the public safety by pruning or removal of the tree.

This paper examines the six New England Tree Warden statutes, briefly describes the historical and cultural conditions that led to the passage of the statutes, and in order to illustrate the need for amendments to these statutes, analyzes present-day Tree Warden practices in Connecticut.

TREE WARDEN LAWS

In 1899 Massachusetts passed the first Tree Warden statute. These statutes mandated that each city and town in the Commonwealth appoint an individual to be responsible for the "care and control of all public trees." (1991). It required that trees be posted (for public notification) prior to removal or pruning, and that any person wishing to cut or prune a public tree had to obtain permission from the Tree Warden. The law also enabled a Tree Warden to use public funds, to plant trees, and to control insects and other pests.

The five other New England states used the Massachusetts law as a model for their own Tree Warden legislation, adapting it to meet their unique needs. As a result, Tree Warden laws in the six states vary. For example, Connecticut and Massachusetts require public notice prior to tree removal or pruning, but the other states do not. Rhode Island mandates basic qualifications for a Tree Warden. Connecticut, Rhode Island and Massachusetts vest all powers pertaining to public trees in the Tree Warden. Maine, New Hampshire and Vermont allow the transfer of responsibility from the Tree Warden to a commission.

In 1913 the Massachusetts Tree Wardens and Foresters Association was formed, the first Tree Warden organization. In 1992, after the Tree Wardens Association of Connecticut was established, the other New England states began to take steps to create similar organizations.

HISTORICAL AND CULTURAL FACTORS LEADING UP TO THE LAWS

The first tree protection ordinances were passed in colonial New England. For example, in 1636--only a few years after the Puritans arrived in Massachusetts Bay--the Town of Boston issued an order "to prevent the trees planted in the settlement from being spoiled." This order was among the earliest municipal mandate to protect trees (Holmes 1991).

Two hundred years later, by the mid-nineteenth century, most people continued to view the forest as an obstacle to be cleared. But during the antebellum period, visionary citizens organized community-based forest conservation groups to meet a variety of needs. The first was founded in Keene, New Hampshire in 1846 (Favretti 1986), and its purpose was "to see if the town will permit the Forest Tree Society to fence in and ornament with trees a small central portion of the Common." Similarly, in 1853 in Connecticut, the residents of Litchfield planted trees along the streets and on the town common (Favretti 1982). When the trees were planted on the Litchfield Common, one disgruntled farmer asked why people were planting trees when they had just cleared the forest -- and what was the point of putting the trees back--a remark that may be interpreted to reflect the prevailing trees-are-obstacles attitude.

However, that attitude was changing. After the Civil War the United States experienced tremendous industrial expansion, and the uncontrolled urban growth that accompanied it produced cities where life was almost unendurable. During the last quarter of the nineteenth century, people began to realize that cities and towns would be fit to live in only in the presence of trees and forests. Bringing nature into the city was essential.
TREE WARDENS AND THE EVOLUTION OF URBAN FORESTRY IN NEW ENGLAND

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ABSTRACT: In the early 1900s, private citizens and elected officials recognized the need for the conservation of trees and forests. Tree Warden statutes in all six New England states that were enacted during this period provide the earliest examples of state urban forestry laws. Tree Warden statutes required (or enabled) local municipalities to appoint tree wardens to conserve municipal trees. Today however, as a result of cultural conditions and forest environments that differ substantially from the early 1900s, these original laws no longer work effectively to conserve trees. A variety of circumstances compel present-day Tree Wardens to act primarily to remove hazard trees, rather than to plant, protect, maintain and conserve public trees, and to perform tasks unrelated to tree conservation. Therefore, existing Tree Warden statutes need to be amended so that the original intent of the statutes is better served and public trees are protected.

INTRODUCTION

In the late nineteenth century, as industrialized America recognized the need to create and maintain "green" spaces, cities and towns took steps to plant and care for public shade trees (Hays 1959). Cities established parks and planted street trees. Villages in rural areas fenced in muddy town commons, planted trees on public property, and sometimes protected public trees through local ordinances (Newton 1971).

After the turn of the century, all six New England States (Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire and Maine) enacted legislation that required (or enabled) municipalities to appoint municipal Tree Wardens. Pushed by conservation leaders, the new laws provided for the protection of public trees, specifically those along streets and rural roads. At this time, the eastern deciduous forest was recovering from clearing and heavy cutting. As a result, the forest was young, often in pole stands, as were trees along streets and rural roads (Thomson 1958).

Having been passed in an era when the population density was low, obviously the laws were not designed to address the array of problems associated with extensive road and highway systems and heavy vehicular traffic. Today, however, the New England landscape is crisscrossed by roads and highways (even in more remote northern regions). Trees along these roads and highways are often over mature, and having suffered from various environmental stresses (road salt, air pollution, mechanical injury), are in decline. Often they are public hazards.

As a consequence, the role of the Tree Warden has changed. Yesterday the Tree Warden's role was to protect the tree from unnecessary pruning, damage or removal. Today the Tree Warden's primary role is to protect

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In New England, distressed by the startling changes taking place all around them, people yearned for a simpler way of life. The "old ways" were rapidly disappearing in a huge wave of new immigrants, and it, along with the frightening forces of industrialization, seemed to be destroying everything that was familiar, from the small family farm to the comfortable, homogenous village. The wealthy of the period found escape in rustic mountain retreats or at the seashore. But for millions of ordinary people, there was no escape.

