

ESTABLISHING AN URBAN  
FORESTRY PROGRAM:  
A CASE STUDY

By

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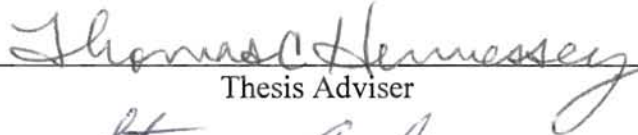
Stillwater, Oklahoma


1992

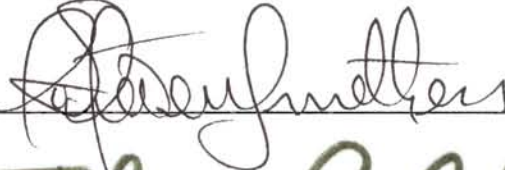
Submitted to the Faculty of the  
Graduate College of the  
Oklahoma State University  
in partial fulfillment of  
the requirements for  
the Degree of  
MASTER OF SCIENCE  
December, 1996

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## ACKNOWLEDGEMENTS

The road to completion of this thesis was a long one indeed, and I encountered numerous detours and speed bumps along the way. Many people provided maps and road signs to guide me towards my destination, and I would like to thank all of them.

I extend a most sincere thank-you to my co-advisors, Dr. Steve Anderson and Dr. Tom Hennessey, for believing in my ability to see this project through to completion. Their guidance was always wise and thoughtful, and the depth of their knowledge will continually inspire me - they have my greatest respect. I am also very grateful to the remaining member of my committee, Dr. Steve Smethers, for his unique and refreshing suggestions, and for his patience.

Implementation of this study was possible through the assistance of two federal grants, both of which were administered by Ms. Melissa Pearson and Mr. Mark Bays of the Oklahoma Department of Agriculture Forestry Services. I would like to thank them both for giving us the opportunity to conduct this study.

Thank-you to the Stillwater Tree Board, all past and present members, for working with me, and for teaching me so many valuable lessons.

I am greatly indebted to my supervisor, Grant Ehlen, for his understanding and never-ending patience through the many 'personal' hours spent completing this thesis.

To my "Shooger Booger", for making me laugh when I didn't feel like it, I offer my never-ending love and respect. To Cinzano I offer a lifetime of care and affection -

without her I would never have been able to keep my concentration. To Cicily I offer many grapes and dances when I join her in the aftermath - without her I would never have been able to keep my spirits up.

Most importantly, I would like to thank my best friend and mother, Deidre, for understanding like no one else could. Her absolute faith and belief in my tenacity was a constant inspiration, and I will always be grateful for the loving and caring guidance she has provided throughout every challenge I have faced.



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## CHAPTER I

### INTRODUCTION

This thesis provides a case study on the process of establishing an urban forestry program in a small community. Urban forestry, as a concept and a profession, is fairly new, as is the concept of an urban forest. The urban, or community, forest includes all native and introduced tree species, trees that grow along streets and in parks or natural areas, and trees located on public and private property. Trees improve the quality of life within urban areas through the many benefits they provide: shade, beauty, wind protection, air purification, reduction of noise pollution, soil stabilization, habitat for urban animals; increased property values, and contribution to the psychological health of urban dwellers. In a broader context, urban trees play an important role as a component within urban ecosystems. These systems also include soil, water, vegetation, atmosphere, buildings, utilities, and most importantly, people. People have the ability to impact every component within urban ecosystems. Information on the condition of the nation's urban forests collected over the last several decades reveals that people have severely impacted urban forests; most are now in a state of decline. Fortunately, people also have the ability to impact urban forests in a positive manner. A new grassroots movement has brought public awareness to this issue, and urban forest management programs are being organized nationwide to improve the plight of our nation's urban trees. Although the structure of these programs is different for each community, successful programs contain

three main elements: a basic tree care program, public support, and administrative processes.

The main goal of establishing urban forest management programs is tree care: the protection of existing trees from destruction, the planting of new trees, the removal of dead and hazardous trees, and the maintenance of existing and newly planted trees through proper pruning and disease control. Public support, or the attitudes towards the value of urban trees, is the means by which a tree care program functions, and can take on different forms. Some entities, such as city governments and private businesses, may provide monetary support, while other groups and individuals may provide volunteer support. Whatever the form, support is dependent upon people's attitudes and actions towards urban trees; a critical issue in urban forest management.

Administrative processes are a necessary component of urban forest management programs to ensure that community support is utilized effectively. Tree inventories assess the current status of urban forests and help determine the management directive (goals) of tree care programs. Long-term management plans outline action plans for accomplishing goals, including yearly operational plans and budgets. Administrative entities, usually a city tree board or advisory group, are responsible for the execution of urban forestry programs, and tree ordinances provide the legal authority for the entities to handle such execution (USDA Forest Service, 1989).

In 1992, the City of Stillwater made the first official step in establishing an urban forestry program for the community when it passed an ordinance that formed a city tree board. The Tree Board was charged with developing an urban forestry program for the community. A graduate student from the Oklahoma State University Forestry

Department, through the aid of federal grants, was charged with assisting the tree board in accomplishing this task. The student's responsibilities were threefold:

1. to monitor decision processes and group dynamics of the new tree board
2. to assess structure and responsibilities of the tree board as they related to effectiveness and efficiency
3. to make recommendations for similar efforts in other communities

Urban forestry, as opposed to community forestry, usually refers to the establishment of programs in large, urban areas. Community forestry (and hence community forests) refers to the establishment of programs in smaller, more rural areas. Since Stillwater is a smaller, rural community, the program developed is referred to as a community forestry program, and will be referred to as such throughout this thesis.

## CHAPTER II

### LITERATURE REVIEW

#### Why a Case Study?

One of the main characteristics of qualitative research is that it focuses on specific instances (cases) of a phenomenon, and for this reason is sometimes called *case study research*. This study focuses on the phenomenon of establishing an urban forestry program in a small community, and the particular case it focuses on is that of the small community of Stillwater, Oklahoma. Case study research is usually done for one of three purposes: to produce detailed descriptions of a phenomenon, to develop possible explanations of it, or to evaluate the phenomenon (Gall, 1996). The purpose of this case study was to not only describe the particular process used to establish an urban forestry program, but also to provide an evaluation of this process. In the evaluation approach, the researcher conducts a case study, makes judgments, and may create a thick description of the phenomenon being evaluated (Gall, 1996). A thick description contains “statements that re-create a situation and as much of its context as possible, accompanied by the meanings and intentions inherent in that situation” (Gall, 1996). This thesis provides an interpretation, or judgment, of the effectiveness of the process that was studied (establishment of the urban forestry program), and utilizes thick descriptions whenever possible to provide a basis for interpretation.

A crucial goal of case studies is for the researcher to develop an understanding of the phenomenon as experienced by its participants. Typically, this is accomplished through direct observation of the participants as they behave naturally in the field, and through informal conversations with them (Gall, 1996). At the same time, the researcher maintains his or her own perspective as investigator of the phenomenon. Thus, the researcher is the primary “measuring instrument” which means that he or she

“carries out data collection and becomes personally involved in the phenomenon.....is likely to interact closely with field participants, attend social events in the field settings, and use empathy and other psychological processes to grasp the meaning of the phenomenon as it is experienced by individuals and groups in the setting” (Gall, 1996).

In this particular case study the researcher developed an understanding of the community tree board’s perspective by attending and participating in board meetings and activities over a two-year period as an actual board member.

Case study research provides several advantages over traditional quantitative research methods. First of all, the case study researcher, through thick description, can bring a case to life which helps readers more easily compare cases with their own situations. Readers, therefore, may have a better basis for developing theories and taking action than they would have from reading only quantitative research (Gall, 1996). Secondly, a good case study report will reveal the researcher’s perspective, enabling readers to compare it with their own perspectives. Finally, case studies provide an advantage through their emergent quality. This means that “as researchers collect data and gain insight into particular phenomena, they can change the case on which the study will focus, adopt new data-collection methods, and frame new research questions” (Gall, 1996).



The main disadvantage of case study research is the difficulty of generalizing the findings to other situations. A research study's findings are able to be generalized to the extent that they "can be applied to individuals or situations other than those in which the findings were obtained" (Gall, 1996). However, thick descriptions of the participants and contexts that comprise individual case studies help readers make comparisons and find similarities with their own situations (Gall, 1996). Some researchers place the responsibility for generalizing case study findings on the readers rather than the researchers; it is the responsibility of each reader to determine the applicability of the findings to their own situations (Gall, 1996).

### Urban Forestry: a Historical Review

Urban Forestry, as a management concept and profession, is fairly new. Mankind's affinity for trees, however, extends back to the early development of human culture. Our appreciation of trees has evolved from the simple recognition of their beauty through art and gardening to the recognition of their many economic and social benefits and currently to the recognition of their integral role in urban ecosystems. Ironically, while society's concern for the welfare of urban forests has reached an all time high, municipal programs to plant and maintain the health of these forests are in deep decline (Skiera and Moll, 1992). Steep cuts in municipal tree budgets have brought forth a surge of grass roots ideas, programs and volunteers and have created a new mold for urban forest management.

Early Appreciation of Trees: Mankind has a long history of religious and aesthetic attachment to trees. Egyptian, Persian and Greek literature and art illustrate this attachment through the portrayal of beautiful parks and gardens with sacred groves (USDA Forest Service, 1990). Enamor with trees continued well into the 18<sup>th</sup> century when settlers in North America began planting trees in earnest once land had been cleared for agriculture. During this period, New England town squares were converted from pasture land to park settings with lawns and trees. In the southern colonies, trees were used to transform plantation estates into formal landscape settings.

A later generation of foresters and landscape architects - including Andrew Jackson Downing, Frederick Olmstead, and Bernard Fernow - recognized the need for long-term planning to conserve existing trees and plant new ones. Through their successful design projects, of which Central Park of New York City is an example, they made the concept of landscape architecture a reality and generated public support for improvement of the urban environment (USDA Forest Service, 1990). Their influence generated the support of citizens and special interest groups for urban beautification projects, especially those that planted trees. Many horticultural societies were organized during this period, and numerous books on gardening were published. In 1872, J. Sterling Morton, a Nebraska farmer and politician, proposed the idea of Arbor Day, which has become a national observance.

The Dawn of Urban Forestry: In the early 1900s, the focus turned to Arboriculture, the cultivation of woody plants primarily for ornamental use. During this period, B.E. Fernow, a noted forester, published a book on the care of trees in urban

settings, devoting one entire chapter to “Esthetic Forestry” which came close to the concept of urban forestry. Davey Tree Company was formed and pruning, cabling and bracing became common practice. In 1924, the International Shade Tree Conference began which later became the International Society of Arboriculture. While these events were moving ideas towards urban forestry as a management concept, the virtual destruction of the American Elm population by Dutch Elm Disease provided a startling example of the need for practical urban forest management.

Two landmark events in the 1960s brought the term Urban Forestry into the mainstream as a concept. The first was the 1967 report of the Commission on Education in Agriculture and Natural Resources that stated the need for “foresters to be responsive and sympathetic to an increasingly urban America” (USDA Forest Service, 1990). This was based on the rationale that America’s urban areas were increasing rapidly, and that foresters would be forced to respond to the demands of these urban cultures. The second landmark event was in 1968 when the Citizens Advisory Committee on Recreation and Natural Resources focused part of its Second Annual Report to the President of the United States on the theme that America’s city trees were not adequately cared for. The report recommended the following:

“an urban and community forestry program be created in the United States Forest Service...the program should encourage research into the problems of city trees, provide financial and technical assistance for the establishment and management of city trees and develop Federal training programs for the care of city trees” (USDA Forest Service, 1990).

Additionally, the report made the following suggestion:

“The U.S. Forest Service should create an urban and community forestry program in cooperation with the states to protect, improve, and establish trees in community, suburban and urban areas. A federal-state program would provide

technical and financial assistance to local governments, organizations and individuals to establish and manage trees and related plants in community parks, open spaces and on private property” (USDA Forest Service, 1990).

Urban forestry efforts throughout the nation continued to grow, and within a decade, the need for a central representative group was recognized. In 1981 an independent organization was established “by a few people in Washington who saw the need to bring together ‘into one tent’ most of the ‘players’ on the national scene involved in urban forestry” (Willeke, 1994). The small founding group, called the National Urban Forest Council (NUFC), included representatives of American Forests, the Society of American Foresters, the U.S. Forest Service, the Extension Service, and others. They were soon joined by members of the National Association of State Foresters, the International Society of Arboriculture, the American Association of Nurserymen, the American Society of Landscape Architects, the National Association of Arborists, and other interested groups. The NUFC’s founding principal was “to bring people and groups together to seek a consensus on what should be done for urban forestry on the national level, and then to look for ways it could be implemented” (Willeke, 1994). Efforts by the group were highly successful and by 1987 it played a critical role in getting Congress to seriously consider a national program for improving our urban forests (Willeke, 1994).

The Decline of Urban Forests: It is estimated that in 1620 approximately 1 billion acres of the land that is now the United States was forested (USDA Forest Service, 1991). As this area was settled, forests were cleared for the expansion of agriculture and then increasingly for the expansion of urban areas. By 1987, forest land had been reduced to 730 million acres (USDA Forest Service, 1991). While the rate of conversion

of forest land to other uses in rural areas is believed to be slowing down, the rate of conversion in urban areas is not changing. Nearly 1/2 million acres of forest land are lost to urban development each year (USDA Forest Service, 1991).

Coupled with the loss of urban forests from urban development is the loss of urban trees from mismanagement. During the last several decades, the life span of urban trees has been drastically reduced from lack of maintenance and poor species and site selection. Poor selection has precipitated a significant increase in the death and subsequent removal of urban trees. This loss in urban tree populations is magnified by the fact that few of the trees that are removed are replaced. All of these factors have contributed to the slow decline of the nation's urban forests. Concerned about the future of these forests, the American Forestry Association (AFA) began to monitor the state of the nation's urban forests by conducting surveys "designed to reveal the size, needs, and condition of the urban forest" in the mid-1970's (Moll, 1992). In 1975, the AFA began a 10-year survey of urban forest programs across the nation, and in 1989 a similar survey was conducted in 400 communities. The surveys revealed that the decline of our nations' urban forests had reached a crisis level. The fifth National Urban Forestry Conference, held in 1991, provided an excellent opportunity for the AFA to provide statistics on the crisis state of our urban forests to a large audience. A review of the condition of urban forests in 20 of the cities from the original survey was therefore conducted, and the information was presented at the conference. The 20-city review revealed the following statistics:

- four trees die for every one planted

- 56 percent of the potential planting spaces are vacant
- only 27 percent of the street trees necessary to maintain the present urban forest are being planted
- the average life span of a downtown street tree is just 13 years

(Skiera and Moll, 1992).

The surveys also revealed an unmistakable reason for the crisis state of our urban forests: the “budget ax that has hit urban forest departments with a body blow to the solar plexus” (Skiera and Moll, 1992). City administrators are continually facing the challenge of having to stretch fewer dollars farther, and since most administrators are not aware of the value and importance of trees in their communities, municipal tree programs often become targets during times of budget crunches.

Cuts in urban tree budgets were revealed in the AFA surveys which show that tree maintenance programs have been cut in 70 percent of the cities surveyed, and routine maintenance programs do not even exist in 45 percent of the cities (Skiera and Moll, 1992). Managers do not have the funds to care for the basic health needs of their trees. Dead or damaged branches cannot be removed before they cause damage and many dead trees are left standing until they become serious safety hazards; tree crews respond only to emergency calls and citizen complaints. In Philadelphia, New York, Newark, and New Jersey,

“departments once responsible for developing and maintaining healthy urban forests are now relegated to acting as ‘tree ambulance services’, only going out to take away dead trees that have become public hazards”

(Skiera and Moll, 1992)

Ironically, these drastic declines in urban forest programs come at a time of “unprecedented government, citizen, and business interest in planting and caring for trees, and when important environmental and social benefits of urban trees are being understood more clearly, by a wider range of people” (Petit and Skiera, 1994). People are now recognizing trees as indicators of the quality of their communities.

The New Urban Forestry Movement: Ironically, as the health of urban forests nationwide was slowly dissolving, an awareness of the many benefits that urban trees provide was on the rise. In 1990, President Bush proposed a major initiative to address rising public concerns on this issue and “to provide an environmental legacy for future generations” (USDA Forest Service, 1991). As part of the 1990 Farm Bill, the initiative was called the *America the Beautiful* program (ATB) and began in the fiscal year 1991. A major component of this program was the National Tree Trust program, a nationwide multiyear program of tree planting and care that contained both a rural and a community tree component. The trust was funded through a one-time grant of \$20 million to create public awareness, stimulate volunteerism, and raise funds in support of local tree planting and care efforts by creating a cooperative partnership between the public and private sectors (USDA Forest Service, 1991).

The ATB program brought new recognition to the contribution of urban forestry activities to the continuation of environmental improvement, and spawned the creation of the Urban and Community Forestry Assistance Program (U&CF). The intent of this program was to expand the authority of the U.S. Forest Service by enabling it to work through the State forestry agencies “to provide education, technical assistance, and cost-



shares to municipalities and local community groups for the purposes of increasing the number of cities and towns having long-term tree planting and care programs” (USDA Forest Service, 1991). Congress enacted legislation to fund the program, and the USDA Forest Service’s urban forestry program budget increased from \$2.8 million in 1990 to \$21 million in 1991 (USDA Forest Service, 1991). At the same time Congress enacted the U&CF, it provided a new outlet for federally-funded urban forestry activities through the Small Business Administration (SBA). The SBA allocated \$15 million for grants to small businesses that undertake tree-planting projects (USDA Forest Service, 1991).

This surge in urban forestry funding was the springboard needed to jump start a new urban forestry movement. Municipalities, community groups, and businesses across the nation began to coordinate efforts to plant trees and create urban forest programs. Information on the proper management of urban trees and the full spectrum of benefits they provide was disseminated through a wide variety of publications to assist their efforts. The Sixth National Urban Forestry Conference in 1994 was an encouraging indicator of the strength that the new movement had attained. With a record-breaking 980 attendees, the conference was the “largest and most diverse gathering yet of forestry practitioners, government employees, citizen activists, students, and forestry advocates” (Robbins, 1994). Such a large, diverse attendance can be attributed to the rise in partnerships within the movement; affiliates from companies like Texaco and Tucson Electric Power “once would have been unheard of at a ‘green’ conference” (Robbins, 1994). Neil Sampson, executive vice president of *American Forests*, recounted the beginnings of the National Urban Forest Council which was formed to build coalitions across the spectrum of urban interests, and described it as “networking at its finest”



(Robbins, 1994). Gary Moll, American Forests vice president for urban forestry, recalls a time when a big part of the educational effort was just defining the term urban forest. Now, everyone knows what an urban forest is, and the conference attendees “were all busy trying to improve some part of it” (Robbins, 1994).

### Urban Forestry: the Future

The key to gaining support for any new plan has always been to demonstrate what benefits can be derived from the plan. A strong urban forestry movement throughout the last decade was fueled by a more thorough understanding of the benefits that urban trees provide: improvement in air and water quality, reduction in energy costs and urban temperatures, attraction of businesses and wildlife, contribution to personal health. Eventually, an understanding was developed of the broader context of the benefits of urban trees as a “layer” within urban ecosystems. Current research is revealing the complex structure and functions of urban forest ecosystems. As information on how these ecosystems function is revealed, opportunities arise to improve the health of urban forests. As information on how urban forest ecosystems function within the larger urban ecosystem is revealed, opportunities arise to improve how urban forests are managed.

Most urban forest experts agree that the continuation of the urban forestry movement depends on the firmness of its scientific footing. “We need more than enthusiasm to convince policy makers to increase urban forestry funding - we need research that quantifies the benefits of the urban forest” (Rodbell, 1992). Research into the benefits of urban trees in energy conservation and water quality and conservation

have the greatest potential to aid in urban forest program funding. These are issues that affect people everyday.

New technology is changing the way natural resources are analyzed. American Forests is helping communities map, measure, and analyze their urban ecosystems using a computerized planning tool, and results show that “natural resources are more than pulling their weight” (Moll, 1995). Different elements of the ecosystem are not just counted as was the previous method used to conduct an inventories. Now the value of the different elements is analyzed by measuring the work they do (Moll, 1995). For example, “when you ask critical questions such as how an expanding community will affect tree canopy, the software analyzes the benefits of the tree canopy and assigns it a value in dollars” (Moll, 1995). Questions about the effects of alternate management scenarios can be posed, and the ramifications of each choice can be easily calculated.

Whatever the significance or technical complexity of new information that is discovered about urban forests, it is critical that the information be “put into a ‘keep-it-simple’ form that makes it relevant for city leaders” (Hopps, 1994). A tremendous gap exists between the science of urban forestry and the practices used by city leaders and urban forest managers. It is critical that the value of research findings be communicated in everyday useful terms, and to ensure that laws and regulations pertaining to the management of urban forests are based on sound science and clear logic (Hopps, 1994).

## CHAPTER III

### THE STILLWATER TREE BOARD:

#### ESTABLISHMENT, STRUCTURE, ROLES, AND RESPONSIBILITIES

Establishment of the Stillwater Tree Board, like many other similar organizations, was initiated by the desire of local citizens to improve their urban environment. Two separate projects that were initiated to improve Stillwater's community forest marked the early stages of the Tree Board formation.

