

**VEGETATION MANAGEMENT PLAN  
FOR  
THE CITY OF SPOKANE,  
WASHINGTON**



**Spokane Parks and Recreation Department  
Urban Forestry Committee  
Citizens Advisory Committee**

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SPOKANE, WASHINGTON**

**TABLE OF CONTENTS**

INTRODUCTION ..... 3

BACKGROUND ..... 4

MANAGEMENT RECOMMENDATIONS ..... 4

    1.1 Funding ..... 4

    1.2 Risk Management Program ..... 4

    1.3 Cyclic Pruning Program ..... 5

    1.4 Tree planting program ..... 5

    1.5 Community education and outreach ..... 5

    1.6 Tree City USA ..... 5

    1.7 Cooperation with City Departments ..... 5

2. PROGRAM AND POLICIES ..... 7

    2.1 MAINTAIN, PRESERVE, AND IMPROVE EXISTING STREET TREE ENVIRONMENTS IN THE URBAN FOREST OF SPOKANE AND ITS INDIVIDUAL NEIGHBORHOODS ..... 7

    2.2 BECOME AND REMAIN A “TREE CITY USA” ..... 8

    2.3 PRESERVE AND PROTECT NATIVE, SIGNIFICANT, AND HISTORICAL TREES AND LANDSCAPES ..... 9

    2.4 COORDINATE ALL CONSTRUCTION ACTIVITIES AFFECTING TREES/SHRUBS WITH URBAN FORESTRY PROGRAM ..... 9

3. MANAGEMENT AND MAINTENANCE RECOMMENDATIONS ..... 10

    3.1 URBAN FORESTRY FUNDING PROGRAM ..... 10

    3.2 RISK MANAGEMENT PROGRAM AND REDUCTION OF HIGH RISK TREES ..... 11

    3.3 CYCLIC PRUNING PROGRAM ..... 12

    3.4 PLANTING PROGRAM ..... 12

4. COMMUNITY OUTREACH AND EDUCATION ..... 13

    4.1 Outreach ..... 13

    4.2 Education ..... 14

# **1. EXECUTIVE SUMMARY**

## **INTRODUCTION**

The city street tree ordinance established the Urban Forestry Program (**UFP**) in Spokane. The ordinance recognizes the value a healthy urban forest provides to the quality of life for city residents. The focus of the urban forestry program is on balancing the competing needs of the community, while promoting and maintaining a healthy urban forest.

The American Forestry Association estimates that the economic value of a community tree is twenty-five times greater than the value of a tree grown strictly for lumber. This value is derived from the multitude of benefits a community tree bestows on individual residents, the community, and the larger ecosystem. In Spokane, some of the tangible, beneficial aspects of the urban forest include: trees produce oxygen and filter airborne particulates; provide shade and help cool urban heat islands, which reduces energy consumption and costs; help reduce runoff and storm water concerns; and moderate wind. Trees also impart a distinctive character to a community and neighborhoods, enrich the aesthetic experience of a community, soften and screen urban development, enhance people's sense of connection to nature, history, civic pride and involvement.

The purpose of this Vegetation Management Plan (**VMP**) is to address long-term goals and strategic planning related to tree planting, pruning, removal and maintenance needs of community trees to encourage the sustainability of the urban forest. The scope of the ordinance (and UFP and VMP) includes street trees, and green spaces (parks, golf courses, conservation lands and other public lands), but has no jurisdiction over private lands.

The key elements of the urban forestry program are:

- Incorporate the VMP into the City Growth Management Plan and Comprehensive Plan.
- Use the tree inventories to establish (and publish) the priorities of the Urban Forest program.
- Educate and inform the public.
- Involve the public in every major decision and establish 2-way communication with the citizens and neighborhood groups.
- Annual review of UFP and update the VMP after the first year and every five years thereafter.

## **BACKGROUND**

In 1996, Natural Path Forestry Consultants, Inc was commissioned to do a Comprehensive Urban Forestry Management Plan and street tree inventory. The appraised value of Spokane's urban forest was calculated at \$103,390,000. The average value per tree was \$2,100.00.

Field observations indicate that the overall health of Spokane's street trees is below average because of an abundance of topped trees; a high volume of dead wood in the crowns of many trees; extensive trunk decay of older trees; and mechanical damage to younger trees.

One hundred and ninety eight tree species were identified throughout the city. The distribution of these species is average compared to surrounding communities. The variety of species can still be considerably broadened. Moreover, the dominant species represented in Spokane are considered high maintenance species because of their greater hazard potential due to weak structure, short life spans, and consistent production of large volumes of dead wood.

