

NATIONAL IMPLICATIONS OF AN URBAN FORESTRY SURVEY IN WISCONSIN¹

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Urban forestry programs have existed in many Wisconsin communities for decades. The past ten years have witnessed increased interest in these programs and the initiation of many new programs. This increased activity raised a number of questions concerning the present status of urban forestry in Wisconsin:

- 1) Are there community characteristics influencing the presence and level of development of urban forestry programs?
- 2) Where should researchers direct their activities to most benefit urban foresters?
3. What are the needs of communities without urban forestry programs?

To answer these questions, the authors conducted a survey of urban forestry in Wisconsin.

All Wisconsin cities and villages with populations in excess of 2500 were surveyed. It was felt that few municipalities with populations less than 2500 would have the necessary tax base to support an urban forestry program. Towns (townships) were excluded from the survey due to the political structure and low population, although a few towns in the urbanized southeastern portion of Wisconsin known to have programs, were included. Communities were initially contacted by phone to determine if they had a municipal employee responsible for urban forestry. Of the 141 communities contacted, 56 had an individual responsible for city trees and 85 did not. Two separate questionnaires were developed for the study; a mayor's survey for communities without a program and a forester's survey for communities with a program. There was a 62% response to the mayor's survey and a 75% response from the forester's survey.

Community characteristics

Communities with urban forestry programs were subdivided into the following categories for analysis based on a preliminary review of the

questionnaires:

- a) Small program: less than \$1.50 per capita spent on city trees. Some services provided, but not under the supervision of a professional staff person. Usually a small percent of total work time spent on urban forestry by a person with other primary responsibilities.
- b) Large program: more than \$1.50 per capita spent on city trees. Separate department for urban forestry, directed by a professional person with either many years of experience and/or professional education in urban forestry or related field.

c) Intermediate program: some characteristics of both large and small programs.

An analysis of data yielded a number of significant variables which influence both the presence and level of development of urban forestry programs.

1) Population was significantly related to both the presence and the level of program development. Larger communities (over 10,000 population) were more likely to have a program, more likely to offer a greater variety of services, and spend more per city-owned tree than communities under 10,000. Although exceptional, a few smaller communities were characterized by per-capita incomes much higher than the average for the State of Wisconsin.

2) Recent population growth was found to be a significant factor influencing the presence of a program. Communities experiencing a population increase higher than the average were more likely to have an urban forestry program.

3. Per-capita income was found to be significantly related to the presence of a program in communities with populations in excess of 10,000.

4) The presence of an institution of higher education was significantly related to the presence of a program. This may be due to the

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availability of technical tree care information in communities containing a college or university.

5) Communities with an urban forestry program had a significant tendency to have more community-owned trees. This would seem an obvious function of community size, however, such was generally not the case as some large communities had a low number of public trees and some smaller communities had a large number of public trees.

6) Severity of Dutch elm disease, as determined by the percentage of tree care funds spent for control and tree removal, was found to be significantly related to the presence of a program.

7) The education and/or experience level of a city forester was significantly related to the level of program development. This could be interpreted as either communities with large programs will have a tendency to seek better qualified individuals or better qualified individuals will develop more extensive programs.

The survey of cities with forestry programs revealed additional insights concerning urban forestry in Wisconsin. This information was obtained from personal interviews with city foresters and from comments on the questionnaires and was not subject to statistical analysis.

All communities with programs are actively involved in replacing diseased elms. Three general types of programs are being used to facilitate elm replacement: 1) tree-for-tree replacement at the city's expense as diseased elms are removed, 2) cost-sharing with homeowners for planting a tree on city land in front of their property, and 3) provide homeowners with a list of allowable species for planting on the tree lawn. The city then assumes maintenance responsibilities.

A number of factors were found to influence the selection of species for elm replacement, these being: 1) availability of commercial nursery stock, 2) expected maintenance costs, 3) resistance to insects and diseases, and 4) citizen preference. Seedless varieties are being used in most cases, with the exception of one community which places special emphasis on year-round aesthetic quality and attractiveness to wildlife. Attempts by city foresters to prevent monoculturing

have been difficult due to the low species diversity available in large quantities from commercial nurseries.