First, the Fraternal Order of Police (FOP) had the desire to organize a tree planting project for the community, but needed some guidance on where, how, and which trees to plant. Secondly, the Stillwater Planning Commission undertook the task of revising the city commercial landscape ordinance. Representatives from Oklahoma State University and local businesses were asked to participate in early discussions of the revisions. In keeping with city processes, the revisions were presented in public forums for discussion. This provided an opportunity for the FOP to voice its desire for a community group that could assist in the organization of tree planting projects. A well-known, local advocate of urban trees also participated in the public forums. This citizen voiced concerns that current landscape policies were not enforced strictly enough, and many commercial businesses were therefore not adhering to them. She voiced her opinion that the city had a responsibility to ensure that ordinances are adhered to and, just as importantly, that the community forest is protected.

The Planning Commission therefore decided that the landscape ordinance should contain two components: one to address the management of commercial landscaping, and one to address the management of the non-commercial sector of urban landscaping. It was suggested that a city tree board be established to oversee management of the non-commercial component of the community forest. While the establishment of a tree board had some community support, opposition was strong: some local businesses were concerned that it would be too regulatory and thought that it should be an educational entity only; the city mayor felt that it would drain the city budget and encourage unnecessary regulations; and the Stillwater Parks and Recreation Department was fearful that it would take away from its budget and cause confusion because of the overlap of responsibilities. It soon became apparent that the landscape ordinance was too controversial to pass as long as the formation of a tree board was included. The Planning Commission decided that the landscape ordinance should proceed without the provision for a tree board.

An ad-hoc group was then organized to oversee the development and writing of a separate ordinance to establish a tree board. It included Dr. Steve Anderson of the OSU Forestry Department, Mr. Bryan Brown of the Stillwater Community Development Department, and Dr. Bud Lacey of the Stillwater Planning Commission. The ordinance was drafted using a sample Tree City USA tree ordinance and other tree ordinance examples as guidelines (see Appendix A). When a final draft ordinance was prepared, a study group which included a City Commission representative was convened to ensure the ordinance had the best opportunity for a positive reception with the City Commission.

It was then brought before the City Commission for approval and public hearings were held to discuss and make changes to the ordinance.

At the same time that these discussions were taking place, the City of Stillwater received a federal “America the Beautiful” cost-share grant to conduct a street tree inventory (results are described in more detail on page 20). This project was contracted to an urban forestry consulting company. Results of the inventory revealed that Stillwater’s community forest was in a state of decline, and showed a strong need for an organized and comprehensive management program for the community forest. This information was presented during public discussions on the draft tree board ordinance. The City Commission agreed, and approved the ordinance. The Stillwater Tree Board was thus established on a three-year trial basis (commonly referred to as the ‘Sunset Clause’ of the ordinance).

Specific responsibilities of the tree board were outlined in the ordinance as follows:

- Development of a Master Forestry Plan that addresses the care and preservation of Stillwater’s urban forest
- Creation of educational programs about urban forestry
- Planning activities for public tree planting, maintenance, and removal
- Fund-raising and gaining volunteer support for forestry activities
- Creation of a recommended tree species list for the Stillwater area

These responsibilities coincide with the three main elements of a community forest plan: basic tree care, gaining public support, and administrative processes. The main intent of

the ordinance, therefore, is to improve the long-term health and welfare of Stillwater's community forest through the development of a community forest management plan. The ordinance, and thus the management plan, is applicable only to public trees which were defined as all trees and shrubs of which any portion of the trunk is located on public property or street rights-of-way. However, privately owned trees are also an important component of the community forest. A critical role of the tree board, therefore, is that of an educator so the general public can better manage its trees and thereby contribute to the health of the community forest as a whole. The tree board also assumes a critical advisory role to the city government regarding urban tree matters since it does not have the authority to develop or implement city policies.

Structure of the Stillwater Tree Board, as originally mandated in the ordinance, consisted of nine members, all of whom were required to be citizens and residents of Stillwater. Five of the members were appointed at-large by the City Mayor, with approval of the City Commission, based on their interest and expertise in urban forestry (referred to as 'citizen' members in this thesis). Four of the board members were city employees, appointed by the City Manager, one from each of the following departments: Parks and Recreation; Community Development; Stillwater Utilities Authority; and Public Works (referred to as 'city' members in this thesis). It was believed that these members should be an integral part of the tree board because their departments had direct influence and responsibility over aspects of the community forest. They could therefore serve as spokespeople for their department in regards to policies and procedures that may affect the tree board's function.

## CHAPTER IV

### STILLWATER'S COMMUNITY FOREST

Trees within Stillwater's urban area were rare following settlement of the community in the late 1800s and early 1900s. However, Stillwater's urban landscape today contains many trees. This means that many trees were planted by the pioneers who settled the area. Unfortunately, these historical efforts to expand the community forest have not been maintained, and the overall growth of the forest has stagnated. In addition to this problem, several factors have caused a loss in the urban tree population: disease has attacked prominent species; urban development has continually expanded; trees have not been properly maintained; and removals have exceeded new plantings. All of these factors combined have caused the community forest to reach a state of decline. A question then arises, 'if the community forest is in a state of decline, just how urgent is the problem?' This question was answered in 1991 when a partial inventory was taken of Stillwater's urban trees. The remainder of this chapter describes the inventory and summarizes the information that was collected in the inventory.

#### The Tree Inventory

In September of 1991, the City of Stillwater was awarded a matching fund grant from the Oklahoma Department of Agriculture for the purpose of conducting a partial

street tree inventory (street trees were defined as all trees and shrubs for which any portion of the trunk is located on street rights-of-way within the city). The grant was a part of the President's "America the Beautiful" program which was funded through the 1990 Farm Bill. The project was contracted to an urban forestry consultant company, *Bob Birchell and Associates*. Mr. Birchell, assisted by students from the OSU Forestry Department, conducted the inventory in the Fall of 1991. It focused on street trees only, and covered 5.5 square miles of Stillwater's main urban area. Information collected during the inventory included the following:

- species
- size
- location
- overall condition rating (as a percentage from 0 to 100%)
- maintenance needs
- insect and/or disease problems
- structural and cultural problems (ex: poor branching structure, sidewalk interference)
- overall utility heights
- available planting sites

The information collected is summarized in the remainder of this chapter.



## Species Composition

The inventory revealed that a total of 6,111 street trees exist within the 5.5 square mile area. These trees are comprised of 76 different species. The ten most abundant species, and their percentage of the total number of trees found, are shown in Table 1.

*Table 1. Ten most abundant tree species in Stillwater, Ok*

SPECIES	PERCENT OF TOTAL TREES
American Elm	15.3
Siberian Elm	9.3
Pecan	7.7
Hackberry	7.7
Pin Oak	6.4
Silverleaf Maple	5.9
Sycamore	5.6
Redbud	5.2
Bradford Pear	4.3
Eastern Redcedar	3.5
<b>TOTAL:</b>	<b>70.9</b>

Most urban forest managers agree that an 'ideal' urban forest contains no one species that comprises more than 10 percent of the total tree population; only one species (American Elm) in Stillwater can be considered to be over-planted (Table 1). However, this species is susceptible to Dutch Elm disease which has already caused a considerable decline in the numbers of elms. This problem is compounded by the fact that the two

most abundant species (American Elm and Siberian Elm) comprise 25 percent of the total trees inventoried, and the top ten species comprise more than 70 percent of the total trees inventoried. Stillwater's urban forest, therefore, can be considered in need of species diversification.

### Condition Ratings

Each tree that was inventoried was given a condition rating between 0 and 100 percent (ratings progressed in increments of 5). A rating of 0 percent was given if the tree was dead, and a rating of 100 percent was given if the tree was in the best possible health and condition for that species. A breakdown of the condition ratings found for all the trees inventoried is provided in Table 2. Condition ratings are grouped into five categories (good, fair, poor, weak or hazardous, and dead), and the percentage of trees within each category is shown.

*Table 2. Percentage and number of trees within condition rating groups found in Stillwater, Ok.*

CATEGORY	CONDITION RATING	PERCENTAGE OF TREES	NUMBER OF TREES
GOOD	75 - 100%	47.9%	2,929
FAIR	55 - 70%	27.0%	1,650
POOR	35 - 50%	19.2%	1,175
WEAK/HAZ	5 - 30%	5.0%	304
DEAD	0%	0.9%	53
<b>TOTALS:</b>		<b>100%</b>	<b>6,111</b>

Table 2 indicates that less than half of the trees inventoried are in good condition, and 27 percent are in fair condition. Trees within these two condition ratings are fairly healthy, but may require some maintenance to retain their condition. Trees within the poor condition rating (around 20 percent) require major maintenance efforts to improve their health and extend their life span. The trees in hazardous condition and the dead trees (approximately 6 percent) are considered dangerous and need to be removed immediately for safety reasons. Condition ratings for the two most abundant species (American Elm and Siberian Elm) are shown in Table 3.

*Table 3. Percentage of trees within condition ratings groups for two most abundant species in Stillwater, Ok.*

CATEGORY	AMERICAN ELM		SIBERIAN ELM	
	# OF TREES	% OF TREES	# OF TREES	% OF TREES
GOOD	85	9.1	31	5.5
FAIR	379	40.6	140	24.7
POOR	391	41.9	257	45.2
WEAK/HAZ	61	6.5	128	22.5
DEAD	18	1.9	12	2.1
<b>TOTALS:</b>	<b>934</b>	<b>100%</b>	<b>568</b>	<b>100%</b>

Table 3 indicates that less than 10 percent of these two species are in good condition, and the highest percentage of each are in poor condition. This problem is further compounded by the fact that these two species are comprised mainly of large, old

trees that will die soon and few young trees that will replace them to populate the future mature urban forest (Table 4).

**Table 4.** Diameter distribution for two most abundant tree species in Stillwater, Ok

DIAMETER RANGE (INCHES)	AMERICAN ELM		SIBERIAN ELM	
	# OF TREES	% OF TREES	# OF TREES	% OF TREES
1 - 4	43	4.6	30	5.2
5 - 8	40	4.3	36	6.2
9 - 12	41	4.4	28	4.9
13 - 16	49	5.2	71	12.5
17 - 20	127	13.6	134	23.5
21 - 24	177	19.0	135	23.7
25 - 28	159	17.0	97	17.0
> 28	298	31.9	40	7.0
<b>TOTALS:</b>	<b>934</b>	<b>100%</b>	<b>568</b>	<b>100%</b>

The conclusion that can be drawn from all of the condition ratings information is that an aggressive planting program of diverse species is needed in Stillwater to ensure that the old, mature trees will be replaced once they have died.

#### Planting Spaces

The inventory found that 5,295 empty spaces are currently available for planting trees. An additional 6,111 planting spaces are currently occupied with trees. Three hundred and four of these spaces will become available as the dead and hazardous trees

are removed, and 5,807 will become available as the remaining trees die. Therefore, a total of 11,406 possible spaces for trees exist within the area inventoried (Table 5).

*Table 5. Possible spaces for trees by origin*

SPACE ORIGIN	# SPACES AVAILABLE
CURRENTLY UNOCCUPIED	5,295
REMOVAL OF DEAD/HAZARDOUS TREES	304
REMAINDER OF CURRENTLY OCCUPIED	5,807
<b>TOTAL:</b>	<b>11,406</b>

Table 5 indicates that of the 11,406 possible spaces, only 53.6 percent (6,111 spaces) contain trees. Therefore, the community forest within the area inventoried is only at half capacity. Many trees can be planted immediately, and many can be planted in the future as additional spaces become available.

#### Maintenance Concerns

During the inventory data was collected on insect and disease problems, maintenance and structural problems (storm damage, shallow roots, sidewalk disruption, creation of a traffic visibility hazard), and general maintenance problems (utility line interference, sidewalk disruption, improper planting space, etc.). Five of these types of problems occurred frequently enough in the trees inventoried to be of concern. These were improper pruning of existing trees; lack of deadwood removal from existing trees;

partial or unbalanced canopy; storm damage; and interference of trees with utility lines. The percentage and number of trees inventoried that are affected by each of these problems is shown in Table 6.

*Table 6. Percentage and Number of Trees Within 5 Most Critical Maintenance Problems*

PROBLEM	PERCENTAGE OF TREES AFFECTED	NUMBER OF TREES AFFECTED
DEADWOOD PRESENT	74.0	4522
IMPROPER PRUNING	46.8	2859
PARTIAL/UNBALANCED CANOPY	30.6	1871
STORM DAMAGE	21.6	1320
UTILITY LINE INTERFERENCE	11.1	681

The five most common problems are all indications that Stillwater’s trees have not been properly maintained. Deadwood created by natural branch mortality and storm damage should be removed on a regular basis. Crown shaping can be accomplished at the same time. Education on proper pruning practices should be an integral part of employee training to assure healthy trees. Utility line interference is a common problem in many cities and communities. Public education on selecting the right tree for the right location should be aggressively pursued to provide safe and cost-effective utility service.

The information revealed in the 1991 partial street tree inventory indicates that a tree care program for Stillwater’s community forest is needed to prevent its further deterioration; to assure its continuation; and to protect public safety. As discussed in

Chapter I, development of a tree care program is the basis for establishing a comprehensive community forest program. The inventory played a critical role in the establishment of the Stillwater Tree Board, and in the initiation of a tree care program and a comprehensive community forest program.

## CHAPTER V

### THE FIRST TWO YEARS OF THE STILLWATER TREE BOARD

The City of Stillwater approved the ordinance that established the Stillwater Tree Board on April 20, 1992 and it became effective on May 23, 1992. The first meeting of the board was held on May 28, 1992, and meetings have continued on a monthly basis ever since. The Tree Board provides to the city annual reports of its accomplishments and proposed activities (including projected budgets) for the next year. These reports coincide with the fiscal periods of the city budget. Since these reports provide official documentation of the board's activities, this chapter discusses Tree Board activities and achievements as they occurred during the first two fiscal years of the board's existence.

#### The First Year: 1992 to 1993

The Stillwater Tree Board was established for a three year trial period that could be renewed or extended if the city viewed the board as a successful benefit to the community. An annual budget of \$2500 was granted to the board for this trial period. Although this was a generous gesture on behalf of the city, the Tree Board was interested in accomplishing more than this initial budget could support. The board therefore sought additional funding from outside sources.



During this same year, the Forestry Services of the Oklahoma State Department of Agriculture was administering an “America the Beautiful” Urban and Community Forestry Cost-Share grant program. This grant program was made possible through the 1990 Farm Bill, and enabled Oklahoma to participate in the president’s Urban and Community Forestry Assistance Program. The program was designed to form partnerships between the federal government and the private sector for the purpose of sharing the management and cost of urban and community ecosystem demonstration projects. The Stillwater Tree Board applied for one of these grants to help cover the costs of producing public educational material on how to plan for and plant appropriate tree species. The grant, in the amount of \$3,725, was awarded to the Tree Board.

This same year, a second “America the Beautiful” grant in the amount of \$10,000 was awarded to the Oklahoma State University Forestry Department to provide support for the Tree Board. The purpose of this grant was to develop a draft Master Community Forest Plan for Stillwater using the 1991 street tree inventory (see Chapter III). The grant contract provided funding for a graduate student from the OSU Forestry Department to develop the Master Community Plan and to assist the Tree Board in the development of an Urban Forestry program for the community.

This first year of the Tree Board’s existence proved to be very successful since most of the expectations of the two grants were met and additional projects and activities were also accomplished. Each accomplishment for this year is discussed in the following sections.

Tree City USA: One of the first accomplishments of the Tree Board was securing Tree City USA status for Stillwater. This program is administered by the National Arbor

Day Foundation in cooperation with the USDA Forest Service and the National Association of State Foresters. Tree City USA recognizes communities that effectively manage their public trees and encourages them to implement a community tree management program based on four standards (see Appendix A). Recognition as a Tree City USA contributes to a community's sense of pride and puts it in touch with other communities and resources. It is commonly used as a means of getting an urban forestry program "off to a good start", and official signs and flags are awarded to cities that attain this recognition. The Stillwater Tree Board displayed both within the community, and it also received recognition of this award in the Stillwater NewsPress.

Arbor Week Contest: To maintain the status as a Tree City USA, Stillwater is required to hold an Arbor Week observance/celebration each year. The first year the Tree Board decided to implement an Arbor Week Poster and Essay Contest throughout local schools to help children become more aware of the trees in their surroundings. The poster contest was implemented in grades 1 through 5, and the essay contest was implemented in grades 6 and 7. All first place winners from each grade were awarded a 6-foot redbud to plant wherever they chose. All second and third place winners from each grade were awarded a certificate from the City of Stillwater. The trees were officially presented to the winners on the steps of city hall by the Tree Board chairman, the City Mayor, and the City Commissioner. A photograph of the event and an article that explained the contest and listed the winners was circulated in the Stillwater NewsPress.

Tree Plantings: An important component of a community forestry program, and one of the Tree Board's responsibilities, is to ensure that trees are continually being

planted in the community. The Tree Board felt that at least one planting project should be accomplished in the first year to generate community awareness of the board and of planting benefits. Two planting projects were actually accomplished during this year, and they are discussed below.

**Boy Scout Planting:** In the fall of 1992, a local boy scout attended a Tree Board meeting to request assistance in earning his eagle badge. To fulfill the Forestry component of his badge, he was interested in organizing a tree planting project that would be carried out by a group of boy scouts. He proposed that the Tree Board supply him with 'Liberty Elm' seedlings and recommend a location to plant them, and the group of scouts would be responsible for planting, watering and maintaining the seedlings for two years after planting. This project proposal followed a format that had been recommended for scouts across the nation in an effort to compensate for the drastic loss of American Elms due to Dutch Elm disease ('Liberty Elms' are comparable to American Elms in site tolerance, shape, and size but seem to have a tolerance to this disease).

Although this project was to be supervised by a troop leader, the Tree Board chair was skeptical about the chances for success. The chair was opposed to the project because of a concern that the proposed tree species was not a proper choice, the technical nature of planting properly, and the long-term commitment required to maintain the trees after planting. Unfortunately, the chair voiced this opinion to the scout without first consulting with the rest of the Tree Board which put the scout in an uncomfortable position. The rest of the board members were in favor of the project since it would accomplish tree plantings, it involved the participation of another community group, and it would contribute to the advancement of a boy scout. Once the chair realized the views

of the other board members, an agreement was made to fund the purchase of the trees, and 200 tree seedlings were purchased from the Oklahoma Department of Agriculture Forestry Services. It was decided that the trees would be planted at the north end of Boomer Lake since a previous group of boy scouts had just completed a nature trail in this area. A group of ten boy scouts, along with a Parks and Recreation Department employee, planted the trees and flagged their locations.

**Husband Street Planting:** In 1990, the city of Stillwater started implementation of a Downtown Area Plan which sought to revitalize the visual landscaping of this area. The Tree Board decided that a tree planting project within this area would provide several benefits including contributing to the success of the downtown project and generating more exposure of the Tree Board to the community. The board sponsored the purchasing and planting of 15 white Oklahoma redbuds along Husband Street between Sixth and Ninth Avenues. Recognizing the need and responsibility for ensuring that the trees would be watered and maintained after planting, the Tree Board drafted a 'contract for maintenance' that was to be presented to the private businesses located next to the planted trees. The contract required that, prior to tree planting, businesses would agree to provide a certain amount of water per week to each trees. While this was an admirable step in planning for the survival of the trees, the Tree Board failed to ensure that contracts were agreed upon before the trees were planted. To protect this \$1,500 investment, the responsibility for maintaining the trees was passed on to the Parks and Recreation Department.

Civic Group Presentations: Throughout the year, presentations were made to several local civic groups including the Stillwater's Woman's Club, Town and Country

Garden Club, Golden K Kiwanis Club, Evening Lion's Club, League of Women Voters, OSU Social Ecology Class, and OSU Forestry Department. The presentations explained the activities, goals and function of the Tree Board and provided the opportunity for citizens to ask questions and make suggestions about the community forest. Although they generated a monetary contribution and the participation of two citizens in board meetings, the presentations did not generate as much citizen involvement as the Tree Board would have liked. This was probably the result of two factors: the Tree Board had not initiated any exciting projects yet (see Chapter VI for a more detailed discussion on initial projects), and the presentations focused too much on technical information about the Tree Board and the community forest rather than the numerous possibilities for citizen involvement in exciting future projects. Therefore, presentations may have generated more community excitement if they had more immediate opportunities for citizens to get involved, if they promoted the Tree Board's plans for future projects, and if they had done so in a professional format. Although a slide presentation with a script was developed at a later time, it would have been valuable during these early presentations.

Recommended Tree Species List: An expected accomplishment of the grant awarded to the Stillwater Tree Board this first year was to synthesize a list of 'Recommended Tree Species' that are appropriate for planting in the Stillwater area. The first draft of the list was created by the Tree Board chair who also served as a professor of Horticulture at Oklahoma State University. This list was extensive and included many species varieties and cultivars. Several board members felt the list was not functional or practical, and were concerned that nurseries did not typically carry many of the species.

The board went through a great deal of deliberation on which species should be included, and the list was published despite the concern about its practicality. However, a “shortened”, more practical version of the list was published at a later time. The shortened version is now circulated to the general public, while the original longer list is used as an extended version for those who have an interest in a greater species or variety selection.

Informational Brochure: Another expectation of the grant awarded to the Tree Board this first year was to develop a brochure about the Stillwater Tree Board. A brochure was printed and circulated and contained the following information: the benefits of urban trees, details about the current urban forest, the five most abundant species found in Stillwater, the structure and responsibilities of the Tree Board, the mission and goals of the board, the shortened tree species list, and what community members can do to contribute to the community forest. This was a worthwhile investment because it served to communicate the Tree Board’s function to a vast number of people, and it will continue to generate community interest. Although this brochure was completed the first year, the actual printing and distribution was not accomplished until the second year.

