



PORTLAND PARKS & RECREATION

Healthy Parks, Healthy Portland



Exhibit B: Urban Forest Action Plan 2010 Implementation Update

February 2011

Urban Forest Action Plan 2010 Implementation Update

February 2011

Compiled by:

Angie DiSalvo, Portland Parks & Recreation

Urban Forest Action Plan Implementation Team:

Dave McAllister, City Forester, Portland Parks & Recreation

Rob Crouch, Portland Parks & Recreation

Angie DiSalvo, Portland Parks & Recreation

Roberta Jortner, Bureau of Planning and Sustainability

Jennifer Karpis, Bureau of Environmental Services

Morgan Tracy, Bureau of Planning and Sustainability

John Warner, Urban Forestry Commission

Cover photo: Volunteers learn to monitor and measure Heritage Trees, such as this Oregon white oak in the Sellwood neighborhood.

Photo credits: Photos on cover and page iii courtesy of Neighborhood Tree Steward Bob Langan. Remaining photos courtesy of Portland Parks & Recreation staff.

Portland Parks & Recreation
1120 SW Fifth Avenue, Suite 1302
Portland, Oregon 97204
(503) 823-PLAY
www.PortlandParks.org



Commissioner Nick Fish
Director Zari Santner

Contents

Background	1
Urban Forest Action Plan Goals and Outcomes	2
New Programs and Projects	3
Ongoing Programs and Projects	6
Performance Measures	12
Key Challenges and Opportunities.....	14



Jefferson High School students plant with PP&R Urban Forestry on a barren stretch of Oregon Department of Transportation right-of-way near interstate 5 and Mississippi Avenue (above). With proper planting and care, these young trees will reach maturity and become a community asset, such as these American chestnut Heritage Trees being measured by Neighborhood Tree Stewards in the Sellwood neighborhood (below).

BACKGROUND

In 2007, a City of Portland interbureau team created the *Urban Forest Action Plan* to implement the goals established in the 2004 *Portland Urban Forest Management Plan*. The *Urban Forest Action Plan* contains the major goals and desired outcomes of the management plan, along with 63 action items to attain those goals. Each action item was initially assigned a priority and time frame (current, early, 5-year, and 10-year). This report summarizes annual progress and performance measures for the *Urban Forest Action Plan*, with efforts led by Portland Parks & Recreation Urban Forestry in cooperation with multiple City bureaus. Over half of the action items are either completed or in progress.

Key challenges remain to reaching all goals in the *Urban Forest Action Plan*, and greater support is needed to achieve those goals. Many of the 5- and 10-year actions can only be initiated if so directed and funded through the City's work planning and budget process.

URBAN FOREST ACTION PLAN

GOALS AND OUTCOMES

GOAL 1: PROTECT, PRESERVE, RESTORE, AND EXPAND PORTLAND'S URBAN FOREST.

- **Outcome A: Enhanced Canopy**
The tree canopy is optimized, meeting stocking and canopy targets.
- **Outcome B: Regulatory Program**
The City has a comprehensive, consistent, and clear regulatory program for trees.
- **Outcome C: Development**
The urban forest is enhanced through development and redevelopment.

GOAL 2: DEVELOP AND MAINTAIN SUPPORT FOR THE URBAN FOREST.

- **Outcome A: Shared Stewardship**
Stewardship of the urban forest is shared by residents, agencies, non-governmental organizations, and businesses.
- **Outcome B: Public Education**
The public has a strong awareness of tree benefits and ecosystem health issues; education opportunities are abundant.
- **Outcome C: Stable Resources**
Stable resources support the urban forest.

GOAL 3: MANAGE THE URBAN FOREST TO MAXIMIZE COMMUNITY BENEFITS FOR ALL RESIDENTS

- **Outcome A: Street Tree Distribution**
Street trees are equitably distributed throughout the City.
- **Outcome B: Livability**
The urban forest contributes to the health and wellbeing of Portlanders.
- **Outcome C: Watershed Health**
The urban forest contributes to improved watershed health, including water quality, stream flow, floodplain function, habitat, and biological communities.

