

# Trees in Your Community

# 2018



Results from a 2017 Questionnaire for the Urban Forestry Program,  
Wisconsin Department of Natural Resources, Division of Forestry



College of Natural Resources  
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## Executive Summary

The 2018 Trees in Your Community report describes the current state of municipal forestry programs in Wisconsin. Results from the 2017 base year describe what communities are accomplishing in the care of tree populations. The results depict program capacity to manage trees across public and private lands. Approximately two-thirds (66.1%) of 685 communities participated. Findings from the 453 participating communities reflect the population of 685 communities with no non-response bias found. The sample respondents are reflective of the population of all communities that the Wisconsin Department of Natural Resources (DNR) Urban & Community Forestry (U&CF) program serves. Questions were designed to quantify community budgets, tree management approaches, volunteer engagement, involvement of contractors, inventories, and operations. The report also assesses assistance formats that the DNR U&CF program uses to facilitate development of local U&CF programs. Community involvement and participation in the urban forestry grant program, urban forestry services, and needs were quantified. Appendix A details summary statistics from the 24-page questionnaire mailed in fall 2017 used to ascertain a community's situation. Appendix B depicts a longitudinal assessment of results from 1991, 1999, 2008, and the recent 2017 base year. Key findings from this report include:

### ○ Community and Staff

- Someone oversees the care of trees in 83% of communities statewide. Approximately 66% of communities with populations less than 500 have such a staff member. This increases to over 90% in communities with 5,000 or more people.
- The public works department (61%) is most likely to have primary responsibility of managing public trees followed by a program housed in parks and recreation (16%) or forestry (13%). As community population increases above 10,000, tree management is more likely to be housed in a stand alone forestry or parks and recreation program.
- Ten percent of communities have participated in one of the three DNR Community Tree Management Institute (CTMI) classes.
- Community leaders show a moderate level of understanding of need and embracement of the importance for sound urban forest management with a 5.9 index score (0.5 increase from 2008) on a 1 (very poor) to 10 (excellent) scale.

### ○ Budget

- Over half (56%) of communities have a budget for trees and their care and spending ranged from \$50 to over \$17 million (median \$20,000 and a mean \$165,322 budget) in a community. The general fund is the primary funding source in 93% of communities and this source accounts for 84% of the total tree budget.

- In communities with a budget, they spent an average \$7.68 per capita which is 0.90% of the total municipal budget.
- On average, 31% of budgets were spent on tree maintenance, 40% on removal, 19% on planting and 10% on other activities such as indirect costs and personnel management.
- An estimated 49.7 million dollars is spent annually by all communities on the care of urban tree populations under their management in Wisconsin.

#### ○ Tree Management Profile

- Nearly half (45%) of communities involve a citizen tree board, parks board, or city department to set policy.
- A written tree, urban forest, or land use management plan exists in 41% of communities. Species diversity (80%) and tree condition (74%) were commonly integrated in plans along with ecological goals including stormwater (45%) and air quality (19%).
- Fifty-nine percent of communities had a tree ordinance and three percent did not know.
- The municipality is most often responsible for maintaining trees between the curb and sidewalk in communities (74%) followed by the abutting property owner (23%) or both (3%).

#### ○ Volunteers

- Community engagement of volunteers in public tree care occurred in 22% of communities.
- A total 6.8% of all time spent on tree activities (planting, maintenance, removal, tree pest management, and other activities) was through volunteers.
- Tree planting was the number one reported volunteer activity with 13% of total time done through volunteers.

#### ○ Contractors

- Seventy percent of communities involve contractors as a component of their urban forest management strategy.
- Contracting accounted for 26.3% of all time spent on tree activities (planting, maintenance, removal, tree pest management and other activities).
- Tree care standards (e.g., ANSI A300) were required by contractors performing pruning or maintenance in 54% of communities.
- Tree removal and tree pest management were the most commonly reported contractor operations with 35% of total time attributed to these activities.

#### ○ Inventory

- A tree inventory occurred in 44% of communities, an increase from 33% in 2008. Nearly half (49%) of the inventories were indicated as current (up-to-date) and 22% were rated as developing (in process of making current).

- On average, the most common tree in a community accounts for 27.5% of a community's public tree population, the top two trees account for 41.1%, and the top six tree species account for 64.7% of the public tree population.
- Overall, 56% of inventories included geospatial information (e.g. GIS) and 51% were linked to other community infrastructure inventories.

#### ○ Operations Profile

- Tree care is mostly reactive (on demand) with 69% completed this way and 31% occurring through a systematic (scheduled) approach.
- City staff are commonly used to complete public tree activities with 67% of time attributable to this group, compared to 26% to contractors and 7% to volunteers.
- Trees were pruned as needed/for emergency in 62% of the communities, 7% were not pruning, 3% using a combination of approaches, and 28% pruning on a regular cycle.
- In communities on a regular pruning cycle, it averaged 5.8 years in length and on average are 1.7 years behind the desired pruning cycle of 4.1 years.
- Technical assistance for private trees occurs in 34% of communities.
- The majority of solid wood is disposed of through firewood (38%) or mulch (33%). Less than 5% of wood volume is processed into lumber, sold as round wood, or made into furniture.
- Overall, 60% of communities currently do not have a tree diversity goal. Of the 40% with a diversity goal, 70% are having difficulty in obtaining planting material to reach their goal.
- Cost-sharing for the removal (1.4%) or treatment (0.5%) is uncommon for assisting private property owners' with ash trees and emerald ash borer (EAB). Most communities use no approaches (70%) and 26% require removal of EAB infested ash trees on private property.

#### ○ DNR Grant Program

- Sixty-five percent of communities have heard of the DNR urban forestry matching grant program.
- Approximately equal numbers of communities had applied (46%) for an urban forestry grant or not (54%).
- Nearly all communities (90%) who applied (one or more times) for a grant received a grant at some point in time.
- Budget constraints (4.3 index, 1 = strongly disagree and 5 = strongly agree), staff constraints (4.1), record keeping and reporting obligations (3.6), and the reimbursement process (3.5) were most likely reasons not to apply for a grant. Not being interested in the grant program (2.9) was not a main reason for not applying.

## ○ DNR Services

- Thirty-five percent of communities received assistance from DNR urban forestry staff during the past 12 months. Assistance was uncommon (2.6%) for small communities (0 to 499 people) and common (65%) in larger communities.
- DNR provided assistance ranked as excellent or near excellent with an average index score of 8.7 (1 = poor and 10 = excellent) reported by recipients and was consistent with the 8.7 score in 2008.
- Communities indicated a high level of awareness (90%) for all DNR publication and educational services. Each service was used by over half of communities.
- Eight-two percent of communities had heard of the Tree City USA program.

## ○ Needs Profile

- Communities have a wide variety of preferences for formats of assistance with no one format serving all. Grants were the most requested followed closely by instructional workshops, printed materials, one-on-one consulting, website, and videos.
- The top five desired assistance areas were insects and disease control (58%), employee training in tree care and management (55%), tree planting (54%), tree removal (50%), and tree pruning (45%).
- The DNR Urban Forestry Coordinators are the number one source for assistance (7.5, 1 = least preferred to 10 = most preferred) followed by a tree or landscape company (6.9), colleague in another community (6.7), nursery (6.4), and private consultant (6.1).





## Introduction

Wisconsin's urban and community forests are valuable resources that support healthy communities through their social, ecological, and economic contributions. Urban and Community Forestry (U&CF) programs exist at local, state, and federal levels within the state. These programs are used to develop and implement urban forestry activities with the ideal outcome of supporting sustainable tree populations. Ideally all communities in Wisconsin would have healthy and vibrant urban forest ecosystems and the ability to foster urban tree populations for future generations. However, this is not the case in all municipalities for a variety of reasons relating to the ability or capacity of a community to do so.

The Wisconsin Department of Natural Resources (WDNR) Division of Forestry U&CF program has a goal *"To support urban forestry efforts across the state and to facilitate partnerships to advance urban forestry as practiced by local communities,*

*private sector specialists, and community organizations"* using five basic forms of assistance (Table 1-1). Wisconsin Administrative Code and Legislative Authority give enabling authorization to provide local assistance. For example, Wisconsin Statutes 28.01, 28.07, and 26.30 and Administrative Code NR 1.211 support and offer rational for cooperative forestry assistance. Likewise, State Statute 23.097 and Administrative Codes NR 47.50 – NR 47.58 (Urban and Community Forestry Grant Program) impart guidance for financial assistance through the U&CF grant program. Wisconsin statutes 27.09 and 86.03 provide advice and support for local U&CF programs. Knowing the outcomes of these statutes and codes is important to determine if the legislative intent is occurring and to make modifications when needed. Further, determining what local communities are doing to grow the urban forest is important with developing statewide U&CF assistance.

The WDNR U&CF program periodically conducts resource assessments of local U&CF programs. These assessments tell us

**Table 1-1.** The goal and forms of assistance of the Wisconsin Department of Natural Resources Urban and Community Forestry Program.

The goal of the DNR Forestry's U&CF program is "To support urban forestry efforts across the state and facilitate partnerships to advance urban forestry as practiced by local communities, private sector specialists, and community organizations." DNR U&CF staff assist community officials, green industry professionals, businesses, schools, non-profit organizations, the general public and others who impact the resource to work together to expand, improve and manage the urban forest. Assistance takes five basic forms:

**Resource Assessment** - regularly evaluate Wisconsin's urban forests and community urban forestry programs and use the information to identify management goals and assistance needs.

**Technical Assistance** - help communities develop management plans, inventories, ordinances, plant health care and training plans.

**Education and Training** - develop, facilitate and coordinate programs and materials for forestry professionals, elected officials, planners, developers, school children and volunteers.

**Resource Development** - administer state and federal cost sharing programs and assist in finding and developing alternate sources of funding, staff and support for community programs.

**Public Awareness** - develop awareness and support of the value of urban forests and their need for management through the media, recognition programs, celebrations and events.

the current state of local U&CF programs and if they have improved, stayed the same, or regressed from previous known levels in 1991, 1999, and 2008 base years. Past results from these studies have led to developing and modifying the various forms of technical and financial assistance the DNR U&CF program provides.

This report documents results from the most recent assessment of local U&CF programs in Wisconsin. It presents quantitative data from base year 2017 on a wide range of topics including community budgets, tree management approaches, involvement of volunteers and contractors, inventories, as well as evaluative information regarding the approaches the DNR Urban Forestry Program uses to promote and develop local U&CF programs. The project quantifies community involvement and participation in the urban forestry grant program, urban forestry services, and needs.

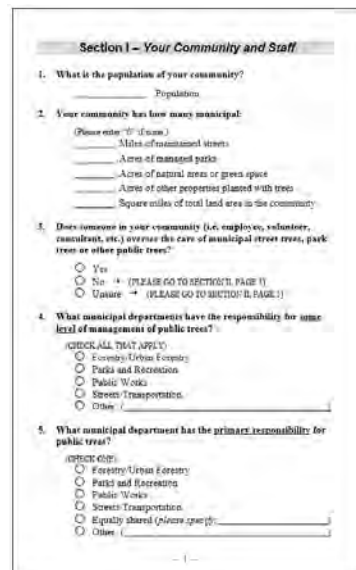
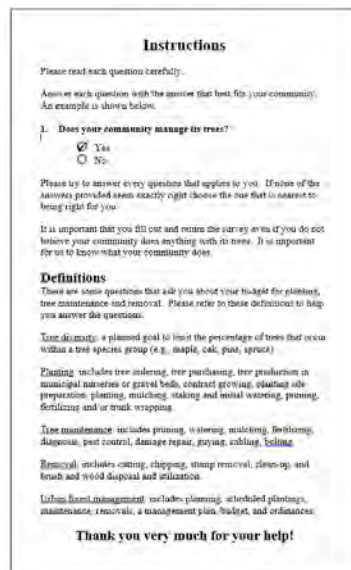
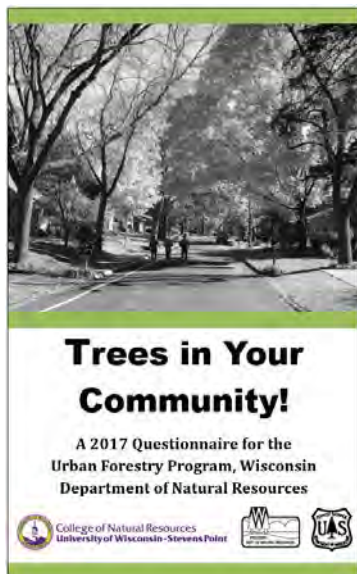
## Project Design

The project was conducted jointly between the University of Wisconsin – Stevens Point (UWSP) and the DNR's U&CF program leaders. Funding for the study came from the USFS U&CF program, WDNR U&CF program, the McIntire-Stennis program, and the UWSP College of Natural Resources. A

questionnaire was developed in conjunction with DNR U&CF staff to gather required data. Prior to delivery of the questionnaire, approval for a human subjects study was sought and granted by the Institutional Review Board at UWSP to comply with federal regulations. The instrument design of the questionnaire considered programmatic needs for DNR U&CF staff and metrics of communities to quantify their various approaches to urban forest management and attributes specific to their community. This project also facilitates updating the USFS Community Accomplishment Reporting System (CARS) used to document the current situation in Wisconsin.

The results presented in this 2018 report are drawn from a 24-page questionnaire mailed to 685 Wisconsin locations in fall 2017 (Appendix A). Locations include 191 cities, 83 towns, and 411 villages (Table 1-2). State and regional DNR U&CF program staff developed the target list of locations to contact. Results depict the 2017 situation.

A total of eight contacts were made using methods suggested by Dillman et al. (2014). This approach resulted in a sufficient sample response rate of 66.1% from the 453 responding locations (Table 1-2). This compares well to 2008 with 452 (65.9%) and in 1999 with 412 (69.0%) responding



communities. The initial 1991 assessment had a 33% response rate. The recent assessment of 2017 had a close percentage of cities, villages, and towns respond. There was a trend for lower response rates in smaller communities compared to larger communities (Table 1-3). However, no non-response bias was detected with the respondent sample.

Appendix B provides a longitudinal trend analysis that compares key results among the 1991, 1999, 2008, and 2017 base years.

## Results

Results in this 2018 report are presented by each section of the questionnaire which documents a community's situation in 2017. These sections were designed by theme with each question presented within a section consistent with the theme. For example, Section I was used to describe attributes of a location such as community size, areas under management, and the community structure for personnel associated with the local U&CF program. Key outcomes from the questionnaire are presented in each section. Not all findings from the questionnaire are reported. Appendix A provides a more complete description of findings. A cross-tabulation analysis that separated results by population class was done for some questions to determine if differences by population existed.

## Section I – Your Community & Staff

Section I was designed to capture background information of a community and U&CF program demographics. Questions were created to ascertain community population, distance and size of streets and greenspace, level of management applied to an area, and if someone in a community oversees the care of municipal trees. Municipal departments and the primary person responsible for tree care, along with their level of training was found. We determined the number of people involved with tree management in permanent, seasonal, volunteer, private contractor, and

**Table 1-2.** Response rate for the questionnaire by community type.

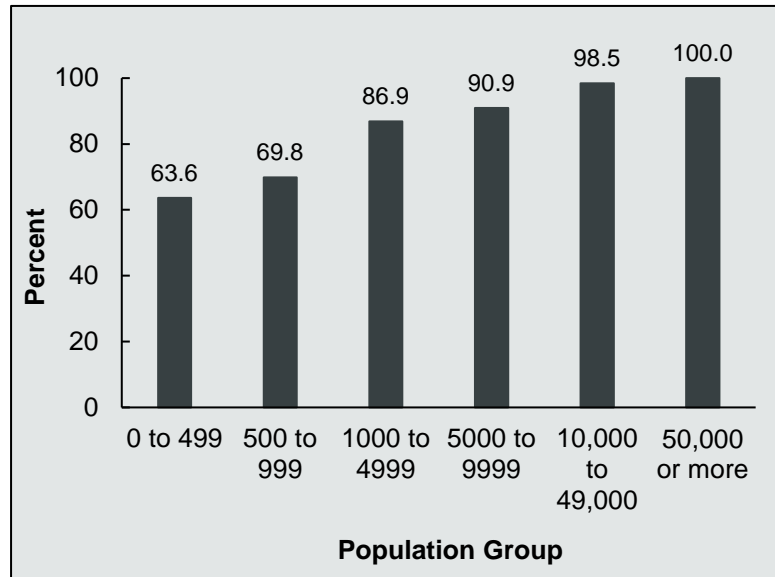
Location	Total Number Mailed	Number Not Returned	Total Number Returned	Percent Returned Within Location	Percent of Total Returns
City	191	52	139	72.8	30.7
Town	83	30	53	63.9	11.7
Village	411	150	261	63.5	57.6
<b>Totals</b>	<b>685</b>	<b>232</b>	<b>453</b>	<b>66.1</b>	<b>100.0</b>

**Table 1-3.** Response rate for the questionnaire stratified by population.

Population Group	Number Returned	Number Not Returned	Number of Locations	Percent Returned
0 to 499	81	45	126	64.3
500 to 999	64	50	114	56.1
1000 to 4999	182	94	276	65.9
5000 to 9999	52	26	78	66.7
10,000 to 49,999	62	16	78	79.5
50,000 or more	12	1	13	92.3
<b>Total</b>	<b>453</b>	<b>232</b>	<b>685</b>	<b>66.1</b>

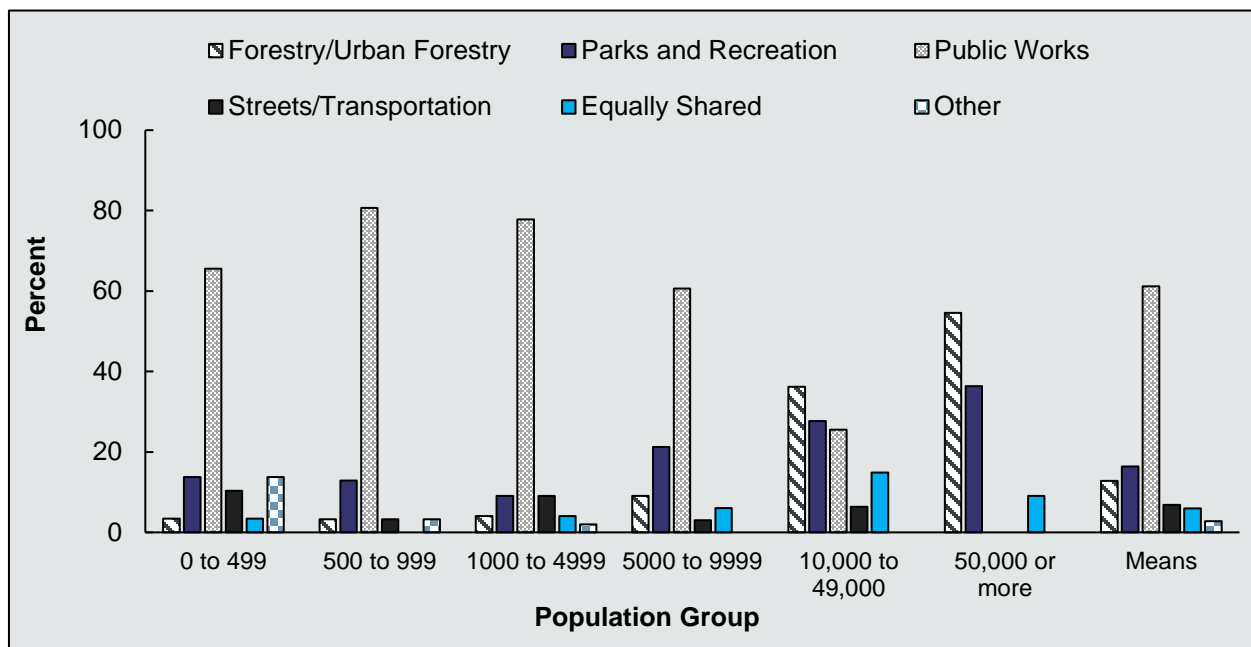
other positions. Finally, respondents indicated the level of understanding and embracement provided by community leaders for sound urban forest management. Key findings include:

- The population of responding communities ranged from 52 to 595,047 with an average median 2,161 and mean 8,260 population (n=453).
- On average a community manages trees along 57.6 miles of streets and within 117.0 acres of parks, 154.4 acres of natural areas, and 42.4 acres of other lands such as cemeteries and buildings and grounds.
- Of the 82.9% of communities that have someone to oversee the care of trees, over 90% of communities with 5,000 or more people had a staff member. This trend increases with population as only 66% of communities with populations less than 1000 have such a staff member. (Figure 1-1).

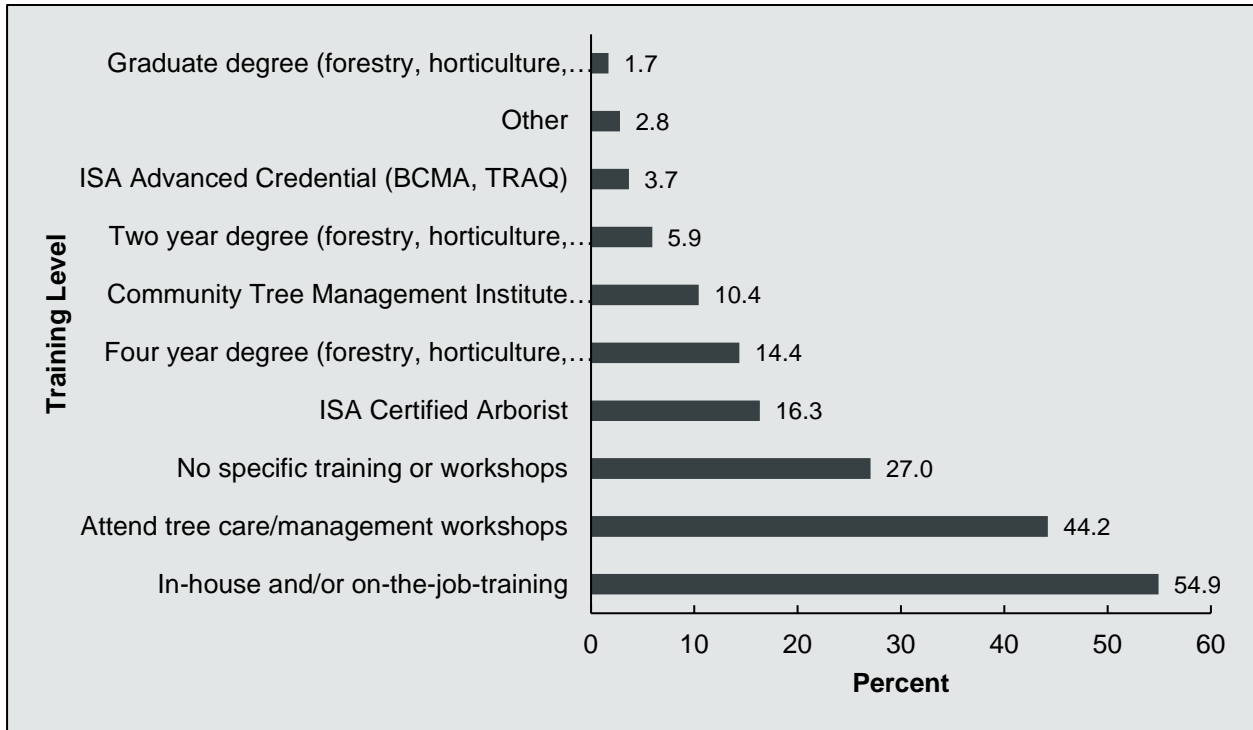


**Figure 1-1.** Percent of communities with staff that oversee the care of municipal trees by population class. (n=453)

- A public works department (61%) is most likely to have primary responsibility of managing public trees followed by parks and recreation (16%), and forestry (13%) departments (Figure 1-2). As population in a community increases the primary responsibility to manage public trees becomes more common in a stand-alone forestry department or parks and



**Figure 1-2.** Municipal department with primary responsibility for public trees. (n=250)



**Figure 1-3.** Training level for all staff responsible for management of the tree program. (n=355)

recreation department and less common with public works or streets department.

