

## **Introduction to LAKE FOREST PARK'S COMMUNITY FOREST MANAGEMENT PLAN**

Today, more than ever, we in the United States, are a population of city dwellers. Over 75% of our citizens live within 50 miles of our shorelines in increasingly large and dense cities. Implementation of the Growth Management Act has pressed on our remaining undeveloped green spaces within growth areas, and has shrunk lot sizes to the point that tree planting, not individual tree protection is often the order of business. Areas outside the adopted urban growth areas are seeing less pressure to convert from resource and agricultural lands. While this may preserve more net “green” spaces in the long run, other islands of green such as parks, wetlands and undeveloped green spaces within the urban growth areas are becoming more precious.

Cities have embraced a combination of tree protection and tree planting to ensure that the hard concrete lines of development are softened by tree lined boulevards, curved and planted walkways, shady parks, and natural areas. These planted and protected areas are enhanced by the natural instincts of humans to plant trees around their dwellings.

Urban trees provide both visual and emotional solace in our world of stressful jobs, family commitments, and ever faster computers: a world where status is increasingly measured in megahertz of RAM, the capacity of your PDA, or whether your cell phone can take photos and access the internet.

As we continue to press on the edges of our native forests with our increasingly dense urban and suburban structure, the need to design for trees, implement sound tree protection practices, and create long-term planting plans becomes more and more critical.

A significant element of maintaining a livable city is to instill pride in its character. By working to make our cities more comfortable and pleasant we instill pride in our citizens. Proud citizens will get more involved and work even harder to preserve, protect, and enhance our cities.

The City of Lake Forest Park has recognized the need to protect and manage its valuable community forest. This Community Forest Management Plan is one of many steps the Lake Forest Park has undertaken to improve the benefits that its community forest provides to the community.

### **Recognized Benefits of the Community Forest:**

The community forest provides numerous environmental, psychological and economic benefits. It is critical in providing a healthy environment for people, fish and wildlife. It affects our health and sense of well being. It provides economic benefits by reducing the

need for power, and water treatment. Most benefits can be measured, some cannot, and all are significant.

### **Environmental Benefits:**

**Water Quality** - Clean water is vital to the health of our environment. In every area of the city, the community forest helps to provide clean water. The community forest intercepts rain, reducing runoff before it can occur. It absorbs and stores water which reduces the impacts of stormwater pulses, especially in developed areas, along streets and highways and in parking lots. It helps remove pollution from water and reduces excess sedimentation. Riparian vegetation shades and cools the water surface and the air in riparian areas, providing better habitat for fish and wildlife.

**Erosion Control** - The hard surfaces common to urban areas are impervious to water infiltration, thereby increasing stormwater runoff volume and flow. The rapidly moving water erodes soil, increases siltation in urban waterways and creates water pollution problems. Trees and other plants play a role in stabilizing soils and preventing erosion. The roots slow runoff by holding soil in place and absorbing water. Leaves diminish the impact of raindrops on bare land and mitigate stormwater volume (McPherson et al 2002).

**Energy Efficiency and Temperature Control** - The role of vegetation in temperature control in the Pacific Northwest is becoming more important with rising energy costs and conservation concerns. Well placed vegetation can significantly reduce energy needs and increase energy efficiency by reducing heat loss in winter and increasing cooling in summer.

In winter, evergreen vegetation can reduce wind velocity that pulls heat out of buildings and can provide an insulating effect by trapping air close to buildings. Deciduous vegetation around buildings allows for solar gain in winter months, reducing heating costs. In summer, well-placed trees can intercept up to 90% of the solar energy, reducing the need for air conditioning (The National Arbor Day Foundation).

Trees reduce the temperatures of heat islands that form in urban centers by shading pavement and structures. Considering this cooling effect, the larger the size of trees and the bigger the size of the green spaces, the greater the effect of the trees on climate.

Plants can be used to manipulate air movement by strategically placing them to block undesirable prevailing winds and to provide effective barriers. Walls of vegetation can be used to direct air to sites where cooling is wanted.

**Improved Air Quality** - Many plants of the community forest can reduce the effects of air pollution by removing pollution, both particulates and gases, from the air. This occurs because plants reduce winds, causing particulates to settle out of the atmosphere onto plants and the ground where precipitation washes the particulates into the soil. Certain

gases such as nitrogen oxides, carbon monoxide, chlorine and fluorine halogens, ammonia, and ozone are removed by absorption and stored in leaves and needles of some woody vegetation.

Trees also sequester and reduce atmospheric carbon dioxide (National Arbor Day Foundation) (McPherson et al. 2002). Trees improve air quality as they release oxygen through photosynthesis and they reduce ozone levels by reducing urban temperatures.

**Sound Control** - The leaves, twigs and branches of vegetation absorb sound energy, as do grasses and other low growing plants, especially sounds in the higher frequencies which are the most bothersome to people. Plants dissipate sound energy by refraction that occurs when sound passes through vegetation barriers and bends around plant structures. Barriers of trees and vegetation in conjunction with walls and landforms can reduce traffic and highway noise (McPherson et al. 2002). Such barriers can be used as part of a noise mitigation strategy for new development.

Vegetation also masks unwanted sound by providing sounds of nature, rustling leaves and singing birds, to cover unwanted noise. People can focus on those natural sounds that are more pleasing than the noise of the city.

