Building and Growing Professionals for Trees: Arboricultural Standards and Credentials

By Richard Hauer and Ward Peterson

Editor's Note: This is the first in a series of articles we'll be publishing 2016 focusing on trends and best practices in municipal arboriculture and urban forest management based on findings from the research project, Municipal Tree Care and Management in the United States.

It is often said, "Great people give rise to great things."

Exemplary work, professionalism, and strong credentials are a recipe for success in any field of practice. Great arboriculture (or bad practice) is the lasting story we write with growing tree populations. As arborists, we determine how this narrative unfolds through our dedication and competence.

It is a story written by arborists, urban foresters, tree nursery growers, equipment manufacturers, utility foresters, researchers, educators, diagnosticians, and others, each of whom are contributing more and more chapters.

Figure 1. As arborists, we determine how the narrative of great arboricultural practice unfolds through our dedication and competence.

It is a story that includes the voices of pioneers who built tree care firms still standing and thriving today, as well as early-career tree climbers just now getting into trees. Important for today and for the future, the story includes contributions from the many municipal forestry programs that demonstrate what is possible when trees are planted and competently maintained by committed professionals.

Just how should we measure our profession? Is it advancing, declining, or simply stagnating? If we really think about it, the tree is a good metric for how well we are doing as practicing professionals. There are many ways to measure success: happy customers who trust our tree care and request more service; safe and resilient trees that become centurions; the percentage of streets and public greenspaces lined with healthy trees; and the ecological, economic, and social benefits from a tree and its urban forest family.

The standards we practice and the credentials we earn define and shape who we are and are a measure of how well we are doing. Ultimately, the tree captures this history for us. We rally around, write about, and care for trees. Setting the foundation of our professionalism, through arboricultural standards and credentials, is key to gaining a positive outcome for trees and people alike.

The Birth of Professional Standards and Credentials in the U.S.

Professional standards and credentials help define and direct how a qualified staff practices arboriculture and urban forest management. *Credentials* document the baseline knowledge held by a person who performs work.

Professional standards provide an industry consensus for standard operating procedures and for what we ascribe to practice. Standards further communicate the intent of the work, and describe what is to be done by defining the scope of the work and the best path toward completing that work.

Some standards and credentials have been around for a long time. For example, Tree Wardens in the northeastern United States date back to the late 1800s and early 1900s. One reason for this credential at the time was to identify a qualified official to conserve and regulate trees in harm's way of utility installations and other tree-damaging events.

The first publication of the *Z60.1 American Standard for Nursery Stock* dates back to 1923, and the inaugural Horticultural Standards were printed that same year. These standards gave rise to the specifications of how nursery plants are produced that facilitated bidding practices. The *ANSI Z133 Safety Standard for Arboricultural Operations* dates to 1968. One unfortunate reason that brought about the development of the standard was the death of a tree worker. The mother of the deceased worker wanted to see lasting standards put in place that promote safe operations so that other sons and daughters could safely return home at the end of a day.

Development of other standards and credentials for our industry are more recent. The collection of standards known as the ANSI A300 (Parts 1 through 9) was born in 1991, with an initial release of the *Pruning Standard – Part 1*. Before then, various standards and recommendations to practice tree work were promoted by several industry associations. In brief, the A300 brought these individual groups together to develop unified standards based on scientific knowledge. Green-industry associations, government agencies, and tree care companies then agreed—and continue to agree, as new revisions are written and released—on the ANSI Standard by consensus. The ISA Certified Arborist® credential, launched in 1992, provides a baseline assessment of arborists' knowledge. This credential built upon and consolidated other, similar arborist certification programs in the United States.

ISA publishes a series of companions to the ANSI A300 Standard, called the Best Management Practices, as guidelines to assist arboricultural professionals in interpreting the standards and carrying out the highest quality tree work.

Are They Being Used? The Application of Standards and Credentials

The use and practice of industry standards and credentials in municipal tree care operations was recently evaluated. This was part of a project called, *Municipal Tree Care and Management in the United States*. Municipalities were asked what types of credentials their staff has earned; which industry standards are incorporated into their tree management procedures; and which standards and credentials are considered when contracting tree work in their communities. This project's findings provide a first-time snapshot of the implementation and application of standards and credentials.