Tree Selection and Planting Guide: Another expectation of the grant awarded to the Tree Board was to publish and circulate a guide on how to select and plant appropriate tree species (as with the tree care articles, however, the effectiveness of distributing technical information through the local newspaper is questionable). Proper planning and coordination of this project was overlooked, and it was consequently put off until the last minute. This prevented an organized, group effort in completing the project, and the majority of responsibility for developing and publishing the guide in the

NewsPress was left to a single board member. Similar problems occurred with other projects, and the Tree Board would later decide that a change in the board structure was required to provide for better project planning, project coordination, and action of board members.

Tree Tour Guide: To supplement the 'Recommended Tree List', another grant expectation for the Tree Board was to develop a 'tour' of sample trees from the list. The purpose of the tour guide was to assist community members in choosing which tree(s) to plant by identifying local, mature, healthy specimens. Similar to the Tree Selection and Planting Guide project, development of the tree tour guide was not effectively planned and was left until the last minute. As a result, a draft of the guide was completed the first year, and the completion due date was extended two more times. An impressive tour guide was finally completed in 1996 after a coordinated, interactive effort.

Tree Care Articles: An expectation of the grant awarded to the OSU Forestry Department this first year, to be met by the Forestry graduate student, was to publish and circulate a series of newspaper articles to educate the public on urban tree care and community forestry. Seventeen articles were published in the Stillwater NewsPress. Subjects ranged from proper planting and pruning procedures to current Tree Board activities and projects. Although these publications were successful in offering information to a large segment of the community, the effectiveness of distributing technical material in this format is questionable (local newspapers, however, are a valuable resource for relaying other types of information which is discussed further in Chapter VI). Time and effort may be more effectively spent organizing events or



circulating previously printed material of this nature. Many publications are currently available, providing the funds required to purchase this material is available.

Draft of Master Community Forest Plan: A major expectation of the grant awarded to the OSU Forestry Department, was to have the graduate student write a draft 'Master Forestry Plan' for Stillwater's community forest. The plan was to outline a long-term management strategy for improving and maintaining the community forest based upon the information provided in the partial street tree inventory. However, a vision/mission statement for the Tree Board and the community forest, along with goals and objectives for achieving the vision, had to be established before a management plan could be developed (see Appendix B for a copy of the Master Community Forest Plan which includes the vision statement and goals). This proved to be a difficult and confusing task that was accomplished only after many discussions at board meetings. During this process, the Tree Board came to the realization that the goals could not be accomplished through the establishment of a tree care program alone. It would require the development of a long-term, comprehensive community forest program of which a tree care management program would be a part. The draft of the Community Forest Plan was completed this first year, and was revised several times the following year and a half before a final draft was agreed upon to present to the Planning Commission, with subsequent presentation to the City Commission.



## The Second Year: 1993 to 1994

Since the Tree Board had been successful in attaining two grants and completing them the first year, the members decided to apply for similar grants the second year. The Tree Board applied for an Urban and Community Forestry Challenge cost-share grant, the new name for the same program that administered the America the Beautiful grants the previous year. The board requested funds to develop an ongoing residential street tree planting program in cooperation with neighborhood and/or community volunteer groups. Unfortunately, the Tree Board was not successful in receiving this grant. However, the OSU Forestry Department did receive a second grant, in cooperation with the Stillwater Tree Board, for \$10,000 through this program to continue the development of a community forestry program. The main purpose of this grant was to build upon the work from the previous year to develop partnerships with community groups and businesses to promote the community forest program. Accomplishments for this second year are discussed in the following sections.

Tree City USA Growth Award: Stillwater was one of two cities in Oklahoma to receive a Tree City USA Growth award for 1993. It received this award for growth in the category of Education and Public Relations. Specifically, the award related to the Tree Board's work in the development of the 'Recommended Tree List', the Tree Selection and Planting Guide, the Tree Tour Guide, and the series of educational newspaper articles. Stillwater also received a Growth Award in 1994 for growth in the same category. The latter award recognized the Tree Board's work in the development and distribution of the informational brochure, the development of partnerships with

several community groups to accomplish a community planting project (see the Pioneer Grove Planting Project discussed below), and the development of a community wood chip recycling center. The recycling center was provided for the benefit of private citizens who could dump yard debris which would then be chipped and recycled. However, the center was also used by commercial citizens who dumped large quantities of debris. This original site could not handle this amount of debris and was consequently closed. The Tree Board is currently planning to relocate the recycling center at a larger site and will provide some type of monitoring system to ensure that it is used by private citizens only.

Homebuilders Home and Garden Show: Each year the Stillwater Homebuilders Association hosts a Spring Home and Garden Show. The Tree Board arranged for a display booth at the 1994 show at no cost to the board. Community forestry educational materials and loblolly pine seedlings (supplied by the Chamber of Commerce) were distributed to the public through the assistance of a local cub scout troop. Tree City USA signs were displayed, and a 'Stillwater Tree Board' banner was purchased and displayed.

MerCruiser Award: Tree Board members had been discussing the idea of an award or recognition program for the community since the early months of the board's existence. The program would recognize individuals, groups, or businesses that demonstrated exceptional accomplishments in contributing to the health and growth of Stillwater's community forest. Many discussions on this topic had failed to lead to the development of a formal recognition program. However, in 1994 a local business by the name of MerCruiser took the initiative to contract the planting of 256 trees on their

business site. MerCruiser developed the project to “create a more natural and aesthetically pleasing setting and soften the visual impact of a large building that dominates a barren, open and windy site” (Stillwater NewsPress, 1994). The Tree Board felt that a project of this magnitude, initiated by a private business, was a valuable contribution to the community forest and deserved special recognition. A plaque from the Tree Board, presented by the board chairman and the vice mayor, was presented to the plant manager and maintenance supervisor to honor the company for its efforts.

Oklahoma Urban and Community Forestry Council Conference: The Oklahoma Urban and Community Forestry Council (OUCFC) is an organization that serves to promote urban and community forestry throughout the state. It includes community tree boards, state and city employees involved in urban forestry programs, private consultants, utility representatives, and non-profit organizations. The council organizes an annual Urban Forestry Conference which is hosted by a different community each year. A representative from the State Forestry Services Division of the Department of Agriculture and the president of the OUCFC presented a formal request to the Tree Board and the city to act as the host for this conference in 1994. Responsibilities of the board were to include site arrangements, some publicity, and audio visual coordination. Benefits of hosting the conference were to include the promotion of local interest in urban forestry, contribution to the local economy, and focusing attention on the Tree Board’s efforts. All Tree Board members agreed that the conference was a valuable opportunity and agreed to act as host. The conference attracted interested people from all facets of urban forestry across the state and proved to be a success.

Pioneer Grove Planting Project: As discussed previously, the Tree Board did not receive the Urban and Community Forestry Challenge cost-share grant that it requested for assistance during its second year. The board decided to use the money that had been allotted for matching funds for this grant to organize a tree planting project in cooperation with other community entities. Stillwater High School was chosen as the planting site for several reasons: it was in need of landscape improvement, it was located on a main thoroughfare of the city, and it had a student environmental group that could assist in maintaining the trees. A student from the Oklahoma State University Department of Horticulture and Landscape Architecture was contracted to develop a landscape plan for the site complete with a planting plan. The next step was to find community groups and/or businesses interested in contributing to the project, either financially or through volunteer efforts. As a fulfillment for the second year grant, the Forestry graduate student had already made contact with a few local business owners/representatives to establish a working partnership, and the high school project was presented as a starting point. The business property of one of these owners was located across the street from the high school, and the owner was also a member of the Stillwater Evening Kiwanis Club. He voiced an interest, as a community business representative and on behalf of the Evening Kiwanis Club, in contributing volunteer time to this project. Several representatives from the club attended a Tree Board meeting to discuss the proposal, and it was decided that this group would assist in watering the trees provided an efficient system for accomplishing this would be organized. To facilitate watering, the Stillwater School Board agreed to fund the installation of an irrigation system for the planted area in response to a presentation made by a Tree Board member.

Unfortunately, the school maintenance department delayed installing the watering system which prevented the Kiwanis Club from participating in the project. Therefore, the task of watering was accomplished by Tree Board members and a few other community volunteers. The planting site was named the “Pioneer Grove”, and contributing groups to the projects were recognized by a permanent sign.

Community Contacts Guidebook: An expectation of the grant awarded to the OSU Forestry Department during this second year was to have the graduate student synthesize a ‘Community Contacts Guidebook’. This guide was to contain phone numbers and addresses of people or entities that had been contacted or involved with the Tree Board and its activities in the past, that could provide services and information for the board in the future, and that could initiate contacts for citizens interested in community forestry projects. The guide included Tree Board members, city offices and representatives, educational groups, civic groups, business contacts, state government contacts, urban forestry consultants, communication specialists, local nurseries and other tree sources, tree care specialists, and utility specialists. Although this guide served as a valuable resource for establishing communication networks throughout the community, it was obvious that it would need to be circulated throughout the public and continually updated to remain an asset. Unfortunately, the guide has not been circulated or updated since its creation. However, lack of communication between the board and the graduate student about this project, rather than neglect, may have contributed to this failure.

## The Following Years

Initial concerns that the City Commission had about the role of the Tree Board in the community were dissipated by the tremendous success of the board during its first three years. This success was the result of several factors: the Tree Board had clearly assumed an educational role in the community rather than a regulatory role; the Tree Board had worked to establish a cooperative partnership with other city departments and community groups; and the Tree Board demonstrated motivation by achieving many accomplishments despite its limited operational budget. The three year trial period came to an end, and upon review of the board's activities, the City Commission publicly praised the Tree Board for its efforts. At this time, the Tree Board was established as a permanent community entity, and its 1995-1996 budget was increased to nearly \$25,000. The Tree Board has continued to organize community forestry projects and provide education for Stillwater residents. After numerous revisions, the Master Community Forestry Plan was completed, presented for public input, and was presented to the Planning Commission for review in March of 1996. Approval of the plan was recommended with slight modifications. The amended plan will be presented to the City Commission in April, 1996 for adoption into Stillwater's Comprehensive Plan.

## CHAPTER VI

### RECOMMENDATIONS

The history of the Stillwater Tree Board provides an example of how a group of coordinated and dedicated individuals prevailed when many others were skeptical. The board has experienced considerable success in a short period of time (factors that have lead to its success were discussed in Chapter V). However, this success did not occur without a certain amount of frustration and failure, and all new tree boards should expect to encounter numerous obstacles. This chapter discusses the obstacles that the Stillwater Tree Board encountered during its first two years, and it provides recommendations on how to handle or avoid such obstacles. In providing this analysis, it is hoped that communities interested in establishing new tree boards will find valuable insight and direction as well encouragement and faith. Discussions and recommendations are grouped into five categories: tree board establishment, tree board composition, early considerations, long-term considerations, and promotional considerations.

#### Tree Board Establishment

A single, 'tried and true' method for establishing a tree board does not exist. Some communities may be able to establish a tree board quite easily, while others (Stillwater, for example) may experience some resistance. The process will vary for each community depending on several factors: whether the board will be an official city

government organization or an independent organization; the main purpose of the board (regulation, education, tree planting only, coordination of community projects); the background and dedication of the people involved in establishing and serving on the board; and the amount of external support or opposition that is generated for the board (this is dependent upon the amount of effective research, publicity and education supplied beforehand). As discussed in Chapter III, opposition to the establishment of the Stillwater Tree Board from city officials was strong despite the amount of community support behind the idea. City officials may have been more supportive if a board would have been interested in forming as a volunteer community group rather than a government entity since this seemed to create a sense of threat. However, once city officials were educated on the benefits of urban trees; were convinced that the Tree Board could function effectively as a non-regulatory organization; were assured that a sufficient amount of technical experts could serve on the board; and were shown the need for a community forestry program through the inventory, they were amicable to the idea of establishing a city tree board on a trial basis. Although volunteer tree boards can be successful, new tree boards should consider attaining official status within the city government as this may give them more credibility and trustworthiness within the community. The critical factors, then, for establishing a tree board are to ensure that the need and support for a board is demonstrated (support such as 'in favor of' as well as financial and 'labor' support), that all people involved in the process are educated on the benefits of a healthy community forest, and that an adequate amount of technical expertise is available (whether it comes from within the community or from outside sources).



## Tree Board Composition

Several considerations should be given to the composition of the board. An important factor to the success of any board is effective leadership. The Stillwater Tree Board experienced some frustration and set-backs in the early part of its first year, and therefore learned of some important qualifications for board chairs. A successful chair must be able to motivate board members, generate cohesiveness among board members, control board meetings, delegate responsibilities, and keep open communication between the board and the community. This will ensure that projects are designed to meet community needs, and are accomplished in a timely and cooperative manner. An effective leader, then, must be able to keep sight of the 'big picture' when directing meetings and projects, communicate positively with board members and the public, and generate an atmosphere of enthusiasm and fairness.

Another important consideration of board composition is the amount and nature of 'manpower'. The initial structure of the Stillwater Tree Board included nine members, however, four of the members were city department representatives who served to provide information regarding policies and procedures specific to their department. Although these members were required to attend a certain number of board meetings per year, they initially expected to function only as information resources. However, a couple of these members got involved in projects which was fortunate considering the volume of work the Tree Board took on during the first two years. Despite the involvement of city representatives, the board frequently experienced a lack of adequate manpower to accomplish tasks (difficulty in accomplishing tasks can also be attributed to

a lack of organization and planning which will be discussed further in the section *Early Considerations*). The Tree Board, in its third year, arranged to have the ordinance amended to allow for the addition of two city members.

As previously discussed, the City Commission ensured that the Tree Board contained a base of 'technical experts', which meant that four of the five citizen members were Oklahoma State University representatives. Although these technical experts provided valuable information and advice, they could have served as accessible resources without being board members. Several of the university representatives felt that more of the citizen positions should be occupied by other interested, non-technical people to provide a more accurate representation of the community. Therefore, as university representatives have fulfilled their terms and retired from the board, community representatives have occupied their positions.

When forming a new tree board, then, ensure that the composition will supply an adequate amount of manpower for the board to function effectively, and that the composition represents the community as closely as possible. Remember that technical experts are usually available, even if they are not located directly in the community.

### Early Considerations

A tree board is more likely to realize early success if it functions within a structured system, and if it generates excitement and support within the community. Initial efforts, therefore, should focus on a couple short-term goals that will help accomplish this. These include exposing the board to the community through high-

profile projects and defining operational procedures of the board. Once the short-term goals have been initiated and the tree board has started to develop a solid foundation in the community, efforts should begin to focus on the establishment of long-term goals, which are critical to the long-term continuity of a tree board and the community forest.

Community support for a tree board is the most essential element to its success, and is generated by getting the community excited about what the tree board can accomplish. Initial projects of a new tree board, therefore, should focus on generating excitement. Tree planting projects always spark interest and excitement, and many people are willing to donate time and effort to them because the benefits to the entire community are readily visible. However, people are usually only willing to donate time as long as someone else provides direction and assigns specific tasks. Projects should therefore be thoroughly planned and organized before volunteers are approached. Planting projects can be used to attract volunteers, and at the same time, can be used to educate the volunteers about the importance of tree maintenance and long-term management of the community forest (i.e. what the tree board can help accomplish). These newly educated volunteers can serve as valuable 'messengers' to the rest of the community. Initial planting projects should be located in high-profile areas, and involve as many different groups of people as possible. As discussed in Chapter V, the Stillwater Tree Board did not generate an encouraging amount of community support its first two years. This was, in part, due to the fact that the board had focused initial efforts on long-term considerations for the community forest instead of exciting projects that were favorable to citizen involvement.

Further exposure can be attained, thereby attracting more volunteers, by publishing the existence of a new tree board and its initial projects in the local newspaper. This is a valuable resource for promoting board activities and accomplishments. However, as discussed in Chapter V, it should be used mainly for this purpose, as it is not an effective means for publishing technical material (this is discussed in more detail in the section entitled *Long-Term Considerations*).

New tree boards should also focus initial efforts on defining operational procedures. Defining these procedures early on will provide structure to ensure that meetings and board activities run as smoothly as possible. Meetings should be held regularly to facilitate ease of scheduling for board members. Agendas should be distributed before each meeting to allow for the addition of other necessary items. Minutes should be kept of all meetings and distributed to all board members for review and correction if necessary. This is a critical item of operation as the minutes provide official documentation of a tree board's history, and are available for future reference and clarification of questions that may arise. Although these suggestions for operational procedures may be a given for most new boards, they are important enough to the operation of a board to warrant mention. The Stillwater Community Development Department provided for a clerk to attend all Tree Board meetings to take the minutes, enter them on a word processor, and distribute them to all board members. Minutes were reviewed at the beginning of the next meeting, and alterations were made once they were voted to be accepted. Attention to these details provided a strong foundation for the Stillwater Tree Board to operate upon, and it was a contributing factor to this board's success.

## Long-Term Considerations

Once a new tree board has started to build a strong foundation within the community, it should focus a portion of its efforts on long-term planning for the community forest and for the board itself. Development of a long-term plan for the community forest increases the likelihood that it will not only survive but will also be healthy. Long-term planning for the community forest includes taking an inventory of the current forest condition, developing a vision and goals for the forest, and developing a management plan for the forest. Development of a long-term plan for the tree board will provide guidance for its activities and will encourage operational stability which will greatly enhance its chances for survival. Long-term planning for the tree board includes developing a mission statement and goals for the board, defining job descriptions and committee structures for board members, developing a publicity program for the board, and developing an evaluation system for the board.

An inventory of the community forest is a valuable tool. It provides an assessment of the current forest condition and helps identify the needs of the forest. Inventories can be accomplished several ways: state or federal grants may be available to fund such projects (as with the Stillwater Tree Board); student classes or groups (Forestry or related disciplines) may be willing to conduct the inventory for class credit or field experience; an urban forestry consultant may be hired to conduct the inventory; or board members themselves (perhaps with the cooperation of other community groups) may conduct the inventory after consulting with an urban forestry specialist. Whatever means are used to accomplish this task, it is imperative that the inventory collect useful

information in sufficient quantity to be worthwhile (refer to Chapter Three of the publication 'A Handbook for Tree Board Members' which is listed in the Recommended Readings).

Information collected in an inventory is useful in forming a vision and long-term goals for the forest. An inventory of Stillwater's community forest was accomplished before the Tree Board was formed, and it revealed that the community forest was in a state of decline (as discussed in Chapter IV, this factual data helped convince the City Commission to support the formation of a tree board). One of the first tasks that the Tree Board took on, therefore, was to conceptualize a 'vision' for the future community forest based upon the inventory data; one that expressed the desired condition of the forest and its role in the community. Several entire meetings were devoted to 'brainstorming' hopes and ideas for the community forest before a concise and complete vision was established.

Once a vision for the community forest was established, the Tree Board began the task of defining goals and objectives that would help achieve the vision. Confusion arose when the board attempted to determine its role within the community in attaining the vision, and was deepened because few board members understood the difference between goals and objectives. A considerable amount of time was spent defining these two terms. However, this may not have been necessary because the confusion may actually have been due to the fact that the board was confusing 'goals and objectives' with 'short-term and long-term goals'. At this point in the Tree Board's development, it may have been more effective to establish a few critical short-term goals, leaving development of long-term goals for a later date. Too much time was spent developing long-term plans when initial efforts should have focused on exposing the Tree Board to the community. It may

also have been beneficial to solicit the assistance of a facilitator experienced in forming goals and objectives.

Eventually, three main goals were identified (see Appendix B). The board was then able to define its role by determining its capabilities in accomplishing the goals. Upon review of these goals during development of the annual work plan, the Tree Board realized that it had focused its efforts too narrowly. Most of the completed projects fell within the realm of only one of the goals. Most of the projects had focused on providing the public with educational material, and minimal efforts had been made towards developing a tree care program and a community support system for the board. The board then decided that all annual work plans should provide for the development of projects within each goal.

A long-term management plan for the community forest was then developed based upon the established goals. Initial drafts of the Community Forest Plan were complex and lengthy, and the plan went through numerous revisions over a three year period before reaching its final version. This was due to the fact that the goals referred to expectations for the community forest (develop a tree management program) as well as the tree board itself (provide educational information and develop support for an urban forestry program). Initial drafts of the Community Forest Plan attempted to develop a strategy for accomplishing all three goals, however, the final version provided a strategy for development of a tree management program only. The Tree Board agreed that this final format was more practical as a working document, and was therefore more likely to be approved by the Planning Commission and the City Commission. It may have been



more practical, therefore, to develop a vision and associated goals for the community forest separate from a mission statement and associated goals for the Tree Board itself.

Another long-term consideration for new tree boards is the development of job descriptions for all board members. Job descriptions are important for several reasons: they help members understand their responsibilities; they ensure that all functions within the board are taken care of; they ensure that responsibilities are evenly distributed; and they provide continuity of board functions for the future. Frustration that surfaced within the Stillwater Tree Board may be attributed to the lack of job descriptions for board members. Since members were unsure of their responsibilities, many tasks were turned over to the chair that could have been handled by other members. As a result, the chair was frequently overloaded, and several board members were not contributing “their fare share”. Job descriptions were eventually written which seemed to alleviate this problem.

