Greening the City. Are We Bringing Foresters to the Table?

By Eric Wiseman and Susan Day

Not a week goes by without a major news story describing trends in urban population growth and their consequences for people and the environment. Urban areas are growing, and cities are seeking to minimize the environmental impacts of urbanization and create hospitable habitats for people. City managers and officials are asking themselves, "How do we do this, and which professionals will be entrusted to make it happen?" Scientists and policymakers are busy tackling the first half of that question; the second half is largely up to the professions to stake their claim.

Managing urban environments is no easy endeavor, and no single profession could or should take sole ownership. In the past, the natural-resources component of cities (think trees, soils, and other vegetation) received sporadic attention from planners, architects, and park managers. Today, cities are using increasingly complex green infrastructure systems to harness the ecosystem services provided by our urban natural resources. This degree of intertwinement of natural-resource systems with the built environment requires a new and thoroughly interdisciplinary approach to management and design. With respect to green infrastructure, an array of professionals have expertise to contribute to the management of these plant-based, ecological systems: landscape architects, urban planners, horticulturalists, ecologists, engineers—*and* urban foresters. Yet, as the future of cities is examined, which of these professional groups will be viewed as the subject-matter experts on managing urban forests—arguably the most significant portion of green infrastructure? It might be presumed that cities will turn to urban foresters for expertise. However, both anecdotal evidence and scientific data suggest that urban foresters are, at best, inconsistently recognized as a critical knowledge resource and may not always be at the decisionmaking table when urban forests are planned and managed. Now is an important time for urban foresters of all stripes to recognize the opportunity—indeed, the imperative—to lead the way in urban-forest management and ensure the best knowledge and expertise are being deployed to manage our urban-forest resource.

Four years ago, a team of researchers from four Mid-Atlantic universities (Virginia Tech, West Virginia University, University of Maryland, and Virginia State University) was selected by the National Urban and Community Forestry Advisory Council to undertake a project funded by the US Forest Service. The charge was to investigate university programs in urban forestry and devise recommendations to enhance enrollment and bolster the future ranks of urban-forestry practitioners. The backstory on this charge was the perception that university programs in urban forestry are scarce, undersubscribed, and shrinking. With an eye toward the future, our research team dubbed the project "Urban Forestry 2020" and embarked on an in-depth series of studies, interviews, focus groups, and conference meetings.

An early move of our research team was to create a steering committee comprised of representatives from diverse public and private urban-forestry enterprises around the country. As the team and the steering committee unpacked their mandate, we discovered that looking solely at the status of university programs would be inadequate for devising well-informed recommendations. Therefore, we expanded the research scope to include aspects of urban-forestry employment and professional practice. This resulted in the four discrete studies of national scope summarized below.

Employment Opportunities

How do you make a career in urban forestry? Naturally, students and early-career professionals are interested in this question, but it also sheds light on how the profession is viewed and structured by employers. Thus, we had a two-fold purpose for looking at urban-forestry employment opportunities. First, we were interested in describing the opportunities in terms of qualifications, duties, salary, and sector. Second, we were interested in constructing a career ladder based on degree requirements and supervisory duties. This information has relevance to university curricula, student recruitment, and mentoring. Over an 18-month period, we gathered 151 urban-forester job postings from across the US and performed a detailed document analysis. Results have recently been published in the *Journal of Forestry* (doi.org/10.1093/jofore/fvx006), but we include some highlights here.

Because we used a strict definition for urban forestry in our search criteria, 62 percent of job postings were with local governments; jobs with commercial or nongovernmental organizations comprised less than 20 percent. Of the preferred degrees described in postings, just over half listed "forestry" as a preferred degree. Interestingly, "urban forestry" only appeared in 35 percent of postings—slightly below "horticulture" at 40 percent. Further, only a quarter of postings included "urban forestry" or "urban forester" in the job title—although this may be partly due to the slow pace of change in government job classifications. The ISA Certified Arborist credential (International Society of Arboriculture) was the most frequently listed credential, either as preferred (14%) or required (45%). Neither the SAF Certified Forester credential nor SAF-accredited degrees were mentioned in any posting. Nearly all postings would be best described as mid- or late-career positions. Only 7 percent of postings were considered truly entry level, requiring one year or less of experience after receiving a degree.