Figure 2. Professional standards provide an industry consensus for standard operating procedures and for what we ascribe to practice.

We found ISA Certified Arborist (CA) certifications were required credentials, with over 61% of responding communities having at least one CA on staff (Figure 3). In this study, the sampling design placed emphasis on the number of communities within a population group (e.g., 2,500 to 4,999 or ▶

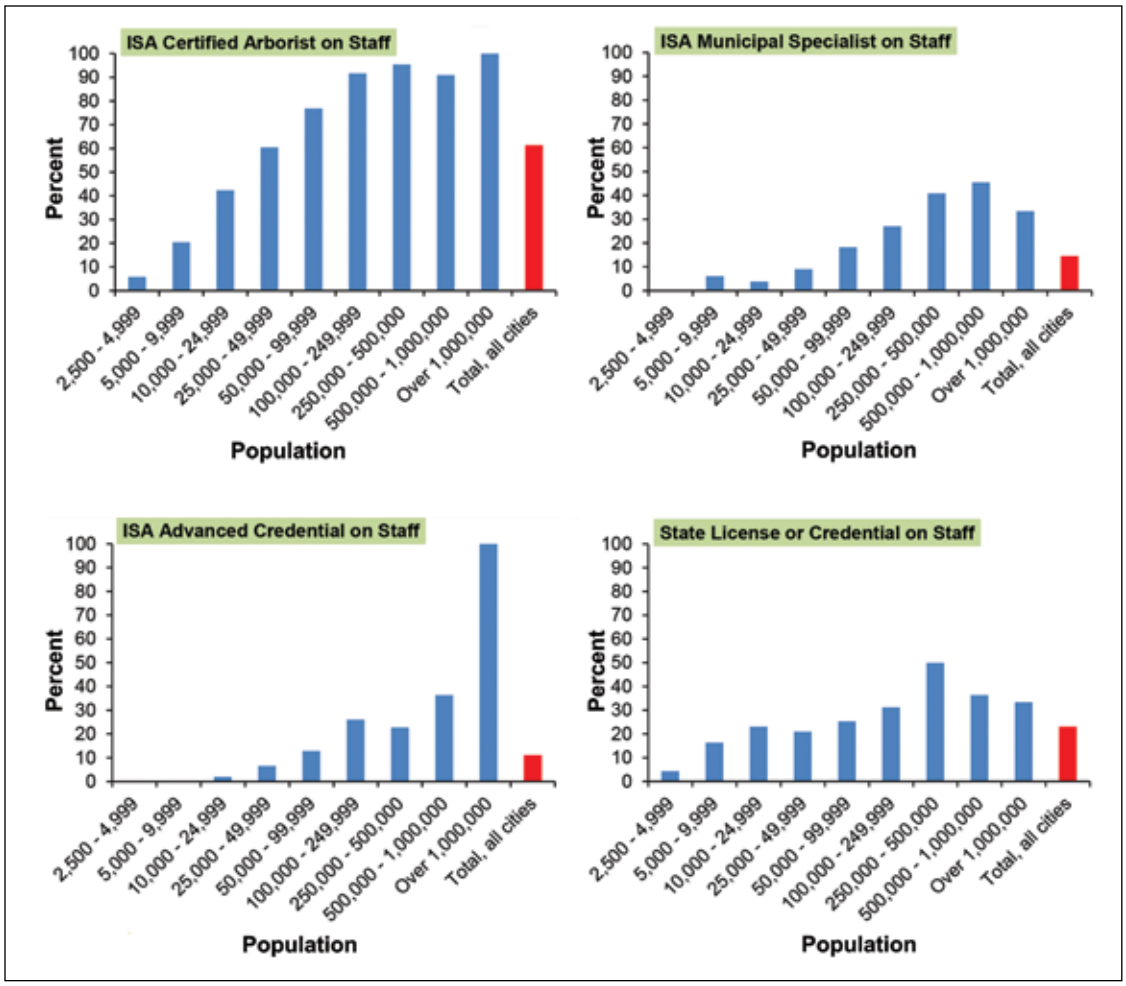

Figure 3. What are the credentials collectively held by the staff responsible for tree activities and/or management of trees? (Responses from 655 communities throughout the United States.)