NEW PROGRAMS AND PROJECTS

Pilot Program for Neighborhood Stewardship Plans and Street Tree Inventories Begins

PP&R Urban Forestry received a grant from East Multnomah Soil and Water Conservation District to develop a process for creating Neighborhood Stewardship Plans. These plans involve recruiting citizens and stakeholders to inventory their neighborhood street trees, establish tree goals, create a written stewardship plan, design and implement activities to accomplish goals, and regularly assess their activities. Neighborhood Stewardship Plans should guide and promote a sustainable urban forest within a local community, and utilize education, incentives, and regulation on public and private property for the benefit of all residents. The program will assist City staff, citizens, and partners in implementing actions that ensure the urban forest provides optimal functions and benefits.

The program began with a pilot neighborhood in 2010, Concordia, and will be followed by five additional neighborhoods in 2011. During three workshops this summer, fifty different volunteers worked nearly 350 hours to collect and digitize inventory data on Concordia neighborhood's 4,700 street trees. Inventory results, including species diversity, stocking level, site conditions, and ecosystem benefits were presented to neighborhood stakeholders alongside recommendations to improve the neighborhood's trees. A Neighborhood Stewardship plan is currently being developed.

Canopy Methodology Defined

Both the *Urban Forest Action Plan* and Portland Parks & Recreation estimate tree canopy temporal change as a performance measure of program success. In doing so, it is vital to choose a methodology that will provide reproducible results between years and at a proper time step for change to be evident. PP&R Urban Forestry has developed such a methodology which will measure canopy cover change on five-year time frame increments using point interpretation of aerial photos. A contractor is being sought to conduct an initial study using data from 2000, 2005, and 2010, and results will be available in 2011.

Oregon Department of Transportation Plantings Begin

Through the Grey to Green urban tree planting effort, BES partnered with Oregon Department of Transportation (ODOT) to plant trees on ODOT rights-of-way. In FY2009-2010, BES planted 1,099 trees on



Trained volunteers collected species, size, health, and site condition inventory data for all 4,700 street trees in the Concordia neighborhood as part of a pilot project to develop Neighborhood Stewardship Plans.

ODOT rights of way. Tree planting partner Friends of Trees planted an additional 1,495 trees on ODOT rights-of-way through their Greenspaces Initiative. PP&R Urban Forestry in conjunction with students from Jefferson High School also planted on ODOT right of way for the first time. These tree planting efforts represent great progress in developing new partnerships with the community and with willing property owners. Long term success of trees planted in transportation rights-of-way has historically been challenging because of difficulty in initial establishment and long term maintenance. The City is optimistic about the success of these programs due to a new focus on sustainability by ODOT.

Treebate Incentivises Private Tree Planting

The Treebate program, funded through the Grey to Green initiative, offers an incentive for storm water fee ratepayers in Portland who plant trees on their residential private properties in the form of a utility bill credit. Because larger trees manage more storm water, Treebate credits 50% of the tree's purchase price up to \$50, \$20, or \$10, depending on mature tree size and storm water management potential. Treebate trees must be at least 1" caliper and 6' tall (4' for conifers) at time of planting and may not be otherwise subsidized by the City (e.g., trees planted through Friends of Trees), required by a condition of mitigation or development, or on the City's nuisance plant list. The program relies on local retail nursery partners, utility bill inserts, Treebate web pages, media coverage, and word of mouth to get the word out about the offer. In the program's pilot season (FY2009-2010), Treebate credits were granted for 1,101 trees—more than 200% over the 500 tree goal.

New Capital Projects Checklist Created

City funded capital projects and their construction can have major impacts on trees, which may need to be pruned, removed, or protected depending upon the scope of the project. Common capital projects include green streets construction, sewer repairs, transportation street jobs, and construction of new infrastructure within the bureaus of Environmental Services, Water, Transportation, and Parks. PP&R Urban Forestry staff participates in plan reviews to identify significant tree conflicts, set mitigation requirements, and to help managers with neighborhood outreach efforts, tree work, obtaining permits, and post-construction pruning. A checklist has now been developed to assist bureaus with permitting tree removal/planting, thereby streamlining project development and reducing costs.