## **MANAGEMENT RECOMMENDATIONS**

Using the inventory data collected and employing recognized urban forestry principles, the following recommendations are for improving the quality, size and diversity of Spokane's urban forest.

### **1.1 Funding**

Primary funding for the urban forestry program is through the city general fund. The UF program is currently funded at \$0.33 per capita. Recommended budget levels are \$2.00 per capita, which meets criteria set by The National Arbor Day Foundation for Tree City USA status. Tree City USA is often a requirement to be eligible for grant monies.

### **1.2 Risk Management Program**

Strategies for assessing and reducing high risk trees increase public safety of the public right of way to an acceptable level of risk. Regular inspection and evaluation of street trees is coordinated with planned tree removals, pruning and new tree plantings.

Recommended actions for risk management include reducing the number of poor quality species, eliminating high risk tree characteristics, implementing a risk assessment program, and involving city staff, public officials, and residents.

### **1.3 Cyclic Pruning Program**

A regular pruning cycle is a critical component of an effective forestry program. Benefits from an ongoing cyclic maintenance program include a shift from reactive to proactive forestry management; an increase in the overall value of the forest due to increased quality of care and a clear demonstration that the city is exhibiting "reasonable care" in maintaining its urban forest. The pruning cycle should be a five to seven year rotation.

### **1.4 Tree planting program**

Regular annual tree plantings will maintain a healthy, sustainable urban forest. It is important to consistently add trees to the population in order to maintain a perpetual canopy. There are approximately 48,000 existing street trees and 27,000 additional available planting spaces on the city streets. Recommendations include locating available planting sites, planting tree species that are high quality, longer lived, and have good insect & disease resistance as well as being easy to maintain to minimize maintenance costs.

### **1.5 Community education and outreach**

The Urban Forestry Program is linked to the people of Spokane, whose collective decisions have a cumulative impact on the viability of the forest. Education and personal involvement of as many community members as possible including organizations, businesses, institutions, and residents is important to the overall success of the UFP.

### **1.6 Tree City USA**

Tree City USA is a national award that recognizes communities that achieve a minimum recommended level of urban forestry management. Tree City USA status is often a requirement for being awarded state and federal urban forestry assistance grants. The four criteria for receiving Tree City USA status are:

1. Having a Tree Board in the community (Urban Forestry Committee).
2. Having a tree ordinance in place.
3. Holding an annual Arbor Day celebration.
4. Spend a minimum of two dollars per year per capita on urban forestry.

### **1.7 Cooperation with City Departments**

Activities being carried out by other city departments have a great effect on the urban forest resource. An interdisciplinary approach is necessary to protect and improve the quality of infrastructure projects and community assets of the urban forest.

The Spokane Street Tree Ordinance has established the Urban Forestry Program, and mandated the Vegetation Management Plan and Arboriculture Standards and Specifications. This plan sets forth more information regarding details of the **UFP** and recommendations for managing the community trees for the health and well being of all city residents.

## **2. PROGRAM AND POLICIES**

Urban vegetation gives the inhabitants a sense of place and an emotional connection to the physical surroundings with which they come in contact every day. Since the community draws a wide range of aesthetic, health and economic benefits from the urban forest, a healthy urban forest is as crucial a component of Spokane's infrastructure as efficient transportation and public safety systems. This section of the Vegetation Management Plan details a set of goals and supporting policies for developing a proactive urban forestry program.

### **2.1 MAINTAIN, PRESERVE, AND IMPROVE EXISTING STREET TREE ENVIRONMENTS IN THE URBAN FOREST OF SPOKANE AND ITS INDIVIDUAL NEIGHBORHOODS.**

- A. Maintain street tree inventory.
- B. Expand inventory to include all park and public lands.
- C. Develop maps that clearly identify all jurisdictional urban forest areas including boulevards, parks, conservation lands, golf courses, brownfields, railroad row, Centennial Trail and a list of municipal buildings.
- D. Formulate policies that will promote long-lived and large species at important public places, including arterial streets.
- E. Review and revise the Vegetation Management Plan after the first year and every 5 years thereafter.
- F. Remove trees only in accordance with objective tree-removal criteria, and only by following a clear process of evaluation, consultation and public notice.
- G. Prepare annual work plans and distribute for review to the Urban Forestry Committee, Citizens' Advisory Committee, and communicate with the Neighborhood Assembly.
- H. Establish a "no net loss" of trees policy.
  - I. Require tree care contractors to be qualified as stated in the ordinance.
- J. Assure a diversity of species and age of trees.