It was in these circumstances that the urban parks movement, led by Hartford, Connecticut native Frederick Law Olmsted (Newton 1971), the Village Improvement Movement (Farwell 1913), and the forest conservation movement (Hays 1959) were born. Each contributed to the development of Tree Wardens statutes.

Olmsted and others (Newton 1971) advocated, designed and created public spaces to be enjoyed by everyone in the cities. Village Improvement Societies were founded in many communities throughout New England and "beautified" town commons or village greens and public roads. These societies built stone bridges and walls, and planted and cared for public trees. A Village Improvement Society would often have a Committee on Trees and Forests (Farwell 1913). And trees and forests were, of course the raison d'être of the forest conservation movement.

By the turn of the century forestry had established itself as a profession and forestry schools, such as that of Yale University, were born. (Only 10 percent of the southern New England forest remained from the original, pre-settlement forest (Thomson 1958). Decades of uncontrolled cutting, enormously destructive wild fires and a lack of artificial regeneration had decimated them. Seeking to put an end to this kind of destruction, conservation-minded citizens founded nonprofit forestry organizations such as the Connecticut Forestry Association (1895), the Massachusetts Forestry Association (1897), and the Society for the Protection of New Hampshire Forests (1901). Their specific objectives varied, but their mission was the same: the conservation of forests and trees. Some gave shade trees their special attention (Ricard 1995). For example, the Massachusetts Forestry Association was founded, in part, "to encourage the planting and care of shade trees."

The time had come for the passage of Tree Warden laws.

TREE WARDEN PRACTICES TODAY: CONNECTICUT AS AN EXAMPLE

In 1991 the University of Connecticut Cooperative Extension System conducted a study to establish a broad base of information on Connecticut Tree Wardens. The study focused on education levels, work requirements, primary job titles, community tree program activities, continuing education activities and knowledge of Tree Warden law. There was a 76 percent response rate. The study generated information that continues to help educators develop appropriate training programs and educational material for Tree Wardens (Ricard 1991).

Results indicated that the majority of Tree Wardens in Connecticut municipalities lacked basic knowledge of trees and were, therefore, ill prepared for their duties. Most Tree Wardens possessed engineering degrees (67 percent possessed college degrees). (Figure 1). Most Tree Wardens were public works directors, a position that generally requires engineering knowledge and skills. Only 31 percent of Tree Wardens had degrees in forestry, horticulture, plant science and environmental science. The remainder possessed degrees in a diversity of disciplines applicable to the primary job title (Figure 1).
Most Tree Wardens in Connecticut held other positions in a municipality prior to their appointment as Tree Wardens. The most common job title (42 percent) was public works director (Figure 2). This appointment makes sense when one considers that most Tree Wardens are tasked with tree removal (Figure 3). Public works directors are often responsible for road maintenance and other heavy equipment operations that naturally, would include tree removal.
The second most common job title was First Selectman (15 percent). The reason why a First Selectman would assume Tree Warden duties is unclear. A First Selectman normally does not do any field work. The appointment of First Selectman to Tree Warden may simply be the result of the need to satisfy the state statute that mandates the appointment of a Tree Warden but does not require any qualifications. Other Tree Wardens positions (for example, parks superintendent, road foreman, maintainer, town engineer) are consistent with tree removal. A minuscule 5 percent of Tree Wardens called themselves city foresters, and of course city foresters would be best qualified for the job.

Most work that is conducted by Tree Wardens is hazard tree evaluation and tree removal (nearly 58 percent)(Figure 3). Tree Wardens perform few other urban forestry tasks (for example, tree planting, inventorying, mapping, education).

The original intent of Connecticut's Tree Warden statute was to create a position for someone who would serve as a tree conservationist. The results of the Connecticut Tree Warden survey suggest that the original statute is not being executed satisfactorily. The data in Connecticut indicate that Tree Wardens perform mostly tree removals. The removal of hazard trees is obviously important to the public safety, but it should not be the sole role of Tree Wardens. Today, the Connecticut Tree Warden rarely moves out of the role of tree remover into the role of conservationist or urban forester.

CONCLUSION

The Tree Warden statutes in each of the six New England states provide some of the earliest examples of urban forestry statutes. Legislated at the turn of the century when cultural and forest conditions were very different from today, they served to conserve public trees well for several decades. But today, dramatically different cultural and forest conditions have forced the Tree Warden into a role that requires tree removal rather than tree conservation. Presently, municipal government leaders often do not appoint Tree Wardens educated or trained in urban forestry, forestry, horticulture, arboriculture or other natural resource based subjects. Tree Wardens today spend most of their time and efforts on tree removal, hazard tree assessment, and related activities. With the large number of municipal trees that require removal due to their hazardous condition, Tree
Wardens now spend little time on other urban forestry activities such as tree planting, tree maintenance and planning. In addition, little public participation is encouraged with existing laws and no basic qualifications (except in Rhode Island) are required.

The word "warden" refers to "one having care or charge of something: guardian, keeper; an official charged with special supervisory duties or with the enforcement of specified laws or regulations (Mish 1991)." Tree Warden statutes need to be amended, or replaced with new urban forestry laws that protect our trees and permit and encourage public participation in the conservation of public trees.

LITERATURE CITED


PROCEEDINGS
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