Street Tree Permits Issued Through the City's TRACS System

PP&R Urban Forestry contracted with CSDC Systems to create a permit tracking system in TRACS, the software platform used by many City bureaus to track permitting activities. Residential tree permits for right-of-way planting, pruning, removals, root pruning, and emergencies are now issued through the TRACS system. The new database has enabled PP&R Urban Forestry to provide improved customer service and better tracking and enforcement for residential permits.

ONGOING PROGRAMS AND PROJECTS

Planting Programs (Table 1):

7,315 trees were planted through the PP&R Urban Forestry permit process in FY2009-2010 by all tree planting partners.

Property Owner and Development Planting: Permits to plant 3,876 street trees were issued to property owners and developers by PP&R Urban Forestry in FY2009-2010.

Grey to Green: 2,393 street trees were planted by the Grey to Green program in cooperation with Friends of Trees, Bureau of Transportation Maintenance Operations, and Portland residents in FY2009-2010, the second of a five-year project. FY2010-2011 goals are to plant 5,000 street trees with these and other partners, including Portland Parks & Recreation, Housing Authority of Portland, and community groups. The Environmental Services bureau manages a team of seasonal canvassers who locate planting spaces in the right of way, assist property owners in signing up to plant with Friends of Trees, and conduct planting inspections under the guidance of PP&R Urban Forestry. The greatest challenges to planting street trees in Portland are in finding appropriate planting locations and then securing permission from adjacent property owners to plant in them. In spite of these challenges, city canvassers visited over 50,000 properties during the summer months, contributing to more than 3,000 new Friends of Trees customers.



Neighborhood Tree Stewards helped plant 152 trees in school arboreta around Portland in 2010.

Parks Planting: 186 large-caliper trees were planted by PP&R Urban Forestry in parks in FY2009-2010, predominately as replacements for trees lost due to old age, failures, vandalism and car accidents. PP&R grew the majority of trees at their Mt. Tabor nursery.

School Arboreta: 152 trees were planted at nine sites as school arboreta, called Learning Landscapes, with the help of over 1,200 students. PP&R installs Learning Landscapes at schools using volunteers, students, and Neighborhood Tree Stewards. These Learning Landscapes provide educational opportunities for students and neighbors to learn about tree genera and the importance of urban trees. Portland Public Schools staff are amenable to tree plantings, and have ensured that community infrastructure is in place to care for, water, mulch and replant the trees as needed.

TABLE 1: INSPECTIONS AND PERMITS ISSUED BY PP&R URBAN FORESTRY IN FY09-10

STREET TREES				
	INSPECTIONS COMPLETED	TREES INSPECTED	PERMITS ISSUED	TREES PERMITTED
Planting, property owner	1,256	2,849	723	2,431
Planting, Friends of Trees	1,832	3,383	1,297	2,393
Planting, Development Requirements	2,542	n/a	811	1,445
Pruning	1,386	3,975	1,251	3,118
Removal	798	1,435	345	563
Root pruning	399	879	404	832
General	549	1,333	89	161
PARK AND SCHOOL TREES				
Planting, Parks	65	306	37	186
Planting, School Arboreta	9	0	9	152
Pruning	225	1,198	206	1,276
Removal*	146	279	136	1,395
Root pruning	21	71	18	55
General	156	1,605	27	181
PRIVATE TREES				
Removals, Tree Cutting Ordinance	958	n/a	164	218
Planting, mitigation	n/a	n/a	n/a	708
EMERGENCY				
Emergency response	910	1,015	531	574
TOTALS				
Planting	5,704	6,538	2,877	7,315
Pruning	1,611	5,173	1,457	4,394
Removals	1,902	1,714	645	2,176
Root pruning	420	950	422	887
General	705	2,938	116	342
<i>Totals</i>	<i>10,342</i>	<i>17,313</i>	<i>5,517</i>	<i>15,114</i>

**Park tree removal includes removal of a large number of invasive tree species, such as English holly and European hawthorn.*

Regulatory Programs

Portland Parks & Recreation Urban Forestry issues permits for all street and park tree work, including planting, pruning, and removal. In certain cases, UF issues permits for private tree removals. Currently, efforts are guided by City Code 20.40 Street Tree and Other Public Tree Regulations and 20.42 Tree Cutting.

