeowners and builders to preserve trees.** Investigate costs of programs used by other Cities, such as reduced storm water management fees.

FOREST HEALTH

The community forest will remain healthy and diverse with respect to size, age, and species.

Policy Measures

- B1 Clarify responsibilities for street tree maintenance; identify areas where the City will take responsibility.**

Action Measures:

- B2 Conduct a field inventory of City-maintained tree resources (street and park trees).** Create a multi-dimensional database to promote effective and systematic maintenance. Identify streets whose trees are reaching the end of their lifespan, do not suit the planting environment, or are damaging infrastructure. Coordinate with Park Departments' current efforts to inventory natural areas and maintain trails.
- B3 Conduct a hazardous tree survey to identify hazardous, dead, or otherwise undesirable street trees along public trails and in public right-of ways; schedule removal and replacement.** Plan the work so that the City can act on findings in a timely way.
- B4 Develop a tree replacement program for targeted right-of-ways.** Create internal City tree planting and replacement plans for targeted areas. Plan to remove and replace all trees on streets where most are in ill health. Redesign planter strips and streetscapes where they are too small for trees to succeed.



Student art from Lake Oswego Arbor Week Art Show 2006

FOREST SIZE

Increase canopy cover by planting trees that are likely to succeed (right tree in right place).

Policy Measures:

- C1 Promote a diversity of large canopy street trees.** Provide a list of tree species appropriate for different size planting strips and sites. Size new planting strips to accept large trees. Promote planting of native trees and hardy evergreen trees where appropriate, especially in City projects and as mitigation trees.
- C2 Set and implement goals for increasing tree canopy in open space.** Survey Lake Oswego's tree canopy to create accurate baseline data and allow tracking over time. Work with neighborhoods through the neighborhood plan process to develop planting plans for open space. Develop Park Plans that identify appropriate areas for tree planting. Use planting plans as a basis for collaborative tree planting and management activities for residents, community partners, and the City.
- C3 Adopt standards for approval in the Development Code and administrative policies to foster increased canopy growth.** Limit lot coverage for new development to reduce impervious surfaces and provide more room for trees. Provide incentives and alternatives for homebuilders and homeowners to meet these expectations. Charge the Planning Division with developing options and recommendations to accomplish this.

Action Measures:

- C4 Identify opportunities to increase canopy cover on public property.** Use plans for individual parks to identify planting opportunities. Where appropriate, create new or larger planting strips when streets are built or repaved. Identify areas that can accommodate mitigation trees for cutting that occurs in other areas of the city. Adopt standards for approval in the Development Code and administrative policies, procedures and specifications to foster increased canopy growth and tree health in general.
- C5 Identify opportunities to increase canopy cover on private property.** Encourage neighborhood groups to propose appropriate planting areas, e.g. in common open space tracts. Provide trees, or partner with organizations that provide trees, to encourage and promote neighborhood stewardship and tree planting projects.

TREE MAINTENANCE

Publicly-owned or cared-for trees receive regular assessment and appropriate maintenance.

Policy Measures:

- D1 Develop, adopt, and institutionalize maintenance standards and practices.**
Adopt a written manual of tree-care standards. Determine an appropriate maintenance schedule for publicly-maintained trees. Include tree maintenance in park management plans.
- D2 Create a list of approved street trees for different planting environments.**
Accept only appropriate street trees in new development or as replacement trees.

Action Measures:

- D3 Establish and fund cost-effective preventative maintenance programs to improve the health and safety of City-owned or maintained trees.** Prepare plans and share efforts with staff and public to prepare for disease or fire.
- D4 Utilize appropriate technologies, such as structural soil, to improve growing conditions for trees in urban environments.**