One implication of this study is that urban forestry is not widely recognized as a distinct discipline necessitating a specialized degree or credential (urban forestry is often conflated with arboriculture, with ISA credentials serving as surrogates for urban foresters). This makes it difficult to communicate with prospective students the value of a specialized urban-forestry degree. Even if they get the degree, student prospects for getting an entry-level urban-forestry job are not good, necessitating that many of them start their careers in commercial tree care, which may not be a desirable path for many aspiring urban foresters.

From Urban Forestry 2020, uf2020.frec.vt.edu.

Employer Expectations

Where entry-level positions do exist, what are employers looking for in a new hire? In a separate survey, we asked government and private-sector employers about the skills they seek in new hires and whether their recent hires have met these expectations. This survey targeted a different population than the job posting analysis above, but it revealed some similar trends. By far, the most valued credential by employers was the ISA Certified Arborist. Unlike the job postings, however, a clear preference was expressed for employees with an urban-forestry degree, slightly more so than a degree in arboriculture, forestry, or horticulture. The most valued skills were a cross-section of basic technical skills (tree identification, pruning, planting, species selection) and professional skills (public relations, customer service, communication, ethics). Interestingly, although urban-forestry curricula provide students with a broad array of geospatial analytical skills and an understanding of policy, planning, and decisionmaking, employers did not identify these as most-valued skills. Employer expectations were commonly not being met by new hires in the areas of conflict resolution, employee supervision, and advanced technical skills (tree root management, risk assessment, and disorder diagnosis). All told, collegiate urban-forestry curricula appear well-aligned with employers' expectations, but continuing efforts must be made to provide students with practical experiences to polish their nontechnical skills, either within the curriculum or through internships.

Employee Experiences

Who practices urban forestry and how they arrived at the occupation can be telling about how decisionmakers approach marketing and creating support mechanisms to advance the profession. We conducted a nationwide survey of individuals working in local governments whose primary responsibilities revolve around managing urban trees and greenspaces. The most surprising finding was the self-described professional identify of respondents: Only 33 percent identified themselves as an urban forester. In contrast, 21 percent identified themselves as a public administrator and 12 percent as an arborist. A full 34 percent of the respondents identified with an "other" professional identity.

While it's reassuring that managing our urban forests is predominantly entrusted to arborists and urban foresters, it's also daunting that more than half of the trustees may have limited professional preparation for the task. Although many of these situations might be small localities that hire well-qualified consultants or utilize the expertise of extension agents or state agency foresters, undoubtedly, many of our nation's urban forests have minimal professional management. The survey also revealed that the urban-forestry workforce is not very diverse: Of the 524 respondents, 91 percent were white, 78 percent were male, and the median age was 52. Racial and gender diversity is not a new challenge for forestry and natural resources, and it appears to pervade urban forestry as well. It seems logical that urban forestry would be a sector to make inroads on racial and gender diversity, and that these be imperatives for resource professionals serving an urban clientele. Encouraging diversity is not just good for the clientele, it also brings a diversity of ideas and perspectives to resource management and ensures that students from underrepresented groups have role models and mentors with similar life experiences.