5.92 index score (0.5 increase from 2008) on a 1 (very poor) to 10 (excellent) scale (Figure 1-4).

- Respondents could select all applicable training levels. Approximately 27% of communities have staff with no specific training in urban forestry, 55% involve in-house training, and 44% attend tree care/management workshops. Additional staff training includes ISA certified arborist credentials (16%) and/or an advanced training in a 2-year (6%), 4-year (14%), or graduate (2%) program (Figure 1-3). Ten percent indicated they participated in the DNR's Community Tree Management Institute.



**Figure 1-4.** Community elected officials level of understanding and embracement of the importance of urban forests and need for sound U&CF management. (n=355)

- Community leaders have a moderate level of understanding and embracement of the importance and value of urban forests and their need for sound urban forest management with a

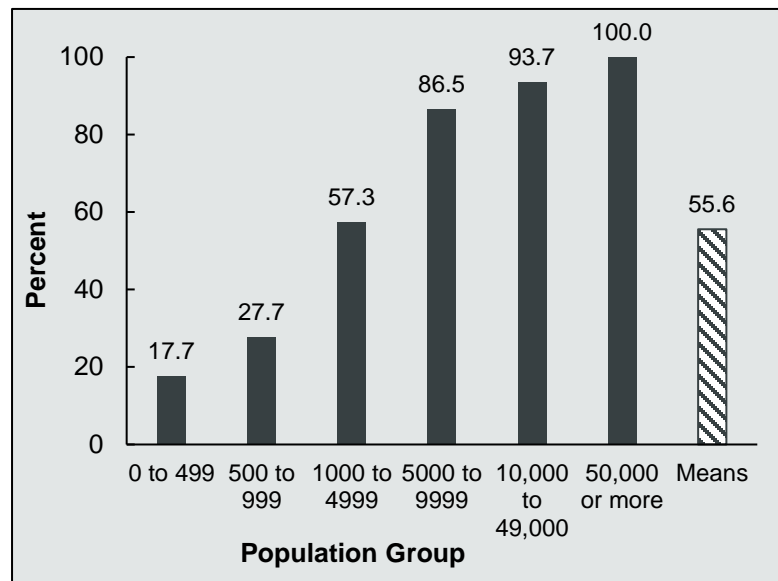
## Section II – Budget

Section II was designed to discover how many communities have funds for trees and their care along with the level of funding. We also asked if budgets were expected to stay the same or change and if funding was adequate to meet identified needs. Finally, we determined sources of funding and what percentages were spent on planting, tree maintenance, removal, and other activities. Key findings include:

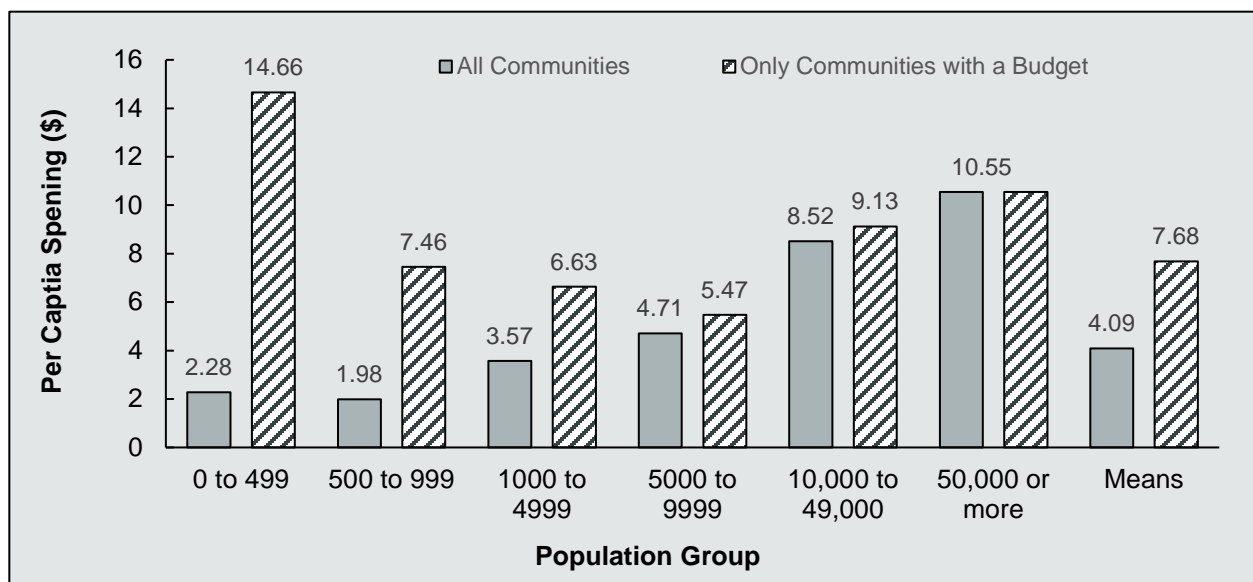
- Over half (56%) of communities have a budget for trees and their care, a 3% increase from 2008. Communities that had budgets indicated their spending ranged from \$50 to over \$17 million with a median \$20,000 budget and a mean \$165,322 budget (Figure 2-1).
- Smaller communities are less likely to have a budget. Fewer than 25% of communities with less than 1000 people have a budget, compared to nearly 60% of communities with 1000 to

4,999 more people having a budget and over 90% of locations with 10,000 or more people with a budget (Figure 2-1).

- Per capita spending varied from \$0.01 to \$87.81 in communities that had and reported their budget (Figure 2-2). Looking at all communities (those with and without an U&CF budget) per capita



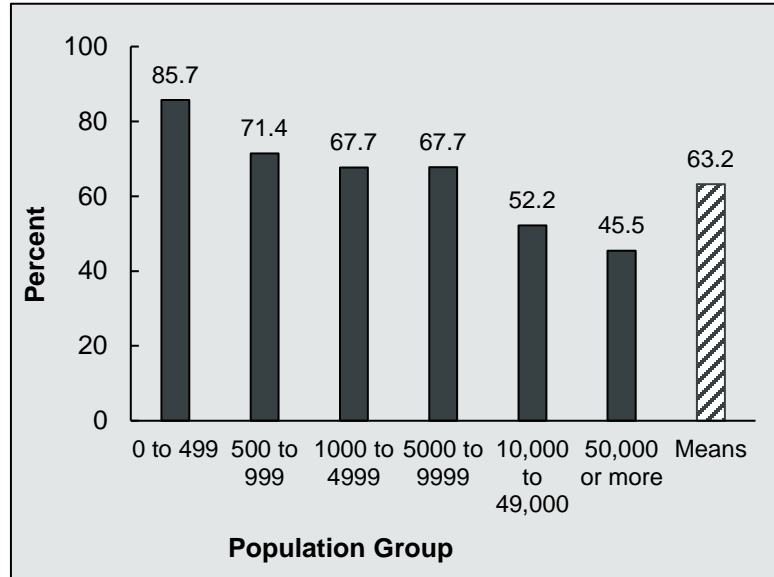
**Figure 2-1.** Percent of communities with funds designated for trees and their care. (n=441)



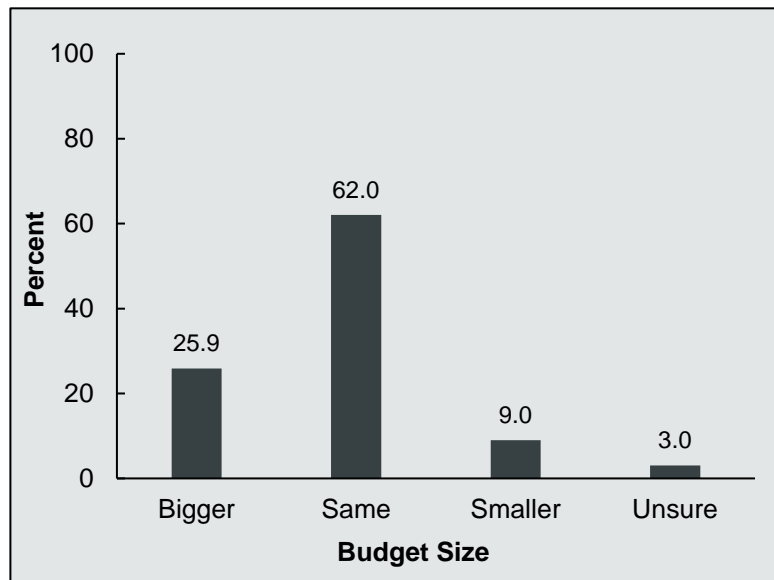
**Figure 2-2.** Per capita spending on tree management for all communities and only those that had a budget. (n=441)

spending ranged from \$2.28 (0 to 499 population class) to \$10.55 (50,000 and more population) in the largest locations. In communities with a budget, they spent an average \$7.68 per capita which is 0.90% of the total municipal budget.

- Tree budgets were on average the least in the smallest population class at \$3,708 and increased to \$2,304,641 in the largest population class.
- Overall, 63% of communities responded that funding is adequate to meet identified program needs (Figure 2-3). Communities that reported an inadequate budget suggested the current budget is 38% below the identified need on average. Interestingly, as community size increased, communities were more likely to indicate their budget was inadequate.
- On average, 31% of budgets were spent on tree maintenance, 40% on removal, 19% on planting and 10% on other activities such as indirect costs and personnel management.
- Approximately 62% of communities expect their budget to stay the same, 26% expect it to increase, 9% expect a decrease, and 3% did not know (Figure 2-4).
- A line item budget for trees occurred in two-thirds of municipal budgets.
- The general fund is the primary way that communities fund the U&CF program with approximately 93% using general



**Figure 2-3.** Perceived adequacy of the budget to meet current tree care needs as identified in the community's work plan. (n=173)



**Figure 2-4.** Perceived size of tree budget next year relative to the current budget. (n=166)

fund monies to support 84% of total program funding (Table 2-1). Approximately 20% of communities use DNR grants, which makes up 3% of budgets on average.

An estimated 49.7 million dollars is spent annually by all communities on the care

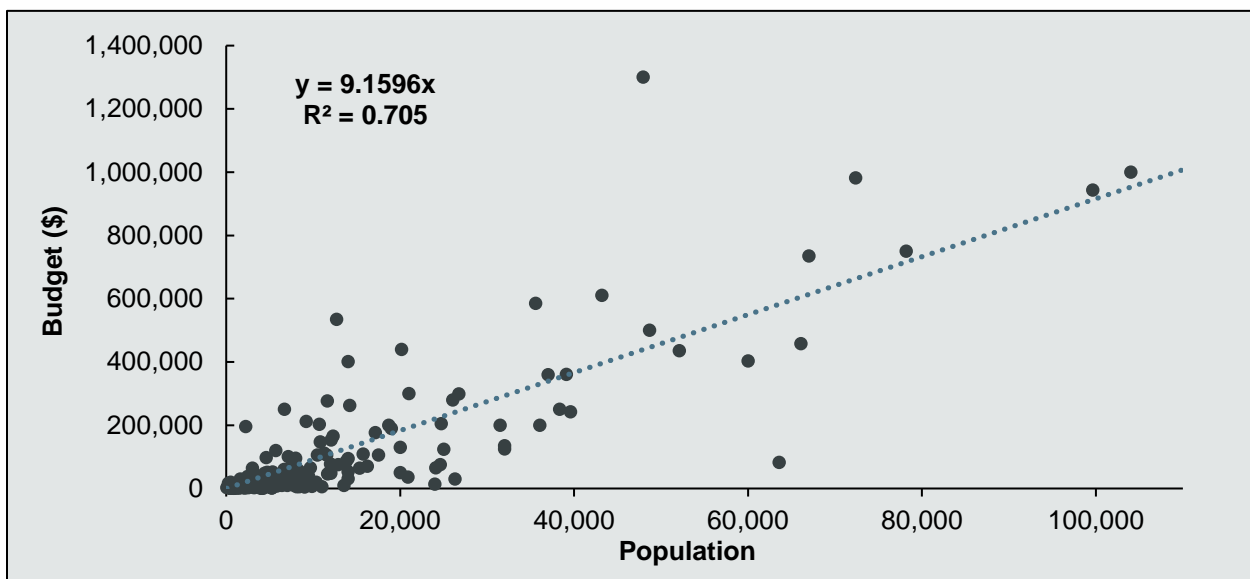
**Table 2-1.** Sources of funding for the municipal tree care budget by total number, the percent using the source and the percent of total budget accounted for by a source. (n=169)

Funding Source	Number using the funding source	Percent of locations using this source	Percent of total tree budget
Camping fees	1	0.59	<0.01
Community development block grant	8	4.7	0.2
DNR urban forestry grant	33	19.5	3.3
Donations	33	19.5	1.1
Endowment	1	0.59	<0.01
General fund	157	92.9	83.7
Service fees	6	3.6	1.1
Stormwater fees	8	4.7	2.2
Tree memorials	40	23.7	0.8
Wood product sales (e.g., Firewood)	12	7.1	0.4
Other	25	14.8	7.2

more than expected by inflation. One potential reason is a response to emerald ash borer (EAB) which is at peak levels in parts of the state. An analysis of the effect of EAB on budgets found that in communities with confirmed EAB infestation the percentage of the municipal budget spent on forestry increased by 23% from 0.79% to 1.07%. Another partial explanation is a recovery from budgets at the height of the great recession. In 2008, only 1/3 of communities rated budgets as adequate or very adequate. Today 2/3 of communities responded their budget was adequate to meet identified needs.

of urban tree populations under their management. In 2008, a total 34.5 million nominal dollars were spent by all communities, adjusted for inflation a real 40.5 million dollars would be expected today. Thus, spending increased by 23%

- A regression model of 225 communities with budget and population data predicts \$9.16 per capita spent on the urban tree care (Figure 2-5). This compares to a \$7.68 calculated value.



**Figure 2-5.** Regression of population on budget for communities with a budget. Excludes Milwaukee as an outlier and communities that did not report budget information. (n=226)



### Section III – Tree Management Profile

Section III questions were used to establish how tree management policy is set and the planning process used for managing trees and the urban forest. Standards incorporated into tree management plans were also quantified. Finally, tree ordinance development, enforcement, and topics covered by ordinances were assessed. Key findings include:

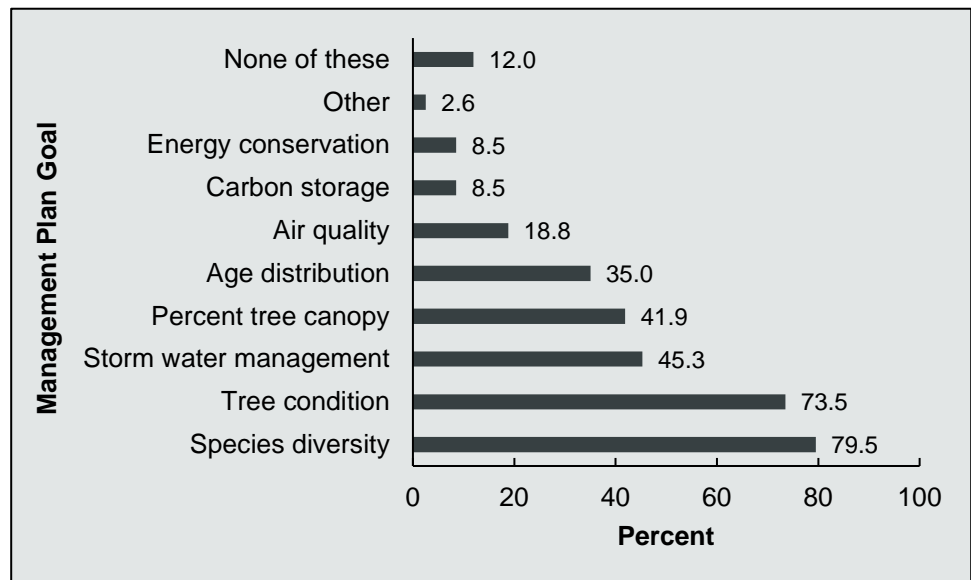
- A community may have multiple organizations involved with tree management. The city council or village board is involved with establishing tree management policy in 68% of communities statewide. Departments including the park & recreation department (24%), forestry department (19%), community member involved park boards (27%) and tree boards (16%) were also involved with policy development.
- Only 45% of communities involve a citizen tree board, parks board, or city department to set policy.

- A written tree, urban forest, or land use management plan exists in 41% of communities with goals for species diversity (80%) and tree condition (74%) most commonly integrated in plans (Figure 3-1). Stormwater (45%) was the most common ecologic goal followed by air quality (19%).

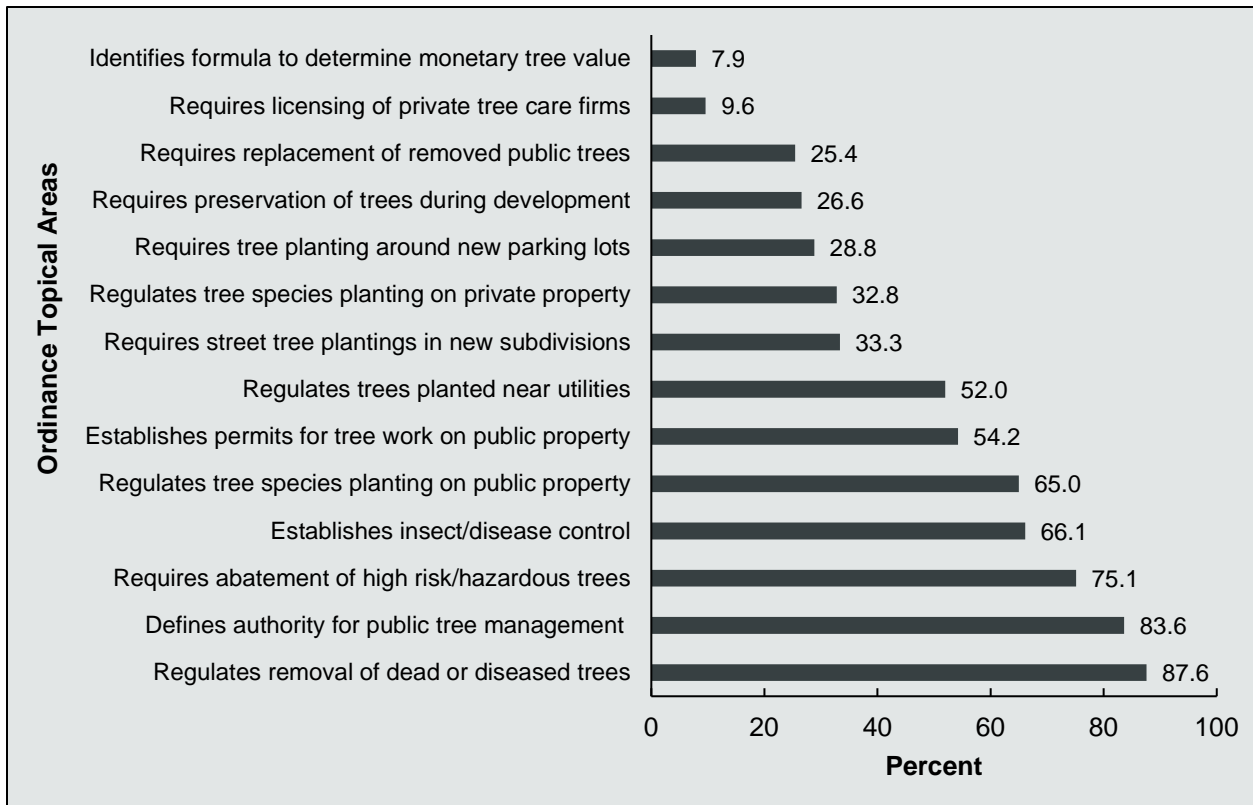
- Communities use a variety of plans that might be stand

alone or incorporated together for green infrastructure. These plans include an emerald ash borer readiness plan (70%) that was most common followed by tree/urban forest management (64%), land use management (45%), storm water management (44%), tree risk management (33%), urban forest strategic (18%), and other plans (5%). On average, plans were last reviewed or updated three years ago.

- The majority of communities (54%) reported they did not officially incorporate tree management standards into plans. However, 19% did so with ANSI A300 (tree care operations), 17% with ANSI Z133.1 (safety operations), and 13% with ANSI Z60.1 (nursery tree culture) standards. As community size increases the use of standards increased (<5000 people = 26% and ≥5000 people = 84%).
- More communities (59%) had a tree ordinance than those who did not (38%) or did not know (3%). Staff were most likely involved with ordinance development (90%) followed by consultants (40%) and volunteers (10%).



**Figure 3-1.** Goals included in tree, urban forest, and land use management plans. (n=117)



**Figure 3-2.** Percent of ordinances by topical areas. (n=177)

- Ordinance enforcement was regularly conducted in 69% of communities, on average they were last updated in 2010, and are commonly (86%) available online.
- In over 2/3 of communities with ordinances, regulation of dead and diseased trees, high risk/hazardous tree abatement, insect/disease control, or regulation of species planting were the focus of their ordinances (Figure 3-2).
- The municipality is most often responsible for maintaining trees between the curb and sidewalk in communities (74%) followed by the abutting property owner (23%) or both (3%).

## Section IV – Volunteers

Volunteers are one way to generate community interest and support of urban

forest management. Volunteers can also be sources for tree planting and tree care. Questions were created to see how many communities engage volunteers and which volunteer organizations are involved with tree care or management. Finally, we determined the percentage of time volunteers are involved with various U&CF activities. Key findings include:

- Twenty-two percent of communities engage volunteers in public tree care. A total 6.8 % of all time spent on tree activities (planting, maintenance, removal, tree pest management, and other activities) was through volunteers (Table 5-1).
- Individual residents were the most common (57%) volunteer type followed by school groups (49%), and service organizations (35%). Elected officials such as the city council or village board (26%), elected or appointed tree and park

boards (37%) and beautification committees (28%) were also involved (Figure 4-1).

- Tree planting was the number one reported volunteer activity with 13% of total time done through volunteers. As population increased the use of volunteer time associated with tree activities decreased (Figure 4-2).

### Section V – Contractors

The involvement of contractors is another way to support management of the urban forest. Questions were created to see how many communities use contractors for tree care or management. Finally, we ascertained if communities required contractors to use industry standards with tree work. Key findings include:

- Seventy percent of communities involve contractors as a component of their

urban forest management strategy. Across all communities an average 26.3% of time spent on tree activities (planting, maintenance, removal, tree pest management and other activities) was through contracting (Table 5-1).