Student art from Lake Oswego Arbor Week Art Show 2006

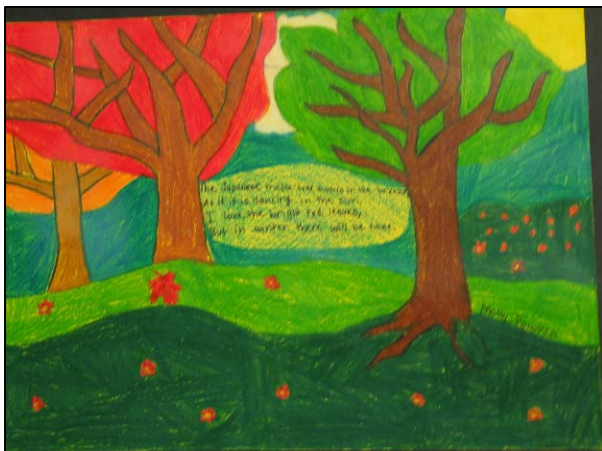
INVASIVE SPECIES

Invasive plants that kill trees are eradicated.

Action Measures:

- E1 Make invasive plant removal a part of all community outreach efforts.** Integrate invasive species education in community-forestry-related talks, materials, and classes. Support volunteer efforts to remove invasive plants from parks and private open space.

- E2 Integrate invasive plant removal in park management.** Obtain parks maintenance funding for invasive plant removal. Support and expand volunteer programs to remove invasive plants in public parks. Support Park Department efforts to systematize and track invasive plant removal.



Student art from Lake Oswego Arbor Week Art Show 2006

INTEGRATION

Urban and Community Forestry principles are integrated in the plans and actions of all City departments.

Policy Measures:

- F1 Integrate urban and community forestry into the Comprehensive Plan during the next periodic review process.** Highlight the Urban and Community Forestry Plan under Goal 6 “Air, Water, and Land Resources Quality.” Refer to Plan in Goal 1 “citizen involvement” (neighborhood engagement component), Goal 2 “land use planning” (relationship to development review), Goal 5, “open spaces, historic, and natural areas” (public trees in open areas), and Goal 13, “energy conservation” (benefits of tree canopy on energy for cooling).
- F2 Incorporate Park Master Plans and Management Plans into the Urban and Community Forestry Program as they are developed.** Seek opportunities to support park plans with stewardship events. Support existing “Friends” groups that remove invasive plants from parks. Direct off-site mitigation trees to City parks when appropriate.
- F3 Include tree conservation and planting in capital improvement projects and redevelopment plans.** Institutionalize the practice of soliciting input on urban forestry issues during the planning and design process.
- F4 Include tree canopy measure in the quality of life indicators.**
- F5 Link community forestry with the storm water management plan.** Use tree inventory data to quantify storm water benefits. Investigate applications of

green infrastructure in new storm water management projects.

- F6 Consistently include community forestry in City sustainability efforts.**

Action Measures:

- F7 Provide information on the quantifiable benefits of trees to staff.** Present information at staff meetings and learning lunches. Support staff training related to tree care and innovate methods to successfully accommodate trees in the urban environment.



Student art from Lake Oswego Arbor Week Art Show 2006

FUNDING

Urban and community forestry programs are funded to an effective level.

Action Measures:

- G1 Determine yearly costs of current efforts and estimate additional costs for new programs.** This effort is initiated with the plan (see appendix: budget). Internal budget documents and budgets from other cities can provide additional information.
- G2 Investigate the feasibility of new funding mechanisms.** These may include bond measures, permit fees, front foot assessment for street trees, dedication of funds from tree fines and mitigation fees, and others.
- G3 Use grants and other temporary funding measures to build upon current programs and to work on new initiatives.** The AmeriCorps grant program may be available for up to three more years.
- G4 Develop a budget proposal for consideration during the next regular budget cycle.** Assist decision-makers in assessing and justifying the degree of funding and type of management program appropriate for Lake Oswego's community forest. Provide a rationale for future expenditures.

NEXT STEPS: IMPLEMENTATION

Some efforts outlined in the Plan are already underway; the Parks Department organizes volunteers to remove ivy from park trees, the Planning Division requires landowners to retain trees through application of the tree code, and the Maintenance Division removes fallen limbs from public streets. The City of Lake Oswego's Community Forestry Coordinator, funded by an annual grant from Northwest Service Academy AmeriCorps placement program, works on stewardship and education efforts.

