Executive Summary

The Urban Forest

The urban forest is the complex system of trees and smaller plants, wildlife, associated organisms, soil, water, air and people in and around our city. The urban forest surrounds us and contributes to the quality of our daily lives. It provides environmental, psychological, and economic benefits ranging from improved air and water quality to savings from decreased heating and cooling costs to aesthetically pleasing neighborhoods and increased resale values. It is vital to our efforts to restore fish and wildlife habitat and it provides countless opportunities for recreation and refreshment.

One large residential tree is estimated to produce $4,000 of total economic benefits over its first fifty years,[1] and to increase resale values by 6 to 9%.[2] Other benefits are less easily measured, but no less valuable. The aesthetic and inspirational value of the hundreds of thousands of trees in Portland's urban forest is incalculable. We must manage and care for this resource to ensure that current and future residents will enjoy its benefits.

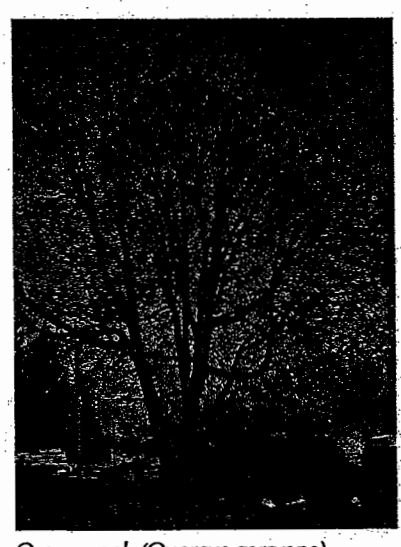
Purpose

The Urban Forestry Management Plan is being updated to improve and coordinate the management and administration of Portland's urban forest. The new plan responds to recent environmental mandates, clarifies confusion about resource management and authority, better coordinates the roles of the different agencies and bureaus, and addresses problems that remain from the 1995 plan. This new plan provides direction for the maintenance and improvement of this important resource and makes recommendations to enhance and improve our city's urban forest now and for the future.

Goals

Protect, preserve, restore and expand Portland's urban forest. A healthy urban forest contributes to the economic vitality of the city, provides environmental stability, and ensures a better quality of life.

Promote stewardship of the urban forest. Care of the urban forest by many knowledgeable people improves and enhances the quality of the urban forest.



Oregon oak (Quercus garryana)

[1] *Personal communication (email) with McPherson, 8/13/2002.*
[2] *Morales (1980), p. 308.*

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The decisions we make now determine how well or poorly the urban forest functions in the future.

Provide equitable urban forest benefits for all residents of the city. All residents deserve the benefits of a healthy urban forest.

Meeting these goals not only ensures a healthy and functioning urban forest, they advance and promote other City plans and programs including River Renaissance, the Framework for Integrated Management of Watershed and River Health, the City's watershed plans, Parks 2020 Vision and more.

Recommendations

The following recommendations apply to all areas of the urban forest. Actions for each recommendation are listed in Chapter Three.

Coordinate the roles, responsibilities, policies and projects of City bureaus, agencies and partners for planning and managing the urban forest.

Document the health and condition of Portland's urban forest.

Preserve, maintain and restore the existing urban forest and ensure the safety of the public.

Increase the quality and quantity of appropriate trees and vegetation, especially large canopy trees in appropriate areas.

Fund and provide adequate staff and resources to maintain, preserve, restore and increase all aspects of the urban forest.

Regulate where necesary to ensure the health, quality and benefits of the urban forest.

Implementation

Portland Parks & Recreation, assisted by the Urban Forestry Commission, is charged with developing and maintaining the Urban Forest Management Plan. Many City bureaus implement the plan as they work to fulfill their own charges.

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The plan proposes working groups made up of representatives of those bureaus and groups who manage the City's natural resources to coordinate the management of the urban forest and ensure its health — an Urban Forestry Policy Group to work on the overall management, and standing committees to work on particular areas of the urban forest.
Representatives of those groups collaborated in preparing this plan and their continued cooperation is necessary to realize its vision, goals and recommendations.