- Over half (54%) of respondents reported that compliance with the ANSI A300 standard was required among contractors performing pruning or maintenance.
- Tree removal and tree pest management were the most commonly reported contractor operations with 35% of total time done through contracting (Figure 4-2, Table 5-1).
- In general, the time associated with contractors performing tree maintenance and removal decreased as the community population increased. In contrast, the time associated with tree planting by contractors increased as community population increased (Figure 4-2).

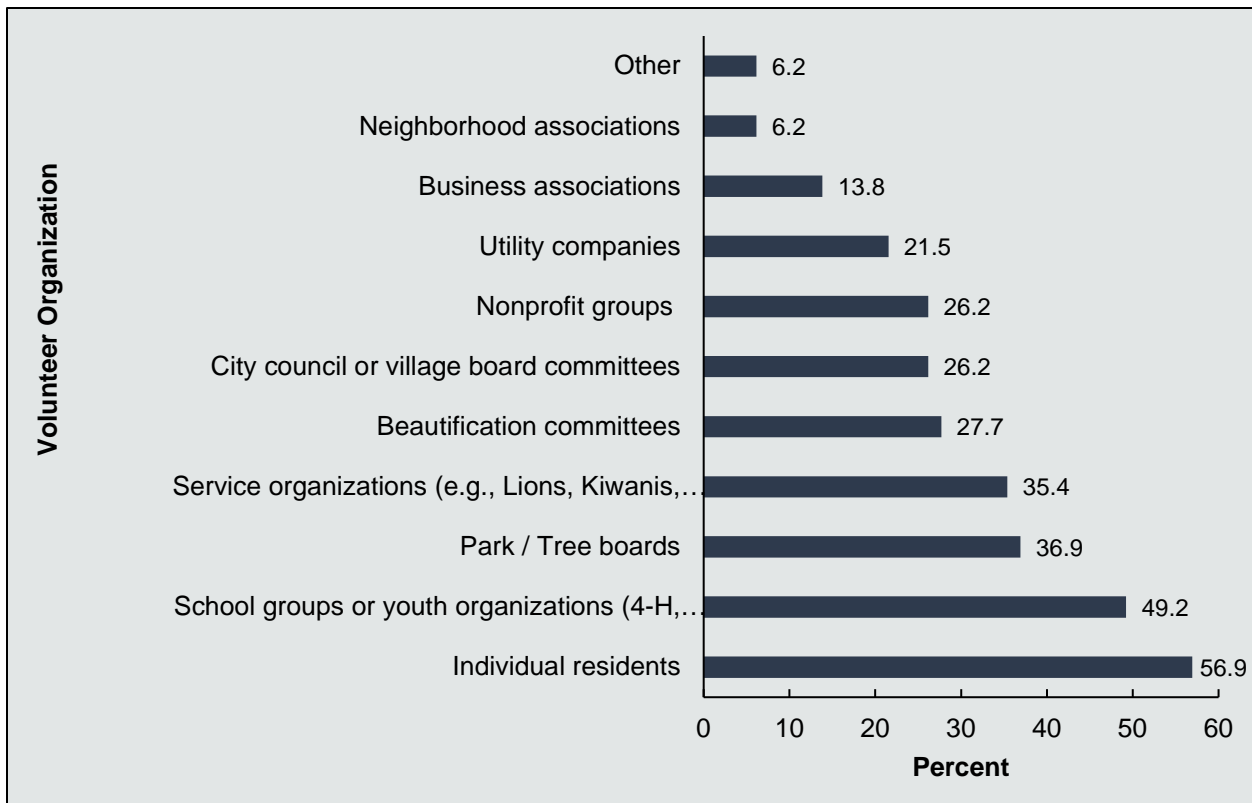
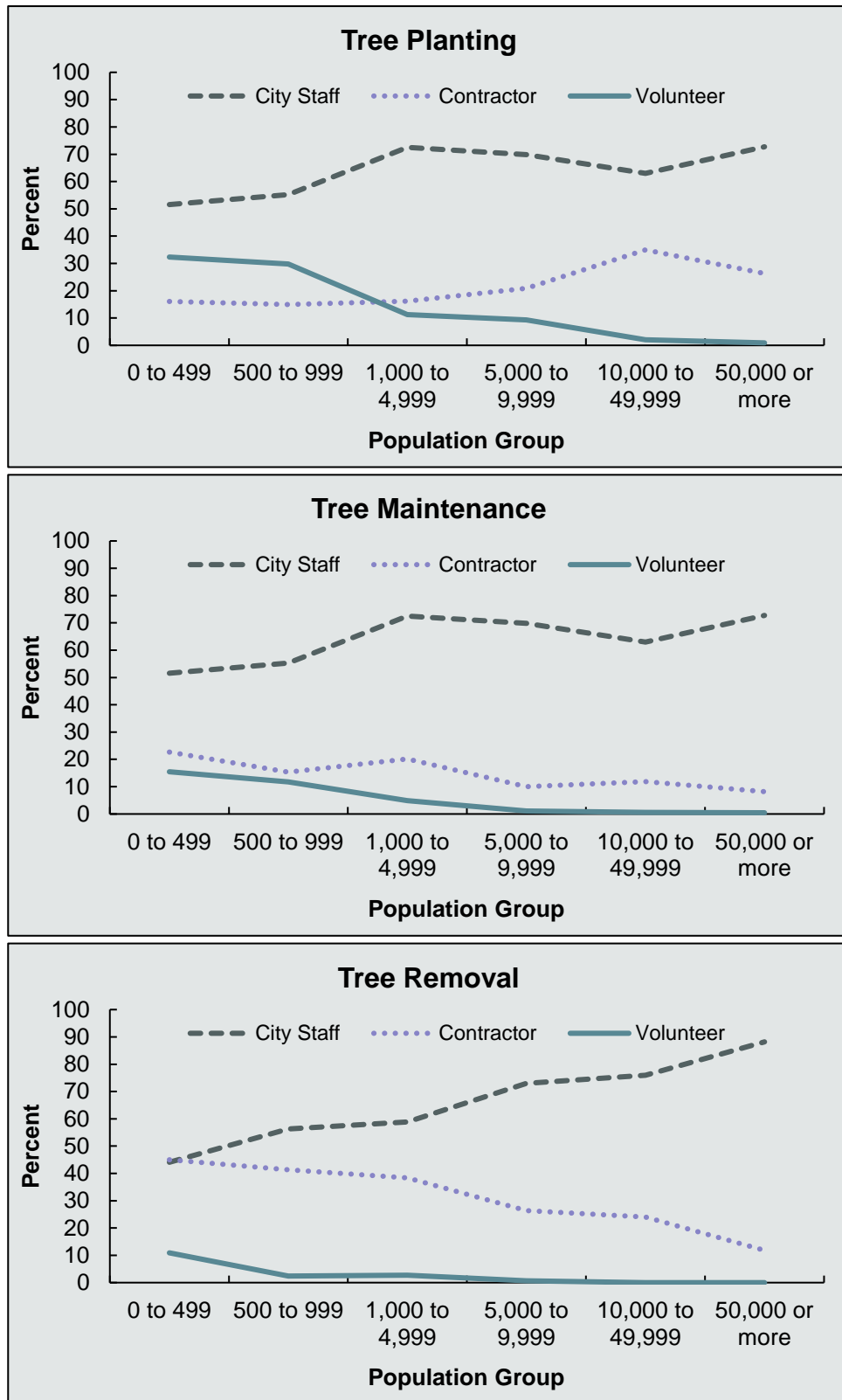


Figure 4-1. Volunteer organizations that carry out tree care or management. (n=65)



**Figure 4-2.** Volunteer activities and percent of time associated with tree activities. (planting n=302, maintenance n=339, and removal n=351)

**Table 5-1.** Percent of total time that is spent for each tree activity by City Staff, Contractor, and/or Volunteer. (n=356)

Tree Activity	City Staff (%)	Contractor (%)	Volunteer (%)	Sample Size (#)
Tree Planting	66.0	21.1	13.0	302
Tree Maintenance	77.8	16.5	5.7	339
Tree Removal	62.6	34.6	2.9	351
Tree Pest Management	59.1	34.6	6.3	241
Other	62.5	20.8	16.7	6
<b>Totals</b>	<b>66.9</b>	<b>26.3</b>	<b>6.8</b>	<b>355</b>

Updating of inventories varies considerably with 12% updating them daily or weekly, 15% less than weekly after work performed, and 21% periodically reinventorying to collect current data. No updating occurred with

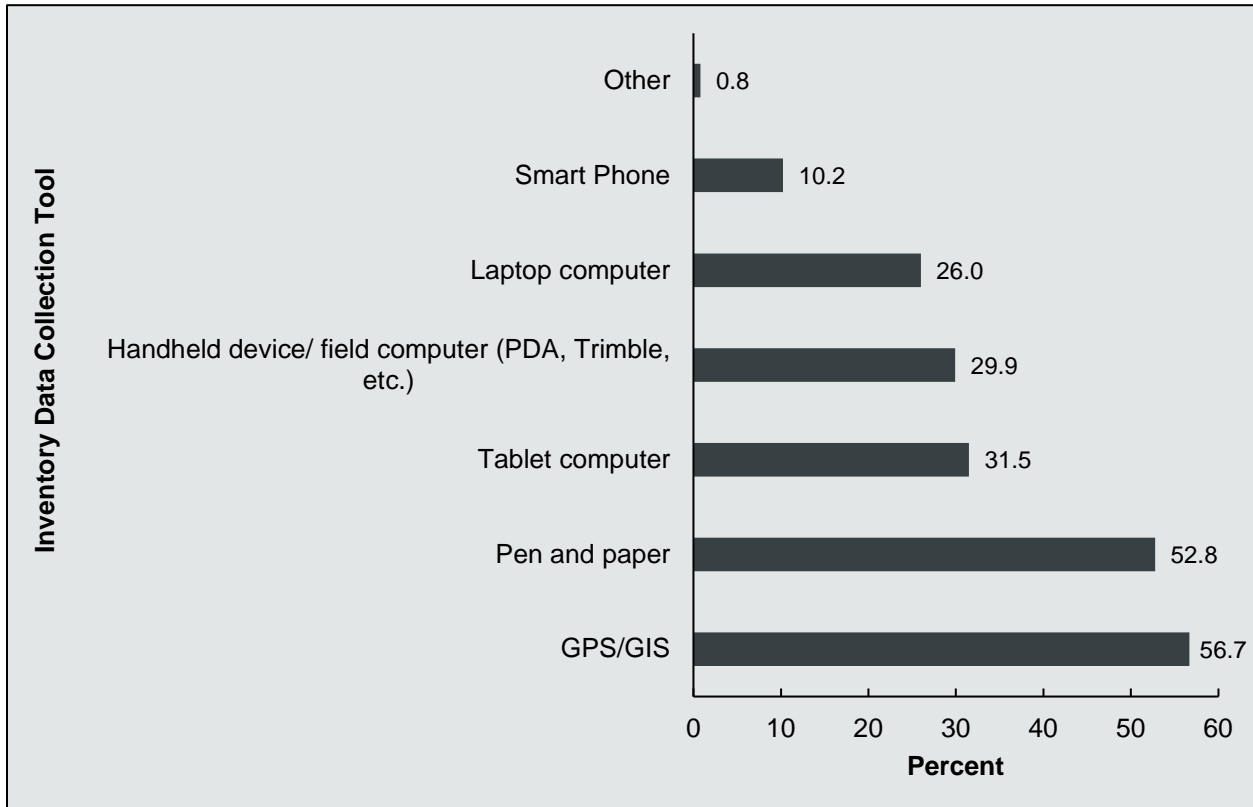
18% of inventories and 26% were updated only for plantings or removals.

## Section VI – Inventory

Questions were developed to find out how common tree inventory systems were among Wisconsin cities, towns, and villages. Communities that had inventories were asked if they were current, how frequent they are updated, methods used to inventory, and areas covered. How the data was collected, integration with geographical information systems (GIS), and who completed the inventory was determined. Further, we asked for information on how many trees were present and how many tree vacancies exist. Key findings follow:

- Overall, 44% of communities in Wisconsin have a tree inventory which is an increase from 1/3 of communities having an inventory a decade ago.
- The state of the tree inventory was ascertained with 49% of the inventories rated as current (up-to-date), 22% developing (in process of making current) and the remainder (29%) not current. On average, the last time an inventory was updated was 2014.

- Communities used one or more inventory methods with windshield surveys (57%) and complete population surveys (53%) most common. Few communities used sampling (2.5%), canopy coverage analysis (6%), or an i-Tree analysis (10%).
- Tree inventories were most likely used for street trees (94%), maintained parks (82%), or municipal green spaces (47%).
- Overall, 56% of inventories included geospatial information (e.g., GIS) and 51% were linked to other community infrastructure inventories. These are increases from 33% and 20% a decade ago, respectively.
- A GPS/GIS approach for data collection/storage was reported in 57% of communities (Figure 6-1). Pen and paper continues as a common way to collect data (53%). Electronic data collection tools including tablet computers (32%), laptop computers (26%), and handheld field computers (30%). Smart phones (10%) are becoming more commonly used in communities.



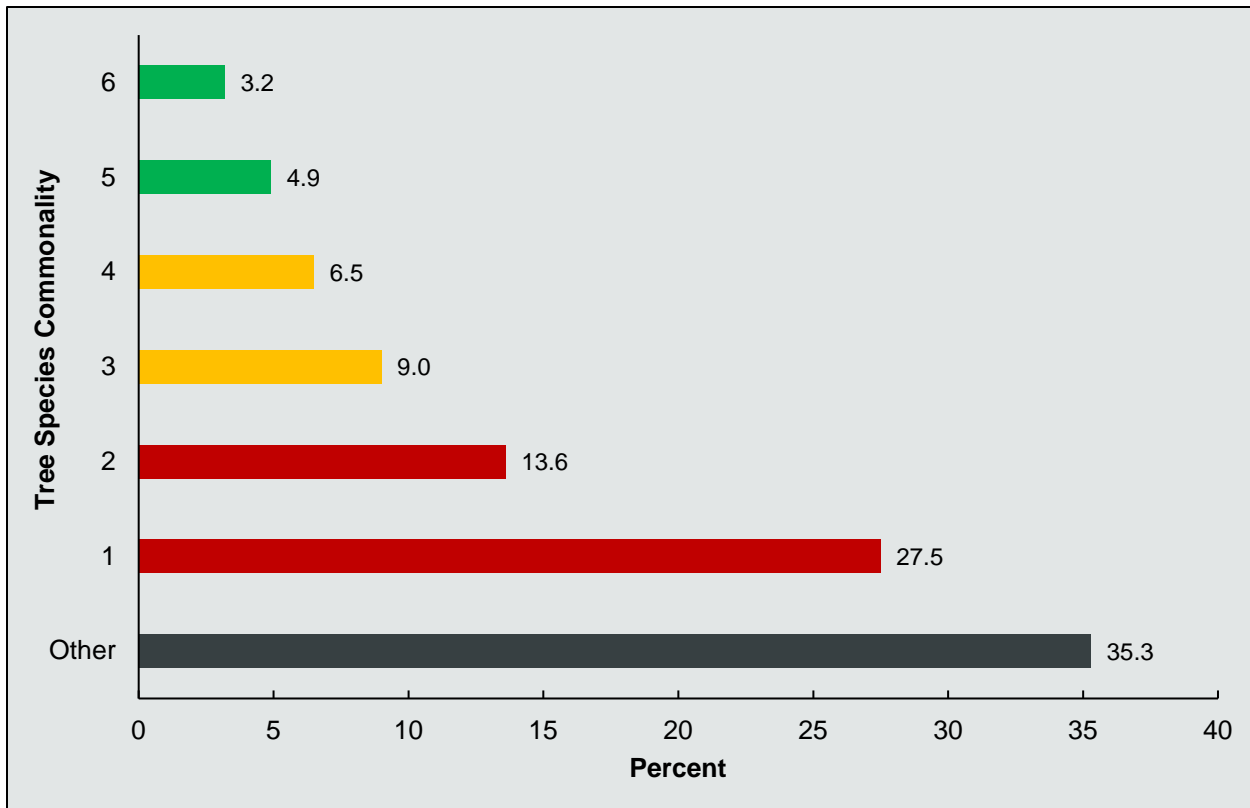
**Figure 6-1.** Inventory tools used by communities. (n=127)

- Municipal staff (52%) and consultants (59%) were most likely to be involved with completing the community's inventory with interns (17%) and volunteers (7%) less common.
- On average, the most common tree in a community accounts for 27.5% of the public tree population. The top two trees account for 41.1%. The top six tree species account for 64.7% of a community's tree population, on average (Figure 6-2).
- Norway maple was the most common tree (21.8%) in a public tree population followed by little leaf linden (7.1%), honey locust (6.4%), green ash (4.5%), silver maple (1.4%), and red maple (1.1%). All other species accounted for 57.7% of the tree population. The maple (32.7%) and ash (13.7%) genera were most common. The Sapindaceae family (32.9%) was a common family, primarily due to maples.

## Section VII – Operations Profile

This section focused on describing the operations associated with the planting, maintenance, and removal of trees. Respondents answered questions about the number of trees planted, pruned, and removed. They told us how frequently they prune trees, if removals have changed over the past five years, and if they culture their own trees through a community nursery. Finally, they indicated different types of urban forest management activities they perform. Key findings follow:

- Half (50%) of communities keep planting records. The number of trees planted in 2017 ranged from 0 to 4,052, with an average of 101. Removals ranged from 0 to 4,024 trees and averaged 101 trees removed. Public service requests averaged 101, ranging from 0 to 2,500.



**Figure 6-2.** Top six most frequently occurring tree species in a community and other trees that account for the remaining tree population. (n=100)

- Trees pruned ranged from 0 to 24,060 annually with a mean of 451 pruned.
- Forty-two percent of communities reported removing more trees than planted, 19% planted the same as removed, and 39% planted more than removed in a community. On average a community is removing seven more trees annually than replanting.
- Trees were pruned as needed/for emergency in 62% of the communities with 7% not pruning, 3% using a combination of approaches, and 28% pruning on a regular cycle which averaged 5.8 years in length. Communities are 1.7 years behind the desired pruning cycle of 4.1 years.
- Tree care is mostly reactive (on demand) with 69% completed this way and 31% occurring through a systematic (scheduled) approach.
- City staff are used to complete tree activities with 67% of time associated with activities completed by public employees, 26% done through contracting and 7% through volunteers (Table 5-1).
- Over the past five years the number of non-diseased tree removals remained constant in 40% of communities, is increasing in 19%, decreasing in 7%, and 34% of communities were uncertain.
- Communities typically purchase trees for direct planting with 70% of all planted trees using this method. Donated trees accounted for 16% of trees on average in a community. Four percent of planted trees were grown in a city nursery, 4% were contract grown, 3% were held in a gravel bed system, 2% were non-profit funded trees, and 1% were from other means.

- Overall, 60% of communities currently do not have a diversity goal. Of the 40% of communities with a diversity goal, 70% are having difficulty in obtaining planting material to reach their diversity goal and 30% indicate that currently available planting material is sufficient to reach their goal.
- Public tree management is regularly performed to inspect for and remove diseased trees (71%), and high risk/hazardous trees (79%). Operation of a wood and brush disposal site on municipal property occurs in nearly three-fourths of communities (Table 7-1).
- Technical assistance for private trees occurs in 34% of communities and routine inspections and removals for private high risk/hazardous (24%) or diseased (20%) trees is less common (Table 7-1).
- Few communities (5%) offer a credit to property owners who incorporate green infrastructure (e.g., trees and other plants) into a property's storm water management plan. However, 52% of communities suggested they would benefit from a statewide credit on their DNR stormwater permit for retaining or planting tree canopy.
- Twenty-three percent of communities are discussing incorporating trees as a public health tool.
- The majority of solid wood is disposed of through firewood (38%) or mulch (33%). Less than 5% of wood volume is processed into lumber, sold as round wood, or made into furniture (Table 7-2).
- Only 9% of communities have a formal partnership with wood utilization companies or other entities for removed trees.
- Cost-sharing for ash tree removal (1.4%) or treatment (0.5%) is uncommon for assisting private property

**Table 7-1.** Urban forestry management activities conducted in a community. (n=284 to 288)

Urban Forestry Management Activities	Yes	No	Percent Yes
Conduct routine inspection and removal of diseased trees on public property	202	84	70.6
Conduct routine inspection and removal of high risk (aka hazard) trees on public property	228	60	79.2
Conduct routine inspection and require removal of high risk (aka hazard) trees on private property	68	216	23.9
Conduct routine inspection and require removal of insect infested or diseased trees on private property	58	226	20.4
Maintain a website page specific to the community/urban forestry tree program	61	224	21.4
Operate a recycling site for disposal of wood and brush for residents	211	75	73.8
Perform formative tree care for 3 to 5 years after tree planting	124	162	43.4
Provide financial assistance for specific insect or diseased tree removal on private property	7	278	2.5
Provide technical assistance (information) for tree maintenance on private property	96	189	33.7
Use the urban forest to accomplish storm water, public health, and/or air quality goals	63	223	22.0



owners with emerald ash borer (EAB). Most communities use no approaches (70%) and 26% require removal of EAB infested ash trees on private property.

- Municipal staff in 30% of communities provide educational presentations to city residents with Arbor Day celebrations (88%) the most common (Table 7-3).
- A variety of formats are used to deliver educational content including handouts (62%), websites (62%), community events (61%), newsletters (40%), and workshops (15%).

- As community size increases, the respondents were more likely to have heard about the grant program (e.g., 37% for <1000 population groups versus 100% for the 50,000 or more population group) and have applied for a grant (Figure 8-2).

### Section VIII – DNR Grant Program

Understanding the outcomes of the DNR Urban Forestry Grant Program is important considering Statute 23.097 and Administrative Codes NR 47.50 – NR 47.58 provide authorization and guidance for financial assistance. Questions sought information on familiarity with the program, if a community has ever applied for a grant, and reasons why non-applicants did not apply. We sought to describe the percentage of applicants who received a grant, their attitudes about the application process, and experience with the reimbursement process. Finally, we described if funding limits should be altered. Key findings follow:

- Sixty-five percent of communities have heard of the DNR urban forestry matching grant program (Figure 8-1).
- Nearly half (46%) of communities were aware of the new simplified Startup Grant for communities. The program was just implemented a decade ago and only 26% knew of this program in 2008.
- Approximately equal numbers of communities had applied (46%) for an urban forestry grant or not (54%).