To advance further toward the goals outlined here requires greater coordination and support from multiple City departments. Key participants include:

Planning: integrating forestry issues with neighborhood plans; identifying and implementing developer incentives for tree protection and planting; educating homeowners and developers who are making changes to land use; cultivating relationships with community partners; tracking canopy changes over time; producing an annual "State of the Forest" report; coordinating urban and community forestry efforts City-wide.

Engineering: developing specifications and standard details for tree planting methods, such as structural soil, infiltration tree wells and pervious pavements; encouraging private developers to accommodate trees when making public improvements; integrating trees into storm water management plans; deterring inappropriate planting where pipeline root invasion is likely; including Forestry Plan policies among items that must be addressed in Requests for Proposals for Capital Improvement Projects.

Parks: developing park management plans that address tree maintenance, especially with respect to invasive species; identifying where

more trees should be planted on public land; providing community education classes on tree-related topics.

Maintenance: providing inspection and posting (notifying property owner of maintenance responsibilities) or inspection and maintenance of trees in right-of-way where appropriate; developing and implementing street tree replacement projects.

Support would also come from **Public Affairs** as the City worked to promote consistent messages about tree care and the value of trees to the community.

The next steps in Plan implementation include:

- Setting a reasonable level of investment, and working with key departments to develop work plans that will achieve Plan actions within that level of investment.
- Identifying new or reallocated resources to provide for new community forestry activities.
- Cultivating partnerships with outside groups and organizations to help achieve Plan goals and facilitate community involvement.
- Creating benchmarks; tracking, and reporting results to inform future budget and policy decisions.
- Creating a process for updating the Plan every five years.

The following pages provide a matrix that identifies the division or department most responsible for each Plan goal, the approximate amount of staff time needed to advance the goal, the magnitude of money required (in addition to staff time), and the timeline for accomplishing that goal. This is intended to initiate discussion about levels of investment; it is not a budget or staff request.

Goal	Lead Division	Staff Resources	Cost	Timeline	
A. Stewardship and Education: <i>The public is actively engaged in forest stewardship through education and outreach.</i>					
A1	Promote an urban forestry stewardship ethic in the community through general education events.	Planning	Medium	\$	Ongoing
A2	Develop a NeighborWoods Program.	Planning	High	\$\$	Medium
A3	Annually, hold a targeted education event for builders and landscapers.	Planning	Low	\$	Short
A4	Expand and foster Arbor Week events as an education and outreach opportunity.	Planning	Low	\$	Short
A5	Celebrate Heritage Trees.	Planning	Medium	\$\$	Medium
A6	Increase information available on stewardship events and general tree care and maintenance through print publications and the City webpage.	Public Affairs	Medium	\$	Medium
A7	Produce an annual State of the Forest report.	Planning	Medium	\$\$	Medium
A8	Create additional incentives for homeowners and builders to preserve trees.	Planning	High	\$	Long
B. Forest Health: <i>The community forest will remain healthy and diverse with respect to size, age, and species.</i>					
B1	Clarify responsibilities for street tree maintenance.	Planning	Low	\$	Medium
B2	Conduct a general inventory of City-maintained tree resources (street and park trees).	Planning	High	\$\$\$	Medium
B3	Conduct a hazardous tree survey.	Maintenance	High	\$\$\$	Medium
B4	Develop a tree replacement program for targeted right-of-ways	Engineering	High	\$\$\$	Medium

Low staff resources=less than 40 hrs Medium staff resources= less than 160 hours High staff resources=more than 160 hrs
Short-term=1 year Medium-term=1-3 years Long-term=more than 3 years
\$=less than \$1,000 \$\$=\$1,000-10,000 \$\$\$=more than \$10,000 (excluding current staff time)