Most communities have instituted minimum street tree spacing regulations in their tree ordinances, as a result of root graft problems and the spread of Dutch elm disease.

Disposal of waste wood is a major problem for many communities. Attempts to sell round wood to paper mills for pulp has had limited success due to market fluctuations, although some logs have been sold to saw mills. Several communities have installed chippers and have either used the chips as mulch in their own work or sold the chips to paper mills. The majority of communities in Wisconsin still dispose of their waste wood by burning or burying.

Eleven of the 56 communities have their own nurseries. Three of these produced most of their planting stock from seed or seedlings, while the others used their nurseries to hold stock purchased from commercial suppliers.

City foresters indicated a need for personnel training in the areas of insect and disease identification and arboriculture.

Twenty-five percent of the urban foresters surveyed felt the State of Wisconsin should provide financial assistance to city forestry programs.

In response to questions concerning research needs, city foresters mentioned the following areas in which research should be directed: insect and disease control, tree planting to attain higher survival rates, city planning involving city trees, soil problems in urban areas, master street tree planning, developing a greater variety of cultivars for street planting, and disposal of waste wood.

Fifty-five of the 85 cities without programs responded to the questionnaire. Sixty-five percent of the responding communities list elm replacement as their primary activity, while 69 percent of the communities have tree ordinances which, for the most part, deal with Dutch elm disease.

Eighty-four percent of the mayors felt their communities would expand or develop tree care programs if outside assistance were provided by other levels of government. This assistance

would involve funding by state or federal agencies or tree management services provided by these agencies. The same number of communities expressed interest in receiving tree management information.

Discussion

The authors feel information gained by this survey likely applies to communities of similar characteristics throughout the country.

Communities most likely to have urban forestry programs have been characterized as having a population in excess of 10,000, a higher than average per capita income, an institution of higher education, a large number of community-owned trees, and a severe Dutch elm disease problem. The level of development of urban forestry programs in these communities was found to be related to the size of the community and the education and/or experience level of the city forester.

City foresters are still very much involved in replacing elms and are experiencing difficulty obtaining desirable species for replacement. Dutch elm disease has caused problems in disposal of waste wood which have yet to be solved. A need for in-service training in diagnosis of insect and disease problems and arboriculture was identified.

City foresters felt researchers in urban forestry should concentrate in the general areas of insect and disease control, transplanting, urban vegetation planning, urban soils, cultivar development, and waste wood disposal.

Communities without programs are concerned about their trees, as was indicated by the response to the survey and the number of communities with tree ordinances. These communities are troubled by the loss of their elms, and desire to initiate or expand tree care programs. However, these communities, being small, and having average or lower than average per capita income, lack the financial means to do so. Eighty-five percent of the responding mayors felt their communities would expand or initiate programs if financial assistance was provided by higher levels of government. This position was shared by 25 percent of the city foresters, who felt the State of Wisconsin should provide financial assistance for urban forestry programs.

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ABSTRACT

Baumgardt, John P. 1977. **Maintenance pruning throughout the year.** *Grounds Maintenance* 12(11): 34-37, 41, 43.

Pruning is not a cut-and-dried procedure. Each pruning job is appropriate to a particular season, depending on what plant material is being pruned and what the pruning is designed to accomplish. When setting up the maintenance pruning schedule, bear in mind a basic horticultural axiom. Dormant season pruning stimulates growth during the following growing season; pruning early in the growing season tends to reduce growth over the following year or two. A large, relatively nonbleeding shade tree such as a mature oak, sycamore or elm can be cleaned up very effectively in winter. Spring pruning ought to be limited to work on new shoots. Early summer pruning of these newly hardened shoots is especially effective with ornamental members of fruiting species such as flowering crabapples, Callery pear, the ornamental plums, flowering quince, and the like. Limit early fall pruning to essential chores such as repair of storm damage.