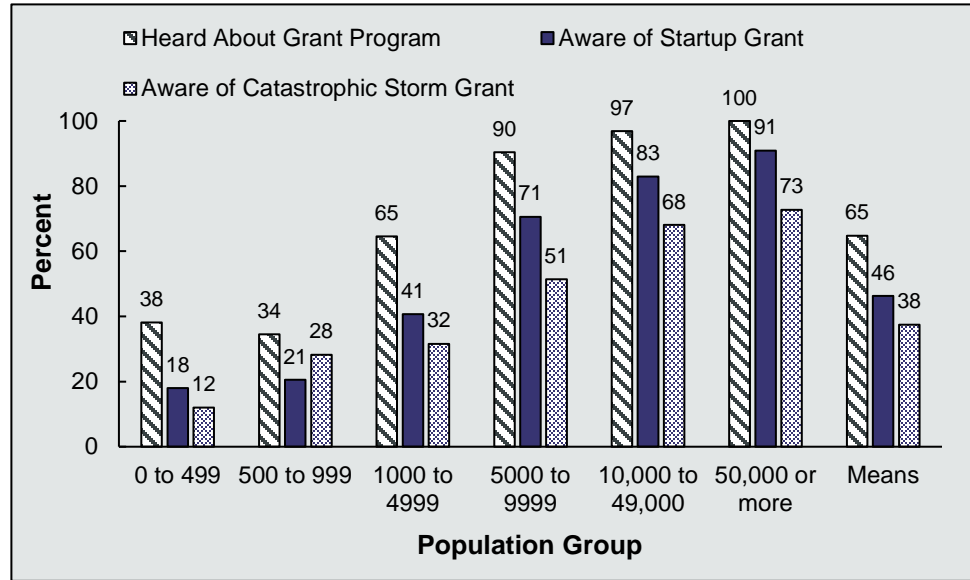
**Table 7-2.** The percentage of total solid wood volume disposed through use and disposal options. (n=379)

Public Tree Disposal Options	Percent of Solid Wood Volume
Biofuel for energy	3.2
Burned in open	12.5
Firewood	38.0
Landfilled	6.1
Made into furniture/flooring/art	0.1
Mulch	32.4
Processed into lumber	1.3
Sale of round wood (e.g., sawlogs, pulp, veneer)	2.7
Other	3.7
<b>Total</b>	<b>100</b>

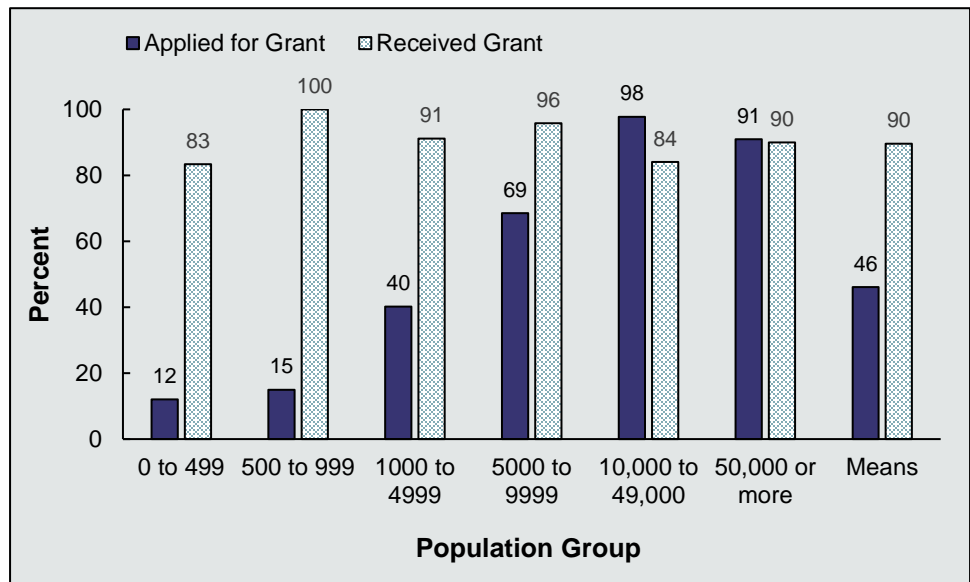
**Table 7-3.** Percent of communities providing various educational opportunities to residents. (n=89)

Educational Program Types	Percent of Communities
Arbor Day	87.6
Benefits of trees	50.6
How to plant a tree	62.9
How to prune a tree	48.3
Proper tree selection	42.7
Shade for energy conservation	19.1
Other	9.0

- Nearly all communities (90%) who applied for a grant received a grant at some point in time (Figure 8-2). They may have applied for multiple grants over time and at least one grant was approved,
- Several reasons were given by communities as to why they did not apply for an urban forestry grant (Figure 8-3). The two most cited reasons were budget constraints (4.3 index, 1 = strongly disagree and 5 = strongly agree) and staff constraints (4.1). Other reasons given for not applying were record keeping and reporting obligations (3.6) and the reimbursement process (3.5). Not being interested in the grant program (2.9) was not a main reason for not applying and they were neutral about the application process (3.1). There was no statistical difference among population groups.

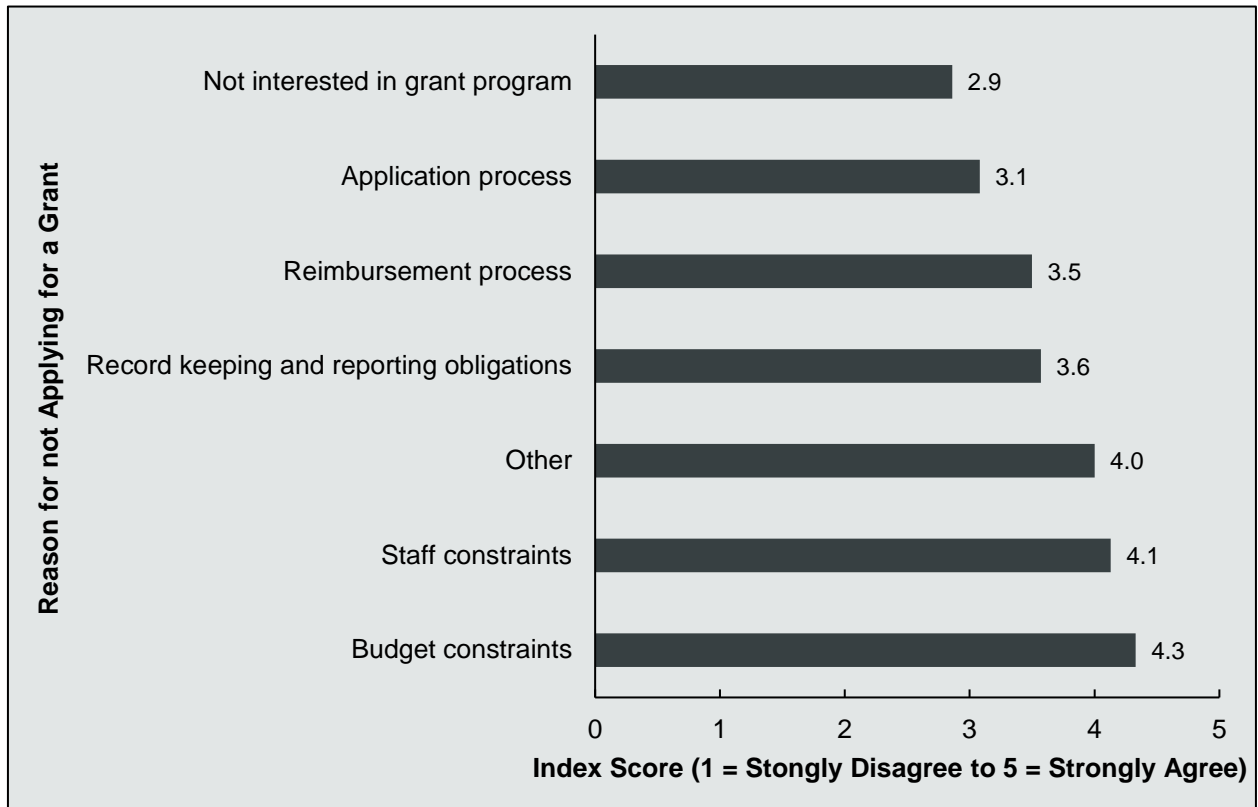


**Figure 8-1.** Percent of respondents aware of the state urban forestry grants program (n=434) including the start-up (n=94) and catastrophic storm grants (n=296).



**Figure 8-2.** Percent of respondents who have applied for an urban forestry grant (n=293) and percent of applicants who received a grant at some point in time. (n=135)

- Most respondents believe the upper and lower limits are still adequate with 31% saying the upper limit should be increased and 12% suggesting the lower limit be decreased.



**Figure 8-3.** Reasons given for not applying for a DNR urban forestry grant. (n=48 to 65)

## Section IX – DNR Services

The WDNR U&CF program provides five forms of assistance including technical assistance, resource development (financial assistance), education and training, public awareness, and resource assessment to support program goals (Table 1-1).

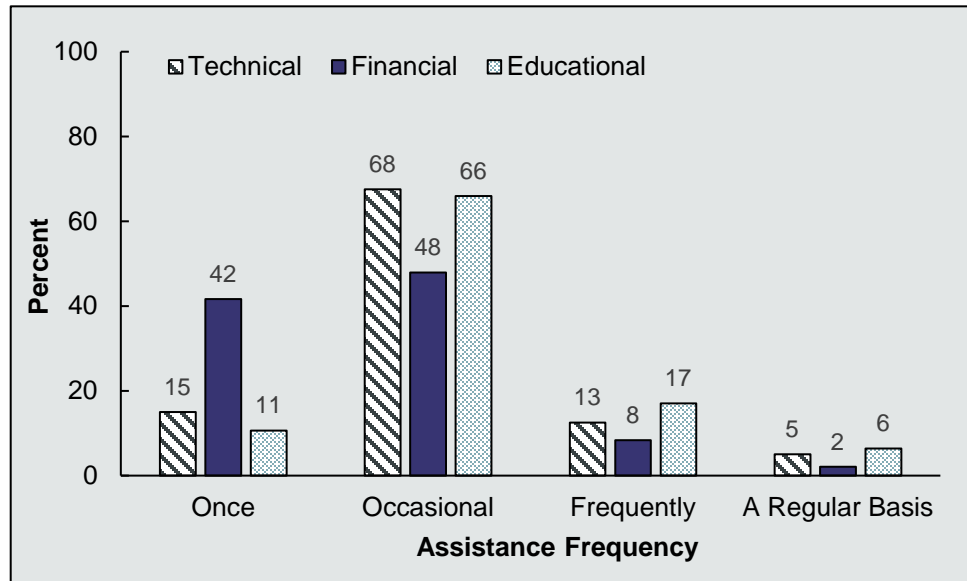
Questions included asking communities if they had received assistance within the past 12 months, how frequent and in which areas they received assistance, and rating the assistance they received. They indicated which topical assistance areas they received and provided insight into their awareness and participation with educational services and publications. Finally, they described their familiarity with the Tree City USA program and communities which were not a Tree City USA told us which standards for that program they currently meet. Key findings follow:

- Over a third of communities (35%) during the past 12 months received assistance from DNR urban forestry staff. Assistance was uncommon (3%) for small communities (0 to 499 people) and common (65%) in larger communities.
- Overall, communities occasionally received one of three assistance forms. Educational assistance was the most common, followed by technical assistance and financial assistance (Figure 9-1).
- Satisfaction with the assistance provided was highly regarded with most recipients indicating assistance was excellent or near excellent. An average index score of 8.7 (1 = poor and 10 = excellent) was reported for DNR provided assistance. (Figure 9-2)

- Learning what other communities are doing was the most frequent form of assistance received with 70% of respondents indicating they obtained this kind of assistance. Information about the grant application, resource materials, and tree pest and disease questions were also common in over 60% of communities that received assistance (Figure 9-3).

- Communities indicated a high level of awareness (90%) for all DNR publication and educational services. Each service was used by over half of communities. They also ranked these services moderately high in quality (Figures 9-4, 9-5)

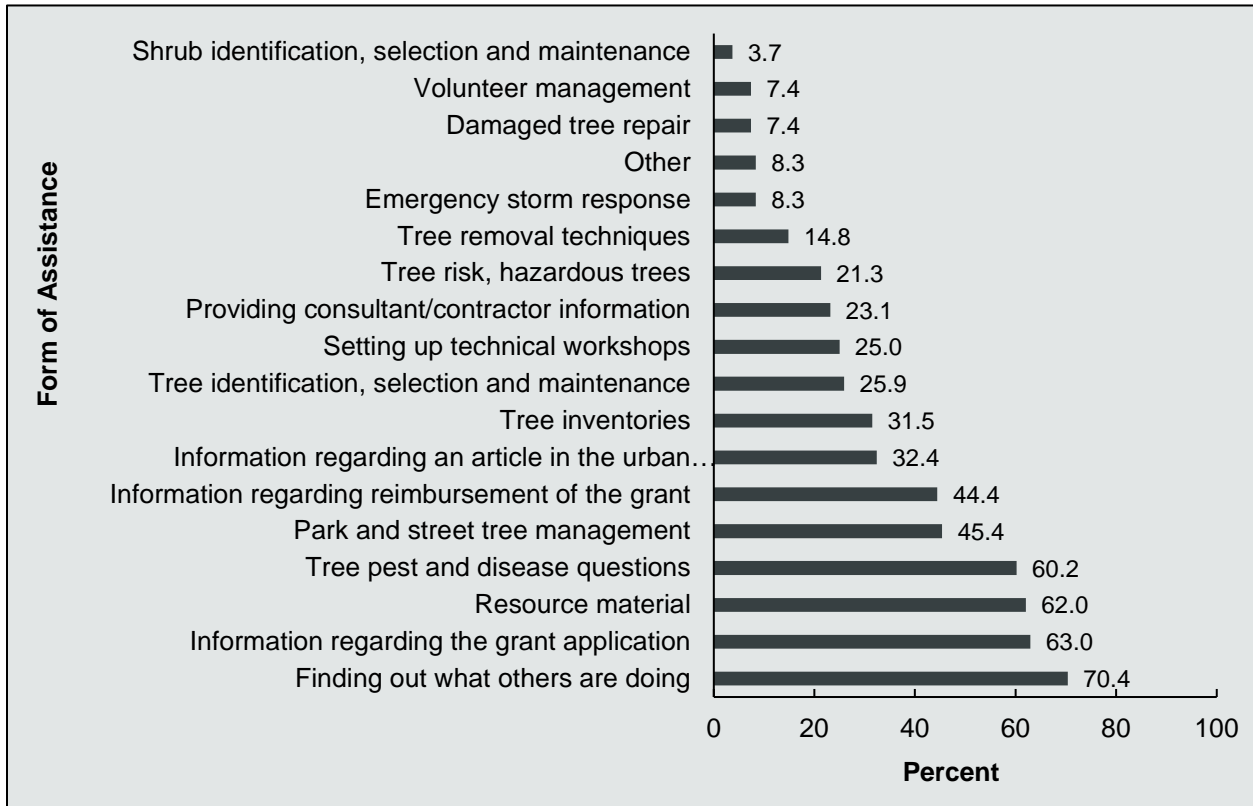
- Eight-two percent of communities had heard of the Tree City USA program. Of the four requirements to be a Tree City USA, communities not involved with the program were least likely to have an Arbor Day celebration (31%) or meet the \$2 per capita (41%) standard. They were more likely to meet the tree ordinance/policy (77%) or tree board (60%) standards (Figure 9-6).



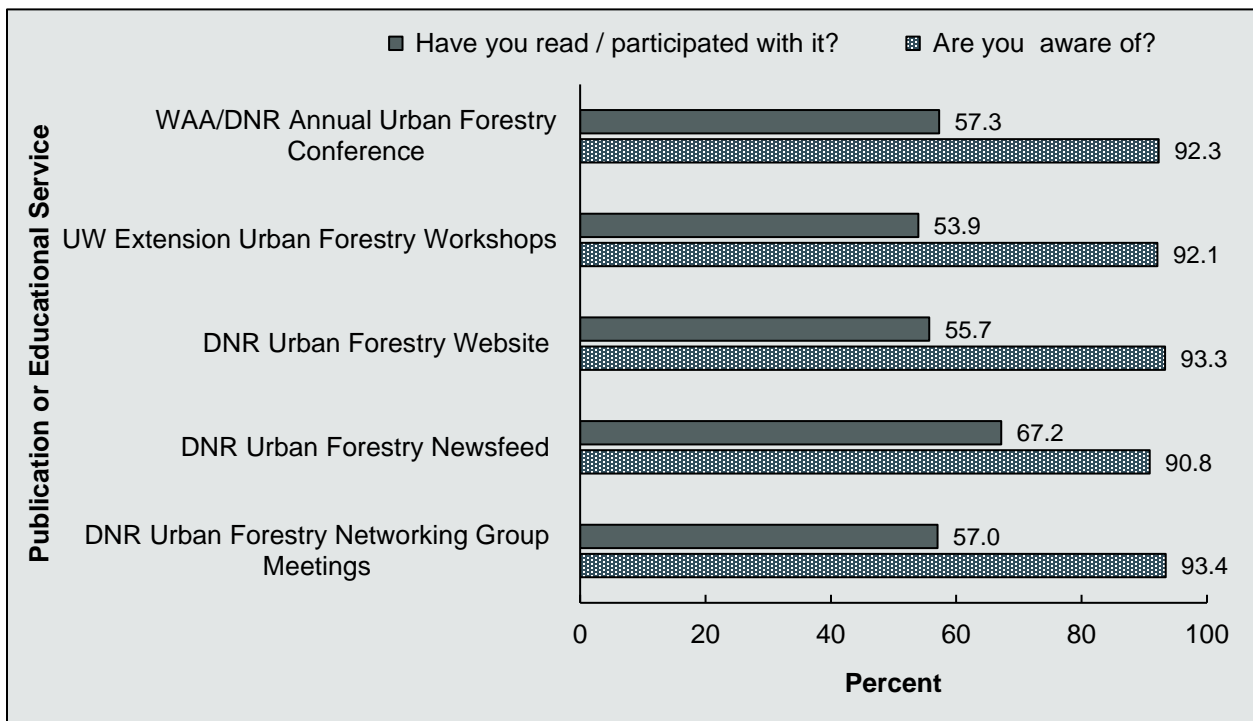
**Figure 9-1.** Frequency of receiving DNR assistance during the past 12 months. (n=48 to 94)



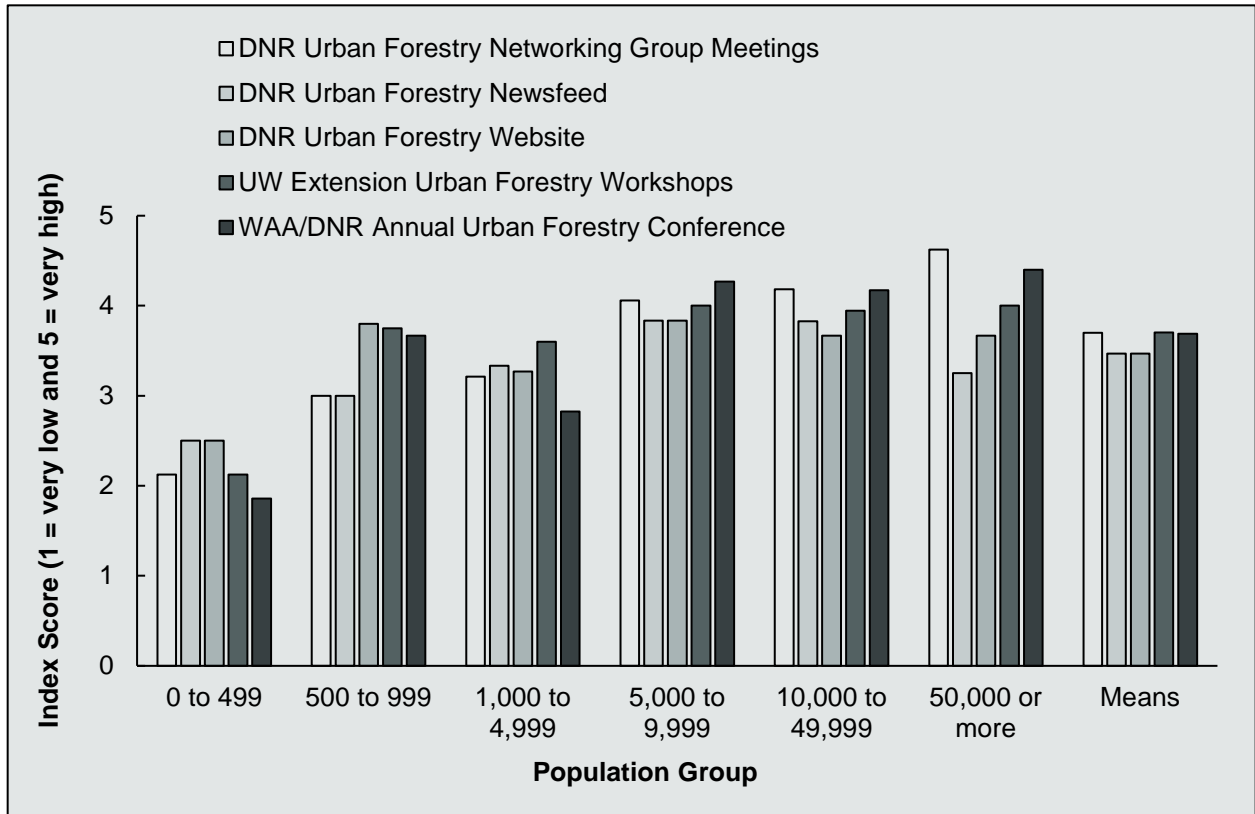
**Figure 9-2.** Ranking of the assistance received by the DNR urban U&CF program. (n=107)



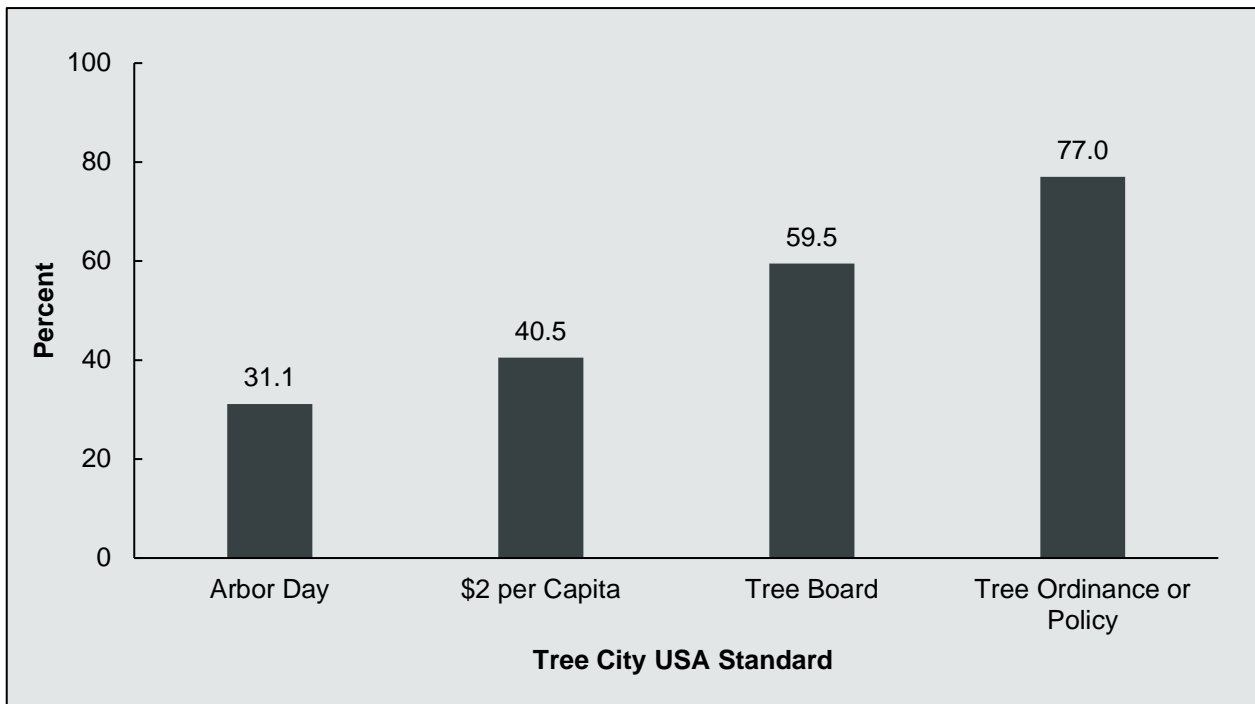
**Figure 9-3.** Forms of DNR assistance received by recipients. (n=108)



**Figure 9-4.** Awareness and use of publications and educational services provided by DNR and partnering organizations. (n=93 to 115)



**Figure 9-5.** Quality rating index of publications and educational services. (n=108 to 140)



**Figure 9-6.** Tree City USA standards met by communities which currently are not a Tree City USA community. (n=74)

## Section X – Needs Profile

A needs profile assessed future topic areas of assistance and formats that would best serve communities. Formats ranging from printed material, electronic resources, personal interaction, and grants were evaluated for preference. A multitude of activities for technical assistance were generated by respondents who provided up to seven priority areas. Finally, communities indicated assistance priorities from a 1 to 10 scale with 1 being least common and 10 being most common. Key findings follow:

- Respondents have a wide variety of preferences for formats of assistance. No one format serves all. Grants were the most requested followed closely by instructional workshops printed materials, one-on-one consulting, website, and videos (Figure 10-1).