A healthy urban forest is an enormously valuable resource — one that affects our physical, emotional and economic well-being and our quality of life. Without care and attention, a healthy urban forest cannot exist. The decisions we make now and the consequences of our actions determine how well or poorly the urban forest will function in ten, twenty and fifty years.

Overlook Trail — Hoyt Arboretum

The Vision

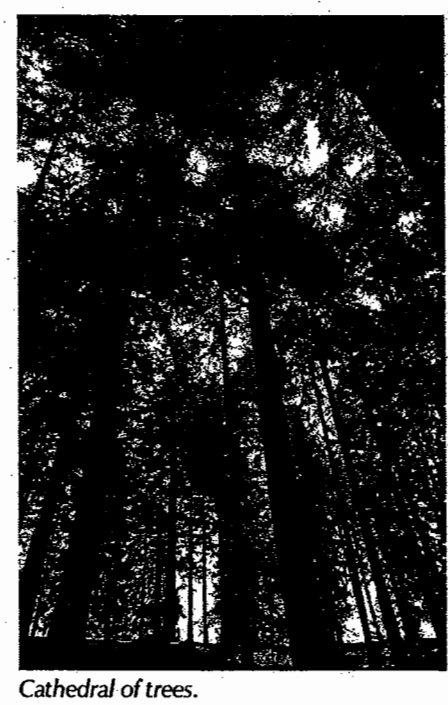
Portland's Urban Forest in 2020

The view from the eastern foothills of Mt. Hood to the ridgelines of the West Hills is a panorama of a healthy and diverse forest with groves of tall native evergreens that identify Portland as a Pacific Northwest city. The health of this urban forest, a mosaic of the planted landscape and the remnant native forest, is a reflection of the city's health, well-being and livability. These trees and other plants are a vital part of Portland's character, giving it a special sense of place.

The urban forest canopy is cohesive, not fragmented, because development includes trees as part of the total vision for sustainable development. The air and water are cleaner because the trees and other plants remove pollution from the air and reduce runoff. Fish and wildlife have healthy habitats. Open spaces and urban stream corridors define a sense of space in our communities while providing a quiet respite from hectic urban life. Tree-lined streets offer shade and protect us from inclement weather. Shoppers frequent shaded business districts where trees help save energy, reduce noise and soften the hard edges of structures and paved areas.

Coordinated management of the urban forest occurs because city agencies, businesses, civic organizations and residents have formed partnerships to make a place for trees in the city. Portlanders recognize trees as a vital, functioning part of the city's infrastructure and ecosystem and provide adequate, stable funding to maintain and enhance the urban forest.

We have achieved a healthy, sustained urban forest, carefully managed and cared for, which contributes to the economic and environmental well-being of the city. Portland has made room for trees.



Cathedral of trees.

INTRODUCTION

THE URBAN FOREST

While many people think of street trees when they think of the urban forest, it is much more than that. The urban forest is the complex system of trees and smaller plants, wildlife, associated organisms, soil, water and air in and around our city. It is the trees along our streets, the landscaping around our homes and institutions, the vegetation in commercial and industrial areas, the multi-layered forests in our natural areas and the plants in our parks.

The urban forest is managed by many agencies for many reasons — healthy watersheds, prime wildlife habitat, excellent outdoor recreation and exceptional trees. A healthy urban forest is essential to our quality of life and increasingly important in the City's coordinated efforts to restore the quality of its rivers and streams and improve the environment of the city. A healthy urban forest is an asset that increases in value over time — one that provides service as well as beauty to Portland residents.