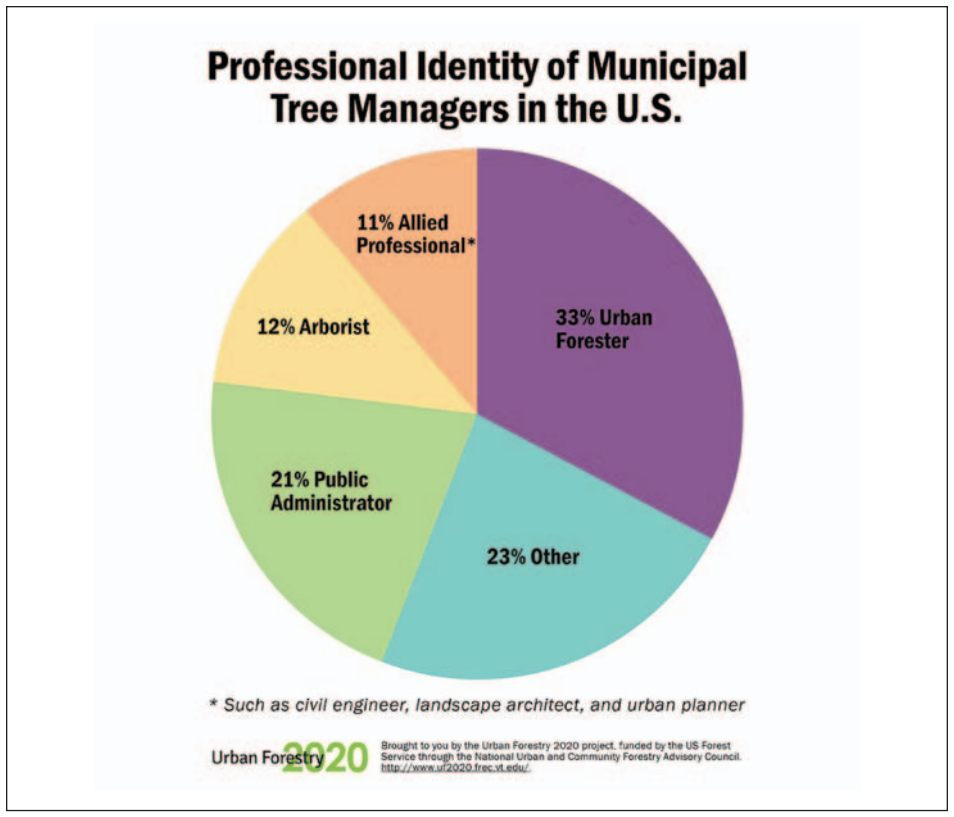
With the caveat that their demographic profile was narrow, the survey respondents expressed favorable perceptions of their workplace and satisfaction with their career choice. As an example, 88 percent somewhat or strongly agreed that their

opinion was considered on urban trees or greenspace issues, and 77 percent likewise indicated that their coworkers understood what they do in their urban-forestry jobs. Similarly, 94 percent somewhat or strongly agreed they were satisfied with their career thus far, 84 percent felt there were opportunities for career advancement in the profession, and 76 percent indicated that they were well paid. What we cannot ascertain from the survey is where individuals who do not fit the demographic profile might land with their perceptions. Are there individuals whose careers in urban forestry have faltered because of their race or gender? What are the implications for how decisionmakers market and recruit to a decidedly much more diverse college-age populace? How to ensure that underrepresented groups get the proper mentoring and early-career support they need for success? All told, the survey suggests that urban forestry is a well-regarded natural-resources profession with promise of a well-paying job and meaningful work. This information needs to be widely leveraged for student recruitment and coupled with continuing development of a professional structure that will create broad career access.

Student Perceptions

The future of the profession comes down to the eagerness of talented young people to devote themselves to a career in urban forestry. So, what do college students think about career choice and urban forestry as a career path? We explored these questions with a nationwide survey of 1,000 college students enrolled in environmental and natural-resources courses. Personal interest and job satisfaction were the most important factors for these students when considering a career path, even more important than pay or prestige. Family opinions influenced personal motivations, and their family's disposition toward nature and the environment positively influenced personal motivations about personal interest and job satisfaction.

Students had little exposure to urban forestry: 33 percent were not aware of it at all, and 29 percent were only slightly aware. After showing students a brief video describing the urban-forestry profession, the overall impression of students toward the profession scored slightly favorable (statistically different from a neutral impression), and students did not differ based on race/ethnicity, gender, or residential setting growing up, though students from a very wealthy socioeconomic background did have a less-favorable impression. Further analysis suggested that recruitment messages may only be reaching those students pre-filtered by their attraction to traditional forestry and natural-resources programs, and that there are no significant intrinsic barriers to student interest in urban forestry based solely on their demographics. Simply put, decisionmakers need to do a better job of exposing young people to urban forestry and do so in an inclusive manner that does not pre-suppose who may or may not be interested in it as a career path.



From Urban Forestry 2020, uf2020.frec.vt.edu.