- The top five desired assistance areas were insect and disease control (58%), employee training in tree care and management (55%), tree planting (54%), tree removal (50%), and tree pruning (45%) (Figure 10-2).
- The DNR Urban Forestry Coordinators are the number one source for assistance (7.5, 1 = least preferred to 10 = most preferred) followed by a tree or landscape company (6.9), colleague in another community (6.7), nursery (6.4), and private consultant (6.1 (Figure 10-3).

## Conclusions

The current capacity to manage tree populations in communities in Wisconsin continues to grow in some areas and have challenges is others. Emerald ash borer is an example which has led to increased



Figure 10-1. Preferred formats of assistance. (n=240)

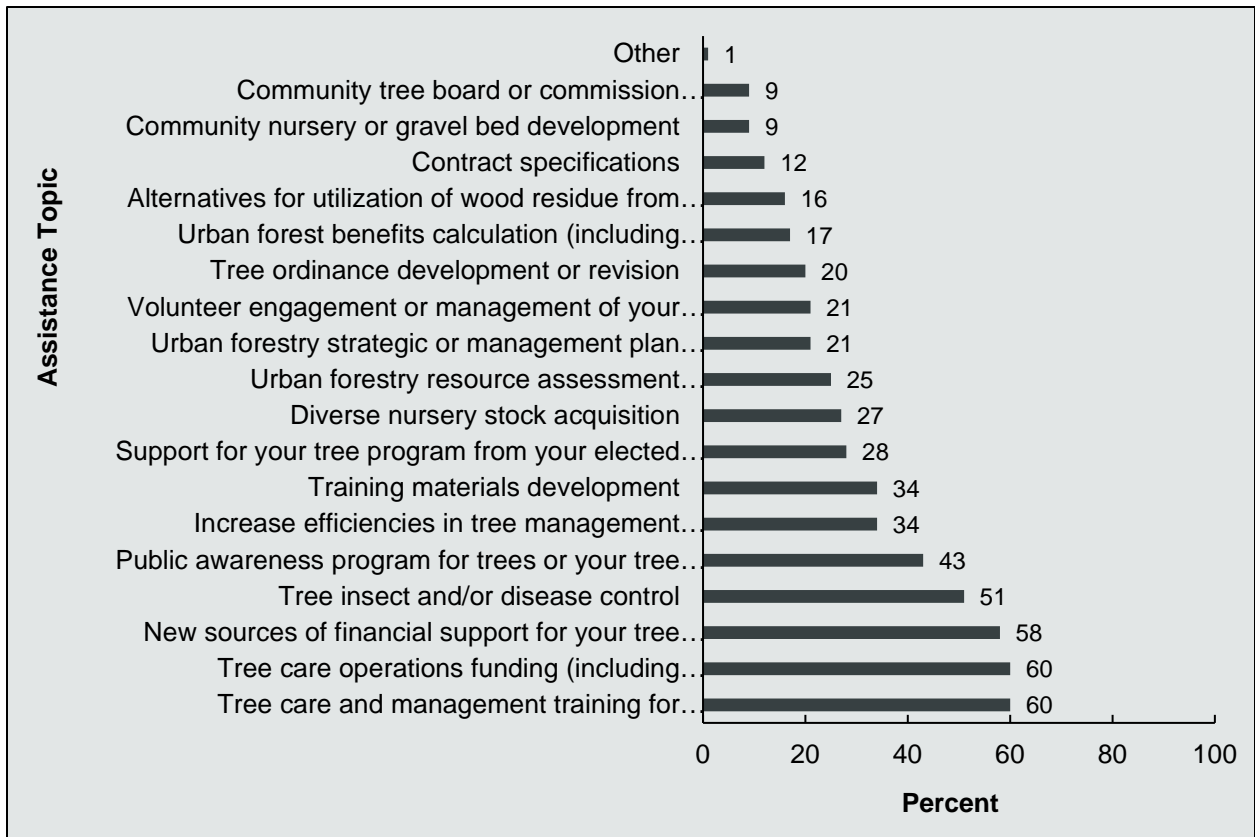


Figure 10-2. Topical areas of desired assistance. (n=240)

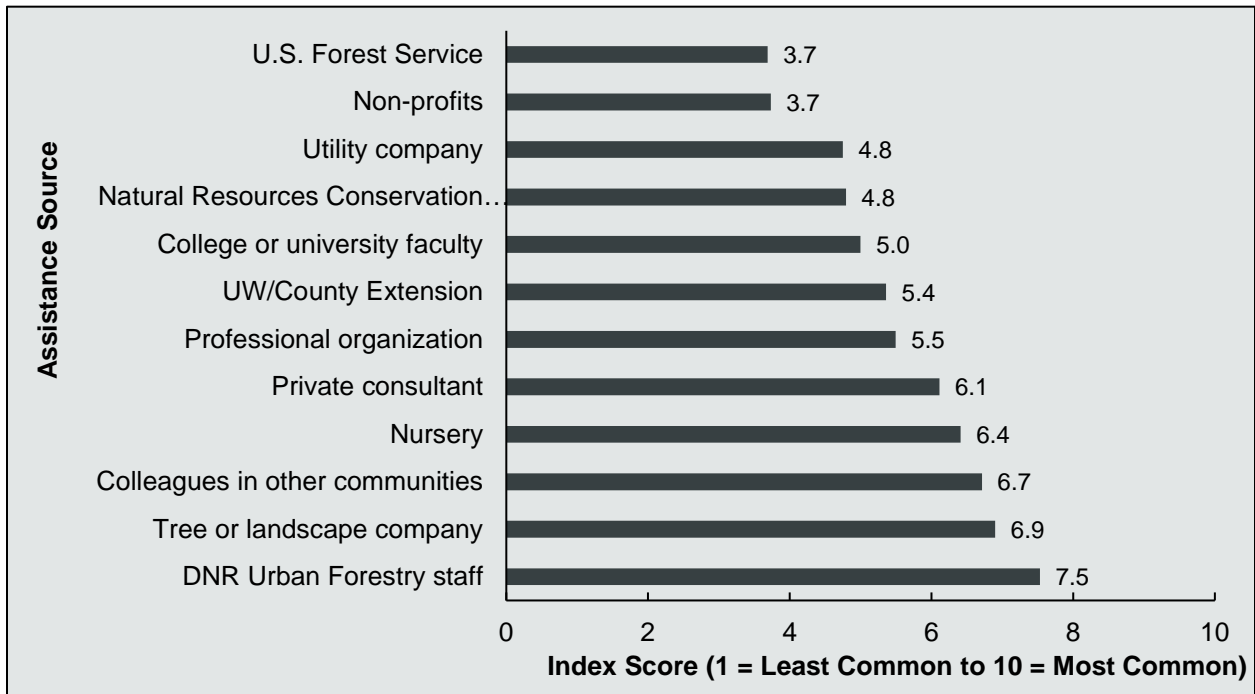


Figure 10-3. Sources of assistance obtained by communities. (n=210)



spending in communities. Communities with EAB are on average spending more than communities that currently do not yet have the pest. This has translated into tree removal being the highest allocation of spending for tree activities. Tree diversity is lacking in many communities with two-thirds of a tree population on average dominated by six trees. That majority of communities (70%) that have a tree diversity goal are also having challenges to find trees to reach their goal. Tree care is mostly reactive with only 31% of locations using a systematic approach. While community leaders were reported to have a moderate level of understanding of need and embracement for sound urban forest management, this has increased from levels in 2008.

Many positive outcomes were ascertained. Most communities have a person in charge to oversee tree activities. Over half of communities have a tree budget at \$7.68 per capita on average. Nearly 6 out of 10 communities have some form of tree ordinances and nearly half of communities have a board or department that establishes tree policy. A management plan exists in 41% of communities as a stand-alone or as part of another community plan. Communities use a combination of public staff, volunteers, and contractors to accomplish tree activities. Volunteer engagement is occurring in 22% of communities. Seventy percent of communities involve contracting. Tree inventories continue to become more common with over 4 out of 10 communities now having some understanding of their tree population through an inventory.

The current assessment also explored some new areas. Solid wood disposal is more commonly done through mulch or firewood with over 70% of volume occurring in these formats and less than 5% occurring through lumber, furniture, or sold as round wood. Cost-sharing for EAB is uncommon. Over 20% of communities are discussing ways to incorporate trees for human health.

Over half of communities believe they would benefit by a statewide credit for trees with the DNR stormwater permit.

The 2017 baseline data provides communities with information to compare with their situation. There are many reasons for a community to be at whatever level they are currently at. For example, a community might be spending less on average than other communities which could be the result of not having EAB, or as a result of a budget that is below an identified need. While a comparison can be made, better yet, a community that establishes a goal over a short and longer timeframe can benefit through the implementation of approaches designed to reach those goals. The data can be used to help benchmark a goal.

The assessment quantified the DNR grant program, services, and established a needs profile. The grants program is well recognized with two-thirds of communities knowing about it. Nearly half of communities have applied for a grant with over 90% having received one at some point in time. Reasons for not applying such as budget and time constraints were given. Over a third of communities have received some form of assistance over the past 12 months. The DNR U&CF program continues to be highly regarded as providing excellent (8.7, 1 to 10 scale) service. The type of assistance area desired by a community and the format to receive assistance were further deduced.

In close, this current assessment provides a baseline situation for 2017. Appendix A provides a suite of summary statistics by question. The report concludes with a longitudinal comparison to findings from 1991, 1999, and 2008. The longitudinal comparison can be found in Appendix B that follows. Since the start of the U&CF program in Wisconsin, much has been accomplished and many U&CF needs exist in communities. This report provides an insight into accomplishments and needs.

## Acknowledgments

We sincerely thank the many people who were vital to completing this project. First we thank Matilda Stone for the exemplary support with database development and the logistics of delivery of the questionnaire to communities. The WDNR U&CF program staff (Ellen Clark, Alexandria Elias, Brad Johnson, Don Kissinger, Laura Lorentz, Sara Minkoff, Jeff Roe, Tracy Salisbury, Kim Sebastian, Brian Wahl, and Olivia Witthun) were vital in the development and refinement of questions used to depict the current community situation. Jill Johnson was vital with supporting the project and technical oversight with the USFS. We thank members of the Wisconsin Urban Forestry Council for intriguing ideas and questions to ask. The UWSP Print Design staff were vital with the quality printing of the questionnaire. And lastly, we thank all the communities who participated and provided their valuable time to share their current situation. Funding for the study came from the USFS U&CF program, WDNR U&CF program, the McIntire-Stennis program, and the UWSP College of Natural Resources. These institutions are equal opportunity providers.

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# Appendix A

## Questionnaire and Results





# Trees in Your Community!

A 2017 Questionnaire for the  
Urban Forestry Program, Wisconsin  
Department of Natural Resources



College of Natural Resources  
University of Wisconsin - Stevens Point



## Instructions

Please read each question carefully.

Answer each question with the answer that best fits your community. An example is shown below.

### 1. Does your community manage its trees?

- Yes  
 No

Please try to answer every question that applies to you. If none of the answers provided seem exactly right choose the one that is nearest to being right for you.

It is important that you fill out and return the survey even if you do not believe your community does anything with its trees. It is important for us to know what your community does.

## Definitions

There are some questions that ask you about your budget for planting, tree maintenance and removal. Please refer to these definitions to help you answer the questions.

Tree diversity: a planned goal to limit the percentage of trees that occur within a tree species group (e.g., maple, oak, pine, spruce)

Planting: includes tree ordering, tree purchasing, tree production in municipal nurseries or gravel beds, contract growing, planting site preparation, planting, mulching, staking and initial watering, pruning, fertilizing and/or trunk wrapping.

Tree maintenance: includes pruning, watering, mulching, fertilizing, diagnosis, pest control, damage repair, guying, cabling, bolting.

Removal: includes cutting, chipping, stump removal, clean-up, and brush and wood disposal and utilization.

Urban forest management: includes planning, scheduled plantings, maintenance, removals, a management plan, budget, and ordinances.

**Thank you very much for your help!**

## Section I – Your Community and Staff

**1. What is the population of your community? n=453**

8260 (mean), 52 to 595,047 (range) population

**2. Your community has how many municipal:**

(Please enter “0” if none.)

57.6 (n=261) Miles of maintained streets

117.0 (n=229) Acres of managed parks

154.4 (n=163) Acres of natural areas or green space

42.4 (n=119) Acres of other properties planted with trees

12.8 (n=179) Square miles total land area in the community

**3. Does someone in your community (i.e. employee, volunteer, consultant, etc.) oversee the care of municipal street trees, park trees or other public trees? n= 453**

364 (80.4%) Yes

75 (16.6%) No → (PLEASE GO TO SECTION II, PAGE 3)

14 (3.1%) Unsure → (PLEASE GO TO SECTION II, PAGE 3)

**4. What municipal departments have the responsibility for some level of management of public trees? n=252**

(CHECK ALL THAT APPLY)

49 (19.4%) Forestry/Urban Forestry

111(44.0%) Parks and Recreation

203 (80.6%) Public Works

42 (16.7%) Streets/Transportation

22 (8.7%) Other: ( \_\_\_\_\_ )

**5. What municipal department has the primary responsibility for public trees? n=250**

(CHECK ONE)

32 (12.8%) Forestry/Urban Forestry

41 (16.4%) Parks and Recreation

153 (61.2%) Public Works

17 (6.8%) Streets/Transportation

15 (6.0%) Equally shared (*please specify:* \_\_\_\_\_)

7 (2.8%) Other: ( \_\_\_\_\_ )

**6. Who is the primary person responsible for the management of the tree program and/or activities? n=252**

(CHECK ONE)

- 14 (5.6%) None, No One in Charge
- 11 (4.4%) City Administrator/Manager
- 1 (0.4%) City Clerk/Treasurer
- 1 (0.4%) City Planner
- 48 (19.0%) Community Forester/Arborist
- 2 (0.8%) Consultant (e.g., Arborist, Forester on Retainer)
- 8 (3.2%) Elected Public Official (*title:* \_\_\_\_\_)
- 26 (10.3%) Parks & Recreation Director/Manager
- 105 (41.7%) Public Works Director/Manager
- 17 (6.7%) Street Foreman/Superintendent
- 19 (7.5%) Other: ( \_\_\_\_\_ )

**7. What is the training level for all staff responsible for management of the tree program and/or activities? n=355**

(CHECK ALL THAT APPLY)

- 96 (27.0%) No specific training or workshops
- 195 (54.9%) In-house and/or on-the-job-training
- 157 (44.2%) Attend tree care/management workshops
- 37 (10.4%) Community Tree Management Institute graduate
- 58 (16.3%) ISA Certified Arborist
- 13 (3.7%) ISA Advanced Credential (BCMA, TRAQ)
- 21 (5.9%) Two year degree (forestry, horticulture, arboriculture)
- 51 (14.4%) Four year degree (forestry, horticulture, arboriculture)
- 6 (1.7%) Graduate degree (forestry, horticulture, arboriculture)
- 10 (2.8%) Other: ( \_\_\_\_\_ )

**8. Circle your community’s elected officials and policy makers’ level of understanding and embracement of the importance and value of urban forests and their need for sound urban forest management. n=355 [Frequency (%), SE = Standard Error of Mean]**

(CIRCLE ONE)

1	2	3	4	5	6	7	8	9	10	Mean Index Score
6 (1.3)	15 (3.3)	32 (7.0)	24 (5.3)	82 (18.1)	43 (9.5)	64 (14.1)	56 (12.4)	22 (4.9)	11 (2.4)	5.92 (0.11 SE)

**Very Poor**

**Excellent**

9. **How many people (paid and unpaid) are involved with working on tree management in your community?** Fill in the number of positions and Full Time Equivalents – FTEs, 2080 hours base year, enter “0” if no position. n=216

Position Categories	(✓) n= (% of total)	Number of Positions	Number of FTEs
<i>Example Answer</i>		2	1.5
Permanent / Full-time	187 (86.6%)	4.53	3.88
Permanent / Part-time	35 (16.2%)	1.91	0.99
Seasonal / Full-time	26 (12.0%)	4.04	1.08
Seasonal / Part-time	56 (25.5%)	2.29	1.25
Volunteer or Community	31 (14.4%)	5.45	0.73
Private Contractor	31 (14.4%)	2.02	0.40
Nonprofit	4 (1.9%)	2.00	nd
Other:	9 (4.2%)	2.33	1.12

## Section II – Budget

- 1. What is the total municipal budget for 2017?** n=384

\$ 11,289,025 (Mean) Total 2017 Municipal Budget
- 2. Do you have funds in this year’s community budget to be spent specifically on trees and their care (e.g., planting, maintenance, removal and education, etc.)?** n=441

245 (55.6%) Yes  
196 (44.4%) No → (PLEASE GO TO SECTION III, PAGE 5)
- 3. What is the total tree management budget for 2017? Please include all expenses such as personnel, overhead, equipment, supplies, plant material, and contract payments.** n=226

\$ 165,322 (Mean) Total 2017 Tree Budget
- 4. Does your community plan to have a bigger tree budget, the same tree budget, or a smaller tree budget for 2018?** n=166  
(CHECK ONE)

43 (25.9%) A bigger tree budget than this year  
103 (62.1%) The same tree budget as this year  
15 (9.0%) A smaller tree budget than this year  
5 (3.0%) Unsure

**5. Is your budget adequate to meet current needs as defined in your work plan or your identified annual urban forestry budget needs?** This includes planting, maintenance, removal, inventory, education, etc. n=173

109 (63.0%) Yes

64 (37.0%) No → If no, 38.0 % below identified need

**6. Does your community have line item budgets for municipal tree activities (e.g., planting, pruning, removing)?** n=170

113 (66.5%) Yes

57 (33.5%) No

**7. What sources fund your municipal tree care budget?** n=169

<b>Funding Sources (✓all that apply)</b>		<b>% of locations using this source</b>	<b>% of total tree budget</b>
<i>Example Answer</i>	( ✓ )	90	90
Camping fees	1	0.59	<0.00
Community development block grant	8	4.7	0.2
DNR Urban Forestry Grant	33	19.5	3.3
Donations	33	19.5	1.1
Endowment	1	0.59	0.0
General Fund	157	92.9	83.7
Service fees	6	3.6	1.1
Stormwater fees	8	4.7	2.2
Tree memorials	40	23.7	0.8
Wood product sales (e.g., Firewood)	12	7.1	0.4
Other (: _____)	25	14.8	7.2
<b>Total</b>	<b>=</b>	<b>100%</b>	<b>100%</b>

**8. What percent of the budget was spent in 2017 on the following activities, including costs of labor, equipment and supplies related to the following?** The total should equal 100%, refer to the definitions in the directions. n=164

19.4% Planting

30.9% Tree maintenance

39.7% Removal

10.1% Other (include indirect costs, personnel management,

= 100% Total budgeting, clerical staff, etc.)