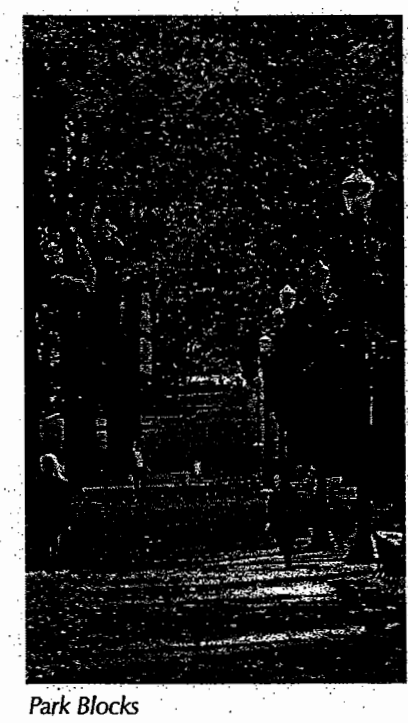
This plan addresses all the vegetation of the urban forest as a whole, but it places more emphasis on trees since they provide the most benefits, are required most often and are regulated to a greater degree than other elements of the urban forest.

UPDATING THE URBAN FORESTRY MANAGEMENT PLAN

The adoption of the first Urban Forestry Management Plan (UFMP) in 1995 was an important step in raising awareness about the value of the urban forest and the roles of the many City bureaus, agencies and organizations that manage it. Since 1995 there have been many changes that necessitate revising and updating the plan. Among them are:

New environmental mandates. The Endangered Species Act, the Clean Water Act and the Superfund Law have resulted in new mandates that affect and guide Portland's resource management. Trees and vegetation are increasingly used to reduce the negative environmental impacts of urbanization and to mitigate for past actions that have harmed water quality, fish and wildlife habitat.

More organizations responsible for urban forest management. Many bureaus and agencies with different visions, missions, goals and objectives are responsible for meeting the new mandates. Bureau and agency roles and responsibilities are not always clear. Management of the urban forest is sometimes fragmented, overlapping and bureaucratic.



Park Blocks

INTRODUCTION

Oregon oak Quercus garryana.

Increasingly complex rules and regulations. Meeting the new mandates has resulted in new rules and regulations, which are becoming more numerous, complicated and difficult to coordinate. The permit process is confusing, and there is little coordination on site development issues — different bureaus require trees and vegetation for different reasons. While the City is currently establishing central review for site development requirements, and improving regulatory requirements, much remains to be done.

Culture shift from "gray" to "green." The urban forest — the "green" infrastructure — is increasingly used to perform the functions of the built — or "gray" infrastructure. Trees and vegetation take up stormwater from streets and developed areas, reducing the need for pipes and treatment plants. They reduce the need for air conditioning, lessening the need for generating plants. This cultural shift is reflected by the plans and projects of many bureaus and agencies. Among these are Metro's Green Streets guidelines that integrate transportation systems with resource protection and Environmental Services' Stormwater Management requirements that use trees and vegetation to mitigate for impervious surfaces. Portland's Sustainable City Principles,[3] adopted in 1994, promote sustainable development and efficient use of resources to protect the environment.

Growth and Infill. Oregonians have chosen to protect farm and forest land by limiting the expansion of the Urban Growth Boundary (UGB). While this results in more efficient use of urban land for development, it reduces the space available in the city for trees and vegetation. As cities become denser, there is a greater need to maintain, protect and manage the urban forest.

Global warming. Predicted climate changes for the Northwest indicate significant threats to the urban forest. At the same time, the urban forest can play an important role by mitigating the impacts of global warming and reducing the effects of the greenhouse gas emissions that cause global warming.

PROGRESS SINCE 1995

Since Portland's first Urban Forestry Management Plan was prepared and adopted in 1995, progress has been made by many local and regional agencies to improve the urban forest.[4] Accomplishments include:

- Hiring an Urban Forestry Coordinator in 1996.
- Creating the Neighborhood Tree Liaison Program in 1997 and hiring a Neighborhood Tree Liaison Coordinator.