- K. Conduct a “Community Pattern Inventory” of significant landscape features that will include:
- Special places and spaces
  - Existing tree masses and distinctive trees/groves
  - Significant topographical features
  - Desirable and undesirable views
  - Important wildlife habitat
- L. Enhance neighborhood districts.
- M. Prioritize trees in conflict with physical elements such as hardscapes, roads and sidewalks.
- N. Formulate hazard mitigation policies.
- O. Set priorities for cyclic pruning.
- P. Create policies for management of conservation lands.

## **2.2 BECOME AND REMAIN A “TREE CITY USA”**

Tree City USA is a national award that recognizes communities that achieve a certain level of urban forestry management. Tree City status is often a requirement for being awarded state and federal urban forestry assistance grants. There are four criteria for receiving Tree City USA status:

1. Having a Tree Board in the community.
  2. Having a tree ordinance in place.
  3. Holding an annual Arbor Day celebration.
  4. Spending a minimum of two dollars per year per capita on urban forestry.
- A. Meet criteria.
- B. Insure sufficient and ongoing funding.
- C. Continue seeking private donations to “Reforest Spokane”.

### **2.3 PRESERVE AND PROTECT NATIVE, SIGNIFICANT, AND HISTORICAL TREES AND LANDSCAPES.**

- A. Develop tree preservation guidelines for conservation of historical treescapes.
- B. Identify native, significant, historical treescapes.
- C. Evaluate the appropriateness of saving these features in relation to known ecological conditions, i.e. disease, insect infestation.
- D. Document a comprehensive file of historical landscapes with local historians.
- E. Establish memorial or heritage tree groves to attain significant historical value.

### **2.4 COORDINATE ALL CONSTRUCTION ACTIVITIES AFFECTING TREES/SHRUBS WITH URBAN FORESTRY PROGRAM.**

- A. Encourage developers to conserve as many trees as possible on new development and to consider power line/tree conflicts.
- B. Establish guidelines for business area landscaping.
- C. Coordinate plantings with Urban Forester.
- D. Educate the development community about the species of trees best suited to their site.

### **3. MANAGEMENT AND MAINTENANCE RECOMMENDATIONS**

In 1996, an assessment and street tree inventory was completed of the existing street trees and available planting spaces. The inventory is an effective, efficient day-to-day and long-range management tool and establishes a base line of the urban forest. The tree inventory supplies data and summaries to be used for planting, maintenance and removal schedules, service requests, budgeting, project bidding, contract reports and establishes a systematic maintenance program. The management and maintenance recommendations are based on the inventory data collected, and subsequent updated information.

#### **3.1 URBAN FORESTRY FUNDING PROGRAM**

The city of Spokane has approximately 49,000 trees located in the public right of way adjoining residences, businesses, parks, schools, churches and vacant lots. The total appraised value of the trees is \$103,390,000 using the 2001 International Society of Arboriculture standards \*(See Arboricultural Specifications and Standards). This dollar value is low for the number of trees present because of existing species and the health and structural condition of the trees. Many of these trees were planted in the early 1900s and few have received the necessary maintenance to promote good health and vigor. Consequently, a majority of our street trees are showing clear signs of decline and many others require removal.

##### **A. Budget for Urban Forestry**

Community trees should be maintained as a community asset with funding directly from the city's general fund. Spokane currently has \$0.33 per capita from the city's general fund allocated to the urban forestry program, which is less than .05 % of Spokane's general fund. In cities with populations comparable to Spokane, the average municipal budget allocation to tree programs is \$2.95 per capita, an average of 0.5% of the municipal budgets. In the Pacific Northwest, the average allocation to tree management from municipal budgets is 0.73%. In Spokane, the minimum budget level to meet the requirements of Tree City USA (at \$2.00 per capita annually) is approximately \$400,000.

## **B. Promote Monetary Value of the Urban Forest**

Proper care and maintenance of existing trees increases the appraised value of our urban forest. The selection of high quality species plays a critical role in increasing the monetary value of an urban forest. The UFP will highlight the value of trees as public assets, which add to the infrastructure, property values, and enhance our environmental, economic and social quality of life in our community.

### **3.2 RISK MANAGEMENT PROGRAM AND REDUCTION OF HIGH RISK TREES**

A top priority for the city during the next five years is implementing a risk management program, which includes reduction of hazard trees and regular inspection of street trees. Benefits of risk management include public safety, reallocating fiscal resources from maintenance of declining trees, replanting with diverse, insect and disease resistant tree species, and increasing the overall health and vigor of the urban forest. The program's resources and an acceptable level of risk as defined by the city will govern the specific management strategies. Strategies will be established for continually evaluating and monitoring trees that pose risks and defining what level of care is reasonable. City managers and elected officials will be integral for helping determine and support tree risk management program.