Equally important to the development of job descriptions is the development of committees. As discussed earlier, the Stillwater Tree Board experienced difficulty in accomplishing tasks, and projects were frequently completed by a single person. Although this resulted, in part, from a shortage of a manpower, the problem was compounded by the fact that the responsibilities were not evenly distributed and that projects were not organized efficiently. Structured committees can ensure that board members are not unfairly burdened. It is recommended that permanent committees be established (such as committees for planting projects, publicity, communication, etc.) because they will also provide continuity of board functions for the future. However, it may also be beneficial to establish committees for specific projects as they arise. Either way, all committee members and their responsibilities should be identified.



Development of a long-term publicity program for a tree board is critical to maintaining the community excitement and support that is generated from initial planting projects. The most important consideration for a publicity program is to provide for continual exposure of the tree board. Numerous options may be available for gaining exposure: informational videos, television cable stations, radio publicity spots and interviews, slide shows for presentation to different community groups, the exciting and new Internet, community events (home and garden shows, for example), and the popular and reliable local newspaper. Access to technology is not always possible or practical, however, many entities with access to technology are willing to donate their services in exchange for publicity. Every effort should be made to ensure that a publicity program consists of at least a slide show to use during presentations and some publicity efforts in the local newspaper to help make contacts. Remember that exposure may be gained through the many opportunities that exist for providing educational information to the community, and, vice-versa, exposure always provides an opportunity to educate. However simple or complex a publicity program, remember that results are usually slow to surface; continual exposure is critical.

Long-term plans greatly influence the success of a new tree board. Effectiveness of the plans, therefore, should be evaluated on a regular basis. Effectiveness can be measured several ways and a tree board may wish to consult with not only its members, but the city and the community to determine how to define effectiveness. It may be measured by the number of new members and volunteers involved with the tree board, the number of new trees planted, the number of community groups that the tree board coordinated projects with, the amount of monetary support obtained, and the degree of

success towards attaining the goals for the board and for the community forest. Whatever means are used to determine and measure effectiveness, the tree board should arrange for an evaluation on a regular basis. The Stillwater Tree Board may have redirected its activities at an earlier stage to gain a stronger foundation within the community if it had performed an evaluation of its effectiveness. Effectiveness of any tree board will most likely be linked to the degree of success in accomplishing the goals for the community forest; evaluations, therefore, should also examine progress towards attaining these goals.

### Promotional Considerations

The importance of community support for a new tree board has already been stressed. However, community support is a general term that may represent any of the variations of support: monetary contributions or allotments, assistance in accomplishing tasks, relaying of information, or official endorsement. Although support may be directed towards a tree board, it is aimed at supporting the community forest (i.e. support for the community forest is channeled via a tree board). A tree board, therefore, should view itself as a facilitator for accomplishing the goals for the community forest; it is the organizer of people, projects, money, and ideas. It is critical, then, that a tree board promote itself as a tool through which community members can communicate with community leaders to accomplish goals. Board members, therefore, must establish positive and productive relationships with influential community members and respected community leaders. The importance of building this interface was realized by the Stillwater Tree Board when a questionable tree trimming project was approved by a city

official. A relationship had not been developed with this official, and the Tree Board was overlooked as a tool in organizing this project. As a result, a valuable opportunity for educating community members on proper pruning practices was missed.

## CHAPTER VII

### CONCLUSION

Urban and community forest programs are increasing at a very fast pace as cities and communities across the nation realize the plight of their forests. Increasing urban development is placing a considerable strain on urban trees, further reducing their already short life expectancy. Compounding this problem is the lack of proper care for most urban trees. Statistics show a nationwide trend in declining urban and community forests. Stillwater's community forest adds further testimony to these statistics. The alarming state of decline of this community forest led to the formation of a tree board to oversee the development of a tree management program. Through the cooperation of this tree board and the rest of the community, it was hoped that a more healthy future for the forest would be created.

Despite initial opposition to its development, the Stillwater Tree board has proven to be a very successful organization. It has experienced many accomplishments during its first two years, and has made significant progress towards attaining the goals it has set for itself and the community forest. Success has not come easily, however, as the board has had to overcome many obstacles. Most problems were solved through trial and error because detailed publications on establishing a community forest program were rare at this time. However, documents of this type are being published as quickly as new

programs are being established, and this thesis provides a case study for the reference of future tree boards.

Recommendations for newly forming tree boards, based upon the experiences of the Stillwater Tree Board, are presented in this thesis. They are grouped into five categories of consideration and are summarized below.

#### Tree Board Establishment:

- demonstrate the need and support for a tree board
- ensure that the people involved in forming the tree board are educated on the benefits of urban trees
- ensure that the tree board has adequate access to technical expertise

#### Tree Board Composition:

- provide for effective leadership
- provide for adequate manpower with enthusiastic and motivated members
- ensure board composition adequately represents the community

#### Early Considerations:

- expose the tree board to the community through high-profile projects
- expose the tree board to the community through the local newspaper
- define operational procedures of the tree board

### Long-Term Considerations:

- develop a long-term plan for the community forest:
  - take an inventory of the current forest condition
  - develop a vision and goals for the forest
  - develop a management plan for the forest
- develop a long-term plan for the tree board:
  - develop a mission statement and goals for the tree board
  - define job descriptions and committee structures
  - develop a publicity program
  - develop an evaluation system for the tree board

### Promotional Considerations:

- view the tree board as a facilitator for the community to accomplish the goals for the community forest
- promote the tree board as a tool through which community members and city leaders can communicate
- establish positive and productive relationships with influential community members and respected community leaders

A newly-formed tree board, then, will operate within three different fronts during its first few years: development of short-term projects and activities, development of long-term goals and structure, and development of promotional relationships. Short-term

projects and activities will focus on generating community support and excitement for the tree board by demonstrating what the board can offer a community. Development of long-term goals and structure will provide direction and stability for the tree board. Promotional activities will ensure that all entities involved in improving the community forest communicate for a more cooperative effort.

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APPENDIX A

STILLWATER'S TREE BOARD ORDINANCE

and

THE FOUR TREE CITY USA STANDARDS

ORDINANCE NO. 2426

"AN ORDINANCE ADDING ARTICLE IX, SECTIONS 2-186 THROUGH 2-201 OF CHAPTER TWO TO THE CODE OF ORDINANCES OF THE CITY OF STILLWATER CREATING A TREE BOARD FOR THE CITY OF STILLWATER; PROVIDING FOR A COMMUNITY FORESTRY PLAN; DEFINING CERTAIN TERMS; SETTING TERMS OF OFFICE; SETTING METHOD OF OPERATIONS; PROVIDING FOR IMPLEMENTATION OF A WORK PLAN; PROVIDING FOR TREE PLANTING, MAINTENANCE AND REMOVAL STANDARDS; PROVIDING FOR HAZARDOUS TREE REMOVAL; PROVIDING FOR APPEALS; PROVIDING FOR EXCEPTIONS; SETTING A THREE-YEAR LIMITATION ON EXISTENCE OF THE TREE BOARD; AND PROVIDING FOR SEVERABILITY.

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COMMISSIONERS OF THE CITY OF STILLWATER, OKLAHOMA, THAT THE FOLLOWING BE ADDED TO THE CODE OF ORDINANCES OF THE CITY OF STILLWATER TO READ AS FOLLOWS:

Sec. 2-186. Purpose.

It is the purpose of this ordinance to promote and protect the public health, safety, and general welfare by providing for the development of a Community Forestry Plan to address the planting, maintenance, and removal of public trees and shrubs within the City of Stillwater in order to promote, maintain, and improve the urban forest resource of the City of Stillwater.

Unless otherwise stated in the adopted work plan, it is not the intent of this ordinance for the City to assume responsibility for trees planted in the right-of-way by adjacent property owners other than for removal as needed due to damage or disease.

Sec. 2-187. Applicability.

This ordinance is applicable to trees and shrubs located within street rights-of-way, utility easements, drainage easements, public parks and on other public property within the city; and to trees located on private property that constitute a hazard or threat as described herein.

Sec. 2-188. Definitions.

(a) Private Tree. All trees and shrubs other than public or street trees.

(b) Public Property. This term shall include any land owned by the City, any real property including parks, streets, or highways which is owned by the City or held by it in trust for the benefit of the public.

(c) Public Tree. All trees and shrubs for which any portion of the trunk is located on public property or street rights-of-way.

(d) Street Right-of-way. A strip of land acquired by reservation, dedication, forced dedication, prescription or condemnation and intended to be occupied or is occupied by a roadway or street.

(e) Street Trees. All trees and shrubs for which any portion of the trunk is located on street rights-of-way within the City.

Sec. 2-189. Authority.

There is hereby created and established a City Tree Board for the City of Stillwater. The City Tree Board shall consist of a total of nine members, citizens and residents of this city, five of whom shall be appointed at-large by the mayor; with approval of the City Commission, based on their interest or expertise regarding urban forestry and four ex-officio representative voting members, one each from the Park and Recreation Department, Community Development Department, Public Works Department and Utilities Department, who shall be appointed by the City Manager or his designee. The mayor shall also serve as an ex-officio member of the board. All at-large members, in their capacity on the board, shall serve without compensation and may be removed by the City

Commission for inefficiency, neglect of duty or malfeasance in office, or at the recommendation of the City Tree Board, for missing three consecutive meetings or more than five meetings in one year.

Sec. 2-190. Term Of Office.

The term of the four City departmental ex-officio representative members shall not be limited. The term of the five persons to be appointed by the mayor shall be three years, except that the term of two of the members appointed to the first board shall be for only one year and the term of two members of the first board shall be for two years. In the event that a vacancy shall occur during the term of any member, the successor shall be appointed for the unexpired portion of the term. No at-large member shall serve for more than three consecutive three year terms.

Sec. 2-191. Quorum and Operation.

(a) Quorum. At any meeting of the City Tree Board, a quorum shall consist of three members of the at-large citizens and one departmental representative member. No action shall be taken in the absence of a quorum.

(b) Meetings. The City Tree Board shall meet at least four times each year.

(c) Board Officers. The City Tree Board shall elect a chairman from the at-large citizen members and shall create and fill such other offices as it may determine. The term of the chairman shall be one year with eligibility for reelection for no more than three consecutive terms.

(d) Administrative Officer. The City Manager shall have the responsibility of providing administrative guidance in carrying out the activities of the City Tree Board.

(e) Other Operations. The City Tree Board may develop by-laws or other rules of operation, establish subcommittees, develop and recommend to the City Commission rules, regulations, standards and specifications to be adopted separate from or as a part of this ordinance, as deemed necessary.

Sec. 2-192. Community Forestry Plan.

It shall be the responsibility of the City Tree Board to study, investigate, counsel and develop and/or update periodically a written plan for the care, preservation, trimming, planting, replanting, removal or disposition of public trees and shrubs. Such plan shall incorporate an inventory of the existing trees on rights-of-way, parks, and other public property. The Tree Board shall insure that the plan will be in conformance with the goals and objectives of the Stillwater Comprehensive Plan by submittal to the Planning Commission for review and approval. Upon approval and adoption of the recommended plan by the City Commission, it shall constitute the official Community Forestry Plan and become a part of the Comprehensive Plan for the City of Stillwater.

Sec. 2-193. Annual Work Plan and Implementation.

It shall be the responsibility of the City Tree Board to develop, report and recommend to the City Commission an annual work plan to implement the Community Forestry Plan. The annual work plan shall outline activities planned for the coming year in the areas of volunteer projects, educational programs, fund raising, and in the planting, maintenance, and removal of public trees and shrubs. The work plan shall include: what is to be done, who is to do it, and how the proposed work will be funded. The City Commission shall have the right to approve, revise and approve, or disapprove the annual work plan and its associated budget. Upon approval of the annual work plan by the City Commission, the City Tree Board, with the administrative guidance of the City Manager, shall have the responsibility of carrying out the activities within the annual work plan.

Sec. 2-194. Tree Planting, Maintenance and Removal Standards.

Standards for the planting, maintenance and removal of trees are located within Section 11.50 (C) of the Zoning Ordinance and as may be adopted by the City Commission.

UNIVERSITY OF OKLAHOMA

Sec. 2-195. Tree Species.

The City Tree Board shall develop and maintain a list of suitable trees for planting along streets in three size classes: small, medium and large. A list of trees not suitable for planting shall also be created. No species other than those included on the list of suitable trees may be planted as street trees without prior approval of the City Tree Board.

Sec. 2-196. Hazardous Tree Removal Procedure.

When, on the basis of a citizen complaint or at the request of the City Tree Board, the building official determines that a tree poses a safety threat through injury to persons in public ways or on adjacent private or public property, or by damage to others private or public property, the building official shall order the tree, or any portion thereof, to be removed. When the building official orders removal of a tree on private property, the owner of the property shall be given ten (10) days written notice to trim or remove the tree, or to appeal the decision to trim or remove the tree to the City Tree Board. If the tree has not been trimmed or removed, or an appeal to stay action of the officer filed in the specified time, the city shall proceed to hire a qualified tree removal practitioner, possessing liability insurance in the minimum amount of \$200,000 for bodily injury or death and \$100,000 for property damage, to trim or remove the tree and bill the property owner the cost of removal. A lien shall also be placed on the property to recover the cost of tree removal if payment is not received within 30 days. For the purposes of this ordinance, removal shall mean cutting the tree off at ground level.

Sec. 2-197. City Commission Appeals. The appeal of any action, decision, or activity of the City Tree Board, whether related to the implementation of the adopted annual work plan, or the enforcement of adopted regulations or this ordinance, which is found by a property owner to be against his or her desires, may be made to the City Commission.

Sec. 2-198. Review By the City Commission.

The City Commission shall have the right to review the conduct, acts and decisions of the City Tree Board.

Sec. 2-199. Exemptions.

Property owned and used by the schools or any branch of the county, state or federal governments, shall be exempt from the provisions of these regulations.

Sec. 2-200. Expiration. This ordinance shall become void and the tree board established hereunder abolished at midnight, June 30, 1995, unless the Commission, by majority vote, extends this ordinance.

Sec. 2-201. Repealer and Severability. All ordinances or parts of ordinances in direct conflict herewith are repealed to the extent of the conflict only. If any part or parts hereof are held invalid or ineffective, the remaining portion shall not be affected. (Ref. 16-52, 20-3, 27-63)

PASSED, APPROVED AND ADOPTED this 20 day of April,  
1992,

  
TERRY P. MILLER, MAYOR

(SEAL)

ATTEST:

MARCY ALEXANDER, CITY CLERK

BY Marcy Alexander

APPROVED AS TO FORM AND LEGALITY THIS 20 DAY OF April,  
1992.

  
MARY ANN-KARNS  
CITY ATTORNEY

FIRST READING: 4-13-92  
SECOND READING: 4-20-92

CARLETON COLLEGE UNIVERSITY



LINCOLN, NEBRASKA



SHEBOYGAN, WISCONSIN



NEW ORLEANS, LOUISIANA



# TREE CITY USA

... THE GREEN

The National Arbor Day Foundation, in cooperation with the U.S. Forest Service, the National Association of State Foresters, the U.S. Conference of Mayors, and the National League of Cities, is prepared to recognize towns and cities all over America who meet the standards of the TREE CITY USA program.

When you think about it, every community in America is a mini forest. All you have to do is fly from one place to another and you can see that. In many instances, however, on closer observation, you discover that the "forest" isn't being managed as well as it could be. Trees are planted haphazardly. Dead trees aren't being removed. New trees are not being planted or cared for. Generally, about half of all the trees are on public property...along streets, in parks and around public buildings. It is important, therefore, that an ongoing community forestry program is initiated.

TREE CITY USA has been designed to recognize those communities that are effectively managing their tree resources. Just as important, it is geared to encourage the implementation of a local tree management program based on the TREE CITY USA Standards through the professional leadership of participating state foresters of the National Association of State Foresters.

Public Law 92-288 of 1972 gives the state foresters authority

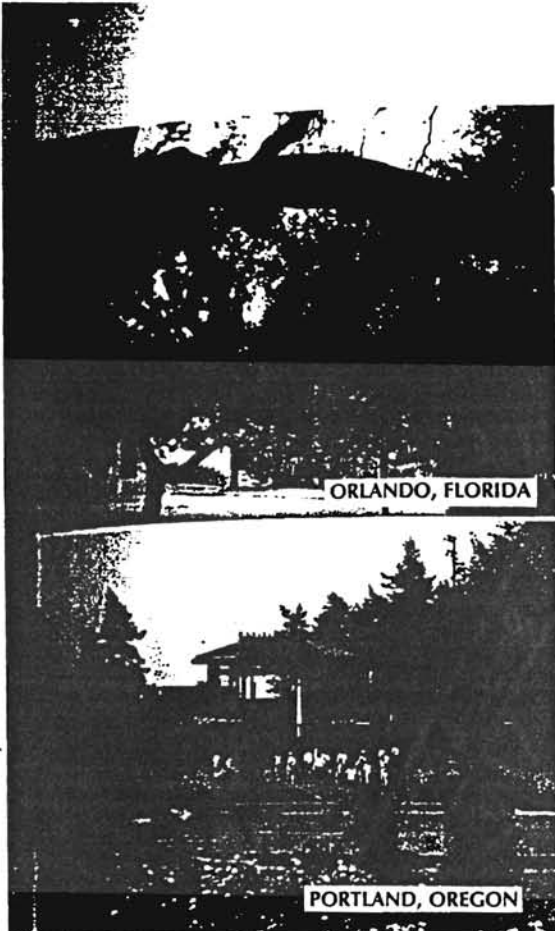
and responsibility for providing technical services for the "protection, improvement and establishment of trees and shrubs in urban areas, communities and open spaces."

Many states have developed excellent urban and community forestry assistance programs. Contacts may be made with local or state forestry department offices.

A quick check with the city forester or the Mayor's office will tell you whether your community is meeting the standards and therefore is eligible for TREE CITY USA recognition. It could be that you need only have a formal Arbor Day observance or the current local forestry program has to be a little better defined to become eligible. On the other hand, your community may have to make a concerted effort to get an effective management program underway. TREE CITY standards and guidelines will help provide direction.

A word about the standards. They are designed for a TREE CITY USA award to be made to the community that has a workable program in urban/community forestry. The award is not simply for pretty trees, but also for the program that makes them pretty. The standards are also designed to be as objective as possible. Standards 1 and 2 provide for an urban/community forestry program structure in a town or





Big cities and small towns from all over the country are eligible for TREE CITY USA recognition.

## THE HISTORY OF AMERICA

Standard 3 requires the program to have demonstrated... based on the judgement of the state forester's office... the actual Arbor Day observance helps... awareness and appreciation of trees among... of the community.

... personnel will evaluate applications from in-... and forward such evaluations to the National... TREE CITY USA committee no later than December 31 of... calendar year. Communities that will receive the... will be notified before February 15 by either the... Foundation or the state forester.

... that the actual TREE CITY USA Award be... during your annual Arbor Day celebration.

... TREE CITY USA is an ongoing community im-... program, your community can and should... for TREE CITY USA designation each year.

... a community has received recognition and has met... standards, it can contact the state forester at the end... each calendar year and apply for continued recognition... communities are encouraged to continue to develop their... forestry programs beyond the standards set forth.

## The Four Standards...



### A Legally Constituted Municipal Tree Body

The first step in a municipal forestry program is the formation of a local organization. This can be a department, board, commission, or other authority. In towns of perhaps 10,000 population and over, city forestry departments with salaried employees are often feasible. These departments may or may not be supported by advisory boards or administrative commissions. In smaller towns, city tree boards are recommended. They should have legal status and be charged with the responsibility for the development and administration of a comprehensive city forestry program. In many small towns, tree boards not only plan the program, but physically carry it out. They thus function as both a board and department. It is recognized that successful tree projects are often completed by beautification committees, civic and service clubs, etc. However, these efforts generally lack the continuity from year to year to provide for a town's total tree program needs.

### Adoption of City Tree Ordinance

A city tree ordinance designates the department or board responsible for managing the city's trees. Such a legally constituted body will assure continuity in implementing a local forestry program. The ordinance should specify the number and qualifications of members, their terms of office, and duties and responsibilities. The ordinance should include sections on the operation of the Board, list tree species to be planted, note spacing and planting location requirements, consider planting as it effects utilities and determine public tree care policies.

### A Comprehensive Community Forestry Program

Prior to the adoption of a program, an inventory is often taken of all trees growing on public property and their condition noted (healthy, needs pruning, should be removed, etc.). After the inventory data is compiled, a written report should be prepared for presentation and approval by the City Council. The report should be an objective analysis of the town's present tree situation with recommendations for future needs.

There are three general activities in a municipal forestry program: planting, maintenance and tree removal. Priorities must be determined between and within each activity. For example, a community hit hard with Dutch elm disease must at the outset give highest priority to dead and diseased tree removal. Ideally, a City Tree Board should serve in a planning and advisory capacity with a qualified city employee to physically implement work plans. In small towns, the Tree Board might have to actually administer and implement the program. Board members would purchase and distribute trees, arrange publicity, mark trees for removal, stake planting sites, etc.

The question of financing a Municipal Forestry Program must be met head on and dealt with realistically. The Arbor Day Foundation has set a minimum \$1 per capita for a community to be eligible for TREE CITY USA recognition, believing that this is a minimum amount to begin to underwrite an effective local program. With the exception of federal funds for some parks, the cost of tree projects must be borne by the residents of a community—either through taxes or by group or individual efforts. Thus, in developing programs, the Tree Board is urged to look at three areas: (1) what can the individual property owner do; (2) what can be accomplished by community action projects by civic clubs, youth organizations, etc.; and (3) what funds are required to implement the program from the city budget.

### Arbor Day Observance

To create an appreciation of trees throughout the community, it is appropriate that an Arbor Day proclamation is made annually and a commemorative tree planting takes place. This can be done on the date designated for the observance of Arbor Day in your state or on an alternate date convenient to your local tree planting season.