[3] *See Chapter Four and the Appendix.*
[4] *Further information about many of these programs is found in the appendix.*

- Developing and amending the City Code as follows to support the urban forest: Tree Cutting (1997), New Land Division (1999), Planting of Trees (1999), Tree Preservation (2001) and improved landscaping requirements in parking lots (2001).
- Expanding and improving information, outreach and education efforts including informational brochures and Arbor Day celebrations.
- Completing a park tree canopy assessment, as well as selected street tree inventories, throughout the city.
- Developing Metro's Green Streets program.
- Hiring ecologists to manage Portland Parks & Recreation's natural areas.
- Expanding Portland Parks & Recreation's native plant nursery for city revegetation programs.
- Completing Friends of Trees' five-year Seed the Future Campaign.[5]
- Creating the Bureau of Environmental Services' revegetation program, which is responsible for planting thousands of trees, shrubs and plants.
- Using trees as mitigation for development in the Stormwater Management Manual.
- Adopting the LEED Green Building certification program, which includes sustainable site development and encourages planting and retaining trees and vegetation.
- Completing a city wide tree canopy cover analysis in 2003.

Problems that Remain

Although much valuable work has been done, many problems remain. Among them are:

- Increased density that threatens the urban forest with increased impervious surfaces and loss of vegetation and habitat.
- Uneven distribution of urban forest canopy throughout the city.
- Infrequent and reactionary maintenance of street, public and private trees.
- Lack of diversity in age and species of trees in some established neighborhoods and parks.
- Invasive non-native plants that continue to devalue and destroy the natural habitat.
- Incomplete inventories of trees and vegetation that limit proactive management.
- Lack of funds to improve and expand the urban forest.

[5] *FOT (Friends of Trees) planted over 157,000 trees during the Seed the Future campaign and plans to plant and/or distribute another 18,000 in neighborhoods and schoolyards by 2004.*

INTRODUCTION

The urban forest is a living part of the urban infrastructure.

PRINCIPLES

The following principles guide the management of Portland's urban forest:

The green infrastructure is as important as the gray infrastructure. A healthy urban forest is critical to a high quality of life in the city. It is a living part of the urban infrastructure, an element as necessary for the sustainability of the city as the highways, utilities and sewers. Like the built part of the infrastructure, the urban forest or 'green-frastructure' requires care and maintenance to maximize the benefits it provides. With appropriate care the green-frastructure increases in value over time, and its benefits become more important. Without care and maintenance, it loses value and may pose safety hazards.

Successful urban forest management improves the environment and accommodates development. The urban forest provides water and air quality benefits, improves the local climate by providing cooling and shading and improves the ecological health of the urban environment. Managing the urban forest for these benefits is sometimes difficult in the urban environment — housing, commerce, transportation, public safety and recreation must be accommodated. Successful urban forest management accommodates these uses, provides environmental benefits and improves the quality of life for residents.

Education is as important as regulation. Informing and educating people in a positive way about the value and benefits of the urban forest is often more effective in achieving compliance than regulation. Explaining the reasons for certain requirements often brings better results than monitoring, inspecting and regulating.

GOALS

The Urban Forestry Management Plan seeks to achieve the following goals:

Protect, preserve, restore and expand Portland's urban forest. A healthy urban forest contributes to the economic vitality of the city, provides environmental stability and ensures a better quality of life.

Promote stewardship of the urban forest. Care of the urban forest by many knowledgeable people improves and enhances the quality of the urban forest.

Provide equitable urban forest benefits for all residents of the city. All residents deserve the benefits of a healthy urban forest.

These goals not only ensure a healthy and functioning urban forest, they advance and promote other City plans and programs including River Renaissance, the Framework for Integrated Management of Watershed and River Health, the City's watershed plans, Parks 2020 Vision and more.

ORGANIZATION OF THE PLAN

Information in this plan is presented in four chapters.

Chapter 1: Portland's Urban Forest describes the current conditions of Portland's urban forest, its physical setting and the benefits of the urban forest.

Chapter 2: Mandates and Urban Forest Management explains the federal, state and local mandates that affect the urban forest and the variety of bureaus and agencies that manage the urban forest.

Chapter 3: Analysis and Recommendations describes the strengths, weaknesses, opportunities and threats to the urban forest and makes recommendations for improving it that apply to all areas of the urban forest.

mean temperature is 39.6 degrees F., while the average mean temperature for August, typically the warmest month, is only 68.5 degreesF.[6]

Vine maple (Acer circinatum)