Goal	Lead Division	Staff Resources	Cost	Timeline	
C. Forest Size: <i>Increase canopy cover by planting trees that are likely to succeed (right tree in right place).</i>					
C1	Promote a diversity of large canopy trees to provide maximum environmental benefits.	Planning	High	\$\$	Ongoing
C2	Develop goals for increasing tree canopy cover.	Planning	Medium	\$	Medium
C3	Adopt standards for approval in the Development Code and administrative policies, procedures and specifications to foster increased canopy growth and general tree health.	Planning	High	\$\$	Medium
C4	Identify opportunities to increase canopy cover on public property.	Parks	Medium	\$	Medium
C5	Identify opportunities to increase canopy cover on private property.	Planning	Medium	\$	Medium
D. Tree Maintenance: <i>Publicly-owned or cared-for trees receive regular assessment and appropriate maintenance.</i>					
D1	Develop, adopt, and institutionalize maintenance standards and practices.	Maintenance	Medium	\$\$	Medium
D2	Create a list of approved street trees for different planting environments.	Planning	Low	\$	Short
D3	Establish and fund cost-effective preventative maintenance programs to improve the health and safety of City-owned or maintained trees.	Maintenance	Medium	\$\$\$	Long
D4	Utilize appropriate technologies, such as structural soil, to improve growing conditions for trees in urban environments.	Maintenance / Engineering	Medium	\$\$	Medium

Goal	Lead Division	Staff Resources	Cost	Timeline
E. Invasive Species: <i>Invasive plants that kill trees are eradicated.</i>				
E1 Provide a consistent message to the public that invasive plants kill trees and should be removed.	Planning / Parks	Medium	\$\$	Ongoing
E2 Integrate invasive plant removal in park management plans.	Parks	High	\$\$\$	Medium
F. Integration: <i>Community Forestry principles are integrated in the plans and actions of all City departments.</i>				
F1 Integrate urban and community forestry into the Comprehensive Plan during the next periodic review process.	Planning	Medium	\$	Medium
F2 Incorporate Park Master Plans and Management Plans into the Community Forestry Program as they are developed.	Parks	Medium	\$\$	Medium
F3 Include tree conservation and planting in capital improvement projects and redevelopment plans.	Planning/ Engineering/ Maintenance	Low	\$\$\$	Long
F4 Include tree canopy in the quality of life indicators.	Planning		\$	Short
F5 Link community forestry with the storm water management plan.	Engineering	High	\$\$	Medium
F6 Consistently include community forestry in City sustainability efforts.	Planning	Low	\$	Ongoing
F7 Provide information on the quantifiable benefits of trees to staff.	Planning	Low	\$\$	Short

Goal	Lead Division	Staff Resources	Cost	Timeline
G. Funding: <i>Urban and community forestry programs are funded to an effective level.</i>				
G1 Determine yearly costs of current efforts and estimate additional costs for new programs.	Planning	Low	\$	Short
G2 Investigate the feasibility of new funding mechanisms.	Planning	Low	\$	Short
G3 Use grants and other temporary funding measures to build upon current programs and to work on new initiatives.	Planning	Low	\$\$	Short
G4 Develop a budget proposal for consideration during the next regular budget cycle.	Planning	Low	\$	Short

APPENDICES

The main asset we found is a piece of land - outlined on the map in red - which we feel should be considered by the city for use as a natural area. It is heavily wooded, both fir & deciduous, many low bushy trees and practically covered with ivy. There are two spring-fed creeks, sources visible on this property, both of which feed into West Bay under Bryant Road. Neighbors tell us there are raccoons here and trout in the creek, which probably migrate from the lake.

Above and below: excerpts from the 1975 Lake Oswego Physical Resources Inventory.

1975 LAKE OSWEGO PHYSICAL RESOURCES INVENTORY	
COMMENT SHEET	
Submitted by	<u>BILL RHYNSBURGER</u>
Section no.	<u>4729</u>
Date	<u>Feb. 22, 1975</u>
<p>The natural and cultivated vegetation in this section comprise a town-country landscape that is magnificent. Most of the beauty is man-made, i.e., the pastures, orchards, and fields together with the residences. The present owners obviously appreciate this ambience and they should be made aware that it is appreciated by other citizens; but above all, the agents of the public <u>must</u> keep on top of all prospective changes in ownership and use.</p>	

EDUCATION, OUTREACH, AND INCENTIVE PROGRAMS

Currently, the City of Lake Oswego's two primary education and outreach programs are Arbor Week and the Heritage Tree program. The programs listed below include ideas and resources for expanding current programs and propose new programs that have been successfully implemented in other cities.