Table 1. Sampling approach and response rate in a community, and percentage of places that conducted tree activities, which have staff overseeing a program and are rated to have systematic programs in 2014.

Population classification	Number of places (n)	Places sampled (n)	Returned surveys (n)	Response rate (%)
2,500 to 4,999	2344	241	73	30.3
5,000 to 9,999	1883	193	49	25.4
10,000 to 24,999	1750	187	52	27.8
25,000 to 49,999	786	400	170	42.5
50,000 to 99,999	442	438	190	43.4
100,000 to 249,999	200	196	97	49.5
250,000 to 499,000	41	41	22	53.7
500,000 to 999,999	23	23	11	47.8
1,000,000+	9	8	3	37.5
All cities	***7478***	***1727***	***667***	***38.6***

50,000 to 99,999 people) and how many people the community impacts (Table 1). Large communities obviously impact more people than a smaller community. Thus, from the sample design of this study, we can say that over 60% of people live in a municipality that has one or more municipal employee with a CA credential. However, if we account for each place regardless of the population in the community, then only 31% of municipalities in the United States have a CA on staff. The credential is less common in smaller communities, with only 12% of communities with between 2,500 and 9,999 residents having a CA. In contrast, 83% of larger municipalities, with at least 50,000 people, employ a CA. When interpreting the remaining percentages at the national level in this article, think in terms of the relative impact upon the population of people with a reported percentage.

The ISA Certified Arborist Municipal Specialist® credential is less common in all communities—occurring at 15% of responding places. Nearly 25% of all communities with at least 50,000 people have at least one on staff. No place with less than 5,000 reported having a Municipal Specialist. This credential increased in commonality with an increase in population, as nearly 50% of the largest municipalities (over 100,000 people) have one or more staff members with this

credential. Likewise, advanced ISA credentials (e.g., Tree Risk Assessment Qualified and ISA Board Master Certified Arborist®) were found in only 11% of reporting areas. Again, these were most common to larger communities, with 25% or more of municipalities with 100,000 or more residents having staff with these credential types.

Professional Standards

Professional tree care standards are commonly incorporated into tree management procedures (Figure 4). The A300 (*Standard for Tree Care Operations*) is incorporated into the work of 60% of responding communities. The use of the A300 Standard is most common in larger communities. Only 10% of places with between 2,500 and 9,999 residents incorporate the standards. The ANSI Z133 is also commonly used within 51% of responding communities. The ANSI Z60.1 was used, surprisingly, by only 33% of reporting municipalities. By default, however, many states require nurseries to follow the ANSI Z60.1 Standard. Thus, trees are regularly produced to meet industry standards as prescribed in the nursery standard, regardless of municipal adherence.

Improving the use of standards can be done with educational outreach that focuses on their purpose and application. Respondents indicated that they knew about the standards, with only 7% indicating they did not know about one or more of them. Information targeted to small communities (less than 10,000) would be most fruitful, since 44% of these locations did not know of any tree-related standard. Comparatively, an overwhelming 98% of places with a population of 10,000 or more knew of these standards.

Contractors' Credentials

The use of standards and credentials in the hiring of contractors was explored (Figure 5). The nursery standards (Z60.1) were again less commonly used (only 44% of responding communities overall). Their use was not much greater in larger communities, with only 50% of places with a population of 50,000 or more using the standard. The tree care and safety standards were more common with respondents, as 57% indicated using the Z133.1 and 68% indicated using the A300 as requirements for contractors. Again, these were more common in larger areas; however, nearly half of smaller communities (population below 25,000) required the A300 to be used and one-third required following the ANSI Z133 safety standard. Contractors were preferentially selected using the CA credential as a mechanism for company selection in 68% of reporting communities. Smaller communities (less than 25,000) also used this as part of making contracting choices, as 47% reported doing so.

In addition, the Tree Care Industry Association (TCIA) has an accredited companies program. Few communities (11%) reported they currently use this relatively new program, which started in 2004, when selecting contractors. Time will tell how communities will use the TCIA accreditation program as another way to screen company qualification.