Tree Code Enforcement: 10,342 tree inspections were completed for health assessments, planting, pruning, removals, and other regulated activities in FY2009-2010 under PP&R Urban Forestry (Table 1). PP&R Urban Forestry enforces City tree code regulations related to street trees and some private trees, depending upon the development situation. Much inspection time is dedicated to educating property owners about code requirements and tree care issues.

Citywide Tree Policy and Regulatory Improvement Project: The Bureau of Planning and Sustainability, in collaboration with PP&R, BDS, BES, and numerous other community stakeholders, has been heading up the effort to review, revise, and update the City's tree-related policies and regulations. The primary project charges come directly from the *Urban Forest Action Plan*: 1) establish a clear, consistent and cohesive framework of regulations pertaining to trees in the city; and 2) enhance the urban forest through development and redevelopment.

In early 2009 staff brought a package of preliminary conceptual recommendations to the Urban Forestry Commission, Planning Commission, and others for feedback prior to developing a detailed proposal and code language. The revised code will be a new Title 11, "Trees," and recommendations for future administrative rule making. Upon receiving general support for the preliminary recommendations and completion of the project, staff initiated work on the detailed project proposal and draft code language for review and refinement with City bureaus. Staff produced an initial code package and fiscal impact assessment for review by City bureaus and the City Attorney. Staff, working with the City bureaus, finalized the draft project proposal for public review in February 2010. A joint public hearing and a series of work sessions with the Urban Forestry and Planning Commissions occurred between March and June 2010; this process culminated in unanimous votes in July to forward the proposal to City Council with specific direction to revise certain elements of the proposal. Staff has since been developing the Recommended Draft and fine tuning the budget impact assessment, consistent with the Urban Forestry and Planning Commissions' direction. The public draft is expected to be published in early December 2010, with City Council hearings in February 2011.

Education and Outreach Programs

PP&R City Nature provides urban forestry education for the public on the importance of trees in the City.

Neighborhood Tree Steward Program: The Neighborhood Tree Steward (NTS) program is a volunteer training course that gives participants knowledge and tools to lead local urban forestry projects. In 2010 PP&R partnered with the Urban Forestry Commission, BES, Friends of Trees (FOT), Portland State University, and the Portland Fruit Tree Project to provide a seven class program. Taught over five weeks in the fall, the program included 26 hours of training taught by 16 instructors from various sectors of the professional community and neighborhood volunteers. A wide variety of topics were covered in these classes, including tree identification, permitting, tree identification, tree biology, inventory, and planning projects. Eleven people from nine neighborhoods participated, bring the total number of Neighborhood Tree Stewards to 204 trained in the past twelve years.

As a follow up program to the NTS training, six monthly workshops were developed to give continued support to Tree Stewards and encourage others to become involved in urban forest advocacy. Workshops gave participants hands-on experience and all materials and tools were available for participants to recreate similar workshops in their neighborhoods. Workshops included “Prune Like a Pro,” “Photographing Your Urban Forest,” “Assessing Portland’s Heritage Trees,” “Identifying Portland’s Street Trees,” “Conducting a Neighborhood Street Tree Inventory,” and “Portland’s Trees by Bike.”

General Public Educational Workshops: Workshops were given on a multitude of topics, including general and mature tree care, young tree pruning, Dutch elm disease prevention, fruit tree pruning, professional arborist training, high climbing demonstrations, and tree planting. In addition, PP&R Urban Forestry staff regularly coordinate neighborhood and Heritage Tree walks and volunteer work days, all intended to educate the community on the different roles and values of trees in their community.

Professional Training: PP&R Urban Forestry provided training to other City bureaus and agencies on pruning, tree care, high climber emergency rescue, and planting permit inspections.

Events: Arbor Week events occurred over a week long period in April, and included workshops, tree walks, and culminated in the Annual Arbor Day Celebration at West Powellhurst Elementary. The celebration included the presentation of the 33rd Tree City USA award to the City, a community planting of 18 trees, educational activities for 450 students, and a giveaway of 400 native seedlings.