NeighborWoods

NeighborWoods Stewards are a citizen-based resource to inform local residents about the value and benefits of trees. They receive free education from local arboriculture experts on topics like tree identification, tree biology, proper tree care, tree regulations, tree planting, natural area restoration, nursery tree production and the benefits of trees. After the training, the NeighborWoods Stewards are equipped to take on the task of spreading accurate information about trees to their own neighborhoods. NeighborWoods Stewards volunteer to conduct a tree planting or tree-related education project in exchange for the training and education they receive. The Urban and Community Forestry staff offers guidance and assistance throughout the project.

Resources:

Sacramento Tree Foundation
NeighborWoods Guidebook
<http://www.treelink.org/docs/neighborwoods/>

City of Olympia
<http://www.ci.olympia.wa.us/cityservices/urbanforest/neighborwoods/>

City of Vancouver
http://www.ci.vancouver.wa.us/parks-recreation/parks_trails/urban_forestry/neighborwoods.htm

City of Eugene
http://www.eugene-or.gov/portal/server.pt?space=CommunityPage&cached=true&parentname=CommunityPage&parentid=4&in_hi_userid=2&control=SetCommunity&CommunityID=672&PageID=1541

Youth Tree Steward

This program trains middle school and high school students on the benefits of trees, native plant identification, tree planting, and natural area restoration. With the help of Urban and Community Forestry staff these students lead stewardship and education events at elementary schools. Students get experience with event planning and organizing, natural area restoration, and environmental education.

Heritage Tree Program

The City of Lake Oswego Heritage Tree Program was established in 1997 as part of the Tree Code to help foster appreciation and increase awareness about the important contribution of trees to the City's history and heritage. The goals of Lake Oswego's Heritage Tree Program are to recognize and designate individual Heritage Trees or groves of trees of significance, to educate the public about the value and history of these trees, to promote appreciation of the trees, and to retain and protect these trees as part of the City's heritage.

The Great Heritage Tree (Bike Ride/Walk) Search

A yearly bike ride and walk led by City staff and local arborists that tour the different Heritage Tree sites and provide information about the trees and the program. In addition to visiting Heritage Tree sites participants will also be encouraged to keep their eyes out for Heritage Trees to dedicate.

Arbor Week

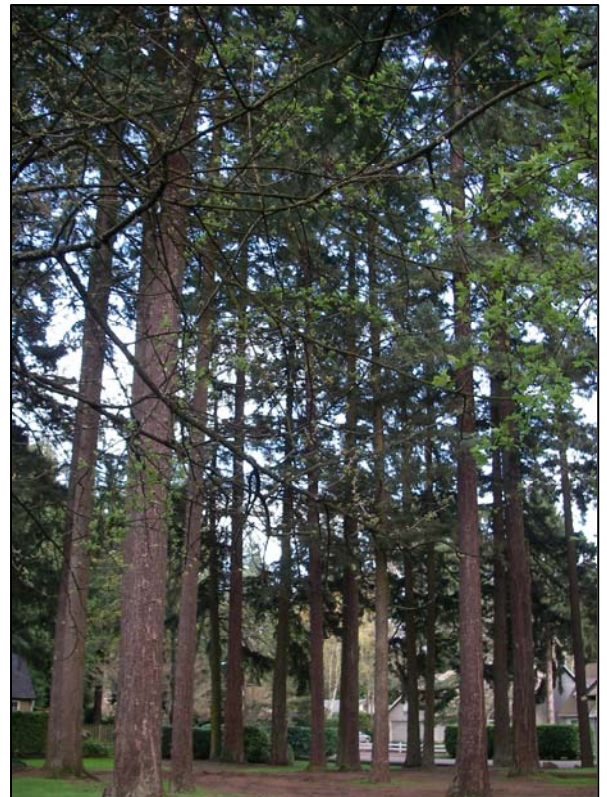
The City of Lake Oswego celebrates Arbor Week the first week in April each year. During Arbor Week, the City sponsors various events to educate the community and celebrate the importance of trees. Events have included: tree planting and stewardship events, Heritage tree walks, and Heritage Tree dedication ceremonies, an Arbor Week art show, and pruning workshops and demonstrations. Each year, the City also celebrates its continued designation as “Tree City USA” by the National Arbor Day Foundation.