- **Reduction of Hazard Trees**

A number of hazard trees were identified in Spokane through the street tree inventory. There are approximately 2900 trees that meet removal criteria because of risk assessment. A tree risk assessment also includes the removal of low quality, high maintenance species before they become a problem.

A hazard tree is defined by several factors: potential to fail (defect), target that would be struck by the falling tree and an environment that increases the probability of failure. The International Society of Arboriculture hazard tree appraisal guide will be the format followed for evaluating the city's street trees.

- **Regular Inspection of Street Trees**

A regular program of inspecting all city street trees and monitoring potentially high-risk trees will reduce risk from hazard trees. By reviewing the inventory data for each of the high-risk species it is possible to target certain areas of the city that may need more attention.

### **3.3 CYCLIC PRUNING PROGRAM**

A regular pruning cycle is an essential component of an effective vegetation management program. The benefits of a pruning cycle include increase in health and condition of trees, increase in value of Spokane's urban forest because of better health and condition, decrease in service requests and storm damage, regular inspection interval of all street trees. Proactive maintenance is more cost effective than a reactive strategy. The Urban Forestry Program should maintain a five to eight-year pruning cycle.

### **3.4 PLANTING PROGRAM**

Tree inventory data shows that Spokane has 62% stocking. Stocking refers to the amount of space filled by street trees. There are approximately 49,000 existing street trees and 27,000 additional available planting spaces on the city streets. A realistic plan is to have ninety percent of all available spaces planted. Trees should be added annually so that there will be a distribution of trees in all age classes over time throughout the city.

- **Species Selection**

Planting the right tree in the right place is essential for long term survival, environmental and aesthetic benefits. As a general rule of thumb, any given species should constitute no more than five percent of the city's total tree population. Species diversity adds stability to the urban forest by providing insurance against a single disease or blight destroying large sections of the urban forest. 198 different species were tallied in Spokane during the inventory. Street tree selection should consider site conditions, growing space, species characteristics such as maintenance, fruit, insect and disease resistance, expected life span, and existing infrastructure like sidewalks and overhead powerlines. Street trees recommended for Spokane can be found in The Street Tree Guide for the City of Spokane. Certain species should not be planted as street trees, because of high maintenance cost; high storm damage potential and a high hazard potential, and other reasons.

## **4. COMMUNITY OUTREACH AND EDUCATION**

Trees contribute to the vitality of the community and enhance its appearance and attractiveness. Spokane residents place value on parks, trees, and their connection to the environment and sense of history. Street trees have a great effect on most citizens because of the time spent in cars traveling along streets.

The Urban Forestry Program (UFP) is becoming better known in Spokane, but much can be done to expand awareness of the program and the benefits of the urban forest. Community involvement with the UFP will help raise citizen awareness, knowledge, and support and ensure success of the program. This in turn will meet the needs of the urban forest and the desires of the community, while retaining the community asset and a sense of pride, beauty, history, and environmental stewardship.

### **4.1 Outreach**

Community involvement shall use existing established neighborhood groups as well as organizations such as civic groups, professional societies, youth groups and environmental groups. Involvement with these groups will provide opportunities to increase awareness, knowledge and support of the UFP, and take advantage of service projects and fund raising capabilities of these groups. The Citizens Advisory Committee to the Urban Forestry Committee is a direct link to the community through interested active citizens of Spokane. Other organizations include:

- Volunteers involved in the “greening” of our city such as WSU Master Gardeners, Friends of Manito, Spokane Preservation Advocates, The Lands Council, The Audubon Society, and garden clubs.
- Professionals such as plant nurseries, landscape companies, arborists, Washington Association of Landscape Professionals, International Society of Arboriculture, and Washington State Nursery and Landscape Association.
- Service organizations such as Kiwanis and Rotary.
- Youth groups such as 4H, Scouts, and Campfire Girls and Boys.

## **4.2 Education**

Strong connections to the educational community through schools and libraries foster a natural interest in the urban forest and its ecology. Opportunities shall be pursued with related educational programs and groups to reach a wide audience such as WSU Master Gardeners and Department of Natural Resources programs. Education strategies shall be developed to reach a wide range of people including youth, the public, building contractors and developers, public agencies, other city departments. The goal is to provide information about the benefits of the urban forest, and proper tree care including tree selection, planting, and after care.

Educational information shall be provided through various means including Arbor Day Celebration, Fall Leaf Festival, Reforest Spokane, neighborhood meetings, brochures, newsletters and press releases. This can also be an opportunity to publicize and fund the urban forest programs.

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