The sample ordinance was designed for use in midwestern communities of average population. The ordinance that your community ultimately develops should be designed to fit its specific needs.

## SAMPLE CITY TREE ORDINANCE

Small Trees	Medium Trees	Large Trees
Apricot	Ash, Green	Coconuttree
Crabapple	Blackberry	Kentucky
Flowering (sp.)	Honeylocust	Maple, Silver
Golden Rain Tree	(thornless)	Maple, Sugar
Hawthorne (sp.)	Linden or Bass-	Oak, Bur
Pear, Bradford	wood (sp.)	Sycamore
Redbud	Mulberry, Red	Sycamore
Soapberry	(fruitless, male)	London plantree
Lilac, Jap. Tree	Oak, English	Cottonwood
Peach, Flowering	Oak, Red	(Cottonless, male)
Plum, Purpleleaf	Papadotree, Japanese	
Serviceberry	Pecan	
	Birch, River	
	Osageorange	
	(Male, thornless)	
	Persimmon	
	Poplar, White	
	Sassafras	

Be it ordained by the City Commission of the City of \_\_\_\_\_ State \_\_\_\_\_

### Section 1. Definitions

Street trees: "Street trees" are herein defined as trees, shrubs, bushes, and all other woody vegetation on land lying between property lines on either side of all streets, avenues, or ways within the City.

Park Trees: "Park trees" are herein defined as trees, shrubs, bushes and all other woody vegetation in public parks having individual names, and all areas owned by the City, or to which the public has free access as a park.

### Section 2. Creation and Establishment of a City Tree Board.

There is hereby created and established a City Tree Board for the City of \_\_\_\_\_

(state) which shall consist of five members, citizens and residents of this city, who shall be appointed by the mayor with the approval of the Commission.

### Section 3. Term of Office

The term of the five persons to be appointed by the mayor shall be three years except that the term of two of the members appointed to the first board shall be for only one year and the term of two members of the first board shall be for two years. In the event that a vacancy shall occur during the term of any member, his successor shall be appointed for the unexpired portion of the term.

### Section 4. Compensation

Members of the Board shall serve without compensation.

### Section 5. Duties and Responsibilities

It shall be the responsibility of the Board to study, investigate, council and develop and/or update annually, and administer a written plan for the care, preservation, pruning, planting, replanting, removal or disposition of trees and shrubs in parks, along streets and in other public areas. Such plan will be presented annually to the City Commission and upon their acceptance and approval shall constitute the official comprehensive city tree plan for the City of \_\_\_\_\_ State \_\_\_\_\_

The Board, when requested by the City Commission, shall consider, investigate, make finding, report and recommend upon any special matter of question coming within the scope of its work.

### Section 6. Operation

The Board shall choose its own officers, make its own rules and regulations and keep a journal of its proceedings. A majority of the members shall be a quorum for the transaction of business.

### Section 7. Street Tree Species to be Planted

The following list constitutes the official Street Tree species for \_\_\_\_\_ State \_\_\_\_\_

No species other than those included in this list may be planted as Street Trees without written permission of the City Tree Board.

### Section 8. Spacing

The spacing of Street Trees will be in accordance with the three species size classes listed in Section 7 of this ordinance, and no trees may be planted closer together than the following: Small Trees, 30 feet; Medium Trees, 40 feet; and Large Trees, 50 feet; except in special plantings designed or approved by a landscape architect.

### Section 9. Distance from Curb and Sidewalk

The distance trees may be planted from curbs or curblines and sidewalks will be in accordance with the three species size classes listed in Section 7 of this ordinance, and no trees may be planted closer to any curb or sidewalk than the following: Small Trees, 2 feet; Medium Trees, 3 feet; and Large Trees, 4 feet.

### Section 10. Distance from Street Corners and Fireplugs

No Street Tree shall be planted closer than 35 feet of any street corner, measured from the point of nearest intersecting curbs or curblines. No Street Tree shall be planted closer than 10 feet of any fireplug.

### Section 11. Utilities

No Street Trees other than those species listed as Small Trees in Section 7 of this ordinance may be planted under or within 10 lateral feet of any overhead utility wire, or over or within 5 lateral feet of any underground water line, sewer line, transmission line or other utility.

### Section 12. Public Tree Care

The City shall have the right to plant, prune, maintain and remove trees, plants and shrubs within the lines of all streets, alleys, avenues, lanes, squares and public grounds, as may be necessary to insure public safety or to preserve or enhance the symmetry and beauty of such public grounds.

The City Tree Board may remove or cause or order to be removed, any tree or part thereof which is in an unsafe condition or which by reason of its nature is injurious to sewers, electric power lines, gas lines, water lines, or other public improvements, or is affected with any injurious fungus, insect or other pest. This Section does not prohibit the planting of Street Trees by adjacent property owners providing that the selection and location of said trees is in accordance with Sections 7 through 11 of this ordinance.

### Section 13. Tree Topping

It shall be unlawful as a normal practice for any person, firm, or city department to top any Street Tree, Park Tree, or other tree on public property. Topping is defined as the severe cutting back of limbs to stubs larger than three inches in diameter within the tree's crown to such a degree so as to remove the normal canopy and disfigure the tree. Trees severely damaged by storms or other causes, or certain trees under utility wires or other obstructions where other pruning practices are impractical may be exempted from this ordinance at the determination of the City Tree Board.

### Section 14. Pruning, Corner Clearance

Every owner of any tree overhanging any

street or right-of-way within the City shall prune the branches so that such branches shall not obstruct the light from any street lamp or obstruct the view of any street intersection and so that there shall be a clear space of eight feet (8') above the surface of the street or sidewalk. Said owners shall remove all dead, diseased or dangerous trees, or broken or decayed limbs which constitute a menace to the safety of the public. The City shall have the right to prune any tree or shrub on private property when it interferes with the proper spread of light along the street from a street light or interferes with visibility of any traffic control device or sign.

### Section 15. Dead or Diseased Tree Removal on Private Property

The City shall have the right to cause the removal of any dead or diseased trees on private property within the city, when such trees constitute a hazard to life and property, or harbor insects or disease which constitute a potential threat to other trees within the city. The City Tree Board will notify in writing the owners of such trees. Removal shall be done by said owners at their own expense within sixty days after the date of service of notice. In the event of failure of owners to comply with such provisions, the City shall have the authority to remove such trees and charge the cost of removal on the owners property tax notice.

### Section 16. Removal of Stumps

All stumps of street and park trees shall be removed below the surface of the ground so that the top of the stump shall not project above the surface of the ground.

### Section 17. Interference with City Tree Board

It shall be unlawful for any person to prevent, delay or interfere with the City Tree Board, or any of its agents, while engaging in and about the planting, cultivating, mulching, pruning, spraying, or removing of any Street Trees, Park Trees, or trees on private grounds, as authorized in this ordinance.

### Section 18. Arborists License and Bond

It shall be unlawful for any person or firm to engage in the business or occupation of pruning, treating, or removing street or park trees within the City without first applying for and procuring a license. The license fee shall be \$25 annually in advance; provided, however, that no license shall be required of any public service company or City employee doing such work in the pursuit of their public service endeavors. Before any license shall be issued, each applicant shall first file evidence of possession of liability insurance in the minimum amounts of \$50,000 for bodily injury and \$100,000 property damage indemnifying the City or any person injured or damaged resulting from the pursuit of such endeavors as herein described.

### Section 19. Review by City Commission

The City Commission shall have the right to review the conduct, acts and decisions of the City Tree Board. Any person may appeal from any ruling or order of the City Tree Board to the City Commission who may hear the matter and make final decision.

### Section 20. Penalty

Any person violating any provision of this ordinance shall be, upon conviction or a plea of guilty, subject to a fine not to exceed \$ \_\_\_\_\_

\*Please note: The above species are offered as size-class examples only and may not be suitable for planting in your area. Please check with local sources to develop a species list for your area.



APPENDIX B

STILLWATER'S COMMUNITY FOREST PLAN

## ACKNOWLEDGEMENTS

### CONTRIBUTORS

The following individuals and entities should be recognized for their contributions to the development of this Community Forest Plan:

- \* *OSU Forestry Department*, primarily Dr. Tom Hennessey and Dr. Steve Anderson, for obtaining two federal grants (an *America the Beautiful* and an *Urban and Community Forest cost-share* grant) which provided funding for a graduate student to assist the Tree Board in the development of this plan. Their ideas and suggestions served as valuable starting points in the writing of this plan
- \* *Shelley Schoenrock*, a graduate student of the OSU Forestry Department, for coordination and actual writing of this plan
- \* *Bryan Brown* of the Stillwater Community Development Department whose experience in writing such documents served as a valuable guide
- \* *Robert Birchell and Associates* for performing the street tree inventory which was used in the development of the tree care program
- \* *Stillwater Tree Board*, including all of the various past and present members and volunteers, who provided input and suggestions

CURRENT TREE BOARD MEMBERS

The structure of the Stillwater Tree Board as of July, 1995 is as follows:

*Citizen Members:*

Tom Hennessey, Chairman  
Jack Moore, Vice-Chairman  
Helen Gorin  
Jim Stiegler  
Garry Sites  
Bob Bollinger  
Steve Hess

*City Staff Representatives:*

Bryan Brown, Community Development  
John McClenny, Parks & Recreations  
Jeff Hough, Public Works  
Gary Field, Utilities Authority

## INTRODUCTION

### COMMUNITY FORESTS

An urban, or community, forest is defined as all trees and associated vegetation in an urban area. This includes street trees, trees and vegetation located in parks and on other public property, private residential and commercial trees, and undeveloped forested areas. Recent surveys have shown that most community forests nationwide are declining. Improper management is the main cause of this decline. Proper management is essential for survival of the community forest, and is the essence of urban forestry.

### STILLWATER'S COMMUNITY FOREST

An inventory of Stillwater's community forest was conducted in the fall of 1991. It covered 5.5 square miles of Stillwater's main urban area and focused on public street trees. The information from the inventory revealed that Stillwater's community forest is in a state of decline. This is the result of several factors: tree planting efforts have not kept up with historical efforts that established the current urban forest; removals have exceeded new plantings in many areas; disease and urban development are causing a loss of urban canopy. The greatest factor in decline, however, is probably old age of the community forest. This becomes of greater significance when dead trees are not replaced. **A long-term management plan is needed to improve the safety, health and longevity of the community forest.** Since this will require a long-term commitment of scarce dollars, a carefully planned, comprehensive approach to tree care is essential.

## THE MASTER COMMUNITY FOREST PLAN

The Stillwater Tree Board is currently developing a comprehensive urban forestry program that will help attain the vision (see section entitled *Vision Statement*) for the community forest. Several accomplishments have been made that have contributed to a successful start to the program:

- \* a landscape ordinance has been developed
- \* an ordinance to establish the Stillwater Tree Board has been developed
- \* educational information about trees and the Tree Board has been given to the community through presentations to civic groups, distribution of articles in the Stillwater NewsPress, and creation of a Recommended Tree List
- \* public support for the program has been obtained from local civic groups, businesses, and schools
- \* several planting projects have been accomplished throughout the community, each facilitating interaction between the Stillwater Tree Board and different community groups

Although the urban forestry program has had a successful start, it has not addressed some important community forest issues:

- \* street trees have not been planted or replaced
- \* hazardous trees have not been removed
- \* available public planting spaces have not been filled
- \* parks have not had a sufficient amount of trees planted
- \* existing public trees are not protected from removal or destruction
- \* adherence to landscape ordinances is not monitored
- \* public trees are not properly maintained

This Master Community Forest Plan is part of the comprehensive program in that it documents long-term plans for the community forest. It applies to street trees only, but the comprehensive program applies to all urban trees through educational means. As with the basics of any long range plan, this plan includes a “mission” or “vision” statement, defines goals and objectives, and identifies strategies that will help attain the objectives. Specific information about the Stillwater Tree Board and the urban forestry program will probably be integrated in a separate ‘handbook’. The document will most likely include:

- \* History and creation of the Stillwater Tree Board
- \* Current board structure and membership
- \* Job descriptions for board members
- \* Committee structures
- \* Actual ordinance that established the Tree Board
- \* Work Plans - past and present
- \* List of projects and activities sponsored or coordinated by the Tree Board
- \* Status of the community forest and tree care program

A rough draft of this handbook has already been written, and the Tree Board should ensure that the document is completed and updated on a regular basis.

## VISION STATEMENT

The Stillwater Tree Board believes that a healthy urban forest will contribute to Stillwater's economic development. A healthy urban forest enhances the visual and environmental quality of the community, which, in turn, provides an attractive location for businesses, residents, and visitors.

Tree board members agree that a healthy urban forest is one that has a high species diversity, has a variety of ages, is safe for people and property, requires low maintenance, and has all planting spaces full. With this in mind, the Tree Board developed a vision statement:

*"We, the citizens of Stillwater, envision a healthy urban forest that enhances the visual and environmental quality of Stillwater, and that contributes to its economic development"*

## GOALS AND OBJECTIVES

The Stillwater Tree Board has identified three broad goals consistent with the vision statement. These goals and their associated objectives, and strategies (actions) to help accomplish the objectives, are explained and listed below. These lists are by no means complete. The possibilities are endless.

### ❶ *Develop a Tree Management Program*

The purpose of a tree management program is to establish as healthy a community forest as is possible. As mentioned in the section entitled *Vision Statement*, the Tree Board defines a healthy urban forest as one that has a high species diversity, has a variety of ages, is safe for people and property, requires low maintenance, and has all planting spaces full. Three objectives were identified to help achieve this goal and are listed below (strategies for achieving each objective are listed underneath):

#### ➤ *Encourage That All Tree Planting Spaces Be Occupied*

- ◆ identify location of all available public planting spaces
- ◆ target / rank public planting spaces
- ◆ select and plant appropriate species for planting spaces
- ◆ develop community tree planting projects to fill planting spaces
- ◆ encourage planting of appropriate species in available private locations



➤ *Manage for a Variety of Ages and High Diversity*

- ◆ expand the tree inventory to cover the entire city and keep the inventory current to allow the Tree Board to track the status of the community forest
- ◆ create a system by which the public can report the planting or removal of public trees to the tree board to facilitate keeping the inventory current
- ◆ develop and distribute a recommended tree species list to the local community to encourage the planting of appropriate tree species
- ◆ plant *at least* one tree for every public tree that is removed

➤ *Develop an Effective Public Tree Maintenance Program*

- ◆ develop a comprehensive public tree maintenance program that includes the three essential elements of proper tree care:
  - proper planting
    - ☒ fill all available spaces
    - ☒ plant at least one tree for every tree removed
    - ☒ select and plant the appropriate species for each location
    - ☒ use the proper planting procedure for the type of tree and soil
  - timely removal
    - ☒ remove all dead trees before they become hazardous
    - ☒ remove live trees that are not dead but that pose some type of hazard to the public and property
    - ☒ remove critically diseased trees
  - proper care/maintenance
    - ☒ water each tree for the first few years to encourage survival
    - ☒ prune new trees to develop strong branching structure
    - ☒ prune trees on a regular basis to promote good health
    - ☒ fertilize when necessary
    - ☒ control insects and/or disease when necessary
- ◆ develop a system for tracking maintenance records through the inventory

## ② *Provide Educational Information*

As mentioned in the *Introduction*, this Community Forest Plan applies to public trees directly, and applies to private trees indirectly through educational means. The Tree Board, therefore, will serve as an educator and consultant on urban trees and their management for the community. This information will help develop a healthy forest throughout the community since it will provide citizens with the means to care for their portion of the urban forest themselves. It will also demonstrate the value of urban trees which will help build community support for the urban forestry program. Four objectives were identified to help accomplish this goal which are listed below (strategies for achieving the objectives are listed underneath):

### ➤ *Educate the Community About the Value of Urban Trees*

- ◆ put up posters explaining these values around the community
- ◆ distribute brochures with this and information about the Tree Board
- ◆ broadcast “Tree Tidbits” trivia on local radio stations

### ➤ *Educate the Public About Proper Tree Care*

- ◆ circulate **educational material** throughout the community that can include but is not limited to:
  - a list of recommended tree species for the Stillwater area
  - educational newspaper articles
  - educational video tapes
  - previously published educational material (International Society of Arboriculture tree management pamphlets, Tree City USA Bulletins, and more)
  - a tour guide of community trees

- ◆ provide **educational assistance** to the community that can include but is not limited to:
  - educational programs for local schools
  - tree care demonstrations
  - educational seminars for the general public
  - presentations to community groups
  
- ◆ provide **consulting services** to the community that can include but is not limited to:
  - an information "hotline" to answer questions and/or concerns that community members may have about trees and tree care
  - assistance to community groups in organizing planting projects
  - referrals for tree care services, community tree projects, and more
  - suggestions and assistance to the community on creating, changing, and clarifying city ordinances and/or laws pertaining to trees
  - collaborate with local groups in obtaining tree planting/program grants

➤ *Educate Tree Board Members on Pertinent Information*

The Tree Board should ensure that its members keep their knowledge of trees and related subjects up to date so they may be of valuable assistance to the community. Such knowledge can include but is not limited to:

- \* tree physiology and care practices
- \* city ordinances/practices/concerns
- \* available grant programs
- \* public relations strategies

The Tree Board can keep the knowledge of its members current in many ways:

- ◆ supply them with recently published educational material
- ◆ bring in guest speakers from outside and within the community
- ◆ facilitate their attendance at tree-related conferences and seminars
- ◆ encourage them to become a certified arborist with the *International Society of Arboriculture*
- ◆ encourage them to obtain other related certifications (herbicide application, hazard tree assessment, and more)

➤ *Educate the Public on How to Use Trees to Reduce Energy Consumption*

- ◆ develop an educational program in conjunction with Stillwater Utilities Authority that will explain the following:
  - the relationship between trees and the safety and reliability of utility services
  - the magnitude of money and work required to keep power lines clear of trees
  - the process that Stillwater Utilities Authority uses to keep power lines clear of trees
  - potential cost savings to individual community members and the city by planting the right trees in the right locations
  - free removal
  
- ◆ create a demonstration site to show energy-saving and safe planting strategies

**3** *Develop Support For An Urban Forestry Program*

Development of an urban forestry program requires long-term planning (anywhere from 5 to 25 years or more). It also requires a significant amount of resources to implement. Stillwater, like most cities, is not able to support such a program by monetary means alone. This does not mean that an urban forestry program cannot be established in the community. It means that Stillwater must rely on the motivation and creativity of it's citizens to develop additional means of supporting the program. The Tree Board has already demonstrated, through it's Pioneer Grove planting project, that the citizens of Stillwater are eager to do so. The following three objectives and associated strategies will help the Tree Board build support for the urban forestry program throughout the community:

➤ *Obtain Monetary Support*

Monetary support can be obtained the following ways but is not limited to:

- ◆ applying for state and federal grants that sponsor tree planting and tree program development
- ◆ justifying the allocation of more city dollars to tree programs by demonstrating the importance of a healthy community forest to the economy and development of the community
- ◆ soliciting donations from community members, groups, and businesses to sponsor planting and maintenance projects
- ◆ developing memorial tree projects that community members can sponsor

➤ *Organize a Network of Community Volunteers*

Community volunteers can provide the majority of support for tree board projects and activities, thereby reducing monetary costs. Such a network can include but is not limited to:

- \* civic groups
- \* nurseries
- \* university departments and student groups
- \* businesses
- \* schools

A network of volunteers can be assembled through contacts that the Tree Board makes during interactions with the community. Such interaction can include but is not limited to:

- ◆ participation in the Stillwater Home & Garden Show
- ◆ presentations to civic groups
- ◆ educational seminars for the community
- ◆ coordinated tree projects with community groups and entities
- ◆ holding informal Tree Board meetings at different locations throughout the community so more citizens will be inclined to participate

➤ *Organize a Public Relations Network*

Public relations 'partners' can help circulate announcements, advertisements, and educational materials thereby reducing monetary costs. Such a network can include but is not limited to:

- city, rural, and university papers
- radio stations
- cable television stations

Considerations for accomplishing these goals are discussed in the section entitled *Implementation*.

## IMPLEMENTATION

The previous section discussed the three main goals that the Stillwater Tree Board has set for itself: development of a tree management program, providing educational information, and developing support for an urban forestry program. All three are highly interconnected. For example, planting projects will attract community volunteers, furthering the tree management program, while simultaneously building community networks. Tree Board members, volunteers, and the community as a whole will learn from the experience.

Organizing volunteer networks throughout the community and building other support systems for an urban forestry program takes a considerable amount of time. Providing education to tree board members and the community is an ongoing process. The Tree Board and its volunteers should therefore focus initial efforts on developing a sound tree management program. A tree management program will provide two important functions:

- It will prevent further deterioration of Stillwater's community forest (see *Introduction*)
  - ☞ new trees will be planted and maintained for long-term health
  - ☞ the health of existing trees will be improved through overdue maintenance which will extend their life span
- It will provide a foundation from which the other two goals can be built upon
  - ☞ planting and maintenance projects can utilize volunteer help which will facilitate the building of networks and will also provide hands-on education for the community
  - ☞ volunteers will disseminate information and excitement which will further develop networks and support

## THE TREE MANAGEMENT PROGRAM

A tree management program should set goals for the three basic needs of the community forest: planting, maintenance, and removal. Annual work plans that outline tasks to accomplish these goals, and associated budgets, should be documented in Annual Operational Plans. Suggested goals for initiating a tree management program for Stillwater's community forest are discussed below. Annual operational plans are also suggested, and are structured to accomplish the initial phase within a five year period.