Conclusion

The research conducted in Urban Forestry 2020 is in various stages of publication. In the meantime, resources and data summaries are available at uf2020.frec.vt.edu. A set of strategic recommendations resulting from Urban Forestry 2020 is currently being vetted with our steering committee and will be available on our project website this summer. It is our hope that urban-forestry educators and practitioners can leverage this information to advance the profession and bring urban foresters to the table as citizens green our cities.

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Q & A

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and large helps prevent the rapid spread of these invasive species. When an invasive species becomes a problem, we try to communicate to these communities the importance of replanting with a diversified tree stock, so that they don't experience the same thing again.

What other issues are of concern these days?

A lot of times communities have big tree-planting campaigns—you've probably heard of "million tree" campaigns and the like. But the communities also need to build in the funding for the care and maintenance of those trees. They have to understand that it's not just a one-time investment.

Another issue is having a trained workforce that is interested in jobs and careers in arboriculture. The Forest Service is working with several universities and national partners on this. What are the best entry points for arboriculture careers? Is it apprentice programs? Two- or four-year college programs? What are the educational tracks that colleges provide? Arboriculture and tree care? Or are they more in line with urban planning?

We are also looking at new markets for urban wood—urban trees that are affected by the emerald ash borer or other invasive species, or by storms like we had last year with Hurricanes Harvey and Irma. The storms blew down a lot of wood that was in urban neighborhoods that had the potential to be turned into wood products. We've seen a rise in the market for urban wood of this kind in communities across the country.

Does the Forest Service provide funding directly to communities or to its community forestry partners?

It depends on how the states have structured their programs. Some states have competitive grant processes so that communities can compete for funds, while some states mainly provide technical assistance. And other states work with other partners that work in their communities. In general, state forestry agencies match federal funds at least 50-50, and often more in some cases.

I recently read about the Forest Service's national Urban and Community Forestry Challenge Cost-Share Grants. Tell me about that program.

The 1990 Farm Bill directed us to assemble the National Urban and Community Forestry Advisory Council to advise the secretary of agriculture on what they see as the up-and-coming issues in urban and community forestry and to offer solutions to problems that their constituents may be experiencing. The Farm Bill also authorized the Cost-Share Grant Program. Over the past few years, the grant program has been able to fund quite a bit of the research that's been done in urban and community forestry, and also has been used to promote innovation in the field.

What key lesson have you learned in your work for the Forest Service in urban and community forestry?

When I decided to pursue forestry as a career, I knew that forests at the most basic level provide products—including clean water, clean air, places to recreate. But bringing that understanding to where people live, work, play, and learn, which is part of our program's mission, not only influences their decisions about the management of the national forests, but it also shows them that their community forests offer the same benefits in their communities. We have a lot of great urban forestry data and we have a lot of great projects, and sharing those nationwide has been incredibly beneficial in supporting urban and community forestry.

Each of the nine Forest Service regions has an urban forestry program manager, and they all work together on what we call a technology, science, and delivery team that we put together about four years ago. They exchange ideas, what their states' priorities are, and what their local projects are about. For me, one of the highlights of managing this program has been creating and supporting what is truly a national information exchange network.

Because we work with each of the state forestry agencies, we also work very closely with the National Association of State Foresters, which has an urban and community forestry committee. Having the National Association of State Foresters, our program managers, the members of the sustainable urban forestry coalition, and the states themselves all in alignment is what has made the National Urban and Community Forestry Program successful.

How might SAF play a bigger role in supporting urban and community forestry?

SAF has had an interest in urban and community forestry for a long time, but just recently, I've been working with SAF's national leadership to look at how we can add more urban and community forestry articles to the *Journal of Forestry* and how we can make the urban and community forestry track of the SAF National Convention more robust. I look forward to continuing that work with SAF.

What's your favorite part of your job?

Working with all of our national partners. They make me proud, proud to know that trees are getting planted and cared for every day in communities across the nation. And I like seeing the sense of accomplishment shown by the people our program serves. It might be something like a tree planting in a small community, or it might be something big, like an urban tree canopy assessment that tells the city what its actual needs are. Maybe it's something really small, like a Saturday morning tree giveaway. But those kinds of things show me that the program is really making a difference in people's lives.