**Fish and Wildlife Habitat** - The community forest provides habitat for many species of birds, mammals, fish, insects and amphibians that enrich urban life and offer opportunities for study. Larger the areas provide a possibility for diversity of habitat and wildlife. While forested natural areas with native understory offer more biological diversity than other parts of the community forest, all areas provide some habitat. Squirrels and chipmunks live in and around trees; numerous species of birds abound in vegetation; bats dwell in secret places; and fish inhabit the creeks, streams, and rivers. Wetlands, riparian areas, connected natural areas, and urban landscapes provide important biodiversity.

## **Psychological Benefits:**

**Mental and Emotional Benefits** - People generally feel that the community forest increases the enjoyment of everyday life and provides a meaningful connection with the natural environment. Research now provides the scientific basis to support those feelings. Community forests have a clear role to play in reducing stress-related impacts on health such as lowering blood pressure.

Studies show that exposure to nature and urban forest reduces stress and provides significant restorative benefits. Various studies using slides of different subjects show that natural scenes and urban nature settings hold the viewer's attention more effectively than urban scenes without nature. Even slides of unspectacular natural scenes produce more positive emotional states than urban scenes without trees (Hull and Ulrich, 1991).

**Significance and Symbolism** - Trees have deep significance to people, especially in the urban setting that may offer little of the natural world. Trees and forests provide beauty and serenity that we can experience in the sensory realm. The constantly changing sights, sounds and smells of plants fascinate and delight us.

Trees may have symbolic meaning. Many cultures associate trees with strength and wisdom, and we often remember loved ones with memorial tree plantings (Dwyer 1994). Planting trees shows a commitment to the future and a desire to improve places where we live.

**Aesthetics** - Positive emotional states are also associated with being in or looking at things that are pleasing. Trees and vegetation provide much of the color, variety, texture, shape and sound that are pleasing in all seasons of the year. Visual preference surveys have shown that small parks and open spaces are uniformly desirable in all settings of a city. Such surveys show that people prefer scenes that have well maintained trees and vegetation. Research substantiates what people have known intuitively, that trees and natural areas bring pleasure and provide benefits beyond their economic values (Dwyer 1994).

### **Economic Benefits:**

A healthy community forest can improve water quality, prevent erosion, reduce heating and cooling costs, convert carbon dioxide into oxygen and has positive effects on our health and wellbeing.

Trees generally provide benefits in their immediate location and to the surrounding community. From the individual property owner who has a more comfortable environment and increased resale value, to community members who have better water and air quality, to the fish and wildlife who have better habitat - all benefit from healthy trees and vegetation.

**Increased Resale Values** - Studies show that landscaping with trees is associated with an increase in the value of residential properties. Generally larger trees have greater effect on the resale values than smaller trees. Properties with trees show better and sell faster.

Increased property values increase a community's tax base (McPherson et al. 2002).  
**Stormwater Benefits** - In addition to increased resale value, trees and vegetation mitigate stormwater runoff from new construction, reducing or eliminating the need for more costly systems.

**Economic Stimulus** - Trees make the city more attractive to both residents and businesses. The National Arbor Day Foundation explains that "trees can be a stimulus to economic development, attracting new businesses and tourism. Commercial retail areas are more attractive to shoppers, apartments rent more quickly, tenants stay longer, and space in a wooded setting is more valuable to sell or rent." (Coolcommunities.org).

In a study conducted by the University of Washington, consumers indicated they would be willing to pay 12% more for goods purchased in a well landscaped district. The study also indicated 15% higher interaction between consumers and merchants, and tree-lined sidewalks were rated 80% higher for amenities and comfort (Wolf, 1999).

**Recreational Value** - Lake Forest Park's community forest includes wonderful recreation areas such as Grace Cole Nature Park and Lyon Creek Park. While it is important to provide ample open space for active recreation, it is equally important to provide places for passive recreation. Lake Forest Park 's community forest includes many areas where wetlands and associated wooded buffers have been preserved. These areas provide places to observe wildlife, commune with nature and escape the pressures of daily life.

**Traffic Management** - Trees function as "traffic calming" devices effectively slowing speeding drivers while also adding to the aesthetics of the urban landscape. Vertical elements, including trees, reduce the "optical width" of the narrow street, thereby discouraging speeding (Project for Public Spaces "Traffic Calming" <http://www.pps.org>). Trees and other plants may be used to direct not only vehicular traffic, but pedestrian traffic as well (Grey and Deneke 1992).

## Conclusion:

Washingtonians have chosen to protect farm and forest land by limiting expansion of urban growth boundaries under the Growth Management Act. 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 our community forest.

The community forest is a complex system of trees and smaller plants, wildlife, associated organisms, soil, water, and air in and around our city. It is the trees along the streets, the landscaping around our homes and institutions, the vegetation in commercial and industrial areas, the multilayered forests in our natural areas and the plants and landscaping in our parks.

The community 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 community forest for these benefits is sometimes difficult. Housing, commerce, transportation, public safety, and recreation must be accommodated. Successful community forest management accommodates these uses, provides environmental benefits and improves the quality of life for our residents.

Our community forest is managed by the city for many reasons, healthy watersheds, prime wildlife habitat, excellent outdoor recreation and exceptional trees. A healthy community forest is essential to our quality of life and increasingly important to the city's efforts to improve the quality of the environment of our city. A healthy community forest

is an asset that increases in value over time, one that provides service as well as beauty to Lake Forest Park residents.

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