Cost estimates for developing annual operational plans are difficult to determine, but are quite high. Estimates vary *widely* depending on whether work is done in-house or is contracted, size and species of trees involved, amount of work required, amount of work accomplished through monetary means versus volunteer means, and many more factors. The following assumptions were made in development of the annual budgets below:

- ◆ Estimates are based upon information about planting, removal, and maintenance requirements obtained from the 1991 street tree inventory (see *Introduction*). They therefore only apply to initiating a program in the area inventoried (initial plan). They can be extended to include the entire Stillwater area once it has been inventoried (see *Goals and Objectives*).
- ◆ Estimates are based upon the assumption that all tree work will be accomplished through monetary means. Much of the planting and some of the maintenance work can be accomplished through volunteer support. Tree removal is best handled by professionals and will require the highest amount of monetary support.



**Removals:**

As discussed in the Introduction, Stillwater’s community forest is in a state of decline. Many trees have died or have declined to a hazardous state (condition rating of 30 percent or less in the tree inventory) due to old age and/or lack of maintenance. These trees need to be removed for safety and aesthetic reasons. Dead trees need to be removed *immediately*, and hazardous trees should be removed on a planned schedule thereafter. The total number of trees that need to be removed are shown in Table 1 below.

Table 1

Total Trees to be Removed			
TREE SIZE	# DEAD TREES	# HAZARDOUS TREES	TOTAL # TREES
< 24"	42	207	249
24" TO 36"	9	87	96
> 36"	2	10	12
<b>TOTALS:</b>	<b>53</b>	<b>304</b>	<b>357</b>

Removal of dead and hazardous trees is a *continual* process, and should be accompanied with replacement plantings. Proper maintenance of existing trees will slow the amount of removals needed in the future.

**Planting:**

Many spaces are available for tree planting. Planting projects should emphasize species diversification, and should aim to have each species comprise no more than 10 percent of the total tree population. They should also aim to plant *at least* the same

number of trees that are removed. This will help ensure that the community forest is continually rejuvenated. It is critical that proper planting locations be identified since interference with utility lines is the foremost general maintenance and safety problem. Public educational programs are essential to reducing this conflict.

Available planting spaces originate from three sources: spaces in existence at the time of inventory, spaces created by removal of dead trees, and spaces created by removal of hazardous trees. Table 2 below shows the number of planting spaces that will be available throughout the five year initiation period.

*Table 2*

Total Trees to be Planted	
SPACE ORIGIN	# DEAD TREES
DEAD TREE REMOVALS	53
HAZARDOUS TREE REMOVALS	304
CURRENTLY AVAILABLE SPACES	5,295
<b>TOTAL:</b>	<b>5,652</b>

***Maintenance:***

Urban tree maintenance includes watering the first few years after planting and during dry seasons, pruning for strong structure and to remove deadwood, spraying for insects and/or disease when needed, and fertilizing when needed. A comprehensive

maintenance schedule extends the life and improves the safety of urban trees. The inventory indicates that Stillwater's community forest has not been properly maintained. Almost 75 percent of the trees inventoried have not had deadwood removed, and almost 50 percent of the trees have been *improperly* pruned. Over 11 percent are interfering with utility lines which poses a considerable hazard. Maintenance should begin *immediately* after trees are planted and should *continue* throughout the life of the trees.

### ANNUAL OPERATIONAL PLANS

Following are suggested annual operational plans for initiating a tree management program in Stillwater over a five-year period. Each annual plan outlines work objectives and associated budgets for the year. The costs used in the tables are *estimates* as such costs vary widely depending on several factors: tree type, size, location, health, and more. Removal costs are supplied by the Stillwater Parks and Recreation Department. Planting and maintenance costs are supplied by *Cox Landscape Company Inc.* (a private landscape company in Tulsa), and provide for the planting of a 2-inch balled and burlapped tree with complete maintenance (watering, pruning, spraying and fertilizing) of the tree for 2 years following planting. The estimate provided by this company was used to determine annual budgets since it seems to be the only local organization that could provide a representative cost per tree for *both* planting and maintenance. Stump removal costs were determined using an estimate of \$3 per inch in diameter (taken from "Removing Stumps", *Grounds Maintenance*, 1991). One representative diameter from each size category was used to calculate stump removal costs: 24 inches, 30 inches, and 36 inches.

**Year 1:**

The primary objective for year 1 should be to remove all of the dead trees and fill the spaces created with replacement trees. This would mean that 53 trees would be removed and the same number of replacement trees would be planted. In addition, trees should be planted in currently available spaces. The annual plan provides for filling 1,059 currently available spaces. This number was determined by dividing the total number of available planting spaces by 5 years so that the same number of spaces are filled each year

*Table 3*

Dead Tree Removals (yr. 1)				
TREE SIZE	# TREES	REMOVAL COST	STUMP RMVL	TOTAL COST
		(\$ PER TREE)	(\$ PER TREE)	(\$)
< 24"	42	250	72	13,524
24" to 36"	9	350	90	3,960
> 36"	2	750	108	1,716
<b>TOTALS:</b>	<b>53</b>			<b>19,200</b>

*Table 4*

Plantings (yr. 1)			
SPACE ORIGIN	# TREES	COST PER TREE (\$)	TOTAL COST (\$)
Dead Tree Removal	53	175	9,275
Available Spaces	1,059	175	185,325
<b>TOTALS:</b>	<b>1,112</b>		<b>194,600</b>

Table 5

Total Costs for Year 1	
REMOVAL COSTS	\$19,200
PLANTING COSTS	194,600
<b>TOTAL:</b>	<b>\$213,800</b>

**Year 2:**

Objectives for year two should be to start removal of hazardous trees, plant in spaces created by these removals, and fill more currently available planting spaces. The tree inventory defines hazardous trees as those with a condition rating between 5 and 30 percent. A rating of 0 percent indicates the tree is dead while a condition rating of 100 percent indicates the tree is in the best possible health and condition. Hazardous tree removals for this year include those with a condition rating of 5 to 15 percent since these could be viewed as the most hazardous. According to tree inventory data, 35 trees fall into this category. The resulting operational plan for year 2 is shown in the following tables.

Table 6

Hazardous Tree Removals (yr. 2)				
TREE SIZE	# TREES	REMOVAL COST	STUMP RMVL.	TOTAL COST
		(\$ PER TREE)	(\$ PER TREE)	(\$)
< 24"	22	250	72	7,084
24" to 36"	11	350	90	4,840
> 36"	2	750	108	1,716
<b>TOTALS:</b>	<b>35</b>			<b>13,640</b>

Table 7

Plantings (yr. 2)			
SPACE ORIGIN	# TREES	COST PER TREE (\$)	TOTAL COST (\$)
Hazardous Rmvls	35	175	6,125
Available Spaces	1,059	175	185,325
<b>TOTALS:</b>	<b>1,195</b>		<b>191,450</b>

Table 8

Total Costs for Year 2	
REMOVAL COSTS	\$13,640
PLANTING COSTS	\$191,450
<b>TOTAL:</b>	<b>\$205,090</b>

**Year 3:**

Objectives for year 3 are to remove more of the hazardous trees, plant in spaces created by these removals, and fill more currently available spaces. Hazardous tree removals for this year include those with a condition rating of 20 to 25 percent. A total of 76 trees fall into this category. Therefore, 76 replacement trees will be planted as well as 1,059 to fill more available spaces. Operational plans for this year are shown in the following tables.

Table 9

Hazardous Tree Removals (yr. 3)				
TREE SIZE	# TREES	REMOVAL COST	STUMP REMOVAL	TOTAL COST
		(\$ PER TREE)	(\$ PER TREE)	(\$)
< 24"	55	250	72	17,710
24" to 36"	14	350	90	6,160
> 36"	7	750	108	6,006
<b>TOTALS:</b>	<b>76</b>			<b>29,876</b>

Table 10

Plantings (yr. 3)			
SPACE ORIGIN	# TREES	COST PER TREE (\$)	TOTAL COST (\$)
Hazardous Rmvls	76	175	13,300
Available Spaces	1,059	175	185,325
<b>TOTALS:</b>	<b>1,134</b>		<b>198,625</b>

Table 11

Total Costs for Year 3	
REMOVAL COSTS	\$29,876
PLANTING COSTS	\$198,625
<b>TOTAL:</b>	<b>\$228,501</b>

**Year 4:**

Objectives for year 4 should be to continue removal of hazardous trees, replacement of trees removed, and filling of available planting spaces. Hazardous removals include 97 trees with a condition rating of 30 percent. The resulting annual plan is shown in the following tables.

*Table 12*

Hazardous Tree Removals (yr. 4)				
TREE SIZE	# TREES	REMOVAL COST	STUMP REMOVAL	TOTAL COST
		(\$ PER TREE)	(\$ PER TREE)	(\$)
< 24"	95	250	72	30,590
24" to 36"	0	350	90	0
> 36"	2	750	108	1,716
<b>TOTALS:</b>	<b>97</b>			<b>32,306</b>

*Table 13*

Plantings (yr. 4)			
SPACE ORIGIN	# TREES	COST PER TREE (\$)	TOTAL COST (\$)
Hazardous Rmvls	97	175	16,975
Available Spaces	1,059	175	185,325
<b>TOTALS:</b>	<b>1,132</b>		<b>202,300</b>



Table 14

Total Costs for Year 4	
REMOVAL COSTS	\$32,306
PLANTING COSTS	\$202,300
<b>TOTAL:</b>	<b>\$234,606</b>

**Year 5:**

Objectives for the final year are to finish removal of the hazardous trees, to replace those trees removed, and to finish planting trees in available spaces. Hazardous removals include 96 trees left with a condition rating of 30 percent. Once again, 1,059 trees will be planted to fill the remaining available spaces. The annual plan for year 5 is summarized in the tables below.

Table 15

Hazardous Tree Removals (yr. 5)				
TREE SIZE	# TREES	REMOVAL COST (\$ PER TREE)	STUMP REMOVAL (\$ PER TREE)	TOTAL COST (\$)
< 24"	26	250	72	8,372
24" to 36"	70	350	90	30,800
> 36"	0	750	108	0
<b>TOTALS:</b>	<b>96</b>			<b>39,172</b>

Table 16

Plantings (yr. 5)			
SPACE ORIGIN	# TREES	COST PER TREE (\$)	TOTAL COST (\$)
Hazardous Rmvls	96	175	16,800
Available Spaces	1,059	175	185,325
<b>TOTALS:</b>	<b>1,132</b>		<b>202,125</b>

Table 17

Total Costs for Year 5	
REMOVAL COSTS	\$39,172
PLANTING COSTS	\$202,125
<b>TOTAL:</b>	<b>\$241,297</b>

#### SUMMARY OF ANNUAL OPERATIONAL PLANS

Summaries of the annual budgets, annual work plans, and hazardous tree removals are provided in Tables 18 through 20.

Table 18

Summary of Annual Budgets (\$)

COST TYPE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTALS
REMOVALS	19,200	13,640	29,876	32,306	39,172	134,194
PLANTINGS	194,600	191,450	198,625	202,300	202,125	989,100
<b>YR TOTALS</b>	<b>213,800</b>	<b>205,090</b>	<b>228,501</b>	<b>234,606</b>	<b>241,297</b>	<b>1,123,294</b>

Annual work plans were structured to create annual budgets that would increase with each year. This would provide time to develop the necessary monetary and volunteer support for the urban forestry program. Objectives for each yearly operational plan are summarized in table 19 below.

Table 19

Summary of Annual Work Plans

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTALS
<b>REMOVALS</b>						<b>357</b>
Dead	53	0	0	0	0	53
Hazardous	0	35	76	97	96	304
<b>TOTALS:</b>	<b>53</b>	<b>35</b>	<b>76</b>	<b>97</b>	<b>96</b>	<b>357</b>
<b>PLANTINGS</b>						
Replacement	53	35	76	97	96	357
Available	1,059	1,059	1,059	1,059	1,059	5,295
<b>TOTALS:</b>	<b>1,112</b>	<b>1,094</b>	<b>1,135</b>	<b>1,156</b>	<b>1,155</b>	<b>5,652</b>

The most important objective for the initial tree management program is to create a safer community forest. All dead trees found during the inventory are therefore removed during the first year. All hazardous trees (those given a condition rating of 5 to 30 percent during the inventory) are removed throughout the remaining 4 years. The same number of trees that are removed are replaced each year to ensure continuation of the community forest. Available spaces are also filled each year to expand the community forest. A summary of the hazardous tree removals are shown in table 20.

Table 20

#### Summary of Hazardous Removals

CONDITION (%)	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTALS
	5 - 15	20 - 25	30	30	
< 24"	22	55	95	26	<b>198</b>
24" TO 36"	11	14	0	70	<b>95</b>
> 36"	2	7	2	0	<b>11</b>
<b>TOTALS:</b>	<b>35</b>	<b>76</b>	<b>97</b>	<b>96</b>	<b>304</b>

Trees with the lowest condition rating can be considered the 'most' hazardous. Hazardous removals therefore start with the lowest rated trees and successively remove higher rated trees the following years. Objectives for years 4 and 5 are to remove all trees with a condition rating of 30 percent. Removals for each of these years were structured to create the yearly increase in the overall budget for the initial 5 year program (see *Summary of Annual Budgets* above).

APPENDIX C

STILLWATER TREE BOARD ANNUAL WORK PLANS:

FISCAL YEARS 1992/1993 and 1993/1994

City of Stillwater

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# **TREE BOARD ANNUAL REPORT, WORK PLAN, & BUDGET REQUEST**

**FY 92/93 Report, 93/94 Proposed Work Plan & Budget**

**City Tree Board, Chairman - Paul Mitchell**

June, 1993

# Annual Report (FY 92/93)

Be it known that the tree canopy of the City of Stillwater is a mature and valuable asset that must be preserved through new plantings, with an emphasis on diversification. The Tree Board holds regular public meetings on the third Thursdays of each month at 5:00 p.m. in City Hall, and invites all those interested to attend.

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## Establishment & Purpose

The Stillwater City Commission approved Ordinance No. 2426 on April 20th, 1992, establishing a Community Tree Ordinance. This ordinance became effective on May 23, 1992. The ordinance established a City Tree Board which includes the methods of operation, provides for the development of a Community Forestry Plan to address the planting, maintenance, and removal of public trees, and provides for implementation of a work plan. The current ordinance contains a three-year limitation on the existence of the Tree Board, unless specifically renewed and extended.

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## Members

Mayor Terry Miller and the Commissioners made initial member appointments to the City Tree Board on April 27, 1992. Two of these original members, Helen Gorin and Tom Hennessey, were reappointed for three year terms in April, 1993.

### Citizen Members

Paul Mitchell, Chairperson  
Janette Jacobs, Vice Chair  
Tom Hennessey  
Helen Gorin  
James Knight

### City Dept. Member Representation

Community Development, Bryan Brown  
Parks & Recreation, John McClenny  
Public Works, Jeff Hough  
Utilities Authority, Gary Field & Lee Jackson

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## Meetings Held

The City Tree Board has held regular monthly meetings and one special meeting on the following dates since establishment:

1992 - May 28, June 25, July 23, August 27, Sept.24, October 15, Nov. 19, Dec. 17, 1993 - Jan. 28, Feb. 18, March 18, April 12, April 15, May 20, and June 17.

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## Tree Board Accomplishments ( FY 92/93)

1. The Tree Board, in conjunction with the OSU Forestry Department, received a 1992 America The Beautiful matching grant in the amount of \$10,000 to subsidize work by a graduate student for the purpose of promoting the Tree Board and leading to the creation of a Community Forestry Plan. Attached as Exhibit A, are copies of six Newspress articles produced by the graduate student in conjunction with the grant project.
2. The Tree Board received a 1992 America The Beautiful matching grant in the amount of \$3,725 to help educate the public to plan for and plant appropriate tree species.
3. The Tree Board sponsored a fall Arbor Week Observance with a proclamation by the Mayor and conducted a planting ceremony and demonstration near the Park and Recreation Office in October.
4. The Tree Board completed the necessary application and all actions necessary to become a 1992 Tree City , USA. A flag reflecting this status now flies in front of City Hall, and two signs displaying this status are to be displayed downtown along Mainstreet.
5. The Tree Board printed and released the first "Recommended Tree List" for Stillwater. Approximately 3,000 copies have been distributed to date. Work continues on two additional grant-related educational publications which are to contain more information about each recommended tree species and will identify sites where they may be seen..
6. The Tree Board conducted a poster/essay contest for Stillwater grades 1-7 and presented each winner an Eastern Redbud, the state tree of Oklahoma, to commemorate Arbor Week in Stillwater and Oklahoma. The posters were displayed on the first floor of City Hall.
7. The Tree Board arranged for the purchase of 200 tree seedlings for the Boy Scouts and assisted them with a tree-planting project on the island in Boomer Lake. John McClenny, the park planner, supervised the planting while the scouts completed the project.
8. The Tree Board, in conjunction with work plans by the Park and Recreation Department, sponsored the purchase of 15 White Redbud trees which are to be planted downtown along Husband Street between Sixth and Ninth Avenues.
9. The Tree Board has decided on basic working goals and objectives to guide the endeavors of the Tree Board and are to become an element of the Community Forestry Plan when complete.

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## Tree Board Expenditures (FY 92/93)

Please refer to Exhibit B at the end of this report for a list of specific expenditures made by the Tree Board this past fiscal year.



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## City Departmental Expenditures (FY 92/93)

Stillwater Electric Authority <sup>1</sup>	\$265,000
Parks & Recreation <sup>2</sup>	\$13,881
Public Works Department <sup>3</sup>	\$8,582

<sup>1</sup>Consists of contractual tree maintenance services for FY 92/93

<sup>2</sup>Calendar year 1992 expenditures associated with planting, maintaining, and removing public trees.

<sup>3</sup>Calendar year 1992 expenditures primarily associated with the removal of trees from alleys and drainage easements.

# Annual Work Plan & Budget (FY 93/94)

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## Activities Planned

1. Completion of the 1992 educational grant projects. This involves compiling and printing a tree species tour guide and completion of a tree selection guide.
2. Continuation of support for and policy guidance in the drafting of the Stillwater Community Forestry Plan. This is likely to involve lending support to OSU for seeking an additional matching grant to continue work of the forestry graduate student in promoting the Tree Board and leading to the creation of the Community Forestry Plan.
3. Coordination and sponsorship of a competitive residential neighborhood street tree-planting project. This project foresees the Tree Board acting as a coordinator for the distribution of matching funds to the neighborhood group presenting the best street tree planting proposal. It is possible that the Tree Board will attempt to seek matching grant monies to help fund this project.
4. Serve as the possible host for the Oklahoma Urban & Community Forest Council's Third Annual Conference. The State Forestry Services Division of the

Department of Agriculture and the president of the Oklahoma Urban and Community Forestry Council will present a formal request to the Tree Board and the City of Stillwater to act as the host site for the March, 1994, conference on June 17, 1993. Responsibilities would be limited to local site arrangements, some publicity, and audio visual coordination. Opportunity would exist to spotlight Stillwater's forestry efforts, promote and increase local interest in forestry, and benefit the local economy.

5. Sponsor Arbor Week Celebration. This will most likely entail a contest with awards, in addition to other activities.

## Budget Request (FY 93/94)

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### Proposed Expenditures (estimates)

1. Possible matching funds for a grant request or outright Tree Board funding for a residential neighborhood street tree-planting project. (This may fund the planting of 25-50 trees, depending on the Tree Board match to the neighborhood residents, many more if a grant is sought and secured. Amount: \$2,500. Source: City)
2. Educational materials (paper/printing)  
Tour Guide and Tree Selection Guide. Amount: Up to \$3,725. Source: Grant Funds
3. Promotion activities such as Arbor Week Contest, program handouts and slide program preparation. Amount: \$200. Source: City
4. Membership subscriptions such as the National Arbor Day Foundation and Oklahoma Urban and Community Forest Council. Amount: \$30. Source: City
5. Books & publications for research materials such as: Trees in Urban Design and Municipal Tree Manual. Amount: \$95. Source: City
6. Hosting and possible sponsorship of some element of the Oklahoma Urban and Community Forestry Conference and member conference registration fees. Amount: \$475. Source: City.

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## Proposed Funding and Budget

City of Stillwater	Grant Funding	Total Budget
\$3,300	\$3,725	\$7,025

In summary, the Tree Board is requesting an increase in City funding of \$800 over last years approved budget of \$2,500, which was also the preliminary funding request given to the City Manager for use in preparing the 93/94 proposed budget document. The planned expenditures outlined for next years annual work plan activities are estimates, and may actually be lower, resulting in a carryover of funds for next year or to spend on other projects or costs not anticipated at this time. The largest proposed expenditure is for the neighborhood street tree planting project. The amount of money needed for such a project is flexible and directly related to how many trees will be planted. The Tree Board is concerned that a project of less than about 15 to 20 trees is not likely to have a very big impact in one years time.

Receipt of the expected City grant revenue is entirely contingent upon the completion of the products promised to be produced and an adequate in-kind service match. It is entirely possible that some form of the grant projects could be produced at less cost than the grant award amount. This would provide additional unplanned revenue for the Tree Board account. The OSU grant for \$10,000 is not included above as part of the Tree Board budget since the funds will be directed through OSU, but this money is being spent solely for support of the Tree Board activities.



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## Tree Board Welcomes Suggestions

**Editor's Note:** This marks the start of a regular column by members of the Stillwater Tree Board. The column will run next week and then be printed every other week after that.