## Section III – Tree Management Profile

1. Which of the following organizations help establish policy for tree management? n=267

(CHECK ALL THAT APPLY)

183 (68.5%) Committees of City Council or Village Board

50 (18.7%) Forestry Department

65 (24.3%) Parks and Recreation Department

74 (27.7%) Parks Board

43 (16.1%) Tree Board

50 (18.7%) Other: (\_\_\_\_\_)

2. Does your community have a government-authorized citizen tree board, parks board, city department or similar group that helps establish policy for tree management? n=447

201 (45.0%) Yes

246 (55.0%) No → (PLEASE GO TO QUESTION 5, PAGE 5)

3. What is the function of this board/group? n=133

(CHECK ONE)

75 (56.4%) Advisory only

4 (3.0%) Operational only

54 (40.6%) Both Advisory and Operational

4. Does the board/group operate from a written manual? n=126

44 (34.9%) Yes

82 (65.1%) No

5. Does your community have a written tree management, urban forestry or land use management plan? n=443

181 (40.9%) Yes

262 (59.1%) No → (PLEASE GO TO QUESTION 9, PAGE 6)

6. Do any of your plans contain goals for the urban forest resource? (CHECK ALL THAT APPLY) n=117

(49, 41.9%) % tree canopy

(53, 45.3%) Storm water management

(41, 35.0%) Age distribution

(10, 8.5%) Carbon storage

(86, 73.5%) Tree condition

(10, 8.5%) Energy conservation

(93, 79.5%) Species diversity

(22, 18.8%) Air quality

(3, 2.6%) Other: \_\_\_\_\_

(14, 12.0%) None of These

**7. Which types of plans do you have that incorporate community management of the green infrastructure and when were they developed and last updated? n=130**

Plan Type	Do you have this plan?	We are currently developing this plan	What year was your plan developed or reviewed/updated	
			Year first developed	Year last reviewed or updated
<i>Example answer</i>	(%)	(%)	1999	2012
Emerald ash borer readiness	70.0	5.4	2011	2015
Land use management	44.6	1.5	2002	2014
Storm water management	43.8	5.4	2007	2015
Tree risk management	33.1	3.1	2003	2014
Tree/urban forest management	63.8	4.6	2004	2013
Urban forest strategic	17.7	3.1	2006	2015
Other: _____	4.6	3.8	2011	2015

**8. Who helped develop the plan(s) from the above question? n=136**

(CHECK ALL THAT APPLY)

- 89 (65.4%) Consultant
- 110 (80.9%) Municipal Staff
- 25 (18.4%) Volunteers

**9. Which of the following standards of practice does your community officially incorporate into tree management? n=267**

(CHECK ALL THAT APPLY)

- 35 (13.1%) ANSI Z60.1      46 (17.2%) ANSI Z133.1
- 50 (18.7%) ANSI A300      49 (18.4%) ISA BMP'S
- 104 (39.0%) Tree City USA      145 (54.3%) None of these

**10. Does your community have one or more ordinances that pertain to trees? Defined as stand-alone ordinances or provisions that regulate the management of trees on public or private property. n=434**

- 254 (58.5%) Yes →  
→ If yes, Year 1<sup>st</sup> Written 1995 Last Updated 2010
- 166 (38.2%) No → (PLEASE GO TO QUESTION 15, PAGE 8)
- 14 (3.2%) Developing

**11. Who helped develop the ordinances?** n=183

(CHECK ALL THAT APPLY)

- 73 (39.9%) Consultant
- 165 (90.2%) Municipal Staff
- 19 (10.4%) Volunteers

**12. Are your ordinances posted online?** n=187

- 161 (86.1%) Yes
- 26 (13.9%) No

**13. Are your community tree ordinances enforced regularly?** n=183

- 127 (69.4%) Yes
- 56 (30.6%) No

**14. What topics do your community tree ordinances include?** n=177

<b>Ordinance Topics</b>	<b>Check all that apply (%)</b>
<i>Example answer</i>	
Defines official authority for public tree management	83.6
Establishes insect/disease control	66.1
Establishes permit system for tree work on public property	54.2
Identifies formula for determining monetary tree value	7.9
Regulates trees planted near utilities	52.0
Regulates removal of dead or diseased trees	87.6
Regulates tree species which may or may not be planted on private property (approved tree list)	32.8
Regulates tree species which may or may not be planted on public property (approved tree list)	65.0
Requires abatement of high risk/hazardous trees	75.1
Requires licensing of private tree care firms	9.6
Requires preservation of trees during development	26.6
Requires replacement of removed publicly owned trees	25.4
Requires street tree plantings in new subdivisions	33.3
Requires tree planting around new parking lots	28.8
Other: ( _____ )	

**15. Who in your community is primarily (legally) responsible for maintaining trees in municipal rights of way, for example trees between sidewalk and curb or alley trees? n=425**

(CHECK ONE)

98 (23.1%) Abutting property owner responsible

314 (73.9%) Municipality responsible

13 (3.1%) Other: ( \_\_\_\_\_ )

**Section IV – Volunteers**

**1. Does your community use volunteers (individuals or groups not paid for providing services) for tree care on public property? n=440**

98 (22.3%) Yes

342 (77.7%) No → (PLEASE GO TO SECTION V, PAGE 9)

**2. Which type of volunteer organizations does your community use to carry out tree care or management? n=65**

<b>Volunteer Types</b>	<b>Check all that apply (%)</b>
<i>Example answer</i>	<i>(%)</i>
Beautification committees	27.7
Business associations	13.8
City council or village board committees	26.2
Individual residents	56.9
Neighborhood associations	6.2
Nonprofit groups	26.2
Park / Tree boards	36.9
School groups or youth organizations (4-H, scouts)	49.2
Service organizations (e.g., Lions, Kiwanis, Rotary)	35.4
Utility companies	21.5
Other: ( _____ )	6.2

## Section V – Contractors

- 1. Does your community use paid contractors for any of your tree care activities?** n=424

296 (69.8%) Yes

128 (28.3%) No → (PLEASE GO TO SECTION VI, PAGE 9)

- 2. Are contractors required to perform pruning or maintenance according to the standards set out by ANSI A300?** n=168

90 (53.6%) Yes

78 (46.4%) No

## Section VI – Inventory

- 1. Does your community have a tree inventory?** An inventory is any type of record of public trees in your community. n=438

191 (43.6%) Yes

247 (56.4%) No → (PLEASE GO TO SECTION VII, PAGE 12)

- 2. What is the state of your tree inventory?** n=133

(CHECK ONE)

65 (48.9%) Current (reflects up-to-date tree population)

29 (21.8%) Developing (in process of making current)

39 (29.3%) Not current (missing tree population information)

- 3. What year was your first inventory completed and when was your inventory last updated?**

1996 (n=147) Year first completed

2014 (n=119) Year last updated

- 4. How often do you update your inventory?** n=130

(CHECK ONE)

23 (17.7%) No update/Never update

27 (20.8%) Periodically reinventory to collect current data

15 (11.5%) Updated daily or weekly as work performed

19 (14.6%) Update less often than weekly after work is performed

34 (26.2%) Updated only for plantings/removals

12 (9.2%) Other: ( \_\_\_\_\_ )

**5. Which type of inventory and analysis methods do you use?**

n=120

(CHECK ALL THAT APPLY)

- 68 (56.7%) Windshield survey
- 3 (2.5%) Sample survey
- 64 (53.3%) 100% population (total, census)
- 7 (5.8%) Canopy cover analysis
- 12 (10.0%) i-Tree analysis
- 1 (0.8%) Remote sensing (i.e., aerial imagery, LiDAR)
- 3 (2.5%) Other: (\_\_\_\_\_)

**6. What areas does this inventory include?** n=135

(CHECK ALL THAT APPLY)

- 110 (81.5%) Maintained park(s)
- 64 (47.4%) Municipal green space(s)
- 18 (13.3%) Municipal woodlots
- 4 (3.0%) Private property
- 127 (94.1%) Street trees
- 12 (8.9%) Other municipal properties: (\_\_\_\_\_)

**7. Does your inventory include geospatial information (i.e. coordinates for each tree location)?** n=134

- 75 (56.0%) Yes
- 59 (44.0%) No

**8. Is your inventory linked to your city's other infrastructure data layers?** n=133

- 68 (51.1%) Yes
- 65 (48.9%) No

**9. What data collection tools are used for the tree inventory?**

n=127

(CHECK ALL THAT APPLY)

- 72 (56.7%) GPS/GIS
- 38 (29.9%) Handheld device/ field computer (PDA, Trimble, etc.)
- 13 (10.2%) Smart Phone
- 40 (31.5%) Tablet computer
- 33 (26.0%) Laptop computer
- 67 (52.8%) Pen and paper
- 1 (0.8%) Other: (\_\_\_\_\_)

**10. Who completed your inventory?** n=137

(CHECK ALL THAT APPLY)

81 (59.1%) Consultant

23 (16.8%) Intern

71 (51.8%) Municipal staff

10 (7.3%) Volunteers

8 (5.8%) Other: ( \_\_\_\_\_ )

**11. How many public trees do you have in the following locations?**

<b>Tree Location</b>	<b>(INDICATE NUMBER)</b>	<b>Is this a Record or Estimate (✓ one choice only)</b>
<i>Example Answer</i>	12,625	( ✓ ) ( )
<b>Street trees</b> (along municipal rights of way, between curb and sidewalk, alley trees, etc.)	7877, n=106	(57.7%) (42.3%)
<b>Park trees</b> (maintained areas)	6857, n=95	(46.9%) (53.1%)
<b>Municipal trees on other property</b> (building grounds, cemeteries, treatment plants, industrial parks, etc.)	1199, n=75	(26.47%) (73.6%)
Other: _____	3234, n=11	(55.6%) (44.4%)

**12. How many empty/vacant spaces do you have for potential tree plantings?**

<b>Tree Location</b>	<b>(INDICATE NUMBER)</b>	<b>Is this a Record or Estimate (✓ one choice only)</b>
<i>Example Answer</i>	198	( ) ( ✓ )
<b>Street trees</b> (along municipal rights of way, between curb and sidewalk, alley trees, etc.)	1868, n=87	(32.1%) (67.9%)
<b>Park trees</b> (maintained areas)	210, n=67	(13.3%) (86.7%)
<b>Municipal trees on other property</b> (building grounds, cemeteries, treatment plants, industrial parks, etc.)	124, n=56	(8.0%) (92.0%)
Other: _____	2464, n=80	(100%) (0.0%)

13. If known, list the 6 most commonly occurring street tree species, their number and/or the percentage of the total street trees? n=100

Street Trees Species	Mean (#)	Percent
Norway maple	3113	21.8
Little leaf linden	1426	7.1
Honey locust	1190	6.4
Green ash	828	4.5
Silver maple	385	1.4
Red maple	525	1.1
All Other Street Trees Combined	2776	32.3
All Street Trees Combined		100%

Note: 20.5% of the tree population was identified to the species level only

## Section VII – Operations Profile

1. Did you keep records on the number of trees that were planted in 2017? n=300

151 (50.3%) Yes

149 (49.7%) No

2. Please fill in the number of trees for the tree care activity on municipal property in 2017 in the appropriate column. Please enter "0" if no activity type was performed last year.

Municipal Tree Activity	(INDICATE NUMBER)	Is this a Record or Estimate (✓ one choice only)
<i>Example Answer</i>	937	( ) (✓)
Public requests for service	101.3, n=150, 0 to 2500	(30.7%) (69.3%)
Trees planted	101.6, n=198, 0 to 4052	(65.2%) (34.8%)
Trees pruned	450.8, n=198, 0 to 24,060	(25.7%) (74.3%)
Trees removed	101.0, n=216, 0 to 4024	(47.6%) (52.4%)

3. How would you best describe your tree management program's approach to pruning? (CHECK ONE CHOICE) n=289

20 (6.9%) Don't prune

179 (61.9%) Pruning as needed/for emergency only

81 (28.0%) Regular pruning cycle

If regular pruning, current cycle length (years) 5.8

If regular pruning, desired cycle length (years) 4.1

9 (3.1%) Other (\_\_\_\_\_)



**4. Over the past five years, the number of non-diseased trees removed has:** n=290

(CHECK ONE CHOICE)

56 (19.3%) Increased

115 (39.7%) Remained relatively constant

20 (6.9%) Decreased

99 (34.1%) Uncertain

**5. Please indicate below the percent of all trees planted on public land coming from each of the following sources.** Please provide your best estimate. n=208

69.7% % Purchased for direct planting

4.4% % Grown in city nursery

3.1% % Held in Gravel bed

3.8% % Contract grown

16.0% % Donated

2.0% % Nonprofit funded trees planted

1.0% % Other: \_\_\_\_\_

**≡ 100% Total All Sources**

**6. If you have a tree species diversity goal, are you able to meet that goal with currently available plant material?** n=433

(CHECK ONE CHOICE)

121 (27.9%) Yes

53 (12.2) No

259 (59.8%) Currently have no tree diversity goal

**7. Does your community offer a credit to property owners who incorporate green infrastructure (e.g., trees and other plants) into a property's storm water management plan?** n=294

16 (5.4%) Yes

278 (94.6%) No

**8. Would your community benefit from a statewide credit on your DNR stormwater permit for retaining or planting tree canopy?** n=260

136 (52.3%) Yes

124 (47.7%) No

**9. Is the incorporation of trees as a public health tool a point of discussion in your community?** n=291

66 (22.7%) Yes  
 225 (77.3%) No

**10. Does your program conduct any of the following urban forestry management activities?** Please check yes or no for each activity.  
 n=284-288

Urban Forestry Activities	Yes	No	% Yes
Conduct routine inspection and removal of diseased trees on public property	202	84	70.6
Conduct routine inspection and removal of high risk (aka hazard) trees on public property	228	60	79.2
Conduct routine inspection and require removal of high risk (aka hazard) trees on private	68	216	23.9
Conduct routine inspection and require removal of insect infested or diseased trees on private	58	226	20.4
Maintain a website page specific to the community/urban forestry tree program	61	224	21.4
Operate a recycling site for disposal of wood and brush for residents	211	75	73.8
Perform formative tree care for 3 to 5 years after tree planting	124	162	43.4
Provide financial assistance for specific insect or diseased tree removal on private property	7	278	2.5
Provide technical assistance (information) for tree maintenance on private property	96	189	33.7
Use the urban forest to accomplish storm water, public health, and/or air quality goals	63	223	22.0

**11. What percent of tree care (pruning, pest control, etc.) is done on a systematic (regularly scheduled) cycle and what percent on demand as reactive (complaints, hazardous situations, crisis, post storm, etc.)?** (Total = 100%) n=

31.1 % Systematic (Scheduled) }  
68.9 % Reactive (on Demand) } Total = 100%

**12. What percent of total time is spent for each tree activity by City Staff, Contractor, and/or Volunteer?** Please give us your best estimate, use the definitions in the directions, totals by row = 100%.

Tree Activity	City Staff (%)	Contractor (%)	Volunteer (%)	N =
<i>Example answer</i>	70	19	11	100
Tree Planting	66.0	21.1	13.0	302
Tree Maintenance	77.8	16.5	5.7	339
Tree Removal	62.6	34.6	2.9	351
Tree Pest Mgmt.	59.1	34.6	6.3	241
Other: _____	62.5	20.8	16.7	6
<b>Totals</b>	<b>66.9</b>	<b>26.3</b>	<b>6.8</b>	<b>355</b>

**13. When public trees are removed, what % of total solid wood volume is used in the approaches listed below?** n=379

- 3.2% % Biofuel for energy
- 12.5% % Burned in open
- 38.0% % Firewood
- 6.1% % Landfilled
- 0.1% % Made into furniture/flooring/art
- 32.4% % Mulch
- 1.3% % Processed into lumber
- 2.7% % Sale of round wood (e.g., sawlogs, pulp, veneer)
- 3.7% % Other: \_\_\_\_\_
- = 100%** **Total All Sources**

**14. Which of the following approaches are used to respond to the removal of ash trees on private property?** n=416

- (CHECK ALL THAT APPLY)
- 293 (70.4%) No approaches are used
  - 6 (1.4%) Cost-share for removal
  - 2 (0.5%) Cost-share for treatment
  - 110 (26.4%) Requiring removing dead/dying ash tree
  - 14 (3.4%) Other: (\_\_\_\_\_)

**15. Do you have formal partnerships with community wood utilization companies or other entities for your removed trees?**  
n=295

25 (8.5%) Yes  
270 (91.5%) No

**16. Do municipal staff provide educational presentations to city residents regarding tree care?** n=297

89 (30.0%) Yes  
208 (70.0%) No → (PLEASE GO TO QUESTION 19, PAGE 16)

**17. Which educational presentations are provided to residents?**  
n=89

(CHECK ALL THAT APPLY)

78 (87.6%) Arbor Day  
45 (50.6%) Benefits of tree  
56 (62.9%) How to plant a tree  
43 (48.3%) How to prune a tree  
38 (42.7%) Proper tree selection  
17 (19.1%) Shade for energy conservation  
8 (9.0%) Other: ( \_\_\_\_\_ )

**18. How is educational material delivered to residents?** n=89

(CHECK ALL THAT APPLY)

54 (60.7%) Community event(s)  
55 (61.8%) Handouts  
36 (40.4%) Newsletter  
55 (61.8%) Website  
13 (14.6%) Workshop(s)  
5 (5.6%) Other: ( \_\_\_\_\_ )

**19. Does your community work directly with your local school district about tree topics?** n=289

85 (29.4%) Yes  
204 (70.6%) No

**20. Which of the following tree topics do you provide to schools?**  
n=89

(CHECK ALL THAT APPLY)

27 (30.3%) Classroom presentation  
13 (14.6%) School forest education  
79 (88.8%) Tree planting  
11 (12.4%) Other: ( \_\_\_\_\_ )

## Section VIII – DNR Urban Forestry Grant Program

1. **The DNR has an urban forestry matching grant program that helps communities to manage their trees, have you ever heard of this program?** n=434

281 (64.7%) Yes

153 (35.3%) No

2. **Are you aware of the Startup Grant for communities wishing to start to manage their trees?** n=294

136 (46.3%) Yes

158 (53.7%) No

3. **Are you aware of the Catastrophic Storm Grant available to communities following a catastrophic storm event for which the governor has declared a State of Emergency?** n=296

111 (37.5%) Yes

185 (62.5%) No

4. **The grants range from \$1000 to \$25,000. Considering your potential needs,**

should the upper limit be increased? n=260

80 (30.8%) Yes

180 (69.2%) No

should the lower limit be decreased? n=262

32 (12.2%) Yes

230 (87.8%) No

5. **Has your community ever applied for an urban forestry grant from the DNR?** n=293

121 (41.3%) Yes, applied and received a grant

14 (4.8%) Yes, applied but did **not** receive a grant

158 (53.9%) No

} PLEASE GO TO  
SECTION IX,  
PAGE 18

- 6. If your community has never applied for an urban forestry grant from the DNR, rank the following statements which best reflects your reasons for not applying. n= 9 to 68**

<i>Percentage that agree with statement</i>	<b>Strongly Disagree (1)</b>	<b>Disagree (2)</b>	<b>Neutral (3)</b>	<b>Agree (4)</b>	<b>Strongly Agree (5)</b>	<b>Index Score</b>
<b>Reason</b>						
Application process n=48	10	6	52	21	10	3.08
Budget constraints n=57	7	7	23	28	35	4.33
Record keeping and reporting obligations n=56	5	5	36	27	27	3.57
Reimbursement process n=52	6	8	56	21	10	3.50
Staff constraints n=68	4	1	16	28	50	4.13
Not interested in grant program n=68	25	11	37	12	15	2.86
Other: _____ n= 9	22	0	56	0	22	4.00

## Section IX – DNR Urban Forestry Services

- 1. In the last 12 months have you received assistance (technical, financial, educational) from DNR urban forestry staff? n=**

153 (35.3%) Yes

281 (64.7%) No → (PLEASE GO TO QUESTION 5, PAGE 20)

- 2. If yes, please select the frequency of each type of assistance received below. n= 48 to 94**

<b>Type of Assistance</b>	<b>Once (1)</b>	<b>Occasionally (2)</b>	<b>Frequently (3)</b>	<b>Regular Basis (4)</b>	<b>Index Score</b>
Technical n=80	15	68	13	5	2.07
Financial n=48	42	48	8	2	1.71
Educational n=94	11	66	17	6	2.19

3. On a scale of 1 to 10 where 1 is very unsatisfied and 10 is very satisfied, how would you rate your satisfaction with the assistance you received from the DNR staff? n=107

(CIRCLE ONE)

1	2	3	4	5	6	7	8	9	10	Index Score
0 (0%)	0 (0%)	0 (0%)	2 (2%)	2 (2%)	3 (3%)	11 (10%)	24 (22%)	25 (23%)	40 (37%)	8.73

Very  
Unsatisfied

Very  
Satisfied

4. Which of the following forms of assistance did you receive from DNR urban forestry program staff? n=108

Assistance Topical Areas	( ✓ ) all that apply
Damaged tree repair	8 (7.4%)
Emergency storm response	9 (8.3%)
Finding out what others are doing	76 (70.4%)
Information regarding an article in the urban forestry newsfeed	35 (32.4%)
Information regarding reimbursement of the grant	48 (44.4%)
Information regarding the grant application	68 (63.0%)
Park and street tree management	49 (45.4%)
Providing consultant/contractor information	25 (23.1%)
Resource material	67 (62.0%)
Setting up technical workshops	27 (25.0%)
Shrub identification, selection and maintenance	4 (3.7%)
Tree identification, selection and maintenance	28 (25.9%)
Tree inventories	34 (31.5%)
Tree pest and disease questions	65 (60.2%)
Tree removal techniques	16 (14.8%)
Tree risk, hazardous trees	23 (21.3%)
Volunteer management	8 (7.4%)
Other: _____	9 (8.3%)

- 5. Which of the following publications and outreach services are you familiar with?** (n=108 to 140)  
 (First, please check if you are aware of them, second check if you have read or participated with these, third rate the quality where 1 is very low and 5 is very high.)

**Quality Rating Index**

Publication or Educational Service	Are you aware of?	Have you read / participated with it?	Quality Rating Index					Index Score
			Very low (1)	Low (2)	Moderate (3)	High (4)	Very high (5)	
<i>Example answer</i>	(✓)	(✓)	( )	( )	(✓)	( )	( )	
DNR Urban Forestry Networking Group Meetings n=121	93.4	57.0	8.0	3.0	27.0	35.0	27.0	3.70
DNR Urban Forestry Newsfeed n=131	90.8	67.2	7.0	3.5	35.7	43.5	10.4	3.47
DNR Urban Forestry Website n=149	93.3	55.7	6.1	5.2	35.7	41.7	11.3	3.47
UW Extension Urban Forestry Workshops n=152	92.1	53.9	5.2	7.0	22.6	42.6	22.6	3.70
WAA/DNR Annual Urban Forestry Conference n=117	92.3	57.3	10.8	4.3	21.5	32.3	31.2	3.69

- 6. Have you heard of the National Arbor Day Foundation's Tree City USA recognition program?** n=294

242 (82.3%) Yes  
 52 (17.7%) No



7. **If you are not a Tree City USA community, which of the four standards for Tree City USA recognition do you believe your community meets?** n=74

<b>Tree City USA Topical Areas</b>	<b>( ✓ ) all that apply</b>
We have a tree board, department or committee responsible for public tree care	44 (59.5%)
We have a community tree ordinance or provisions establishing public tree policy	57 (77.0%)
We have an annual tree budget of \$2 per capita, which can include community labor and expenditures, grants, volunteer time and some utility line clearance and brush removal	30 (40.5%)
We have an Arbor Day observance and proclamation	23 (31.1%)

## **Section X – Needs Profile**

1. **In what format would you prefer to receive assistance from the DNR urban forestry program?** Using each number once, rank 1 to 8, where 1 is least preferred and 8 is most preferred. (USE EACH NUMBER ONLY ONCE) n=)

Ranking  
Index

- 5.38 Financial (grants) n=234  
 4.86 Instructional workshop n=227  
 4.53 One-on-one consulting n=224  
 4.58 Printed material (fact sheet, manual) n=227  
 3.98 State conference to share ideas n=223  
 4.16 Video n=224  
 4.40 Website n=224  
 3.97 Webinar n=224  
 No data Other(s): \_\_\_\_\_

**2. If you were to receive assistance with your tree management program from the DNR, which of the following tree management activities would be given the highest priority?**

n=240

(CHECK UP TO 7 OF YOUR MOST IMPORTANT NEEDS?)

<b>Technical Assistance Topical Areas</b>	<b>( ✓ ) up to 7 that apply</b>
Alternatives for utilization of wood residue from tree operations	39 (16%)
Community nursery or gravel bed development	22 (9%)
Community tree board or commission development	22 (9%)
Contract specifications	29 (12%)
Diverse nursery stock acquisition	64 (27%)
Increase efficiencies in tree management operations	82 (34%)
New sources of financial support for your tree management program	140 (58%)
Public awareness program for trees or your tree program	103 (43%)
Support for your tree program from your elected officials	66 (28%)
Training materials development	82 (34%)
Tree care and management training for employees	145 (60%)
Tree care operations funding (including planting, pruning and removals)	143 (60%)
Tree insect and/or disease control	122 (51%)
Tree ordinance development or revision	49 (20%)
Urban forest benefits calculation (including economic, ecologic and social benefits)	40 (17%)
Urban forestry resource assessment implementation or revision (including tree inventories, canopy assessments)	61 (25%)
Urban forestry strategic or management plan development or revision	51 (21%)
Volunteer engagement or management of your tree program	50 (21%)
Other(s): _____	2 (1%)

**3. Where have you obtained assistance when you have needed it?**

Please rank on a scale of 1 to 10, where 1 is the least common or preferred and 10 is the most common or preferred, enter 0 if not applicable. n=210

**Ranking    Assistance Area**

5.98	Colleagues in other communities n=164
3.77	College or university faculty n=150
6.99	DNR Urban Forestry staff n=166
2.93	Natural Resources Conservation Service n=134
2.23	Non-profits n=137
5.72	Nursery n=166
5.18	Private consultant n=158
3.95	Professional organization n=135
6.23	Tree or landscape company n=176
2.29	U.S. Forest Service n=129
3.93	Utility company n=150
4.63	UW/County Extension n=154
No data	Other(s): _____

**4. What other services would you like the DNR Urban Forestry Program to provide?**

## Section XI – Comments

**1. Please list up to three items that your community takes pride in.**

- 1)
- 2)
- 3)

**2. Please specify the greatest achievement of your tree program.**

**3. Please provide any additional comments you would like to share about the management of trees in your community.**

## Section XI – Person Completing the Survey

Your information below is for any follow-up communication to clarify a response and will not be shared with others! All information provided by your community is confidential and will only be reported in a summarized format and not identified by community or respondent.