Workshop participant learn to properly prune and care for young street trees.

The third Annual “Dig-It” event kicked off the 2010-2011 planting season by planting 14 trees at West Sylvan Middle School, presenting the Bill Naito Community Tree Awards, and graduating the 2010 Neighborhood Tree Steward class.

Volunteer work hours: 68,439 volunteer hours valued at \$774,045 were provided to the urban forest in FY2009-2010, as reported by PP&R. Volunteers planted, pruned, and maintained trees in parks, natural areas, and rights-of-way; removed invasive species; and worked with environmental education events, among other activities.

Tree Care Providers Workshops: PP&R Urban Forestry staff developed a Tree Care Providers Certification Workshop for local tree care professionals. The program consists of free workshops offered on a semi-annual basis that provide training on City rules and regulations involving trees and approved pruning standards. After completing the workshop and providing proof of a valid business license, workshop participants are listed on the Urban Forestry web site as a “Local Tree Care Provider.” In 2010, two workshops were offered and attended by 34 participants from 21 landscape, consulting, and tree care companies.

Citywide Tree Care and Maintenance Programs

PP&R Urban Forestry provides tree maintenance for Parks and some additional City-owned properties through inter-agency agreements. In FY2009-2010, maintenance activities included establishment care and watering, pruning, canopy raising, removals, and hazard abatement for Parks, BES, Comnet, Fire Bureau, General Services, Golf, Maintenance Bureau, Portland Department of Transportation, Portland International Raceway, Department of Traffic Management, and the Water Bureau.

Dutch Elm Disease (DED) Control: 55 public and private elms were removed due to DED in 2010 as part of the PP&R Urban Forestry Elm Protection program. Two-thirds of the removals occurred in southeast Portland. The program includes vigilant monitoring, timely diagnoses, and preventative maintenance of elms. Staff arborists worked with neighborhood associations and friends groups to provide workshops on DED inoculation and inoculated nearly 500 trees in 2010. The elm program also includes public education on symptom recognition, proper pruning and elm wood disposal.

Emergency Response: PP&R Urban Forestry Tree Inspectors responded to 910 emergency call outs in FY2009-2010. PP&R Urban Forestry



A PP&R Urban Forestry arborist removes a street tree afflicted with Dutch elm disease. 55 trees were removed in 2010 as part of the City’s DED protection program.

is the first responder to all tree-related emergencies with the City, providing immediate response to hazards around the clock. The majority of incidents involved tree failures that posed a hazard to people, traffic, and infrastructure.

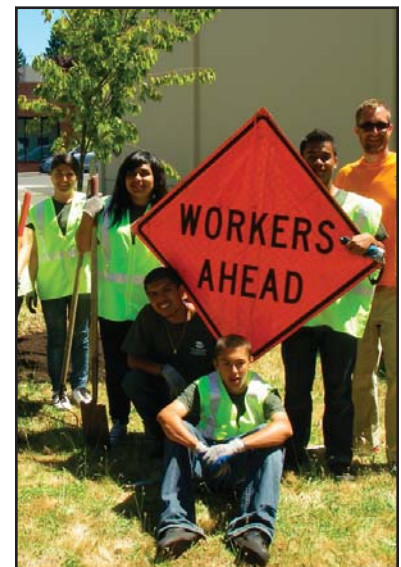
Heritage Tree Program: The Heritage Tree program seeks to give special recognition to old and significant trees in the City. In 2010, eight trees were recommended for Heritage Tree status and approved by City Council. In total, 286 trees are now designated Heritage trees, representing 121 species and 56 genera.

Summer Youth Crew: PP&R staff hired six high school students from SE Works, a GED and career program, to conduct much needed maintenance and establishment tree work. The Summer Youth Crew worked to establish over 250 trees at 12 locations and pruned low limb branches at five Portland Parks, and also mulched, pruned, watered, and removed and replaced dead trees.