Stillwater citizens will be given the opportunity to voice their own desires for their community forest.

"The Tree Board is eager to hear citizen's suggestions," said Bryan Brown, board member. Citizen input is important since the community forest is a reflection of the community itself. Local residents also play an important role in keeping their forest healthy and beautiful.

Because of Tree Board efforts, Stillwater has received two urban forestry grants totaling about \$13,700 funded by the "America the Beautiful" program.

One grant, awarded to the Tree Board itself, funds the development of a "Recommended Tree List" of species that are most likely to do well in Stillwater. This list will be circulated to local nurseries and will be released in an upcoming issue of the *NewsPress*. An educational brochure about proper tree care currently is being put together and also will be made available to local citizens.

The second grant provides funding for an OSU forestry graduate student to assist the Tree Board in developing a Master Plan for Stillwater's community forest. This plan will outline long-term management considerations from which the Tree Board can work.

The graduate student and board members will be making presentations to local community organizations to provide information and allow citizens to voice their opinions and suggestions for their community forest.

Citizens can become involved in community forest projects in many ways from planting trees in their own yards to organizing neighborhood tree care projects. They can learn more about such projects by scheduling presentations with board members or by attending the Tree Board meetings which are open to the public. Meetings are held at 5:15 p.m. on the third Thursday of every month at City Hall.

A partial inventory of Stillwater's street trees has been completed. The inventory documents species, health, and size of trees located along city right-of-ways within a 5.5 square mile area of Stillwater.

The inventory provides information for the development of the community forest master plan. It also provides vital information for the city to use in maintaining the health of the forest.

Anyone seeking additional information about how they can participate in community forestry projects should contact Paul Mitchell, board chairman, at 744-6593.

# How To Select Proper Trees

**Editor's Note:** This article was prepared by the Stillwater Tree Board as part of a bi-weekly series.

Celebrate Arbor Week the traditional way — plant a tree. Arbor Week is upon us and before planting a tree it's important to be sure the proper tree has been selected.

The Stillwater Tree Board has compiled a "Recommended Tree List" of species that are most likely to do well in Stillwater. Included in this list are lacebark elm, Shumard oak and red sunset maple.

Lacebark elm is a recommended species since it is resistant to Dutch Elm disease and the elm leaf beetle. This tree will grow anywhere and has been planted in Stillwater's downtown area as part of the city's new Downtown Main Street program.

Shumard oak is recommended over pin oak since it will do better in compacted and alkaline soils which are common in Stillwater. Shumard oak therefore generally will flourish where pin oak will not.

Red sunset maple is recommended for its brilliant red fall color. This tree can live in very wet soils and has a strong branching pattern which makes it tolerant to Oklahoma's winds.

The Stillwater Tree Board cautions against planting three trees commonly found in Stillwater: American elm, Tree-of-Heaven and black walnut. American elm does not do well in Stillwater because of its susceptibility to Dutch Elm disease and a viral disease called phloem necrosis. However, many of the American elm varieties are resistant to Dutch Elm disease but are more susceptible to elm leaf beetle plagues.

Tree-of-Heaven is very abundant in Stillwater. It can become a nuisance, however, since it has a very large root system. This may eventually cause problems with house foundations, sidewalks, parking lots and other cemented areas.

Black Walnut is not recom-

American naval hero David G. Farragut was born in 1801 in Knoxville, Tenn.



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mended if it will be planted with other landscape plants. This tree releases a toxic chemical from its roots which kills other plants. Since the toxin will stay in roots until they decay, removing the tree

will not solve the problem immediately.

When selecting trees at a nursery, several things should be considered: make sure the tree has bright, healthy bark; make sure the trunk and limbs are free of insects and mechanical injury; make sure branches are evenly distributed around the trunk with eight to 12 inches between them.

Copies of the Stillwater Tree Board's "Recommended Tree List" are available at the city hall reception desk. For more information on selecting the proper tree call the Tree Board Chairman Paul Mitchell at 744-6593.

## How To Plant Trees

**Editor's Note:** This is one of a continuing series of articles prepared by the Stillwater Tree Board appearing every other week in the NewsPlus.

Confused about the proper way to plant a tree? If so, you are not alone because ideas on how to plant trees properly are always changing. The following new six-step method for planting is quite successful and is recommended by the International Society of Arboriculture and the Stillwater Tree Board.

1. Prepare a planting area two to five times the diameter of the root ball and about 12 inches deep by loosening the soil. This will allow roots to push through the surrounding soil easily.

2. Prepare a planting hole in the center of the loosened soil area. The hole should allow the tree to sit flat and be deep enough so that the surface of the root ball is level with the surrounding soil. Planting at the proper level is important because if a tree is planted too deep, its roots may suffocate, and if it is planted too shallow, its roots may dry out.

3. Lifting the tree by the root ball (never the trunk), place it in the hole. Remove all ropes and wires wrapped around the root ball. If the root ball is in burlap, remove as much of the fabric as possible without disturbing the root ball.

4. Adjust the tree so that the stem will grow straight up.

5. Fill the hole and gently pack the soil until the backfill is level with the surrounding soil. This reduces air pockets within the hole that can cause roots to lose contact

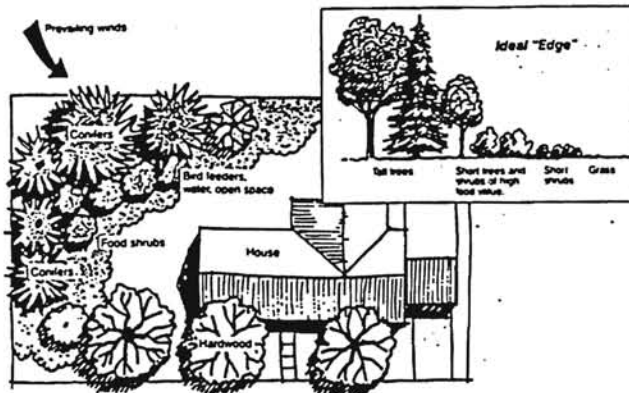


with the soil. Do not add peat moss to the backfill as it will soak up too much water and do not add fertilizer because it may burn the young, tender roots.

6. Give the tree a good soaking with water and apply a two- to four-inch layer of mulch to the entire prepared area. This will protect the roots from hot and cold temperatures, and will prevent weeds from robbing the tree of water.

Watering the tree regularly after planting is important to its survival because many roots are destroyed when the tree is dug up in the nursery. Make sure the soil remains moist, but not soaked. Water the tree at least once a week during warm, dry weather and taper off around mid-fall, when the growing season is over.

To obtain more information on proper tree-planting techniques, contact a local nursery or Stillwater Tree Board Chairman Paul Mitchell at 744-6593.



## Plant Trees With A Purpose

**Editor's note:** This is part of a regular series of articles from the Stillwater Tree Board appearing every other week in the NewsPlus.

Americans spend \$500 million a year for birdseed. Besides being fun and educational to watch, birds and other wildlife are also indicators of environmental quality. The variety and quantity of wildlife around your home can be improved by understanding a few basic ideas on attracting wildlife.

The key to attracting wildlife is its habitat — the place where it lives. Habitat has three important elements: food, cover and water. The greater the variety of these elements, the greater the number of animals that are likely to live there.

**1. FOOD** — Each tree and shrub has a different food value and attracts different animals. Having a wide variety of trees and shrubs with high food value is a good way to attract some types of wildlife. Cherries, plums, dogwoods, and mulberries are a few trees that have high food value for summer fruit. Apples, eastern redcedar, hackberry and hawthorns are a few trees that have high food value for fall or winter fruit. These trees can be important to help wildlife through the worst part of the year.

**2. COVER** - Cover is important for wildlife because it provides shelter protection for nesting, sleeping, traveling and hiding from enemies. Dense evergreen trees provide good cover for many species of wildlife. Although a single evergreen provides good protection, a group of evergreens or hedges is even better. Vines and thorny shrubs in narrow spaces or odd corners give excellent protection for some types of wildlife. Ce-



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dars, junipers, pines, hemlock, mulberries, greenbrier and honeysuckles are a few plants that provide good cover.

**3. WATER** — Water is essential for wildlife. To attract wildlife, keep water available in the winter as well as in the summer. It can be kept free of ice with a bird bath heater. A small pool can be created by placing a child's plastic pool in a hole so the top is even with the ground. Place a perch over the pool and make a ramp of rocks inside for small animals. If possible, provide moving water since it is preferred by wildlife. Once you start providing water, do not let it dry up.

The arrangement of food, cover and water makes a big difference in the kinds and amount of wildlife attracted. Edge — where shrubbery meets lawn — can attract some wildlife species because of the combination of food and cover it provides. Irregular edges created with shrubs, short trees and tall trees are better than straight lines.

A list of sources for further information on attracting wildlife can be obtained at the reception desk of city hall, or by contacting Oklahoma State University wildlife specialist Ron Masters at 744-6432.



4B Stillwater NewsPress/NewsPlus • Wednesday, May 5, 1993

# Landscape To Save Water

With all the rain that Oklahoma has had this spring, landscaping to save water may seem unnecessary. But 40 percent to 60 percent of residential water use during the summer is for outside purposes. Careful landscaping can be a good way to save water.

The amount of water needed for a beautiful landscape can be reduced by following these six recommendations:

1. If you are developing a new landscape, plan it to save water. Make a sketch of your house that includes property lines, water faucets, trees and other permanent features.

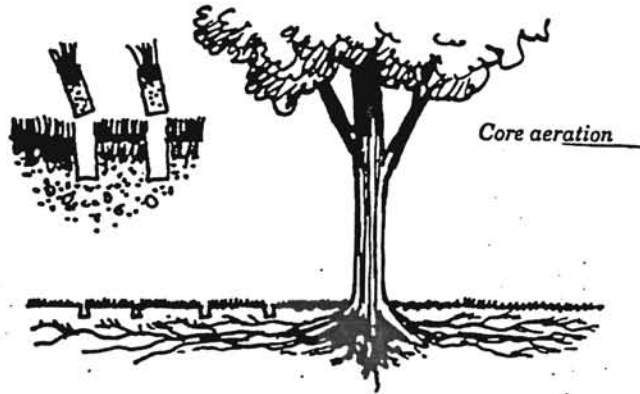
Place deciduous trees (trees that lose their leaves in the winter) and ground cover on hot sides of the house. This can reduce surface temperatures by up to 20 degrees. Plant a windbreak of dense evergreens to cut down on drying winds.

Group plants based on water needs. Concentrate lawn areas, which have a high water demand, only where needed. Create zones that have low water demand, such as rock gardens, shrubs or wildflowers.

2. Reduce the lawn area. Lawn requires a lot of water and time to maintain. To reduce lawn, you can expand patio areas. If patios are located next to trees, use brick or decking to allow air and water to reach tree roots.

Extend the edges of shrub and tree zones into lawn space with mulch, wildflower zones or plant cover.

Plant more shade trees and shrub areas. Plant small, wide



trees as a fence row and add rows for extra width.

3. Select the proper plants and trees. Trees and shrubs that are best-suited for the Stillwater climate will need less watering and care. The Stillwater Tree Board has put together a Recommended Tree List of trees that are best-suited for Stillwater. A copy of this list can be picked up at the reception desk of city hall.

4. Work with your soil. Have the pH of your soil tested to be sure that the trees and plants you select can survive in your soil.

5. Use mulches. Any type of mulch saves water in several ways: it reduces lawn space, keeps water in the soil and prevents grass and weeds that use a lot of water from growing.

6. Maintain your landscape regularly. Core aeration of your soil should be done yearly. This is done by removing small plugs of grass and topsoil which allows water to soak through sod. Aerating your soil can reduce your land-



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scaping water bill by as much as 50 percent.

Only water between midnight and 10 a.m. to prevent water from evaporating.

Do not over-fertilize because extra plant growth demands extra water. Over-fertilizing also encourages the growth of weeds that use valuable water.

Set your mower high because tall grass helps reduce water evaporation by shading the ground.

For more information on core aeration or landscaping to save water, contact Stillwater Tree Board Chairman Paul Mitchell at 744-6593.





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## **Tree Program Helps Scout Earn Eagle**

Luke Broyles, a 13-year-old local Boy Scout, will be earning the rank of Eagle Scout by working with the Stillwater Tree Board and the Stillwater Parks and Recreation Department to plant 200 trees at Boomer Lake.

Eagle is the highest rank a Boy Scout can earn. To earn this badge, a scout must plan, develop, organize and supervise a community project that involves other troop and community members. Once earned, this badge shows that the scout has the ability to become a community leader.

Many Eagle scouts have become community leaders. They have become astronauts, military leaders and political figures such as Ross Perot.

On May 15th, Broyles and more than 10 other Boy Scout members were scheduled to plant 200 seedlings on a new island in the northeast corner of Boomer Lake. John McClenny from Stillwater Parks and Recreation worked with Broyles to determine where and how the trees should be planted.

The seedlings contain 50 bur oaks, 50 Shumard oaks, 50 common lilacs and 50 bald cypresses. They were purchased by the Stillwater Tree Board from the Oklahoma Department of Agriculture Forestry Services.

Broyles is responsible for watering the young seedlings. He will be watering them once a week for one month by carrying water in buckets from the lake to the trees.

The Stillwater Tree Board recognizes the importance of teaching children about the community forest, and is therefore eager to involve them in community forest projects.

Anyone who would like more information on this project may contact McClenny at 372-0025.

## TREE BOARD EXPENDITURES

FY 92/93

01-10-04-6382 (Miscellaneous Services)

Date	Vendor/Purpose	Expense	Balance
7/01/92	Beginning Balance		\$2,500.00
9/16/92	ICMA (Research Reports)	\$ 49.95	\$2,450.05
11/18/92	GGC-Amer. Forests (Research Reports)	\$ 8.95	\$2,441.10
2/8/93	OK Dept. of Agric. (200 Tree Seedlings for Boomer Lake Island)	\$ 56.00	\$2,385.10
3/19/93	OK Quality Printing (5,000 copies of Recommended Tree List)	\$ 358.00	\$2,027.10
5/29/93	Keathley's (15 Redbud Trees for Husband Street)	\$1,500.00	\$ 527.10
6/04/93	Keathley's (4 Redbud Trees for Contest)	\$ 60.00	\$ 467.10
6/04/93	Shelly Price (encumbrance for Photographic supplies for slide presentation)	\$ 300.00	\$ 167.10
6/09/93	Quality Plants	\$ 75.00	<u>\$ 92.10</u>

  
 Gayle Blackburn  
 Administrative Secretary



**TREES AWARDED** — City and Tree Board officials recently presented trees to students who won first places in the Arbor Week coloring and essay contest. From left are: Mayor Terry Miller; Matt Parsons, seventh grade, home school; Rosa Irby, sixth grade, home school; Natalie Davis, fifth grade, home school; Brian Carroll, second grade, Perkins El-

ementary; Joel Irby, third grade, home school; Kelva Hunger, first grade, Sangre Ridge; Nicole Miller, fourth grade, Sangre Ridge; Tree Board Chairman Paul Mitchell and City Commissioner Joe Haney. The trees were provided by Quality Plants and Keathly's Nursery. (NewsPress photo by Stephen Holman)

## Tree Contest Winners Named

Stillwater Tree Board and city officials presented trees and certificates Tuesday to winners in the Arbor Week Coloring and Essay Contest.

At a ceremony at city hall, first-place winners each received a tree donated by Keathly's Nursery and Quality Plants. Other students were recognized with certificates.

The contest honored Arbor Week, which was March 22 through 28. Entries were due April 8 and winners were selected by the Tree Board April 12.

A total of 45 students in grades one through five participated in the coloring contest while 31 students in grades six and seven entered the essay contest.

Coloring contest winners were, by grade level and school:

First grade: Kelva Hunger, Sangre Ridge, first place; Caitlin Davis, home school, second; and Christopher Edmondston, Richmond, third.

Second grade: Brian Carroll, Perkins, first place; Adam Peasless, Westwood, second; and Benton Rudd, Perkins, third.

Third grade: Joel Irby, home school, first place; Jeffrey Dobbins, Highland Park, second; and Joy Haney, Richmond, third.

Fourth grade: Nicole Miller, Sangre Ridge, winner.

Fifth grade: Natalie Davis, home school, winner.

Essay contest winners were:

Sixth grade: Rosa Irby, home school, first place; and Corey Tidwell, Stillwater Middle School, second.

Seventh: Matt Parsons, home school, first place; David Womack, Stillwater Middle School, second; and Crystal Austell, Stillwater Middle School, third.

Parsons' essay is printed below.

"Today I climbed a tall tree in my back yard. I smelled the spring air as the cool wind hit my face. This wonderful day is one of many for the sturdy old oak. When the weather warms, the tree will leaf out broadly, shading me this summer. But now while there are no leaves, I can climb over branches wondering who else has enjoyed this old tree in the past. As I climb I find signs of insects and birds but squirrels leap to another tree. Maybe my children will share this tree with the children of these animals."



CITY OF STILLWATER TREE BOARD

# STILLWATER TREE BOARD

## RECOMMENDED TREE LIST

Planting and maintaining trees is the most important contribution you can make to our environment in your lifetime! Most species will outlive the person planting the tree, if climatically, site and soil adapted. The following list of trees was selected on overall climatic and soil adaptation criteria. General freedom from pest and disease was also considered. This list is, by no means, all of the species that can be grown in Stillwater. Some of these are readily available in local nurseries. If a tree is not available at your nursery, ask them to order it for you. Consult your nursery or reputable horticulturist for planting and location recommendations.

This Tree Species list is arranged in alphabetical order by the common name, followed by the botanical name. The following tree list is divided into eight (8) groups:

- |                                 |                                 |
|---------------------------------|---------------------------------|
| I. Large Trees                  | V. Small Trees                  |
| II. Columnar or Fastigate Trees | VI. Broadleaf Evergreen Trees   |
| III. Medium Trees               | VII. Coniferous Evergreen Trees |
| IV. Globe Trees                 | VIII. Trees Not Recommended     |

### GROUP I - LARGE TREES

- |   |  |
|---|--|
| 1. Ash, White / <i>Fraxinus americana</i>                         | 18. Maple, Autumn Blaze/ <i>Acer saccharinum</i> 'Autumn Blaze'  |
| 2. Ash, Autumn Applause / <i>Fraxinus americana</i> 'A.A.'        | 19. Maple, Silver / <i>Acer saccharinum</i>                      |
| 3. Ash, Autumn Purple / <i>Fraxinus americana</i> 'Autumn Purple' | 20. Maple, Silver Queen / <i>Acer saccharinum</i> 'Silver Queen' |
| 4. Basswood / <i>Tilia americana</i>                              | 21. Maple, Pyramidal / <i>Acer saccharinum</i> 'Pyramidalis'     |
| 5. Birch, Heritage River / <i>Betula nigra</i> 'Heritage'         | 22. Maple, Welsch Cutleaf / <i>Acer saccharinum</i> 'Welsch'     |
| 6. Cottonless Cottonwood / <i>Populus deltoides</i> 'Cottonless'  | 23. Oak, English / <i>Quercus robur</i>                          |
| 7. Cypress, Bald / <i>Taxodium distichum</i>                      | 24. Oak, Northern Red / <i>Quercus rubra</i>                     |
| 8. Cypress, Pond / <i>Taxodium ascendens</i>                      | 25. Oak, Sawtooth / <i>Quercus acutissima</i>                    |
| 9. Elm, Homestead / <i>Ulmus americana</i> 'Homestead'            | 26. Oak, Shumard / <i>Quercus shumardi</i>                       |
| 10. Elm, Urbana & Pioneer / <i>Ulmus americana</i> 'U & P'        | 27. Oak, Southern Red / <i>Quercus falcata</i>                   |
| 11. Elm, Lacebark / <i>Ulmus parvifolia</i>                       | 28. Oak, Swamp White / <i>Quercus bicolor</i>                    |
| 12. Elm, Emerald Isle / <i>Ulmus parvifolia</i> 'Emerald Isle'    | 29. Oak, Water / <i>Quercus nigra</i>                            |
| 13. Elm, Emerald Vase / <i>Ulmus parvifolia</i> 'Emerald Vase'    | 30. Oak, Willow / <i>Quercus phellos</i>                         |
| 14. Hackberry, Southern (Sugarberry) / <i>Celtis laevigata</i>    | 31. Oak, White / <i>Quercus alba</i>                             |
| 15. Hackberry, Western / <i>Celtis occidentalis</i>               | 32. Osage orange, Wichita / <i>Maclura pomifera</i> 'Wichita'    |
| 16. Kentucky Coffee Tree / <i>Gymnocladus dioica</i>              | 33. Planetree, London / <i>Platanus x acerifolia</i>             |
| 17. Linden, American / <i>Tilia americana</i>                     | 34. Tree of Heaven, Metro / <i>Ailanthus altissima</i> 'Metro'   |

### GROUP II - COLUMNAR OR FASTIGIATE TREES:

These trees are suitable for spaces where spread is limited and height is not, such as street medians and between houses.