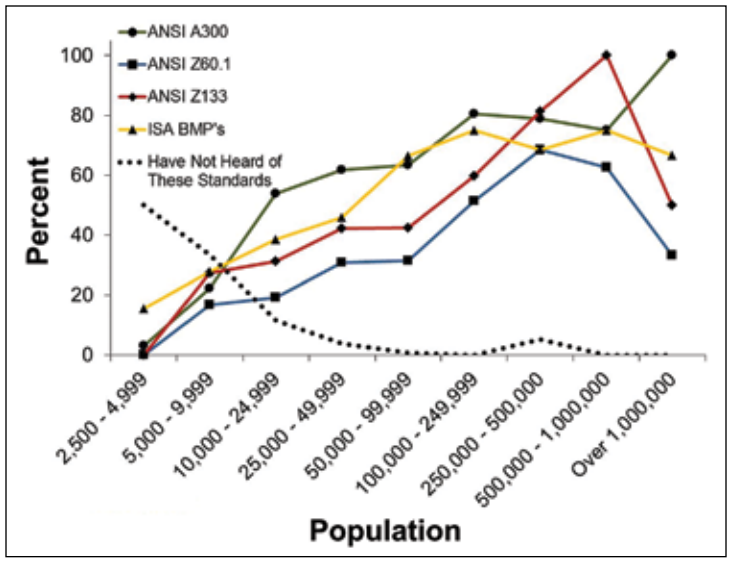

Figure 4. Which of the following standards of practice does your community officially incorporate into tree management procedures? (Responses from 419 communities throughout the United States.)

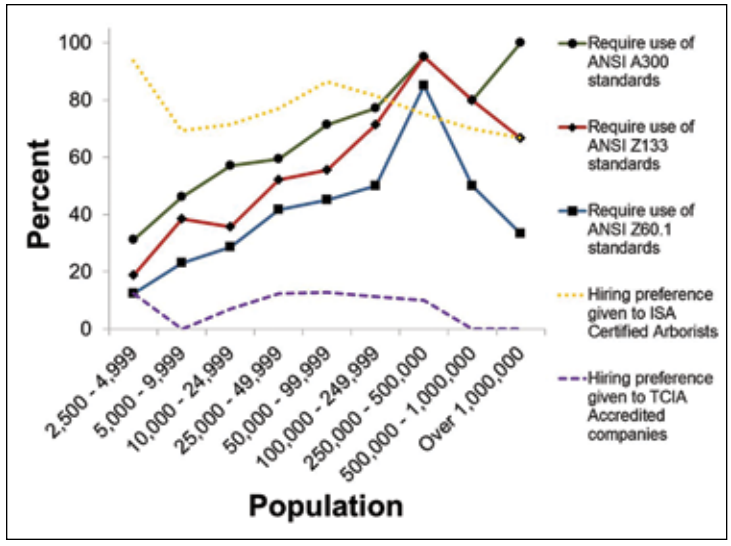

Figure 5. Which of the following are true about contractors hired by your city? (Responses from 419 communities throughout the United States.)

What Does the Future Hold?

The results of the Municipal Tree Care and Management in the United States project imply most places have, in fact, adopted standards as part of their practices. Communities also believe credentialed staff is important. Some stated reasons why a municipality should support hiring and promoting credentialed staff include:

- assurance of baseline knowledge by an employee
- making members of the community aware that hiring and retaining qualified staff is a priority
- increased assurances that contracted services for a community's tree care needs are made by qualified, knowledgeable staff

As the science of arboriculture and urban forestry advances, a credential holder has an incentive to keep current through continuing education requirements. As standards are reviewed and updated, a municipality and its staff must keep abreast of these changes and adopt them accordingly. A community should also move beyond just referencing a standard (e.g., the A300); they should use the standards along with ISA's series of Best Management Practices booklets to define and describe how the work is conducted by staff and contractors.

In the nearly 25 years since the ANSI A300 Standard and the ISA Certified Arborist® program have been around, findings from this study show that they are becoming solidly embedded in the culture of arboriculture and urban forestry in most U.S. communities. When we set out to explore how common standards and credentials were implemented as part of the municipal tree care culture, we did not know what to expect. There could have been little or no use of standards and credentials. Fortunately, and dramatically, that is not the case.

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Trouble? Or just variegated leaves?