Name of person completing this survey: \_\_\_\_\_

Community name: \_\_\_\_\_

Daytime phone number: \_\_\_\_\_

E-mail contact: \_\_\_\_\_

### Please complete the following as appropriate

Would you like to be contacted by your Urban Forestry Coordinator concerning an urban and community forestry issue?

(CHECK ONE)

- Yes  
 No

### Thank You for Your Time!

*Thank you for completing the survey. Please return it at your earliest convenience in the postage paid envelope to:*

**Richard Hauer**  
**Professor of Urban Forestry**  
**College of Natural Resources**  
**University of Wisconsin – Stevens Point**  
**800 Reserve Street**  
**Stevens Point, WI 54481**

*This institution is an equal opportunity provider. Funding support provided by the USDA Forest Service.*

# Any Questions Please Contact

**Dr. Richard Hauer**  
**Professor of Urban Forestry**  
**University of Wisconsin–Stevens Point**  
**rhauer@uwsp.edu (715-346-3642)**



# Appendix B

## A Longitudinal Analysis of Urban & Community Forestry Programs

Comparing Results  
1991, 1999, 2008, and 2017



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## Principal Findings

Findings in this report include results from four time periods – 1991, 1999, 2008, and 2017. Data was collected to represent a community's situation in these base years. Historical reports were later completed in 1993, 1999, 2009, and this 2018 report that details the current situation. This longitudinal analysis depicts changes over time. Some principle findings include:

- The 66% response rate in 2017 was comparable to the 66% response rate in 2008 and 69% return rate in 1999 and twice as much as the 33% response in 1991. No non-respondent bias was discerned in this study, thus study results are reflective of all communities in Wisconsin.
- The mean value of maintained street miles and other planted municipal properties have increased by 16% and 22% respectively. A slight decrease in managed natural or greenspace acres (9%) and acres of managed parks (20%) occurred since 2008.
- Communities with tree inventories continued to increase, rising to 44% in 2017 from 11% in 1991, 23% in 1999, and 33% in 2008.
- Community tree boards are constant with the 45% reported in 2008, but still lower than the 54% and 57% reported in 1991 and 1999 respectively.
- An increase occurred in community tree management plans to 41% in 2017 from 25% in 1991, 23% in 1999, and 40% in 2008.
- The 61% of communities with a tree ordinance is similar to the 63% in 2008, which still is greater than the 48% in 1991 and 53% in 1999.
- The percent of communities with a tree budget increased to 56%, compared to 53% in both 1999 and 2008.
- The mean tree budget increased by 30% between 2008 and 2017 to a mean \$165,322 spent. Comparatively, the rate of inflation was 17.4% between these time periods and if tree budgets kept up with inflation a mean \$149,098 would be expected. Median budgets increased by 100% from 2008 (\$10,000) to 2017 (\$20,000)
- The percent of communities with a tree manager increased to 80%, compared to 72% in 1999 and 2008. Nearly all communities with 10,000 or more people indicated they had a tree manager. Communities below 10,000 people reported an increase in the percent of communities with a tree manager.
- The percent of communities that involve contractors with tree care activities increased to 70%, from 64% in 2008 and 54% in 1999
- Volunteer engagement decreased from 29% in 2008 to 22% today, a 25% relative decrease.
- Tree planting and pruning trended downward compared to a high in 1999 but are still at higher rates than initial data from 1991.
- Tree removal rates continue to increase to the highest level since first reported for 1991, Tree removal rates also exceed tree planting in 2017.



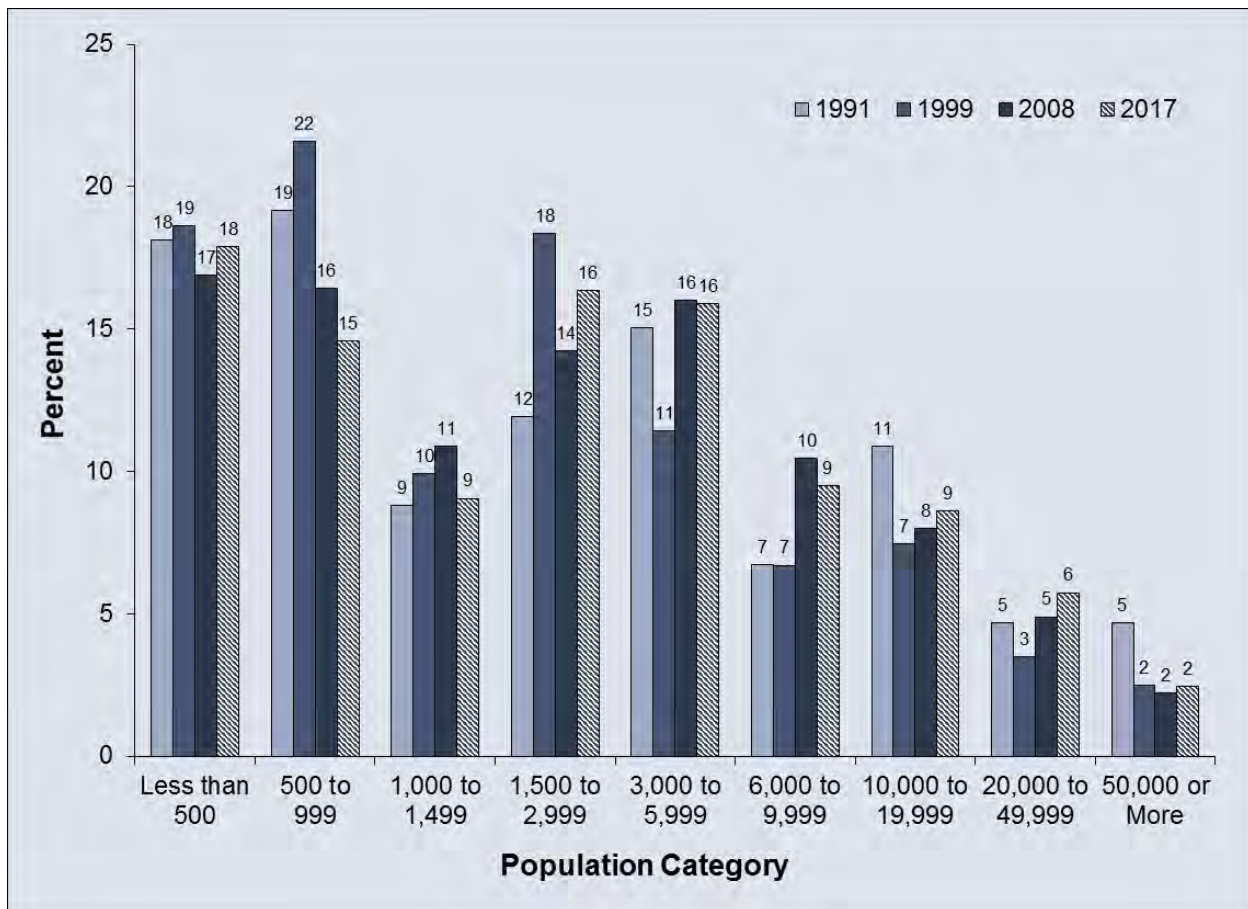
## Respondents

The high return rates in 1999, 2008 and 2017 were the result from multiple contacts (eight total) with survey recipients:

- An advance letter followed by a second mailed cover letter with the survey
- A thank you/reminder postcard
- A second cover letter with a duplicate survey and a reminder e-mail
- A short-form version followed by additional postcard and reminder e-mails

**Table B-1. Response rate and community demographics.**

Year	Total	Return rate	Minimum	Maximum	Mean	Median
1991	193	33%	89	192,859	8,324	2,001
1999	412	69%	4	628,503	7,116	1,500
2008	452	66%	14	596,974	7,773	2,040
2017	453	66%	52	595,047	8,260	2,162



**Figure B-1. Percent of total responses by community population.**

**Table B-2a. Miles of municipally maintained streets.**

<i>Year</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Median</i>
1991	40.6	1.0	592	13.5
1999	38.9	0.0	1,414	12.0
2008	49.7	0.0	1,400	20.0
2017	57.6	0.0	1,700	18.9

**Table B-2b. Acres of municipally managed parks.**

<i>Year</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Median</i>
1991	103.8	0.0	1,882	22.0
1999	88.5	0.0	5,700	20.5
2008	146.0	0.0	6,000	30.0
2017	117.0	0.0	2,100	25.0

**Table B-2c. Acres of municipal natural areas or green space.**

<i>Year</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Median</i>
1991	145.5	0.0	4,500	24.0
1999	177.1	0.0	16,000	15.0
2008	170.3	0.0	5,007	25.0
2017	154.4	0.0	3,195	20.0

**Table B-2d. Acres of other planted municipal properties.**

<i>Year</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Median</i>
1991	44.2	0.0	1,735	10.0
1999	38.2	0.0	1,000	10.0
2008	34.7	0.0	500	10.0
2017	42.4	0.0	810	4.0

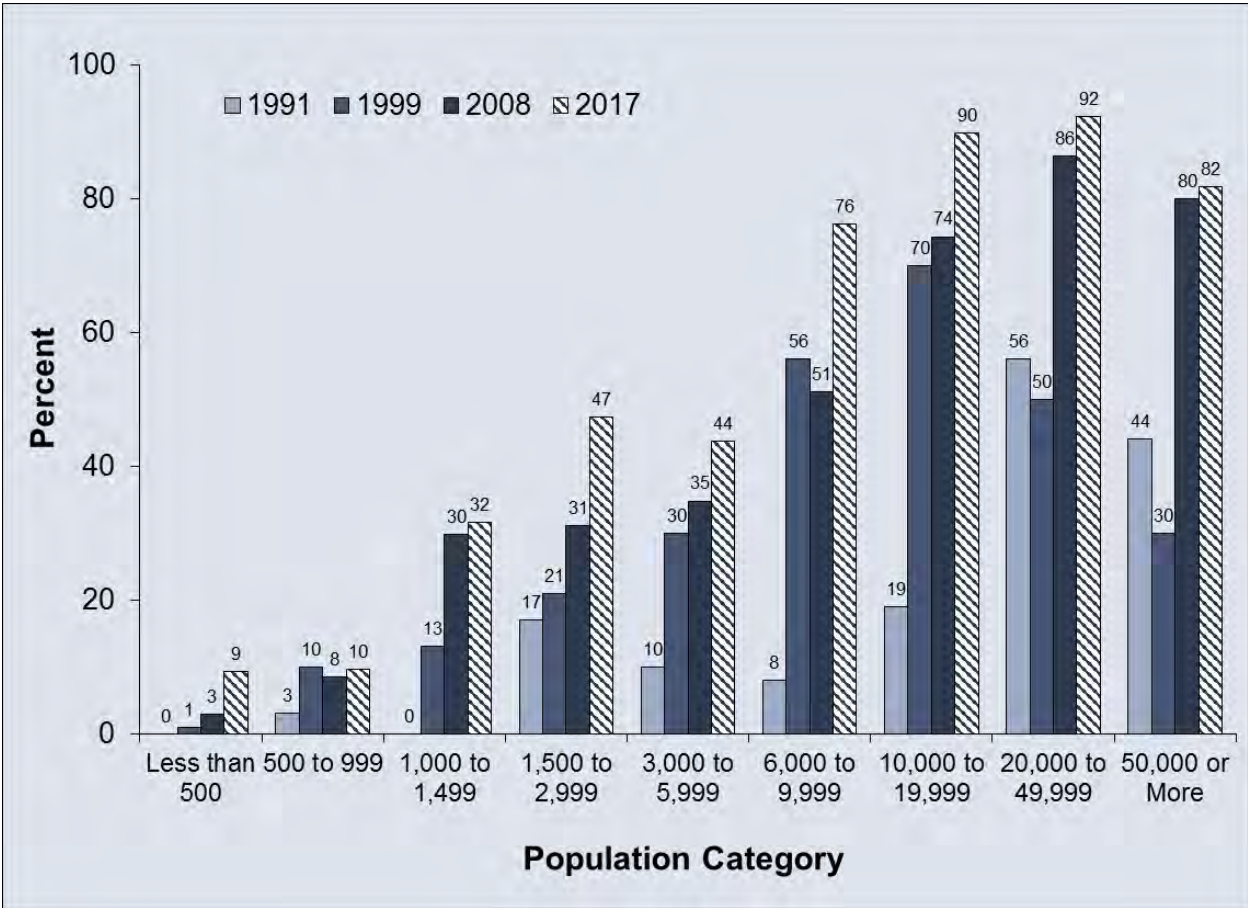
# Inventories

**Observations:**

- Four times as many communities have tree inventories in 2017 than in 1991.
- Smaller communities are less likely to have tree inventories.
- All population categories increased in the percent of communities with a tree inventory.

**Table B-3. Total percent of communities with tree inventories**

Tree inventories	1991	1999	2008	2017
Yes	11%	23%	33%	44%
No	88%	77%	67%	56%



**Figure B-2. The percent of communities with a tree inventory by population.**

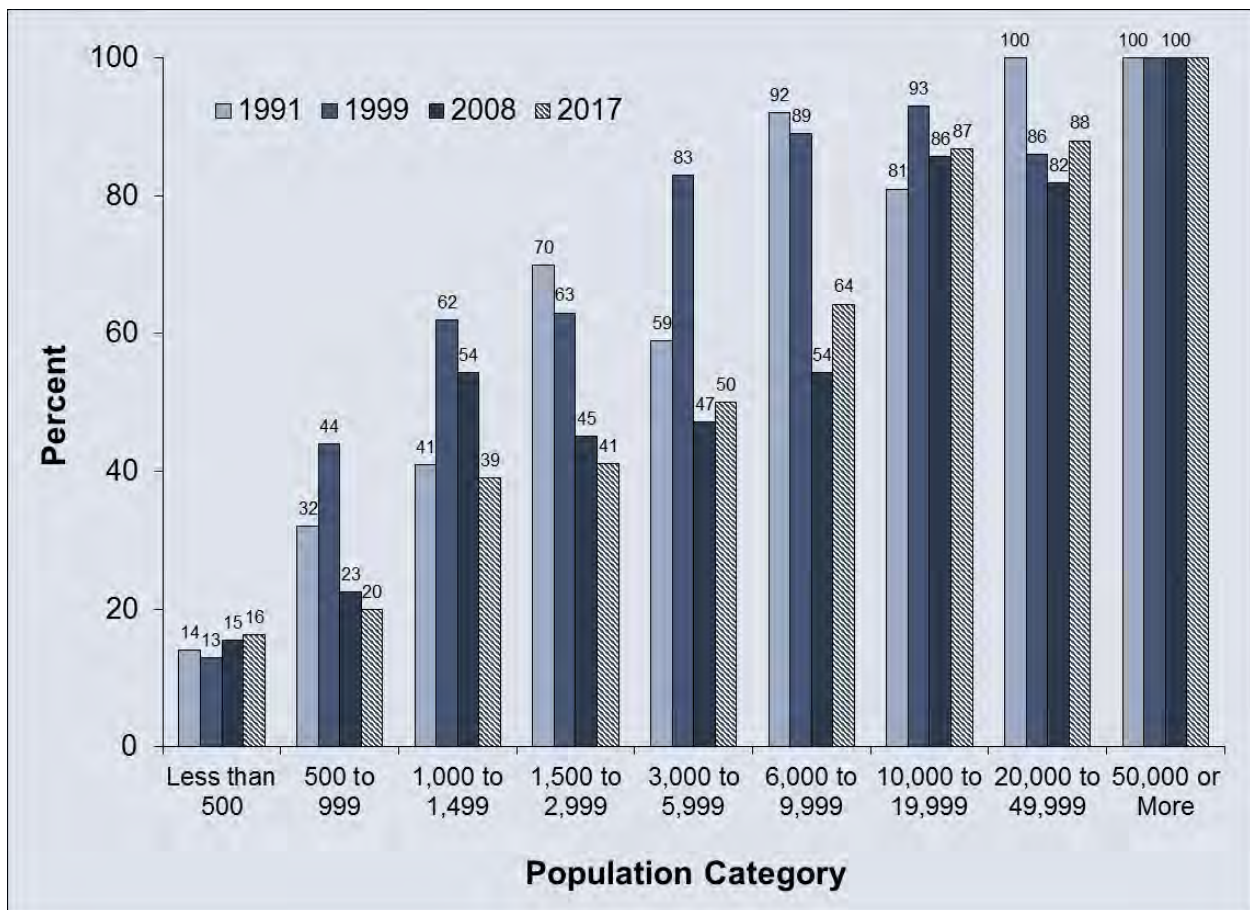
## Tree Boards

### Observations:

- The number of communities with tree boards remained constant from 2008 at 45%.
- In most community-size categories, the number of communities with tree boards has increased or stayed constant. A decline in tree boards occurred in communities with 500 to 3000 people, with this trend continuing since 1999.

**Table B-4. Total percent of communities with tree boards.**

Tree Boards	1991	1999	2008	2017
Yes	54%	57%	45%	45%
No	46%	43%	55%	55%



**Figure B-3. Percent of communities with a tree board by population.**

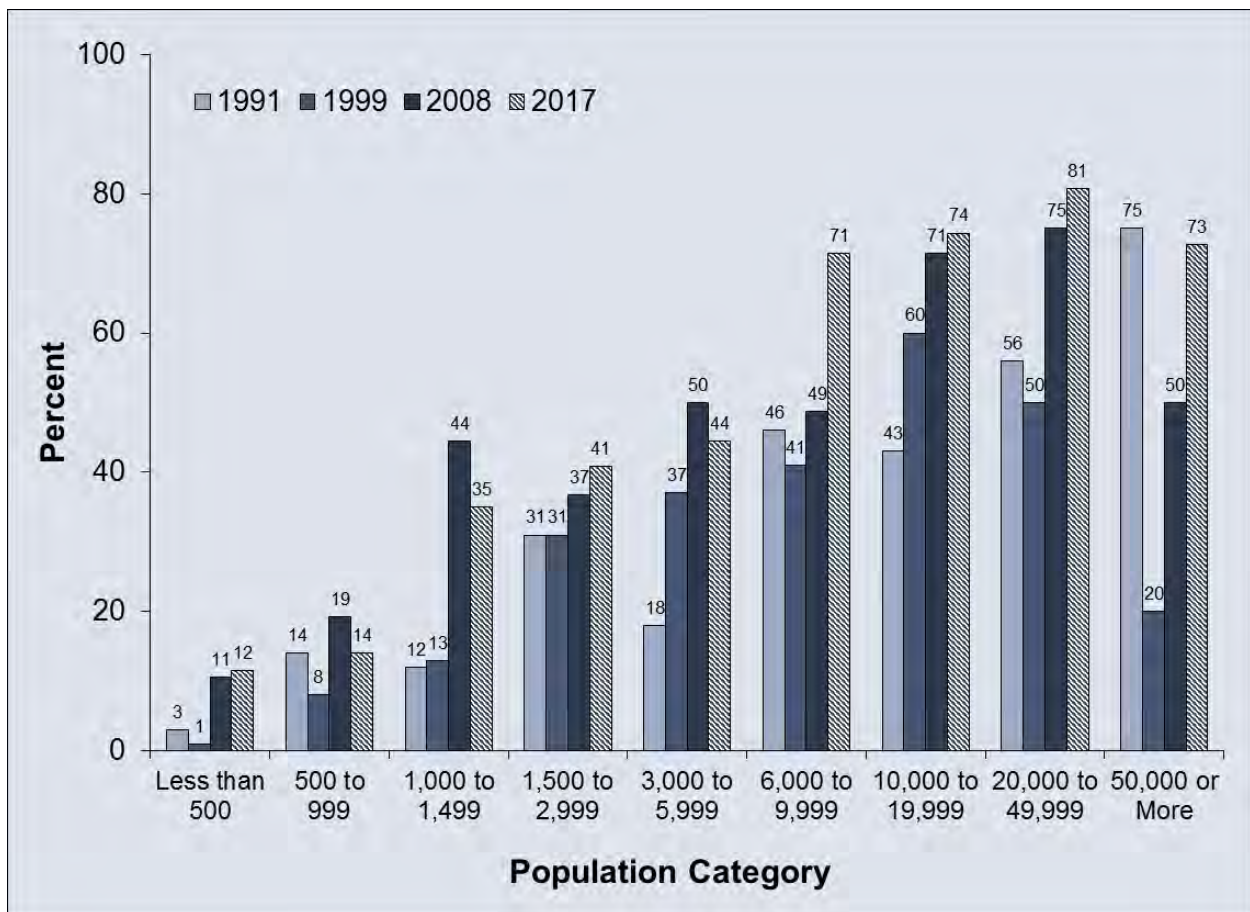
## Tree Management Plans

### Observations:

- The overall number of communities with management plans has increased by 66% since 1991 and 1999.
- The likelihood to have a management plan increases as community size increases.
- Most population categories had an increase in communities with a management plan.

**Table B-5. Total percent of communities with tree management plans**

Tree Plans	1991	1999	2008	2017
Yes	25%	23%	40%	41%
No	75%	77%	60%	59%



**Figure B-4. Communities with tree management plans by population**

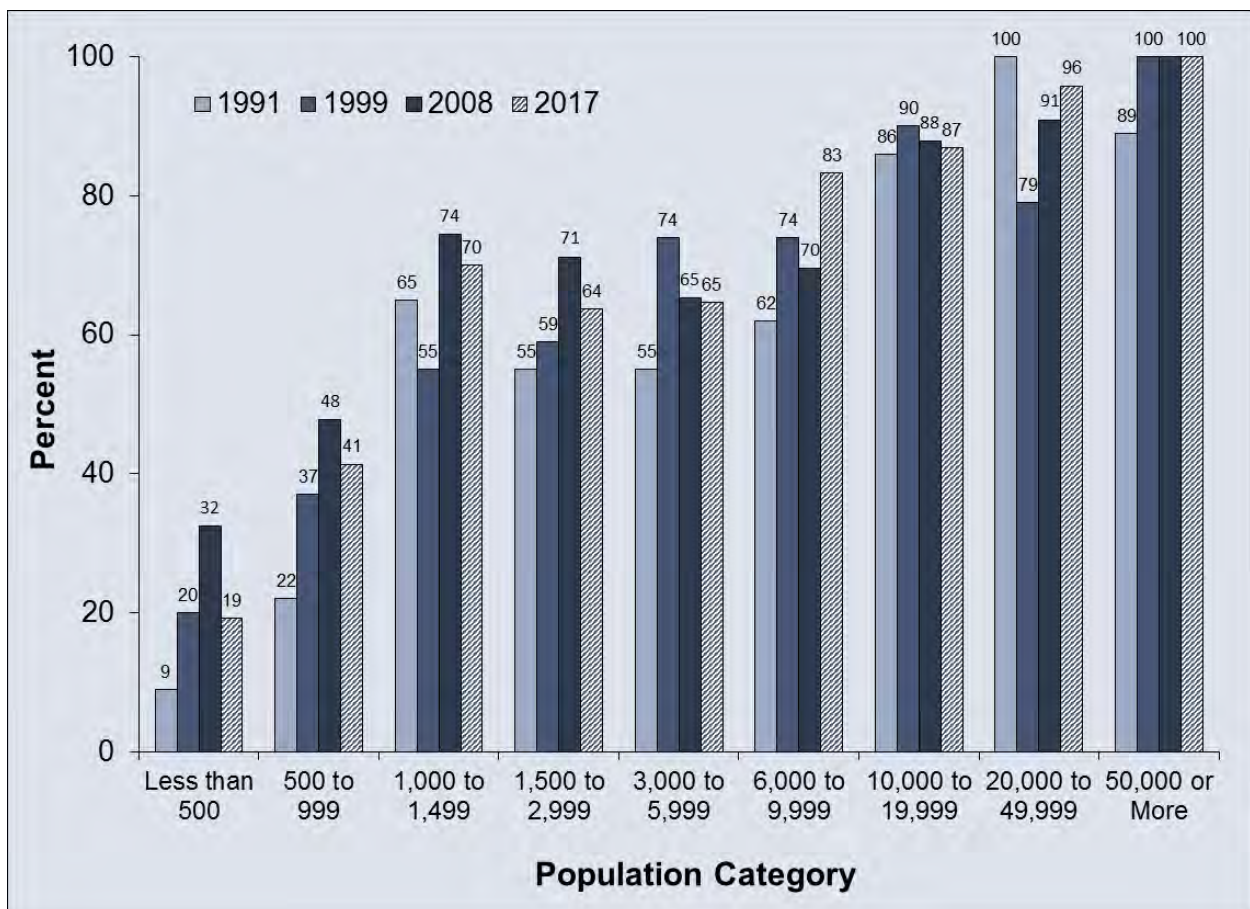
## Tree Ordinances

### Observations:

- An approximate increase of 20% in communities with tree ordinances has continued from 1991 to the present.
- Communities below 3000 people had a decrease in tree ordinances with an increase or stable situation for communities with 3000 or more people.