- |  |   |
|--|---|
| 1. Buckthorn, Tallhedge / <i>Rhamnus frangula</i> 'Columnaris'               | 9. Linden, Columnar American / <i>Tilia americana</i> 'Fastigiata'      |
| 2. Crabapple, Columnar / <i>Malus</i> 'Beauty'                               | 10. Maple, Newton Sentry / <i>Acer saccharum</i> 'Newton Sentry'        |
| 3. Cypress, Bald, Shawnee Brave / <i>Taxodium distichum</i> 'S.B.'           | 11. Maple, Temple's Sugar / <i>Acer saccharum</i> 'Temple Upright'      |
| 4. Cypress, Pond, Prairie Sentinel / <i>Taxodium ascendens</i> 'P.S.'        | 12. Oak, Columnar English / <i>Quercus robur</i> 'Fastigiata'           |
| 5. Dawn Redwood, Columnar / <i>Metasequoia glyptostroboides</i>              | 13. Pagoda Tree, Columnar / <i>Sophora japonica</i> 'Princeton Upright' |
| 6. Ginkgo, Columnar / <i>Ginkgo biloba</i> 'Sentry'                          | 14. Pear, Capital / <i>Pyrus calleryana</i> 'Capital'                   |
| 7. Goldenrain Tree, Columnar / <i>Koeleruteria paniculata</i> 'Fast.'        | 15. Pine, Digger / <i>Pinus sabiniana</i>                               |
| 8. Hawthorn, Columnar Washington / <i>Crataegus phaenopyrum</i> 'Fastigiata' | 16. Poplar, Boileau / <i>Populus alba</i> 'Pyramidalis'                 |

### GROUP III - MEDIUM TREES:

These trees are planted where a large tree would be undesirable. They are good shade trees.

- |   |  |
|---|--|
| 1. American Yellowwood / <i>Cladrastis kentuckea</i>                | 17. Maple, Commemoration / <i>Acer saccharum</i> 'Comm.'         |
| 2. Bumelia, Woolly Bucket / <i>Bumelia lanuginosa</i>               | 18. Maple, Legacy Sugar / <i>Acer saccharum</i> 'Legacy Sugar'   |
| 3. Chinese Scholar Tree / <i>Sophora japonica</i>                   | 19. Maple, Wright Brothers / <i>Acer saccharum</i> 'Wright Bros' |
| 4. Regent Scholar or Pagoda Tree / <i>Sophora japonica</i> 'Regent' | 20. Mulberry, Fruitless / <i>Morus alba</i> 'Fruitless'          |
| 5. Chittamwood / <i>Bumelia lanuginosa</i>                          | 21. Mulberry, Paper / <i>Broussonetia papyifera</i>              |
| 6. Ginkgo, Autumn Gold / <i>Ginkgo biloba</i> 'Autumn Gold'         | 22. Japanese Pagoda Tree / <i>Sophora japonica</i>               |
| 7. Ginkgo, Saratoga / <i>Ginkgo biloba</i> 'Saratoga'               | 23. Oak, Chinquapin / <i>Quercus muehlenbergi</i>                |
| 8. Ginkgo, Shangri-La / <i>Ginkgo biloba</i> 'Shangri-La'           | 24. Pear, Aristocrat / <i>Pyrus calleryana</i> 'Aristocrat'      |
| 9. Hardy Rubber Tree / <i>Eucommia ulmoides</i>                     | 25. Pear, Bradford / <i>Pyrus calleryana</i> 'Bradford'          |
| 10. Linden, Littleleaf / <i>Tilia cordata</i>                       | 26. Pear, Callery / <i>Pyrus calleryana</i>                      |
| 11. Maple, Coliseum / <i>Acer cappadocicum</i>                      | 27. Pear, Chanticleer / <i>Pyrus calleryana</i> 'Chanticleer'    |
| 12. Maple, October Glory / <i>Acer rubrum</i> 'October Glory'       | 28. Pear, Fauriei / <i>Pyrus calleryana</i> 'Fauriei'            |
| 13. Maple, Red / <i>Acer rubrum</i>                                 | 29. Pear, Paradise / <i>Pyrus calleryana</i> 'Paradise'          |
| 14. Maple, Red Sunset / <i>Acer rubrum</i> 'Red Sunset'             | 30. Pear Prizz / <i>Pyrus calleryana</i> 'Prizz'                 |
| 15. Maple, Sugar / <i>Acer saccharum</i>                            | 31. Pistache, Chinese / <i>Pistachia chinensis</i>               |
| 16. Maple, Caddo / <i>Acer saccharum</i> 'Caddo'                    | 32. Soapberry / <i>Sapindus drummondii</i>                       |



**GROUP IV - GLOBE SHAPED TREES:**

These trees are for accent, not tall, and suitable for planting under overhead utility lines.

- |  |   |
|--|---|
| 1. Black Locust, Globe / <i>Robinia pseudoacacia</i> 'Umbraculifera' | 4. Maple, Globe Sugar / <i>Acer saccharum</i> 'Globosum'    |
| 2. Catalpa, Globe / <i>Catalpa bignonioides</i> 'Nana'               | 5. Maple, Tifford Red / <i>Acer rubrum</i> 'Tifford'        |
| 3. Linden, Globe / <i>Tilia cordata</i> 'Green Globe'                | 6. Pine, Tanyosho / <i>Pinus densiflora</i> 'Umbraculifera' |

**GROUP V - SMALL TREES:-**

Most grow 15-20' tall, use anywhere small trees are desired, many flower in spring or have colored fruit or foliage. These trees are also suitable for planting under overhead utility lines.

- |  |  |
|--|--|
| 1. Apricot / <i>Prunus armeniaca</i>                             | 22. Maple, Flame Tatarian / <i>Acer tataricum</i> 'Flame'  |
| 2. Birch, European Weeping / <i>Betula pendula</i>               | 23. Magnolia, Lily / <i>Magnolia liliiflora</i>            |
| 3. Birch, Cutleaf Weeping / <i>Betula pendula</i> 'Dalecarlica'  | 24. Magnolia, Jane / <i>M. liliiflora</i> 'Jane'           |
| 4. Birch, Purple Leaf / <i>Betula pendula</i> 'Purple Rain'      | 25. Magnolia, Pinkie / <i>M. liliiflora</i> 'Pinkie'       |
| 5. Crabapple, Flowering / <i>Malus species</i>                   | 26. Magnolia, Nigra / <i>M. liliiflora</i> 'Nigra'         |
| 6. Crabapple, Eleyi / <i>Malus</i> 'Eleyi'                       | 27. Magnolia, O'Neil / <i>M. liliiflora</i> 'O'Neil'       |
| 7. Crabapple, Mt. Arbor / <i>Malus</i> 'Mt. Arbor'               | 28. Magnolia, Star / <i>Magnolia stellata</i>              |
| 8. Crabapple, Robinson / <i>Malus</i> 'Robinson'                 | 29. Magnolia, Centennial / <i>M. stellata</i> 'Centennial' |
| 9. Willow, Desert / <i>Chilopsis linearis</i>                    | 30. Magnolia, Dawn / <i>M. stellata</i> 'Dawn'             |
| 10. Willow, Marfa Lace Desert / <i>C. linearis</i> 'Marfa Lace'  | 31. Magnolia, King Rose / <i>M. stellata</i> 'King Rose'   |
| 11. Willow, Tejas Desert / <i>C. linearis</i> 'Tejas'            | 32. Magnolia, Waterlily / <i>M. stellata</i> 'Waterlily'   |
| 12. Euonymus, Pink Lady / <i>Euonymus bungeana</i> 'Pink Lady'   | 33. Redbud, Eastern / <i>Cercis canadensis</i>             |
| 13. Goldenrain Tree, Panicled / <i>Koeleruteria paniculata</i>   | 34. Redbud, Redleaf / <i>C. canadensis</i> 'Forest Pansy'  |
| 14. Hawthorn, Washington / <i>Crataegus phaenopyrum</i>          | 35. Redbud, Whitebud / <i>Cercis canadensis</i> 'Alba'     |
| 15. Lilac, Ivory Silk / <i>Syringa reticulata</i> 'Ivory Silk'   | 36. Redbud, Oklahoma / <i>Cercis reniformis</i>            |
| 16. Lilac, Japanese / <i>Syringa reticulata</i>                  | 37. Redbud, White Oklahoma / <i>C. reniformis</i> 'Alba'   |
| 17. Maple, Flame Amur / <i>Acer glabrum</i> 'Flame'              | 38. Smoketree / <i>Cotinus coggygria</i>                   |
| 18. Maple, Crimson King / <i>Acer platanoides</i> 'Crimson King' | 39. Smoketree, Flame / <i>C. coggygria</i> 'Flame'         |
| 19. Maple, Royal Red / <i>Acer platanoides</i> 'Royal Red'       | 40. Smoketree, Royal Purple / <i>C. coggygria</i> 'R.P.'   |
| 20. Maple, Schwedler / <i>Acer platanoides</i> 'Schwedleri'      | 41. Smoketree, Velvet Cloak / <i>C. coggygria</i> 'V.C.'   |
| 21. Maple, Hedge / <i>Acer campestre</i>                         |  |

**GROUP VI - BROADLEAF EVERGREEN TREES:**

These trees are planted for winter color and retain leaves year-round. Many of these flower or have colored fruit.

- |  |  |
|--|--|
| 1. Cherry Laurel / <i>Prunus laurocerasus</i>                        | 6. Live Oak / <i>Quercus virginiana</i>                            |
| 2. Holly, Foster / <i>Ilex x attenuata</i> 'Fosteri'                 | 7. Magnolia, Edith Bogue / <i>Magnolia grandiflora</i> 'E.B.'      |
| 3. Holly, Greenleaf American / <i>Ilex americana</i> 'Greenleaf'     | 8. Magnolia, Glenn St. Mary / <i>Magnolia grandiflora</i> 'G.S.M.' |
| 4. Holly, Nellie Stevens / <i>Ilex x cornuta</i> 'Nellie R. Stevens' | 9. Magnolia, Majestic Beauty / <i>Magnolia grandiflora</i> 'M.B.'  |
| 5. Holly, Yaupon / <i>Ilex vomitoria</i>                             | 10. Magnolia, Southern / <i>Magnolia grandiflora</i>               |

**GROUP VII - CONIFEROUS EVERGREEN TREES:**

These trees are planted for winter color, windbreak and accent. They are cone-bearing and retain their foliage year-round.

- |  |  |
|--|--|
| 1. Aborvitae, Excelsa / <i>Thuja orientalis</i> 'Excelsa'    | 6. Pine, Limber / <i>Pinus flexilis</i>            |
| 2. Canaert Juniper / <i>Juniperus virginiana</i> 'Canaertii' | 7. Pine, Loblolly / <i>Pinus taeda</i>             |
| 3. Pine, Austrian / <i>Pinus nigra</i>                       | 8. Pine, Pinyon / <i>Pinus combroides</i> 'Edulls' |
| 4. Pine, Digger / <i>Pinus sabiniana</i>                     | 9. Pine, Shortleaf / <i>Pinus echinata</i>         |
| 5. Japanese Pine, Red / <i>Pinus densiflora</i>              |  |

**GROUP VIII - TREES NOT RECOMMENDED:**

There are many trees commonly planted in Stillwater which are not on the recommended list. Trees not listed are generally not suitable for Oklahoma climate, soil types in Stillwater, and/or disease and insect susceptibility. There are unique micro climate and soil conditions in the Stillwater area which will support tree varieties not listed. We recommend you consult a horticulturist before planting trees not listed or if you have questions about those trees listed.

**ORDINANCE FOR TREE PLANTING**

For street trees, those which are to be planted within or near the street right-of-way or near to sidewalks or the street curb, the following ordinance planting standards shall be followed: Allow a minimum separation from any public curb or sidewalk of 3 feet for those trees identified within the small tree group, 4 feet for medium trees, and 5 feet for large trees. Trees shall not be planted within 5 lateral feet of any underground utility line or within 10 feet of an overhead utility line, unless classified as a small tree. Planting trees of any size within easements or directly over underground utility lines should be avoided, since they will be subject to damage, unwanted pruning, or removal.

**CARING FOR YOUR TREES**

Obtain a copy of OSU Extension Fact Sheets #6414: Planting Shade Trees and Shrubs; #6415: Training Young Shade and Ornamental Trees; #6409: Pruning Ornamental Trees and Shrubs; and #6412: Fertilizing Shade and Ornamental Trees and Shrubs..

We encourage diversity in both street and landscape tree species. The City of Stillwater Tree Board is a board appointed by the City Commission to establish guidelines and recommendations for the development of a Community Forest Plan. The management of the trees in the urban forest will enhance the quality of life and the beautification of the city.



**TREE CITY USA**



This program has been made possible through a cooperative agreement with the U.S. Forest Service and the Oklahoma Department of Agriculture - Forestry Services.



**CITY OF STILLWATER TREE BOARD**

City of Stillwater

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# TREE BOARD ANNUAL REPORT, PROPOSED WORK PLAN & BUDGET

FY 93/94 Report, 94/95 Proposed Work Plan & Budget

City Tree Board, Chairperson - Tom Hennessey

April, 1994

# Annual Report (FY 93/94)

## TREE BOARD MISSION STATEMENT

*" We the citizens of Stillwater, envision a healthy urban forest that enhances the visual and environmental quality of Stillwater and contributes to its economic development."*

## OVERRIDING GOALS

1. *Develop a Tree Care and Management Program*
2. *Provide Urban Forestry Education*
3. *Develop Support for an Urban Forestry Program*

The Tree Board holds regular public meetings on the third Thursday of each month at City Hall, and invites all those interested in urban forestry matters to attend.

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## Establishment & Purpose

The Stillwater City Commission approved Ordinance No. 2426 on April 20th, 1992, establishing a Community Tree Ordinance. This ordinance became effective on May 23, 1992. The ordinance created a City Tree Board to oversee the development of a Community Forestry Plan; to address the planting, maintenance, and removal of public trees; to promote a greater awareness of the benefits of trees, to increase the knowledge of the general citizenry about appropriate tree choices and planting locations; and, to stimulate an overall community commitment to improving the urban forestry canopy.

The current ordinance includes an expiration provision which will become effective as of May, 1995, unless specifically renewed, extended, or changed by the City Commission.

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## Members

The initial Tree Board member appointments were made by Mayor Terry Miller and Commissioners Larry Brown, Joe Haney, Winfrey Houston, and Dave Hessel on April 27, 1992. Two of the original appointed members, Helen Gorin and Tom Hennessey, were reappointed for three year terms in April, 1993. Two other members, Janette Jacobs and James Knight, plan to resign at the end of their terms in April, 1994. The original chairperson, Paul Mitchell, resigned in December, 1993. Jannette Jacobs filled in as interim chairperson, with Tom Hennessey as interim vice-chairperson, until February, 1994. The Board elected Tom Hennessey as chairperson in April, 1994. The current members of the City Tree Board are:



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### Citizen Members

Tom Hennessey (Chairperson); Janette Jacobs; James Knight; Helen Gorin; and Jim Stiegler

### City Departmental Staff Member Representatives

Community Development - Bryan Brown, City Planner

Parks & Recreation - John McClenny, Park Planner

Public Works - Jeff Hough, Director

Utilities Authority - Gary Field, Electric Distribution Superintendent

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## Meetings Held

The City Tree Board has held all regularly scheduled monthly meetings and three special meetings since its inception. Summary reports detailing the actions, activities and major discussion which occurred at each meeting were prepared and distributed to those interested.

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## Tree Board Accomplishments ( FY 93/94)

1. The Tree Board sponsored efforts of Tom Hennessey and Steve Anderson of the OSU Forestry Department, who successfully secured a second year of funding through the America The Beautiful matching grant program in the amount of \$10,000 to directly benefit Tree Board goals. This grant is being used primarily to subsidize work for the Tree Board by a forestry graduate student, Shelly Shoenrock. The primary objective of the grant is to help promote lasting partnerships for the Tree Board. This will include final adoption of the draft Community Forestry Plan as part of the Stillwater Comprehensive Plan, development of a slide program for Tree Board use, and development of a contact list of business and community supporters.
2. A draft of the Community Forestry Plan, thanks to Shelly Shoenrock, is now completed and ready for public input and final review and adoption.
3. The Tree Board contracted for the planting of 15 Redbud trees in the downtown area along Husband Street, with special arrangements made by John McClenny.
4. The Tree Board obtained second year recertification as a Tree City USA for 1993, and in the Tree Board's second year of existence, received one of only two special "Growth Awards" given to Oklahoma communities, with special credit given to Janette Jacobs and Bryan Brown for making the application.
5. The Tree Board, with dedication from Janette Jacobs, published a Tree Selection and Growing Guide in the Stillwater *Newspress* in October, 1993. This was a totally volunteer member effort at bringing a wealth of useful tree planting and care information, specifically tailored to local conditions, to the citizens of Stillwater.



6. The Tree Board sponsored a bi-weekly column on tree related topics in the Stillwater NewsPress in 1993, with a total of 17 articles being prepared by Shelly Shoenrock.
7. The Tree Board, utilizing the computer skills of the park planner, John McClenny, and the considerable knowledge of Paul Mitchell, created a tree species tour guide for Stillwater. Arrangements for the printing and public distribution have not yet been completed.
8. A brochure about the Tree Board, which also contains a "short" recommended tree list, was designed and published for distribution to the public, with special recognition to Shelly Shoenrock, and Janette Jacobs.
9. The Tree Board arranged for the display of a forestry exhibit and the manning of a booth, with the help of a cub scout troop, to distribute community forestry materials and loblolly pine seedlings at the 1994 Stillwater Homebuilders Spring Home and Garden Show. Special thanks to Helen Gorin and Bryan Brown for coordinating the arrangements at no cost to the Tree Board

# Current Tree Board Budget FY 93/94

**Budget:**            **City: \$5,000<sup>1</sup>**            **Grants: \$3,725<sup>2</sup>**

<sup>1</sup>Of the City funds, \$2,500 were earmarked for tree removal activities.

<sup>2</sup>Does not include \$10,000 America The Beautiful Grant Administered by OSU.

## Revenue and Expenditures To Date

Exhibit A and B provide a listing of the budgeted amounts and specific expenditures and encumbrances made by the Tree Board to date for this fiscal year for both the grant funding and City funding. The Tree Board has also received a \$25 contribution from the Stillwater Women's Club which we wish to acknowledge and has been deposited in a separate Tree Donation fund. The Tree Board anticipates the following revenue and expenditures for the remainder of this fiscal year:

### Anticipated Revenue

Final Grant Reimbursement	\$761
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### Anticipated Expenditures

Miscellaneous Photocopy fees	\$57
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**Anticipated Ending Balance:**            **City: \$4,625**            **Grant: \$407**

# PROPOSED ANNUAL WORKPLAN - FY 94/95

PURPOSE: To implement the goals and objectives of the Community Forestry Plan.

PROGRAM AREA	PROJECT/ACTIVITY	PERSONNEL	ESTIMATED COST	FUNDING SOURCE	FUNDING REQUEST
Tree Removal	Street Tree Inventory	Contract	\$9,000 for approx. 30 known trees	City	\$9,000 (includes \$2,500 carryover)
Tree Planting	Dead Tree Removal	Staff	\$1,000 for 40 trees at \$25 per tree	City	\$1,000
Tree Planting	Street Tree Replacement Incentive	Volunteer Labor	To Be Determined	1/3 Donations, 2/3 City	To Be Determined
Tree Planting (Grant Funding)	Boomer Rd. Beautification Planting Project	Contract with small business for planting, Volunteers for maintenance	N/A	Grant with inkind matching	N/A
Educational	Small Bus. Administration (public property planting project to be determined)	Board, Staff, & Volunteers	N/A	Grant with inkind matching, cash match could be helpful	\$1,000 Reserve for matching grant project with City Commission approval
Educational	America the Beautiful (Educational project to be determined)	Contract with the NewsPress or Printing Firm	\$1,150 at NewsPress or 5,000 copies at printing firm	1/2 - City, 1/2 - Private Advertisement	\$575
Promotion/Recognition	Printing Tree Tour Guide	Contracts with OSU Design Class	\$1,000 for two projects	City	\$1,000
Promotion/Recognition	Planting Project Design Services	Contracts for various services including sign design, advertisement, etc.	\$1,000	\$1,000	\$1,000
Forest Policy Direction	Development of Awards Program	Staff & Board	\$200	In-House	N/A
Tree Maintenance	Adoption of Community Forestry Plan				
Inventory & Mapping	none				
	none				
				<b>Total Needed:</b>	

## APPENDIX D

### RECOMMENDED READINGS

Gene W. Grey. *A Handbook for Tree Board Members*. The National Arbor Day Foundation, 1993.

USDA Forest Service. *Benefits of Urban Trees*. Southern Group of State Foresters. Cooperative Extension Service. Forestry Report R8-FR 17, April 1990.

USDA Forest Service. *Developing and Establishing Urban and Community Forestry Programs - An Introductory Guide*. Southern Group of State Foresters. Cooperative Extension Service. Forestry Report R8-FR 16, October 1989.

2  
VITA

Shelley Schoenrock

Candidate for the Degree of

Master of Science

Thesis: ESTABLISHING AN URBAN FORESTRY PROGRAM: A CASE STUDY

Major Field: Forest Resources

Biographical:

Education: Graduated from Jenks High School, Jenks, Oklahoma in May, 1983; attended Tulsa Junior College 1985 through 1988; received Bachelor of Science degree in Forestry from Oklahoma State University, Stillwater, Oklahoma in May 1992; completed the requirements for the Master of Science degree with a major in Forestry at Oklahoma State University in December 1996.

Experience: Employed by Oklahoma State University, Department of Forestry as an undergraduate and as a graduate research assistant; completed a summer internship with Public Service Company of Oklahoma, Tulsa, Oklahoma, in 1992; utility forester with Public Service Company of Oklahoma, 1994 to 1996, division forester with Public Service Company of Oklahoma, June 1996 to present.

Certifications: Certified Arborist with the International Society of Arboriculture, 1995.

Professional Memberships: International Society of Arboriculture, Society of American Foresters, Oklahoma Vegetation Management Association.