Variegated leaves (pictured here) typically have a sharp, defined boundary between the green areas of the leaf and those of other colors. With chlorosis or other abnormal discoloration, these changes are generally more gradual within the leaf, and may be accompanied by necrosis.

Additionally, chlorosis due to nutritional deficiencies may be more pronounced on new leaves, depending on nutrient mobility, while variegation usually occurs on leaves of all ages. **A•N**

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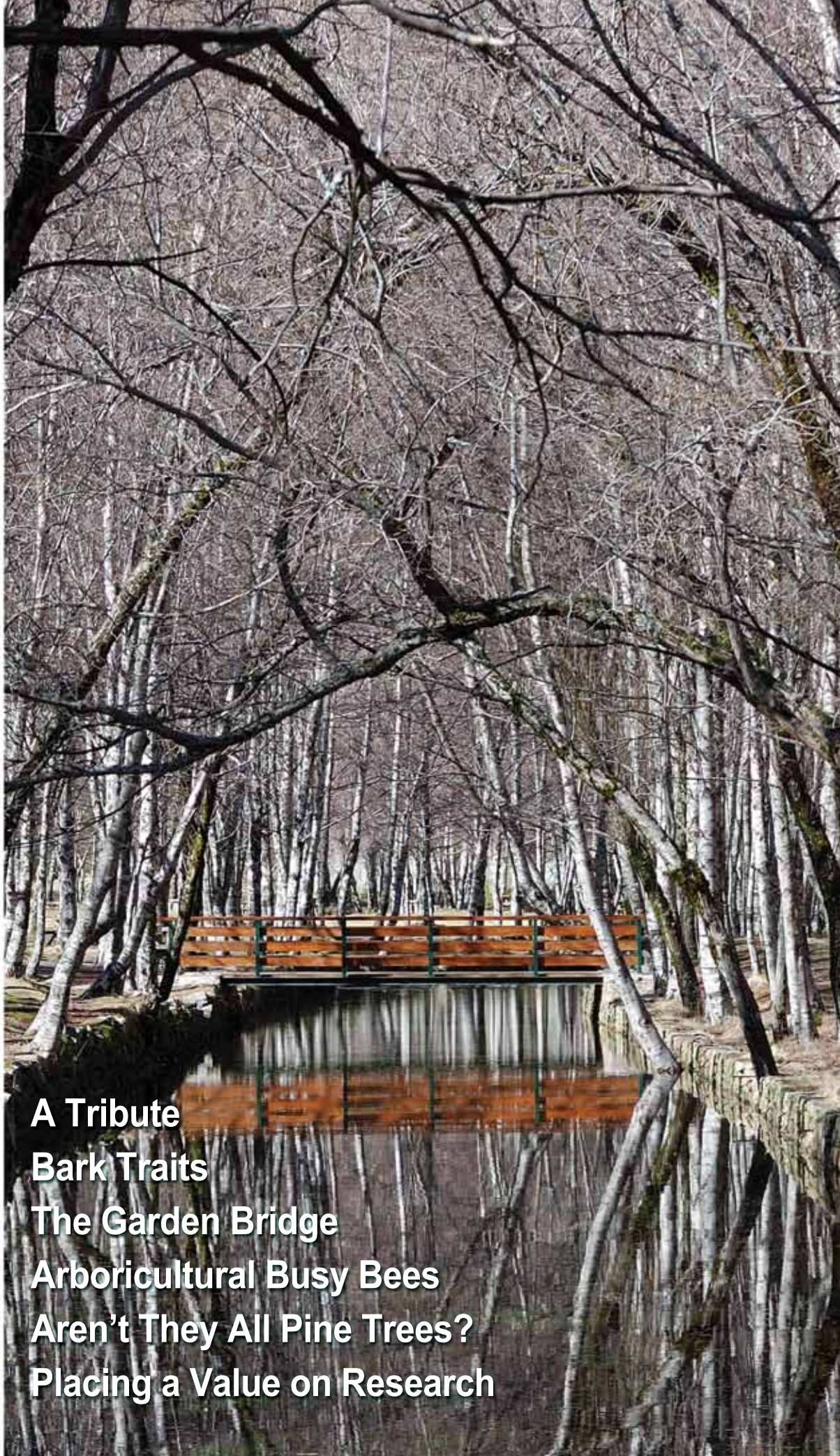

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