Resources:

<http://www.arborday.org/programs/treeCityUSA.cfm>

Tree Champion Award (TREErific Award)

A yearly award given to an outstanding member of the community who has worked toward helping maintain and improve trees in the community as well as educate the public on forestry issues.



Heritage trees at the Lake Grove Fire Station.

CANOPY ESTIMATE RESULTS

The City of Lake Oswego completed its first canopy level analysis based on 2005 leaf-on (7/2005) aerial photographs provided by Metro Regional Government. The maps were printed at a 1:500 scale.

The canopy estimate followed a standard dot-grid methodology as described in the International Society of Arboriculture's guidelines "Photogrammetry and remote sensing techniques," given on their website at <http://www.isa-arbor.com/publications/tree-ord/ordprt3c.aspx#Dot%20grid%20method%20of%20canopy%20estimation>.

This method involves covering an aerial photograph with a transparent grid, finding the area covered by tree canopy within each square, and then tallying the canopy within the entire study area. The dot-grid method is vulnerable to interpretation errors, such as mistaking tree shadows for trees. For that reason, the result should be considered a good estimate rather than an exact count. To eliminate sampling error, the entire City was counted in the study, rather than using a representative area.

Using this method, the total canopy cover was estimated at 39%.

WEBSITE RESOURCES

Tree Care:

Hazard Tree Prevention-

<http://www.pnwisa.org/htp/index.html>

Trees are Good-

<http://www.treesaregood.com/>

TLC for Trees-

<http://www.tlcfortrees.info/home.htm>

Invasive Species Information:

Ivy Removal Project-

<http://noivyleague.com>

Oregon Invasive Species Council-

<http://www.oregon.gov/OISC/>

Native Plants:

Plant Native-

<http://www.plantnative.com/>

Native Plant Society of Oregon-

<http://www.npsoregon.org/>

Oregon Flora Project-

<http://www.oregonflora.org/>

Native Plant Resources for the Pacific Northwest-

<http://dnr.metrokc.gov/wlr/pi/npresrcs.htm>

Nurseries:

Oregon Association of Nurseries?-

<http://www.nurseryguide.com/>

Washington Nursery and Landscape

Association- <http://www.wsnla.org/>

Local/Regional Non-profits:

Friends of Trees-

<http://www.friendsoftrees.org>

SOLV- <http://www.solv.org/default.asp>

Oregon Tilth- <http://www.tilth.org/>

Professional Organizations:

American Society of Consulting Arborists -

<http://www.asca-consultants.org/>

International Society of Arboriculture-

<http://www.isa-arbor.com/>

Pacific Northwest Chapter of the International Society of Arboriculture

<http://www.pnwisa.org/>

Tree Care Industry Association-

<http://www.treecareindustry.org/>

Urban Forest Resources:

Tree Link- <http://www.treelink.org/>

National Arbor Day Foundation-

<http://www.arborday.org/>

Green Infrastructure-

<http://www.greeninfrastructure.net/>

Urban Forest Ecosystem Institute-

<http://www.ufe.calpoly.edu/>

Alliance for Community Trees-

<http://actrees.org/site/index.php>

U.S. Forest Service Urban and Community Forestry Program-

<http://www.fs.fed.us/ucf/>

Oregon Department of Forestry (Urban and Community Forestry)

http://www.oregon.gov/ODF/URBAN_FORESTS/your_forests.shtml

Research:

Landscape and Human Health Laboratory-

<http://www.lhhl.uiuc.edu/>

Regional Ecosystem Analysis for the Willamette/Lower Columbia Region of

Northwestern Oregon and Southwestern Washington State-

http://www.americanforests.org/downloads/rea/AF_Portland.pdf

Human Benefits of Urban Forestry and Urban Greening-

<http://www.cfr.washington.edu/research.envmind/>

Western Washington and Oregon Community Tree Guide: Benefits, Costs, and Strategic

Planting-

http://www.fs.fed.us/psw/programs/cufr/products/5/cufr_164.pdf

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Snow on trees in Iron Mountain Park, 2006.