**Table B-6. Total percent of communities with tree ordinances.**

Tree ordinances	1991	1999	2008	2017
Yes	51%	53%	63%	61%
No	49%	47%	37%	39%



**Figure B-5. The percent of communities that have a tree ordinances by population.**

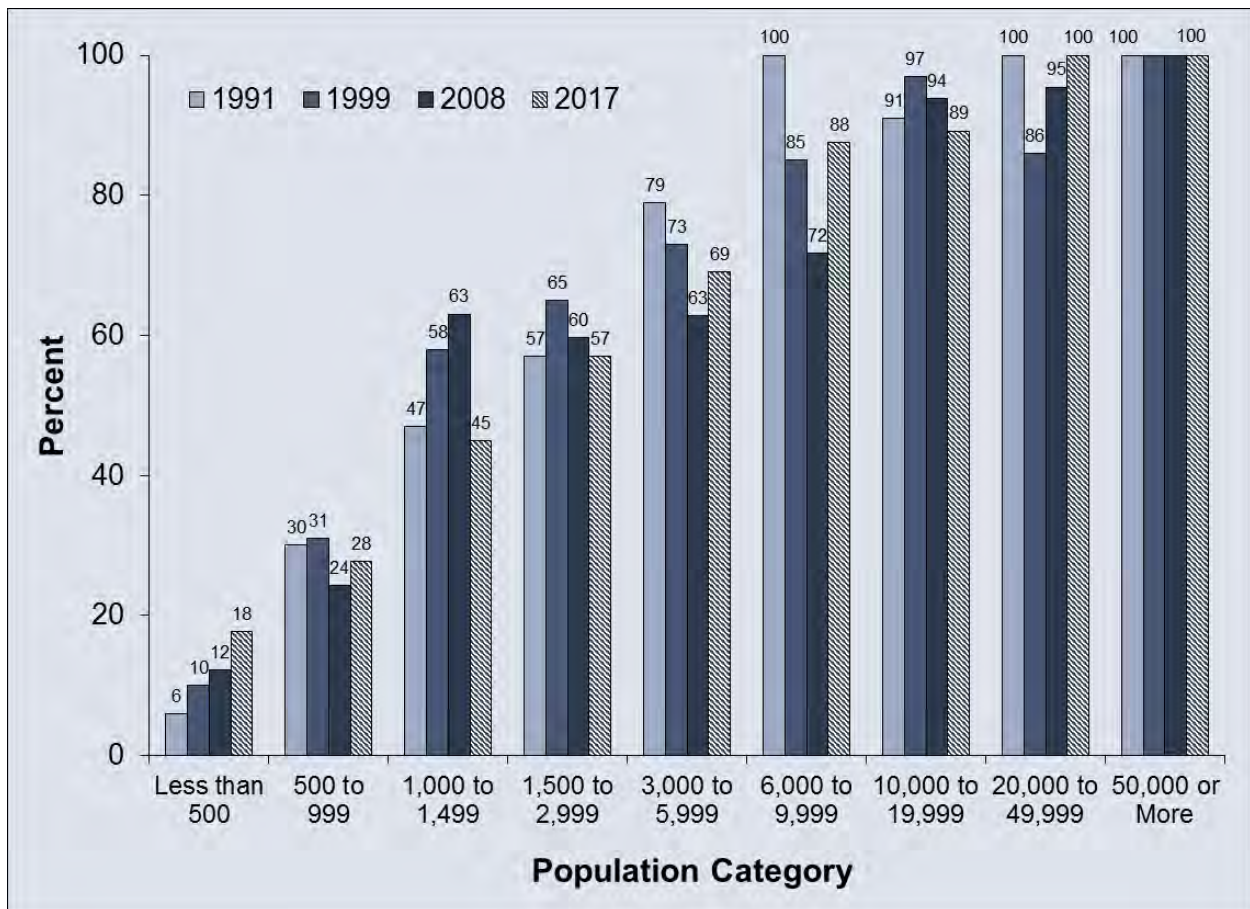
## Tree Budgets

### Observations:

- Overall, there was a slight increase in communities with tree budgets since 2008.
- Budgets in communities with populations between 1,000 and 1,499 decreased by approximately 1/3rd since 2008.

**Table B-7. Total percent of communities with tree budgets.**

Tree budgets	1991	1999	2008	2017
Yes	56%	53%	53%	56%
No	44%	46%	47%	44%



**Figure B-6. The percent of communities that have a tree budget by population.**

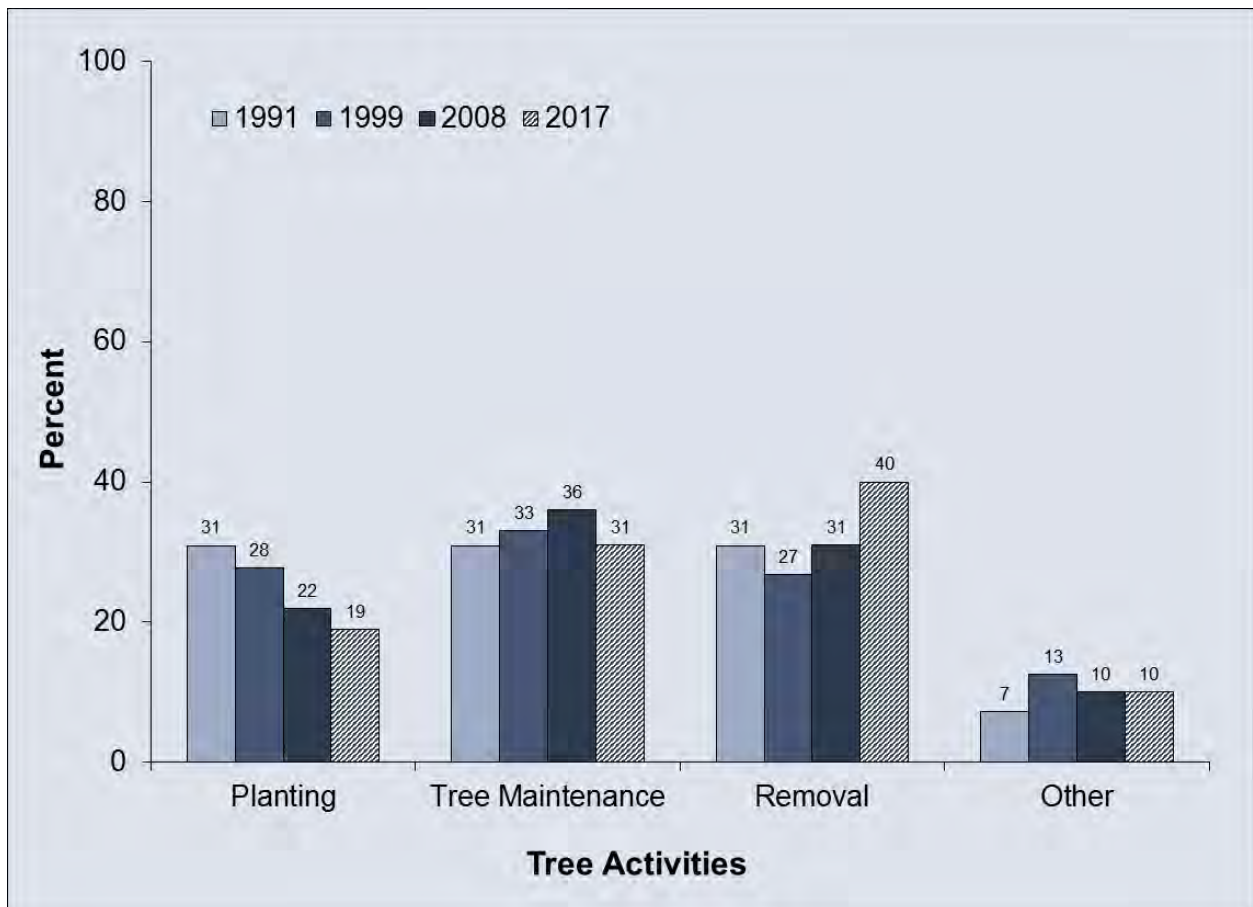
## Tree Budgets (cont.)

### Observations:

- Tree budgets have increased since 2008.
- Tree planting budgets as a percent of the total budget continue to decrease, tree maintenance budgets also decreased since 2008, and tree removal budgets increased by approximately 1/3rd.

**Table B-8. Budget trends in dollars (2017 real amount is base year adjusted for inflation, CPI)**

Year	Respondents	Mean	Minimum	Maximum	Median	2017 Real
1991	112	59,079	0	1,412,680	6,000	110,903
1999	185	120,503	0	11,542,903	12,500	180,744
2008	208	127,000	0	14,033,000	10,000	149,246
2017	226	165,322	0	17,257,932	20,000	165,322



**Figure B-7. Percent of spending by tree activity area.**



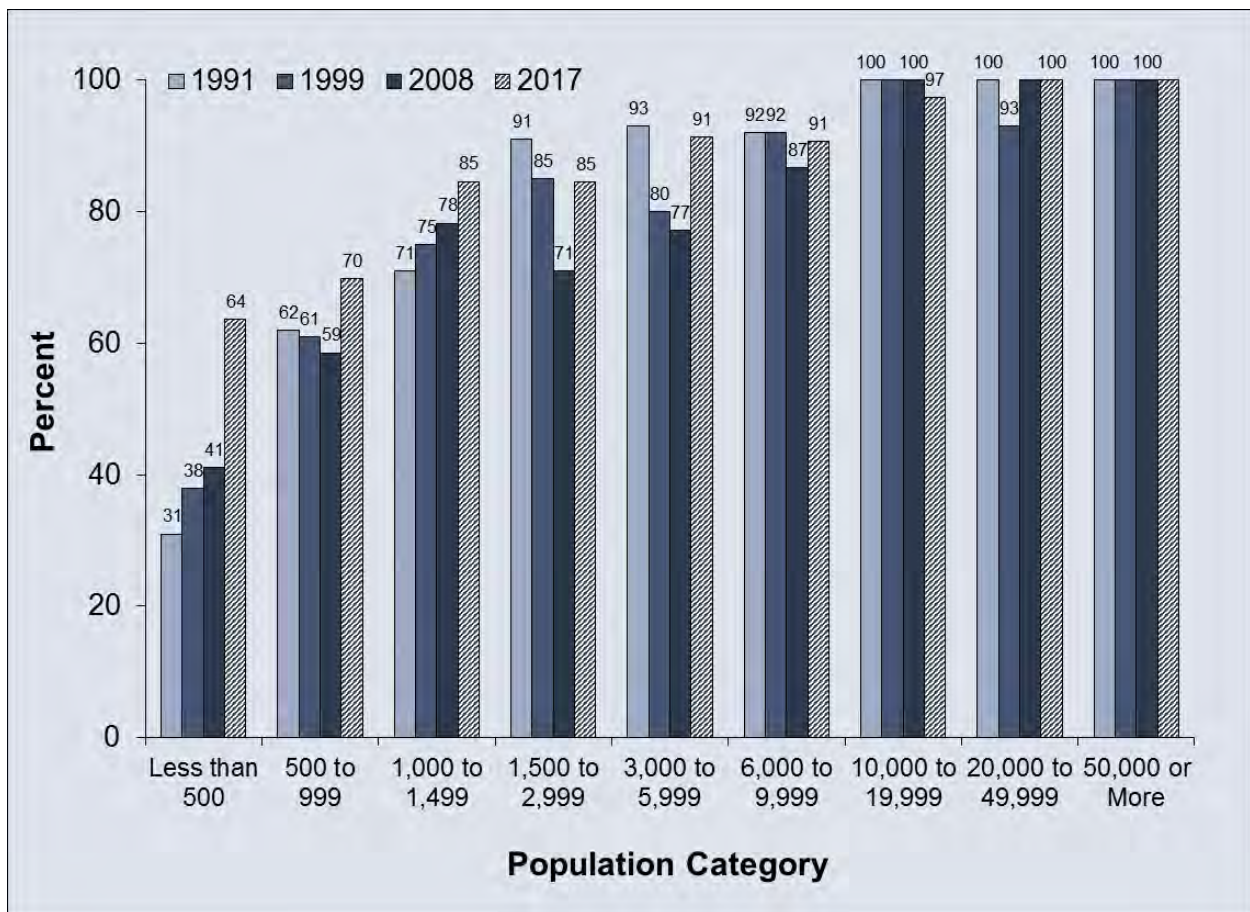
## Tree Managers

### Observations:

- The percent of communities with tree managers has increased to the highest level.
- Over 90% of communities with 3,000 or more people have a tree manager.
- Overall, there was an increase in tree managers for Wisconsin communities for all population categories.

**Table B-9. Total percent of communities with tree managers.**

Tree managers	1991	1999	2008	2017
Yes	75%	72%	72%	80%
No	25%	28%	28%	20%



**Figure B-8. Percent of communities with a tree manager who oversees tree care.**

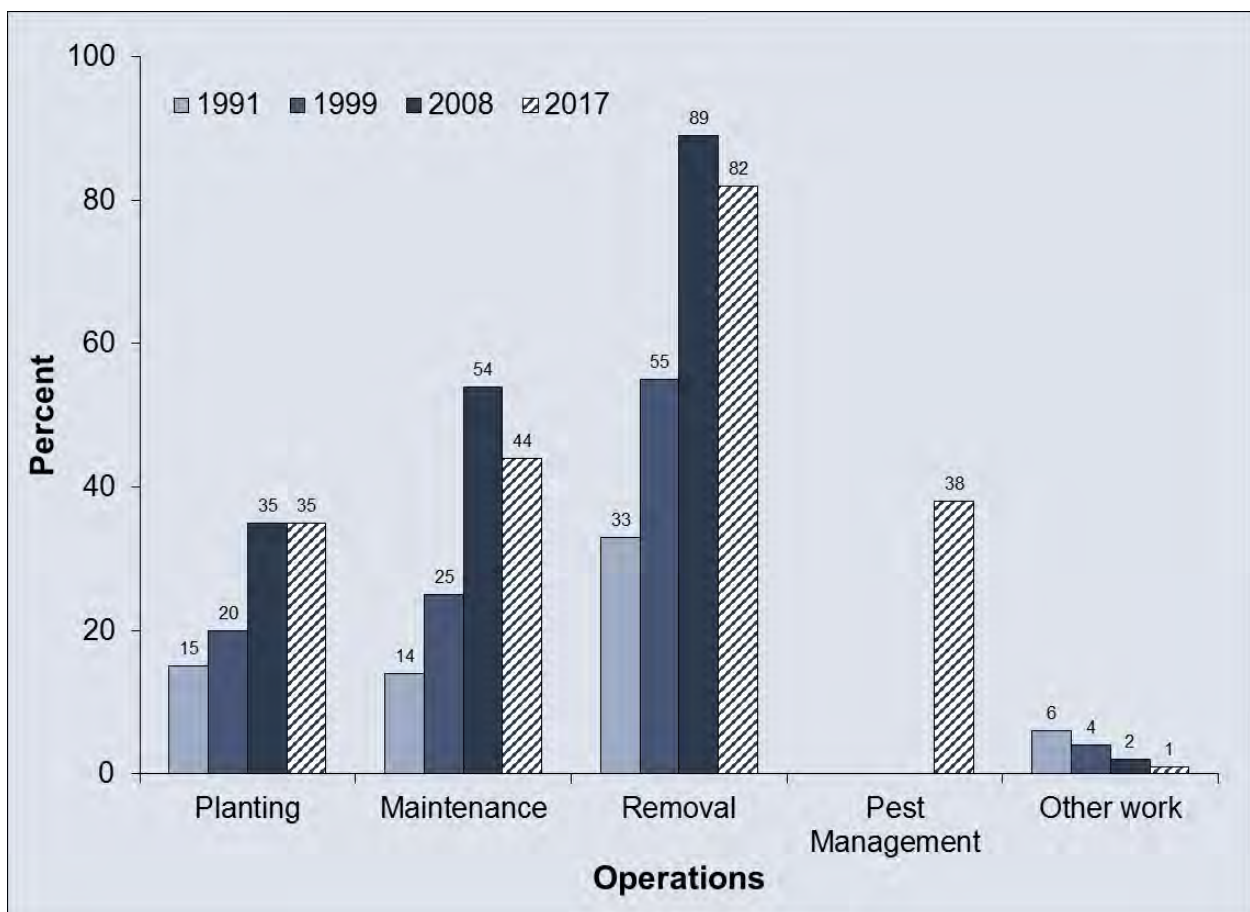
## Contractors

### Observation:

- The inclusion of contractors for tree care operations has increased since 1991.
- Contracting was similar for tree planting compared to 2008. A decrease occurred for removal and maintenance.
- Contracted services in a community varies from no involvement to contracted services for all tree activities.

**Table B-10. Total percent of communities with contracting. (ND = no data)**

Contracting	1991	1999	2008	2017
Yes	ND	54%	64%	70%
No	ND	46%	36%	30%



**Figure B-9. Percent of communities that involve contractors by operation.**

## Volunteers

### Observations:

- A relative decrease of approximately 25% was reported in the engagement of volunteers from 2008 to 2017.
- In communities that involve volunteers, planting and maintenance activities decreased from 2008 levels but remain above levels reported in 1991 and 1999.

**Table B-11. Total percent of communities with volunteers. (ND = no data)**

Contracting	1991	1999	2008	2017
Yes	ND	28%	29%	22%
No	ND	72%	71%	78%



**Figure B-10. Percent of communities that involve volunteers by operation. (note: removal and pest management were not asked in 1991, 1999, and 2008)**

## Tree Planting, Removal and Pruning Trends

### Observations:

- In general, communities planted and pruned fewer trees on average compared to 2008, however, tree removals increased.

**Table B-12. Tree planting trends**

<i>Year</i>	<i>Total respondents</i>	<i>Total number of trees planted</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Median</i>
1991	178	24,526	138	0	2,822	12
1999	134	30,000	222	0	5,000	70
2008	211	22,176	105	0	3,708	19
2017	198	20,124	102	0	4052	12

**Table B-13. Tree removal trends**

<i>Year</i>	<i>Total respondents</i>	<i>Total number of trees removed</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Median</i>
1991	174	8,354	498	0	2,100	6
1999	128	12,377	97	0	2,860	25
2008	228	17,738	78	0	3,453	10
2017	216	21,805	101	0	4,024	12

**Table B-14. Tree pruning trends**

<i>Year</i>	<i>Total respondents</i>	<i>Total number of trees pruned</i>	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Median</i>
1991	161	62,377	387	0	7,500	25
1999	124	126,352	1,019	0	64,791	100
2008	202	124,371	616	0	48,515	50
2017	198	89,266	451	0	24,060	50

## DNR Assistance and Needs

### Observations:

- Grants continue to be the most preferred assistance format, followed by instructional workshops, printed materials, and one-one consulting.
- The DNR U&CF program continues to be highly regarded, 8.7 index score (1-10 scale).
- The DNR U&CF staff are the most common source of assistance followed by a tree or landscape company or colleagues from other communities.
- Approximately 1/3 of communities have received assistance and 2/3<sup>rd</sup>s have heard of the grant program.

**Table B-15. Assistance needs areas (scale 1=least preferred and 8 = most preferred)**

<i>Needs Area</i>	<i>1999<sup>x</sup></i>	<i>2008<sup>x</sup></i>	<i>2017<sup>x</sup></i>
Grants	7.29 (1)	4.98 (1)	5.38 (1)
One on one consulting	5.18 (3)	4.69 (4)	4.53 (4)
Instructional workshop	5.33 (2)	4.78 (3)	4.86 (2)
State conference to share ideas	3.67 (6)	4.25 (6)	3.98 (5)
Printed material (newsletter, fact sheet)	5.12 (4)	4.89 (2)	4.58 (3)
Video/DVD	4.15 (5)	4.62 (5)	4.16 (8)
Anything else/Other	1.49 (7)	3.18 (7)	Nd
Webinar	ND	ND	3.97 (6)
Website	ND	ND	4.40 (7)

<sup>x</sup> (Relative rank within a year)

**Table B-16. Assistance use and ranking of program**

<i>Assistance Question</i>	<i>1999</i>	<i>2008</i>	<i>2017</i>
Heard of grant program	73%	67%	65%
Applied for grant (at least once over time)	47%	49%	46%
Received a grant (at least once over time)	91%	96%	90%
Received assistance (past 12 months)	33%	38%	35%
Rank Program (1 to 10)	8.5	8.7	8.7
Heard of TCUSA	62%	82%	83%

DNR Assistance and Needs (cont.)

**Table B-17. Sources of assistance (1 = least common to 10 = least common).**

<i>Assistance Question</i>	<i>2008<sup>x</sup></i>	<i>2017<sup>x</sup></i>
Colleagues in other communities	6.0 (4)	6.0 (3)
Private consultant	6.4 (3)	5.2 (5)
Tree or landscape company	6.5 (2)	6.2 (2)
Nursery	6.0 (4)	5.7 (4)
College or university faculty	5.0 (7)	3.8 (8)
USDA Forest Service	3.8 (9)	2.3 (10)
UW/County Extension	5.6 (6)	4.6 (6)
DNR urban forestry staff	7.0 (1)	7.0 (1)
Natural Resources Conservation Service	3.7 (10)	3.0 (9)
Non-profits	Nd	2.2 (11)
Utility company	4.9 (8)	3.9 (7)

<sup>x</sup> (Relative rank within a year)