Protect the Best: PP&R's Protect the Best program is designed to prevent small patches of invasive, non-native species from spreading in ecologically healthy natural areas in Forest Park, Powell Butte, Clatsop Butte Park, Maricara Park, Whitaker Ponds, and Elk Rock Island. In FY2009-2010, 580 acres were treated and 480 acres were retreated. Since 2008, approximately 6,700 individual invasive trees (>3" DBH) were removed. The majority of non-native species removed were English holly, European hawthorn, and cherry. The program has exceeded its treatment goals and is moving into the more challenging stages of retreatment and effectiveness monitoring.

Watershed Revegetation Program: The Bureau of Environmental Services' Watershed Revegetation Program (WRP) works on over 1,500 acres of public and private property throughout Portland. WRP removes invasive vegetation as part of site management. WRP planted trees on more than 70 acres in both natural areas and storm water maintenance facilities during calendar year 2010.

Wildfire Risk Reduction Project: PP&R, Fire & Rescue, and BES completed a multi-year project funded by the Federal Emergency Management Agency and Oregon's Office of Emergency Management to reduce the potential for significant wildfires in Oaks Bottom, the Willamette Bluffs, Powell Butte, and Forest Park. Site specific action plans and on-the-ground work were completed to reduce flammable vegetation, remove invasive weeds, and plant native plants.



The PP&R Summer Youth Crew provided planting, pruning, mulching, and watering for over 250 young trees throughout summer 2010.

PERFORMANCE MEASURES

The UFAP Performance Measures Taskforce began meeting in 2007 to establish a set of performance measures for the *Urban Forest Action Plan* to measure progress in meeting the goals and objectives of the plan. This report contains compiled performance measures using credible existing data for FY2005-2006 through FY2009-2010. The task force will continue to work to establish targets, reporting frequency, and provide review of performance measures.

TABLE 2: BASELINE MEASUREMENTS AND INDICATORS OF PROGRESS IN ACHIEVING UFAP GOALS FOR FY2005-2006 THROUGH FY2009-2010

PROTECT, PRESERVE, RESTORE, AND EXPAND PORTLAND'S URBAN FOREST					
	FY05-06	FY06-07	FY07-08	FY08-09	FY09-10
Urban forest canopy cover* % of total city	-	26%	-	-	-
Urban forest canopy coverage* % of public property	-	27%	-	-	-
Urban forest canopy coverage* % of private property	-	26%	-	-	-
Ratio of street tree plantings to removals	-	-	-	6.6	11.1
DEVELOP AND MAINTAIN SUPPORT FOR THE URBAN FOREST					
Volunteer hours, Friends of Trees (FOT)	13,260	19,520	17,860	17,003	18,307
Neighborhood Tree Stewards trained	25	16	0	0	23
Website visits, PP&R Urban Forestry	-	18,040	32,440	46,959	90,831
Arboreta developed at Portland schools (total trees planted)	3 (116)	3 (104)	2 (54)	5 (185)	9 (152)
Total funding from grants in PP&R Urban Forestry budget	\$2,243	\$16,944	\$21,702	\$74,804	\$3,660
Total budget, PP&R Urban Forestry	\$2.00M	\$2.24M	\$2.52M	\$2.42M	\$2.47M
MANAGE THE URBAN FOREST TO MAXIMIZE COMMUNITY BENEFITS FOR ALL					
Trees planted in low income and low canopy neighborhoods by FOT	615	739	962	1,510	1,261
Carbon sequestration, lbs**	-	24,854,356	-	-	-
Air pollutants removed, lbs **	-	599,023	-	-	-
Stormwater retained, gallons**	-	413,676,636	-	-	-
Canopy cover in riparian areas	-	-	-	66.6%	-

*Urban forest canopy cover is baseline data using imagery for year 2002, but was reported in FY2006-2007

**Carbon sequestration, air pollutants, and stormwater retained is baseline data derived from 2002 conditions and reported in FY2006-2007

DATA SOURCES FOR PERFORMANCES MEASURES

Urban forest canopy cover: Portland's Urban Forestry Canopy Report (2007) derived canopy coverage from a 2002 multispectral image with one-meter resolution.

Ratio of street tree plantings to removals: PP&R Urban Forestry tracks street tree removal and planting permits. Net change is determined by dividing planting permits issued by removal permits issued.

Volunteer hours with Friends of Trees: FOT tracks total volunteer hours each planting season.

Website visits for PP&R Urban Forestry: The City of Portland Urban Forestry website (www.portlandonline.com/parks/trees) tracks total visits.

Arboreta developed: City Nature's Environmental Education program creates Learning Landscapes at willing partner schools in the City. Arboretums developed involve planting multiple trees, creating volunteer network for establishment care, and working with teachers to use the arboreta in classrooms.

Total funding from grants: Amount of funding in the PP&R Urban Forestry budget received from grants.

Total budget, PP&R Urban Forestry: Total budget for Portland Parks and Recreation's Urban Forestry division.

Trees planted in low income and low canopy neighborhoods by Friends of Trees: Trees planted in rights-of-way and yards in neighborhoods with <25% canopy (Poracsky and Lackner 2004) and where >51% of individuals are at or below 80% of the median income according to HUD (2003).

Carbon sequestration, air pollutants removed, and storm water retained: *Portland's Urban Forestry Canopy Report (2007)* used CITYgreen software to calculate the environmental benefits provided by trees based upon classified aerial imagery derived from a 2002 multi-spectral image.

Canopy cover in riparian areas: Reported in the *State of the Watersheds 2008 Environmental Indicators Report* issued by Metro. Corresponds to Indicator 2, the percentage of trees within 50 feet of streams and wetlands. Data were derived from 2007 aerial photographs using Feature Analyst software.

KEY CHALLENGES AND OPPORTUNITIES

Citywide Tree Project: Policy and Program Decisions Ahead

The Citywide Tree Project is nearing its completion date after more than three years in process. The proposal is a comprehensive package that addresses tree related activities in development and non-development situations. The community has much at stake in this proposal, and City Council faces big decisions ahead regarding proposed changes to City programs and whether funds can be set aside to implement recommended changes. It is critical that decisions be accompanied with sufficient resources for implementation. Given the comprehensive nature of the proposal it will also be challenging to ensure a broad public understanding of the issues and implications, and it will take great effort from multiple bureaus to ensure that the public understands the new tree code.

Connecting with the Portland Plan

A valuable opportunity exists to work with the Portland Plan to give priority to urban forest issues as the Portland Plan is updated. Crafting a plan for the City's future livability should naturally include trees. Sustainability and the Environment is one of the nine action areas of the plan, and many other critical issues relate to urban forestry. The Plan will establish strategic policy directions for growth management, sustainability, and other areas that directly affect the urban forest, and full advantage should be taken of this opportunity.

Neighborhood-Based Tree Management Plans

There are many challenges to managing Portland's street, park, and private trees, and those challenges are compounded by the 100 distinct neighborhoods and a half million residents living amongst the trees. Rather than use one general forest management approach throughout the entire city, PP&R Urban Forestry is piloting developing neighborhood-based management plans by working with community members to conduct street tree inventories and create Neighborhood Stewardship Plans. Creating a neighborhood-based plan addresses local tree issues, includes extensive community support and engagement, and works towards building a healthy forest in partnership. This management approach empowers local citizens to better manage their resource, and gives the urban forest back to the community.

A Future for the Capitalization of Trees

As the urban forest gains recognition as being necessary city infrastructure, a shift in thinking about how trees are managed and accounted for is necessary. Trees are being utilized as infrastructure: providing measurable benefits for storm water retention, clean air, and other functions, yet, they are continually undervalued and undermaintained. Traditional funding sources for trees are insufficient to provide needed maintenance and maintain stocking levels.

Reporting street trees as capital assets would provide access to new funding, as capital assets may be financed with capital improvement funds, capital grants, and debt or bond proceeds. As capital assets, the status of trees is elevated in importance, raising awareness of their true value. Trees reasonably meet capital asset criteria: they are used in operations with persistent benefits beyond one reporting period. Yet trees do not fit the traditional capital asset model, particularly as traditional assets depreciate over time, and trees appreciate over time. Challenges to capitalizing trees include accounting principles, ownership and control of trees, tracking and inventory, and measuring benefits. More momentum is needed to help include trees, at their full value, as part of the City's capital infrastructure.